HOW TO MAKE A SUCCESSFUL APP

APPFUTURA ANNUAL REPORT 2016

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APPFUTURA

AppFutura started as a project in the Mobile World Congress of 2013, born out of the needs of mobile app development companies to find projects and the needs of clients to find experts to develop their apps.

The platform has now become a worldwide community for mobile app developers where they can meet people or companies looking for the best firms to develop an app project. We offer help so clients reach their best partner.

We have more than 15,000 developers and mobile app development companies listed worldwide. On AppFutura, they can find everything they are looking for: verified leads and qualified traffic.

AppFutura has so far published over 4,500 mobile app projects in its history. Hiring an app developer? We definitely know how to do that.

INTRODUCTION

What you have on your hands is the work of one year of interviews, studies and experiences on app development with 30 top companies worldwide.

With more than 5 billion mobile apps on different app stores and more than 1,5 billion smartphones sold, the mobile app world has become a strong global industry. It doesn't matter if an app is made in Australia for Spanish users or in the Ukraine for US citizens. Code is not different in every spoken language, mobile apps are global and outsourcing is a new standarized work method nowadays. A trend of its own.

For those looking to make a mobile app, this annual report will become a partner in the development process to create a successful app. This is a useful document for mobile app development companies, freelance developers and clients. All of them must understand which steps to follow when creating an app.

Our experience with the 4,500+ projects we have handled and the interviews with 30 mobile app development companies have given us a unique perspective on how to make an app: from the early beginning to the very last phase.

On this document, we explore the different stages of development starting with how to figure out the time and cost of your idea, creating a proper Request for Proposal (or high level description of the project), learning how to identify the best development firm for your app and even benchmarking your app idea to know the possibilities of the app in the market.

When the app idea is clear, wireframes will be needed to fully sketch the use of your mobile app. Then the design process can start and be followed by full development. When the app is developed, before publishing it, it is time for functional testing. Make sure everything works fine and there are no bugs in it.

As soon as everything's ready, it is time to publish the app and make it noticeable on marketplaces with App Store Optimization strategies and other marketing tools. You will find some tips on how to make your app a successful one.

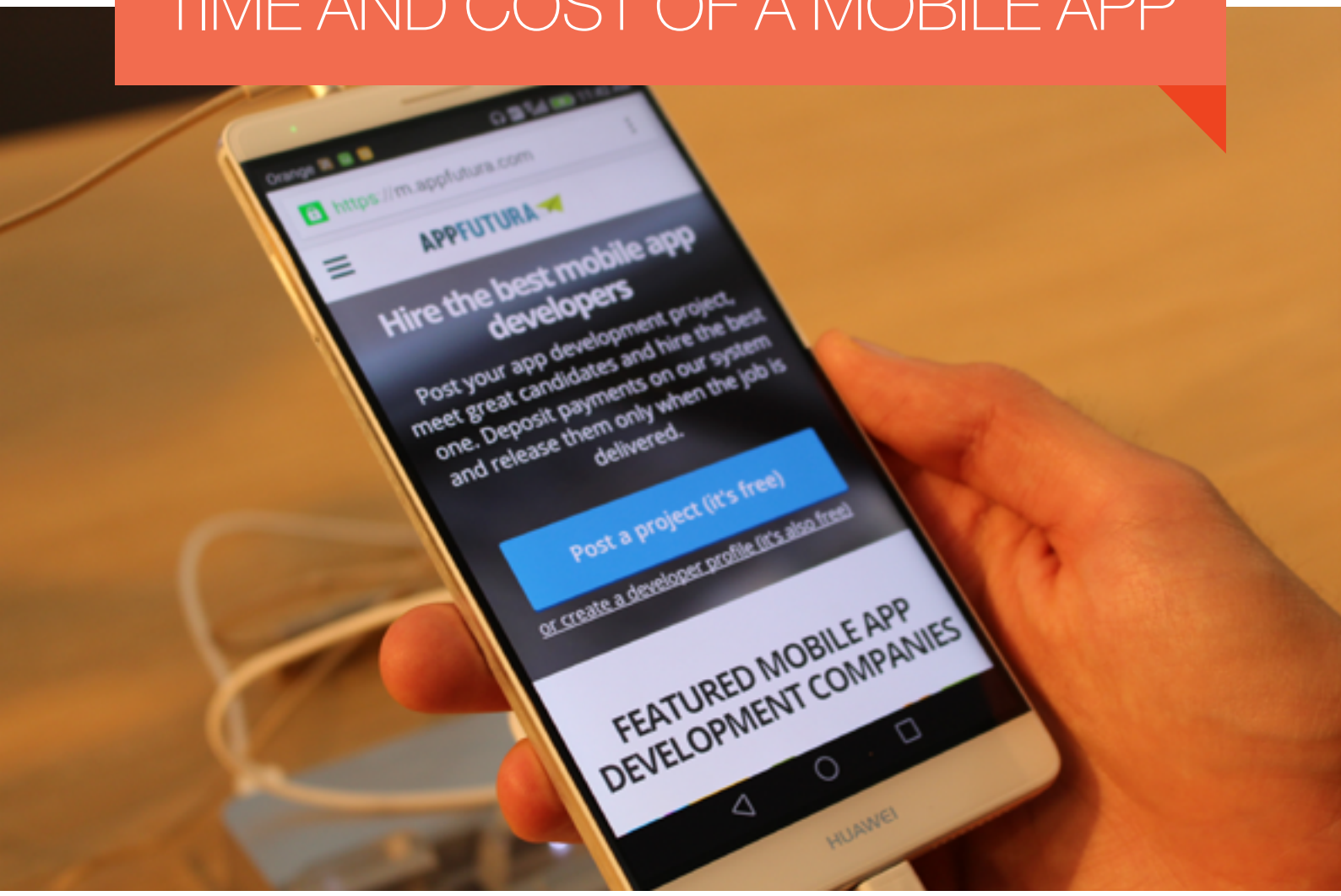
We have also taken time to write about the main categories of apps in the market and how they differ from one another during the development process. We have focused on social, game, kids, wearables and health apps.

The end of this annual report is a consideration of where the mobile app development world is going. Future trends are important to consider when creating an app so it does not get outdated as soon as the next thing comes up.

The mobile app development companies that have answered our interviews and have helped us create these reports are global companies with offices worldwide. They've worked for hundreds of clients and different types of mobile app projects. They are proof that outsourcing has become key for all the people with an app idea.

Do you want to know why a mobile app is a good choice for your business or for yourself? Here we give you all the reasons you need.

TIME AND COST OF A MOBILE APP



To the uninitiated there is often a misconception when it comes to the resources required to develop a mobile app. The general idea is that you partner with a mobile app development company, tell them your idea, fork over a wad of money and then in a preset amount of time the developer returns with an app ready for launch. This line of thinking is attractive in its simplicity, however it just doesn't represent the reality of the situation.

There are just too many variables that need to be considered and too many adjustments, pivots and changes that need to be made for an app to be created off of a single conversation or email. Mobile app development is a dialogue between the developer and the client. It requires a lot of back and forth to develop and then hone the app into a refined product.

The Request for Proposal

It is often said that the devil is in the details, and this is none more true than in the initial stage of the mobile app development process. While no code is ever written at this stage, one can argue that it is perhaps the most important stage of all. At this point the developer will receive a Request for Proposal or RFP. This is a document that basically lays out the clients wants and needs from the mobile app. The developer may choose to work with the client on the production of this document as every developer has varying pieces of information that they deem necessary to produce a quality app.

It cannot be overstated how important it is to get granular details into the RFP. Technical information is of course at the top of the list. The developer should know what kind of screens, features and functionalities the client wants developed. The same goes with time horizons, deadlines and launch dates. However, a good development company will also take target audience demographics, avenues of monetization and competition differentiation into consideration.

Shiv Kapoor, CEO

Creative360, United States

We need a complete functionality narrative to accurately estimate the cost and timeline for the app. The addition of wireframes are certainly preferred. We like to divide up our projects in two different set of phases: design and development so our team can work with clients to put together a functionality narrative and designs to minimize risk and accurately predict the cost and time to market.

Ajeet Singh, Co-Founder

Algoworks, India

To provide an accurate cost and estimate for a mobile app project we require: detailed list of features to be developed, platform of the application (iOS/Android), application type (Hybrid/Native or Dynamic/Database based/ Table based or Game), any specific technology if pre-decided by client, design or wireframes of the app.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

It is vital to understand client's business at the very first stage of the project: target audience of the future application, way of monetization, how this particular application will be different from similar ones. Knowing that we can use our experience much more wisely while helping our clients to polish their idea and to turn it into the desired mobile app.

So the most important thing we need is client's readiness to answer our questions (we assure we take all actions on protection of client's IP). Unfortunately, quite often clients provide a kind of specification (which is rarely full enough or structured properly) and assume that it should completely omit any questions from our side. However, when talking about an ideal specification for a mobile project we consider it consisting:

- High-level description of a project. One page of text maximum telling us exactly what and whom this application is for and what will make it stand out.
- Scheme of the application, showing relationships and connections between screens. It is extremely helpful for estimation and further development, because it allows to define the structure and easily break down the application to logical parts or, for instance, prioritize the features to make the first version faster and cheaper, and then to continue app improvement broadening its functionality, adding new features according to their priority.
- Detailed description of every screen and feature.

Such specification will allow us to efficiently figure out raison d'être of the application and estimate it, avoiding leaving out any features or overestimating a feature's complexity. Though we understand that to create such document, client needs to have experience in technical writing and also spend significant time on that. If that's not the case, our IT consultants will help with that.

We couldn't be more happy with those clients whose flexible approach and experience in outsourcing allow them to make a decision on programming provider relying on a wide price fork provided.

Niketan Sharma, Business Development Manager

Sigmatech, India

To decide an accurate estimation for a project we need to know the project scope, the flow of the app and the features needed to be implemented.

Alexey Gumenny, Client Engagement Manager

GBKSOFT, Ukraine

In order to provide the accurate cost we usually require wireframes or designs and use cases. If a client doesn't have one of these or anything at all, we provide the creation of this documentation. However for a rough quote, sometimes it's just enough to have:

- Similar application reference
- Basic idea description
- Application type

But we do not recommend to rely on such estimations since they change upon completion of specifications stage.

To summarize: we work with what our customers provide us with when they apply for our help, afterwards we work together with them into forming the received information into functional technical specifications.

The technical knowledge of a client

Some clients may be worried that they do not possess the technical ins and outs of mobile app development, however the majority of developers already know this to be the case. Developers know that clients are approaching them to create the app because they cannot do it themselves. Mobile app development companies know that they are the specialists that clients are relying on to bring their app ideas to life and, for the most part, do not expect the client to have in-depth knowledge about the technical aspects of app development.

Ajeet Singh, Co-Founder

Algoworks, India

If the client has technical knowledge it helps us deciding the technology to be used in the application based on the client's interest, which may vary the budget. We suggest our clients with an alternative optimized solution based on their requirement to provide better results in a less expensive manner.

Shiv Kapoor, CEO

Creative360, United States

We have project managers that come from development backgrounds that act as liasons between the engineers and the client to work through the translation of the idea based functionality into technical feasibility options.

Alexey Gumenny, Client Engagement Manager

GBKSOFT, Ukraine

We estimate the scope of work required to be completed rather than client's technical knowledge. At the same time, a client with technical background can sometimes even contribute into the estimation of the project by indicating the "technical weak spots" of the app idea.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

The only difference is the way we will build our conversation with the client. If the client has close to none technical knowledge, then they will come to us with a demand and we will offer possible solutions based on that demand, but all the technical details will be left to us as professionals to deal with.

If the client is an expert in technical field, then we will be able to have a substantive discussion.

The only issue that is going to increase the quote occurs when client hears about some kind of technological solution being good and he comes to us with a demand to use that exact technology, despite it being unsuitable and more time-consuming in case of the particular application.

So it's our obvious, but nevertheless, important advice for anyone considering developing any kind of application: don't "play" a programmer. That's exactly the reason why IT outsourcing exists, so that our clients don't have to become programmers themselves.

Let's say you want to develop a mobile application. You have an idea. What would be the first thing for you to do? Rational decision would be to somehow formulate your idea so you could explain it to a professional. That's when you start to search for help online. You find dozens of tools that offer you create interactive wireframes that will almost look like a real application. And for a lot of people that seems to be a great idea, because they think that it will clearly explain to a developer what you want to make.

But if we imagine the process of development of a mobile application as building a car, then the specification will be a scheme of that car and interactive wireframes will be a Lego model of this car. Yes, you might be able to open doors of this model or spin the wheels. But will an engineer be able to build an actual working car using that model? It will be much more difficult for them and probably even impossible to translate that model to a working thing.

The category of the mobile app

Knowledgeable and experienced developers have a rough idea of the budget involved with apps in each category. Suffice it to say, some categories have a higher associated cost than others. Games, for example, that need multiple screens, varying inputs and outputs and connection to social media will be more expensive than say a utility or productivity app. However, keep in mind that budgets based on category alone are an approximation at best. There are various complexities and client needs, such as extended support coverage, that can cause the budget to fluctuate.

Ajeet Singh, Co-Founder

Algoworks, India

Category may be one of the factors to determine the minimum budget based on our previous experience. A simple e-commerce app is cheaper than a 3D Game.

Niketan Sharma, Business Development Manager

Sigmatech, India

The budget of the app depends on the features you want to implement. Suppose you want to develop a social app, the app would have:

- Social sign ups
- Chat between users
- Profile

So we will decide the time for each feature. For example, we need 3 days time to implement a chat, 2 days for social sign ups, 3 days for the profile and 10 days time for backend, API, User Interface (UI) and User Experience (UX), documentation and testing. So we would need 18 man days time to develop the app. Cost and time of a project completely depends on the features you want to have.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

Minimum budget is an existing thing and we can determine it for every mobile app category. But it will be different from developer's and client's points of view, since developers won't include into minimal budget any features that aren't decisive, but on practice that not-decisive functionality "makes" the application for the user.

That's why games are always expensive (let's say starting at $20,000), except for the simple ones with new outstanding ideas like in "Flappy bird". Even if the development of the game takes 2 weeks, it will also take a year of designer's work to create all those shiny animations that make a game popular among users. And even from the development side, nowadays games usually have social elements in them: record tables, sharing your resources with friends, etc. That can take a significant amount of time to make due to working with third-party components.

Retail applications are relatively cheap since most of them are a catalogue with added online ordering functionality. So the structure is pretty simple as well as design and there are even some ready solutions specifically for retail. To the same category we can put some educational applications in form of catalogues of different media resources (articles, pictures, videos) that we show using a certain algorithm.

Simple look applications for making notes or fitness diaries can seem easy. Saving information about your exercises is, indeed, a simple feature, but no one wants an application with that basic core functionality. And minimum time budget starts to grow from 2 weeks of development to years in the course of adding integration with HealthKit, social media and other.

Alexey Gumenny, Client Engagement Manager

GBKSOFT, Ukraine

Companies with experience already know the approximate cost of the most common app types, especially if they have expertise. We define the minimal number of features of the biggest app players at the market among the selected type and estimate their cost but this stands for rough estimations, in order to get an accurate quote you need to have wireframes and use cases.

Shiv Kapoor, CEO

Creative360, United States

Different types of apps have different types of back-end and architectural requirements and we have worked on a variety of different app categories for us to understand what direction the app will be headed into and the kind of budget range it falls into.

iOS vs Android vs Windows

It seems that mobile platform wars do not exist just on store shelves. For clients the struggle comes in determining which platform to develop on. iOS, Android or Windows mobile? Should the app be initially launched on one or on all? Developers usually have a fairly good idea on the real costs of each platform, and are more than willing on sharing their thoughts and views on how to proceed.

Ajeet Singh, Co-Founder

Algoworks, India

The cost and effort of the development vary with the type of platform used. Google Android based apps generally take 2-3 times more effort to develop the app in comparison to iOS platform. Also native app development gives a better User Experience but takes almost double effort in comparison to hybrid development as developer needs to do the coding once for iOS and another for Android platform.

Shiv Kapoor, CEO

Creative360, United States

iOS cost tends to be a bit lower than Android and the reason is that Android has a broader spectrum of devices available and it's key to optimize the app to perform with the same User Experience across these different screen resolutions. Testing is key to achieve that.

Alexey Gumenny, Client Engagement Manager

GBKSOFT, Ukraine

Our expertise is in media, location based, booking and matching applications developed with native iOS and Android platforms. In terms of cost, native development is always more expensive compared to hybrid platforms but hybrid apps can never give you the same quality as they are slower, offer less possibilities and are limited in certain ways. So this is not what we go for.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

If we talk about native development for iOS, Android or Windows Phone, then we can say that hardly something will be definitely cheaper or more expensive. The difference generally will be around 10-15%. It is a whole another story the functionalities you can implement on one platform and can't on another one (because of the application store rules or device and OS technical limitations).

Cross-platform solutions like Xamarin for both iOS and Android will be roughly speaking equal to develop two separate native applications.

Often clients' demand is to cover as large audience as possible and they decide to settle with Android straight away, since Android devices have a wider price segment and hence more likely to cover more users from different social groups. But there is a nuance clients tend to forget about: with the wide range of devices comes wide range of technical characteristics of said devices. So to cover more than just a few flagship Android smartphones, you have to invest more into testing and bugfixing for every given device.

Niketan Sharma, Business Development Manager

Sigmatech, India

Time and cost for developing Android and iOS apps are different because in order to develop an app for different platforms we need to use different tools. It would take less efforts to develop the Android version in comparison to an iOS mobile app.

Marketing services included?

The majority of clients can essentially be thought of as idea generators. They come up with the concept of the app but do not necessarily possess the technical capabilities, whether it is coding or marketing prowess, to bring the app to market. It would be incorrect to assume that developers should be relied on to market or promote the app. Yes, they dabble in the

marketing aspect of apps but only to collect the data necessary to optimize and complete the app. Mobile app developers are first and foremost professional programmers. They mainly provide an app building service, not an app marketing service.

Shiv Kapoor, CEO

Creative360, United States

We are firm believers that one can have the best product, however, if nobody knows about it, it might as well not exist. Being entrepreneurs ourselves and having launched a couple of our own startups we know a thing or two about marketing and help our clients gain early traction.

Alexey Gumenny, Client Engagement Manager

GBKSOFT, Ukraine

We are a development company and do analysis of market, comparance with competitors, check the latest standard for certain types of apps but up to the limit that development requires. We cooperate with several marketing agencies that we can put our clients in contact with.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

We don't provide marketing services. We are programming professionals. That is what we have been doing for the last 18 years. We know how to craft an application to enhance User Experience. Moreover we're strong believers that marketing should be local, because promotion strongly depends on dozens of conditions: state of the market, date of release, mentality of the target audience, etc. Though we're ready to advise several agencies we have had positive experiences of collaboration with our clients.

Niketan Sharma, Business Development Manager

Sigmatech, India

We only include project designing and development cost in the budget.

Updates or maintenance of mobile apps

Apps are not a “one and done” project. Rarely is an app created and both client and developer walk away from each other and never have contact again. What if there’s an unforeseen glitch? What if new code is needed? What if standard and practices in the platform change? A developer worth their weight in salt will always provide some sort of maintenance or on-going coverage to their clients. The length of time this coverage exists and the extent of work expected of the developers is usually stipulated before a single line of code is ever written. Also, developers may also offer extended coverage that the client can purchase which ensures that they have access to the developers for months or years to come.

Niketan Sharma, Business Development Manager

Sigmatech, India

We provide 45 days free support period to our clients and after that we charge $14/hour.

Alexey Gumenny, Client Engagement Manager

GBKSOFT, Ukraine

We always provide updates and maintenance period to all our clients. We offer a couple of maintenance plans, the selection of the one you need depends on how big the app is. For example, there are huge infrastructural apps that require full time support, so then we suggest a dedicated team with per month payment. Small ones require limited assistance of just updating the code and APIs from time to time. So the maintenance period depends mainly on the amount of hours that the team needs to put into the support of the app, we charge based on hourly rate.

Ajeet Singh, Co-Founder

Algoworks, India

We provide maintenance and version update support to our clients. We have some predefined fixed cost support packages based on number of hours of support.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

We're always glad to continue maintenance of the mobile app after the release, preparing updates and new versions as needed, like recently quite a few applications needed to move from parse.com to other backend services due to its shutdown.

Unfortunately, not every client understands the importance of timely updates. For example, the release of iOS 10 is planned on October 2016, but beta version is already available and we can start testing compatibility of existing applications in advance to avoid any problems upon the official release of operating system.

But surely there are always a lot of applications that don't get updated until they stop working after iOS update, despite Apple efforts to avoid that. Of course, updating the application in advance can be a bit more expensive due to beta version of the operating system can be buggy and lacking some functionalities, but in most cases overpaying 10% in advance is much more profitable than leaving an application not properly working for a month after the OS release.

As for the price scheme, we work at a fixed price as well as by hours depending on the type of the tasks. If the update is related to a new operating system, we advise to work by hours since all the risks (that are unavoidable in this case) will be incorporated in the fix price.

Shiv Kapoor, CEO

Creative360, United States

Our driving principles are to minimize risk, cost and time to market and this is best achieved through the development of an MVP and rolling out all the nice-to-have features in future iterations based on user's feedback. We like to pre-estimate any and all additional functionalities and offer 90 days of free maintenance and bug-warranty.

Elements of a mobile app

There are a lot of components to a well-made app, and while it may be easy to say that all developers work in the same way, this is simply not the case. Different developers may take slightly different approaches to the development of the app. Some may spend an inordinate amount of time on the wireframes, while other mobile app development companies may focus a lot of attention in source code development. This difference can depend on a host of factors which include the developers personal familiarity with that particular phase of development, or it can be that a particular step for this particular project does require a significant amount of work.

Alexey Gumenny, Client Engagement Manager
GBKSOFT, Ukraine

Usually the most challenging part is the first one: development of wireframes, use cases and technical specifications, since this stage requires the maximum of client's involvement. The rest of development is trivial following the best practices. Integration of new solutions and complicated algorithms for sure take lots of time and risks management.

Shiv Kapoor, CEO
Creative360, United States

The key to building a successful product is having a great User Experience to increase both the engagement and conversion performance within the app, it's important to spend a lot of time to nail down the User Experience via a combination of a functionality narrative and wireframes, all the other parts will run smoothly through the journey once the concept of an app has been fully fleshed out.

Ajeet Singh, Co-Founder
Algoworks, India

The major time is consumed in developing source code of the API's and the core development of the app. UI and UX go along with the development but take a good amount of time in the process.

Niketan Sharma, Business Development Manager

Sigmatech, India

Mostly wireframes and PSD to UI/UX conversion take more time.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

There are parts of development that you can estimate more or less precise. For example, if we take a mail sending functionality, we have a certain criteria on when that functionality is done, when the application sends e-mails, hence we can estimate how long it will take us to make it.

But how can we possibly measure satisfaction of a user of the application? That last phase of development, polishing phase, can be perfectly described by the phrase: “We’ve done 90%, there is another 90% left”. At first you develop all the functionalities and then you can spend practically unlimited time creating a trade dress for each functionality. And second, 90% of the tasks are often underestimated by the customers.

The app security is implicit, we take it very seriously by default and it never gets a separate paragraph in the estimation. Even if clients ask us to specifically develop an unsecure mobile app, we would hardly agree to such conditions.

Working with third-party components is another part that is hard to estimate and integration with those usually requires a significant amount of time.

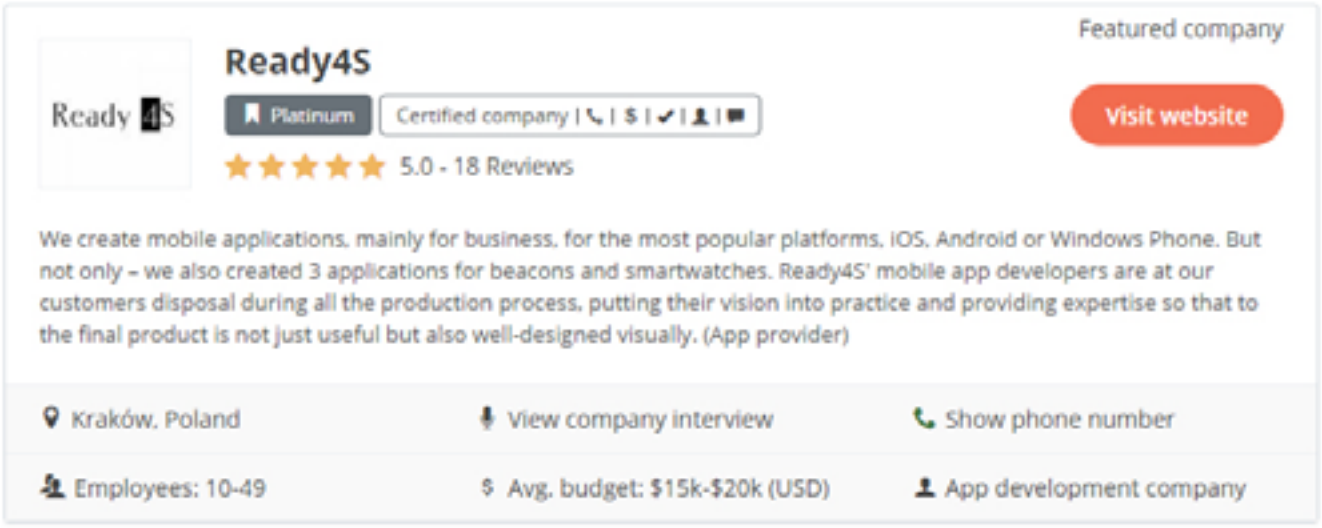
Application publishing rarely causes any difficulties and doesn’t require a long time, except, of course, publishing around Christmas time. But we came across one case, when the App Store did not allow applications release due to Apple’s plans to add similar functionality into the next version of the operating system. The application was published nevertheless and had a huge success, but in that case, the publishing time was significantly longer.

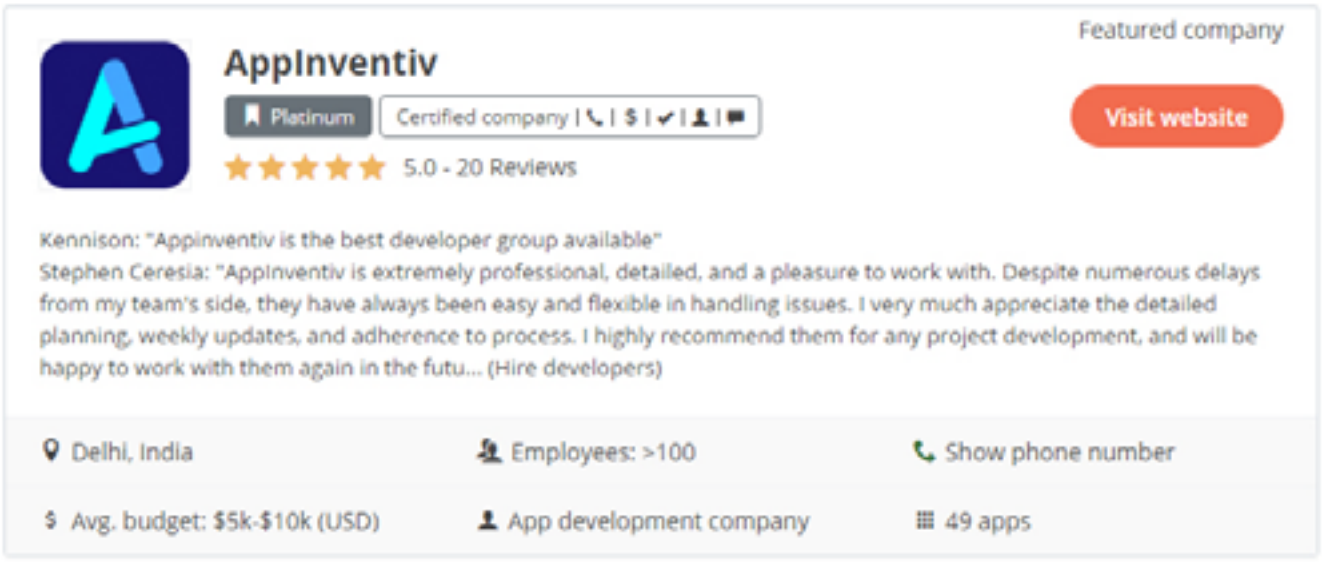
Conclusion

Undoubtedly, a lot goes into the determination of the resources required to bring an app from paper to the marketplace. To get the most accurate values of the money and time needed, the client must strive to give the developer as much information, details and nuances as possible. Handing developers a one or two page briefer, a bag of money and a deadline is simply not an option.

App development requires constant back and forth communication between developer and client. It requires constant research and pivots. In the end, the real value of apps cannot be summed up purely in dollars and hours of work, but in the interactions and relationship between client and developer.

STEPS TO HIRE THE BEST MOBILE APP DEVELOPMENT COMPANY





It seems that nowadays anyone and everyone wants to launch or develop an app. Companies are seeing real potential to increase brand recognition and revenue with apps, and the majority of companies are trying to push out their own apps even though many of them have no idea how to make one. But with dozens of apps being released on a daily basis it must be a fairly easy endeavor. Or is it?

Ask any enterprise business what their app development turnaround time looks like and you will most likely be greeted with frowns. A recent statistic showed that approximately 85% of enterprise businesses are facing an app development backlog. When mere 6% of all enterprise believe that they have the necessary in-house technical talent to develop their apps from start to finish, it is no wonder why so many are facing a backlog. To magnify the headache, those companies who are facing development delays are not just necessarily dealing with a single app, but up to twenty.

When those figures come into play you can easily see how the problems increase exponentially. What the market is currently facing is an enterprise mobility bottleneck. So many apps that need to be built and shipped but not enough people to do it. Sure, most companies tend to lean towards hiring a developer or programmer and investing in them and making them part of the team. But it takes time and resources to find the right candidate. And once they're found it can take six to twelve months or more to onboard them. If you're a company that is looking to ship ten or more apps, then you don't have the luxury to wait while a developer is found and gets up and running.

More and more, companies are outsourcing their mobile app development. These companies have the human and technical resources to bring an app to market. Those new to hiring mobile app development companies are understandably shy to pull the trigger at times. After all, for many businesses this is virgin territory. Taking an app from idea to paper to a functioning program is hard enough, and now they are being asked to get a third party involved.

AppFutura was born out of this concern to connect people in need of outsourcing their app development efforts to reliable partners all around the world. By asking the right questions and taking certain factors into consideration, navigating the world of app development companies can be fairly easy and straightforward.

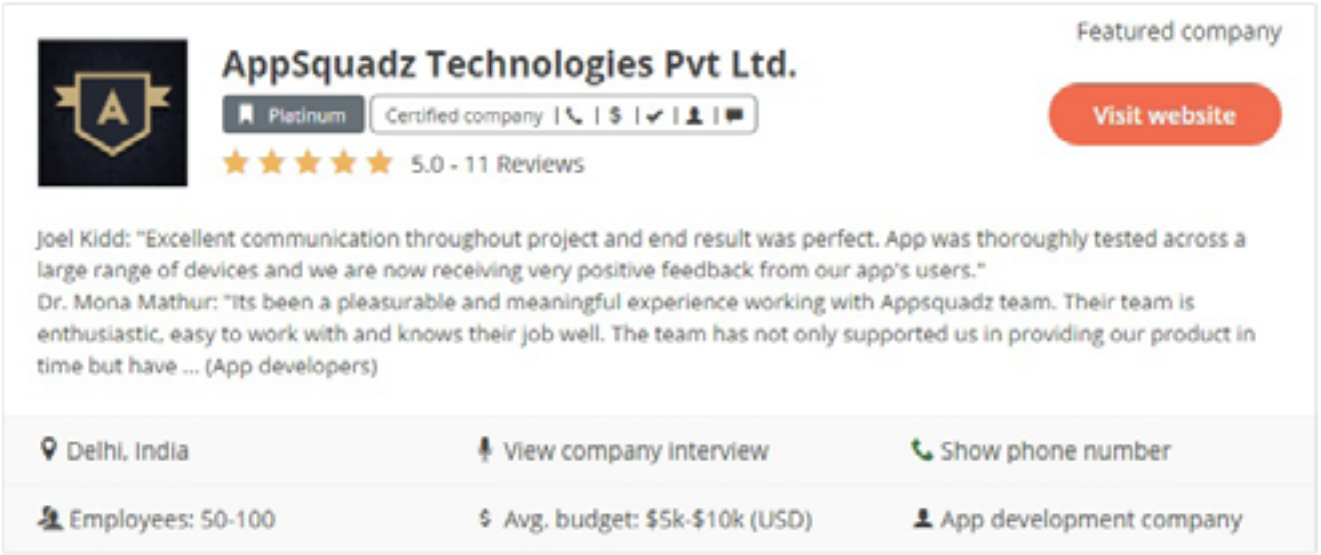
A good company

When looking for the right mobile app development company, treat the search like you would treat any other professional service. References are always a good place to start and a legit mobile app development company should be more than happy to provide you with a

list of satisfied clients. In fact, at AppFutura we like getting to know the companies we work with and we make efforts to find references on them as well, so keep in mind we can help you through the selection process as an impartial third party.

Asking them what phone and apps they use may seem like a simple and even silly question, but lends a ton of insight into the mind of the developer. Think of it this way, if you are looking to create an Android app then wouldn't you want your developer to be an Android Jedi, and is intimately familiar with the OS, the Google Play Store and any similar (or competitive) apps? Finally, money. Make sure that they know how to implement the revenue model you have in mind. Will you be charging consumers to download the app? If not, then your developer must be versed in in-app purchasing, ad integration and setting up subscriptions.

Before signing on the dotted line, make sure that you know exactly the kind of mobile app development company you are jumping in bed with. Their AppFutura profiles are a great way to find out a lot of information about them. Know the details of their operation as best as you can as factors, such as company size, employee count and experience will give you an idea regarding the efficiency of their operation, response and delivery times, and finally redundancies in case of disruption of work.



The value of experience

Experience matters. It shows that the company or professional knows how to build an app to a client's specifications, deliver it on time, and on budget. But, that is only half of it. The truth is that developing mobile apps requires agility. It requires a mobile app developer to adjust with the ever facing landscape of the mobile app world, to be current and up to date with the latest and greatest. New blood, or freshers, add their own new spin on things and usually attack projects with youthful passion. Since they are new to the workforce many of these freshers can be had for a fraction of the cost of seasoned pros. The answer therefore lies in the middle. Integrate new talent with veteran developers. Let the energy of the former infect the latter. And let the wisdom of the latter cascade onto the former.

Review

Do your due diligence before giving your hard earned money to just any old developer. Yes, you should always contact previous clients of theirs to only ensure that jobs were completed but always to get a feel of how the company interacts with a client. The AppFutura profiles include validated Business Cases with reviews from clients, which are a key aspect for you to understand their client satisfaction rate. Ask for a list of apps they have developed on Apple's App Store or on Google Play. Download and play with the apps if you can. Then ask yourself: How does it feel? Does it work? Does it convey the message or brand? Do people even like it? The number of downloads as well as the feedbacks on the app are priceless pieces of information.

Should you outsource your next mobile app development project?

If you're still on the fence on whether or not to partner with an app developer, ask yourself these questions: Does my company have the dedicated resources to produce the app(s)? Does my in-house development team have the agile capabilities required to adapt to changes in technology and market? Do I even have the talent required to pull this off? If you hesitated for even a second, you should seriously consider an app development company to run with your project. Sure it may cost you a pretty penny and you may have to take a small leap of faith, but the likelihood that the app will be well developed, will be significantly higher. Not only that, but you also have the potential to expand to new platforms and be

in a position to build a lasting (and hopefully profitable) relationship with the developer. Moreover, keep in mind that AppFutura will be here to support you throughout the complete process to ensure you get what you need. You are not alone!

Outsource close or far?

In the days before the internet, headaches arising from outsourcing overseas or to different time zones could only be avoided by meticulous planning and timing. These days, a developer from Bangalore can work in unison with a coder from Korea to produce a report for someone in California and all without missing a beat. The key is to set rules, define standards and expectations, and above all stay in constant communication. Efficient communication has proved to be a key factor in the success of any professional relationship when outsourcing. Make sure you hire someone reliable in this department as well. This may seem hard at first but just look at how fast someone can respond to a Facebook post. Today's technology allows multiple developers from multiple geographic locations to work simultaneously on a single project. It's simple; outsource near or far as long as everyone is communicating and it gets done on schedule.

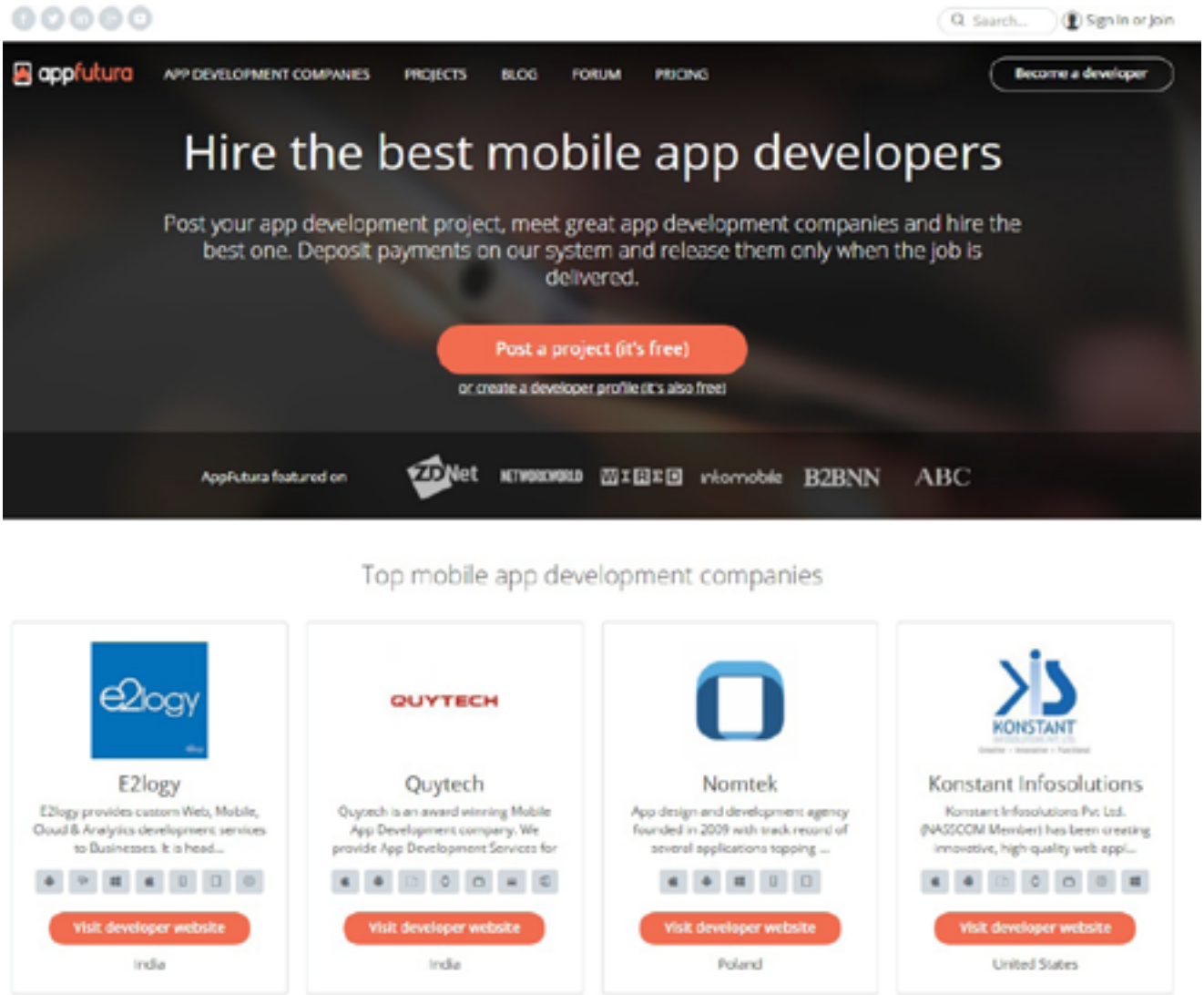
Why hiring an app development company?

We can all agree that freelancers have their perks. However, AppFutura believes companies can be a more reliable partner when it comes to outsourcing. Unlike freelancers, companies have the infrastructure in place to meet your needs and tackle the various challenges along the way. Most importantly, the manpower a company has allows you to make your app grow in the future in countless different directions. Finally, it will provide you with the safety of knowing that there will always be someone occupying the position in charge of your app.

Protect your money

Yes, you have to get that app out as soon as possible. Yes, it is important for you, your business and maybe even your investors for it to see the light of day. But you know what else is important? Your money. People overlook this simple fact when dealing with outsourced developers. Often throwing caution to the wind and simply giving developers (both expensive and inexpensive alike) their money and then hoping for the best. This

seems silly, but there are countless businesses out there that shelled large sums of cash and have been stuck with a non-functioning or, worse yet, non-existing app. Use the AppFutura escrow payment services to protect the transaction side of things. As a third party, AppFutura will essentially hold the payment until the developer has completed the task they have been contracted for and you confirm it. For the developer it is a sure way to get paid as long they hand over the deliverable.



BENCHMARKING AN APP IDEA

Getting an app off the ground is an exciting endeavor. Ideas are translated from thought and put on paper. Once seemingly distant concepts start to coalesce into a singular design and the mobile app starts to roughly take shape. At this point, mobile app idea owners (clients) lacking the coding and design skills to continue usually engage a development company. However, before the first wireframes hit the paper or scope is discussed, the mobile app must first be defined.

What's a benchmark?

When a mobile app development company benchmarks a mobile app idea, the company compares different apps (competitors) and other interesting initiatives related to the client's app. Usually, this process takes place right after the idea and before the Request for proposal (RFP) or wireframes.

Why is this useful? When benchmarking a mobile app, you compare equally all the other apps or projects similar to yours or your client's so you can take decisions on what your future app must have, must not have, add or take features the client thought the app should have, etc.

Developers can more efficiently tackle an app when it has been given a more definitive shape. Placing the app in a category goes a long way towards achieving this. By comparing the app idea with existing and successful mobile apps in the marketplace, both developers and their clients are able to create a roadmap on how to proceed.

The benchmark, a useful tool

Skipping this step only amounts to compounding frustrations down the road. What looks like a simple compare and contrast exercise between apps actually leads to the creation of a solid game plan towards the mobile app development and launch of a successful app.

Ronak Shah, Director

Agile Infoways, India

This helps us to understand the current market trends when we launch the app.

Michał Kowalski, Marketing Manager

Ready4S, Poland

We always start the development process with a careful analysis of the basis of the project and we consider benchmarking to be a very important part of this phase. No great app can be done without an in-depth analysis of current market conditions and the target audience, and benchmarking can bring a huge dose of inspiration at every step of the project. It is especially useful when our clients give us only a general overview of the project and it is our role to provide them with proven solutions that have the biggest chances to succeed on the market.

Sahil Kohli, Director

Exousia Tech, India

Benchmarking is useful when we look at the idea as a long term game. You need to understand what really matters for the users that you are targeting and also what will matter to them in the coming time. Things like time spent per session by the users matter a lot. The mobile app performance impacts your profit and loss at a very high level.

Maria Lígia Sarramito, Marketing Manager

Exaud, Portugal

There are several reasons to benchmark a mobile app idea before jumping into the development process and hit the market. First, analyzing the market will give you information about your competitors, their strategy, their strengths and weaknesses.

Benchmarking also helps you to define the success of your future application. Looking at other similar apps gives you the ability to set goals effectively so they are realistic and achievable and probably unlocks new ideas in terms of features that will differentiate your mobile app in a crowded market. Finally, benchmarking is useful to give a perception of which apps are doing well in terms of revenue. This will be extremely helpful when deciding the most effective monetization model.

Including the benchmark within the budget

Imagine planning to get from point A to point B on a map, but not paying attention to the roads in between. That is what it would be like to create an app without first benchmarking it. It would be difficult if not impossible for a developer to make an app without this step, which is why anyone looking to have a mobile app built should be skeptical of mobile app development companies who opt to skip this crucial phase of the development process.

Sahil Kohli, Director

Exousia Tech, India

It is always included. In today's competitive times, it's difficult to manage performance as well as ensure superior User Experience as your competitors. For example, the app uptime becomes an important task when targeting a bigger audience along with app responsiveness.

Michał Kowalski, Marketing Manager

Ready4S, Poland

In our opinion, each project has to begin with an in-depth analysis of the requirements and possibilities. That's why it is vital to search through the market and find out what is working and what's not as well as to get to know where some great opportunities for improvement can be found. When we approach a new project, one of our developers is always responsible for a research on possible benchmarks and reporting the insights they've found to the whole team.

Ronak Shah, Director

Agile Infoways, India

If the client wants only a prototype, then we can only do the design of the app. Sometimes clients ask for an MVP of the project to launch in the market with the core features of the app.

Maria Lígia Sarramito, Marketing Manager

Exaud, Portugal

No matter the stage of the project, we always make sure we benchmark our work or ideas with what's out there in the market. It's a systematic and continuous process that despite having more emphasis in the initial stage of any given project, it remains constant throughout all stages, even after the first version of the mobile app is completed and launched. If possible (and this highly depends on the client's budget) the most important thing is seeing the progress over time, so it is always good to run at least two benchmarks so there is a term of comparison.

Hours spent on the benchmark

It is important to understand that the benchmarking process differs on a case by case basis. Various parameters of the app must be taken into consideration and then each must be held up against those of similar or comparable apps. Benchmarking is not an exhaustive step (but it is better if it is), however it does not need to post definitive comparison figures and result in the formation of a general direction that will be taken to bring the app to fruition.

Maria Lígia Sarramito, Marketing Manager
Exaud, Portugal
There is not a precise duration for benchmarking. The length of it depends on the scope of the project. If we're talking about a complex mobile app with high number of features or with a fierce competition in the app market, we'll probably spend more time gathering all the information we need. However, despite the time constraint and the size of the project, there are always essential dimensions we make sure are analyzed.

Sahil Kohli, Director
Exousia Tech, India
The time usually depends on many parameters, for example the app category. We usually consider the competitor apps and similar apps, and compare their monthly active users, daily active users, their app uptime and responsiveness, error rate and crash rate.

Michał Kowalski, Marketing Manager
Ready4S, Poland
It depents greatly on each specific project. Are similar applications available for a certain platform? How elaborate is the project? Do the clients have their own benchmark ideas or do we have to do the whole research ourselves? A safe answer is to dedicate about a couple of hours for the benchmarking process.

Follow us on

Ronak Shah, Director

Agile Infoways, India

It depends on the functionality of the application.

Key aspects to compare

Competitor analysis can be tricky if mobile app developers are not sure what they are looking for. Knowledgeable and experienced development companies often employ both a wide and narrow approach. Wide looks at the general specifications and performance of apps. A narrow approach delves into an app specific features and functionalities. When comparing competitor apps it is prudent to consider almost all aspects.

Michał Kowalski, Marketing Manager

Ready4S, Poland

To find a good benchmark, one has to search for both successful and high-quality apps. Quantitative variables like the number of downloads and average rating are our first hint, as they show whether an application is appealing enough that users want to install it and support it with good reviews. We also pay close attention to qualitative variables. In this case, design and UX are very important factors for our developers.

Most app ideas have a certain dose of innovation so appreciated in start-up industry. That's why strict comparison of two different apps is often impossible. Our strategy is to compare the general picture of a mobile app first and then to focus on specific features that need further research and development.

Mobile apps are our passion so we check new solutions available on the market everyday and share our feelings and insights among coworkers. It is not uncommon that, while creating a strategy for a new app, we use the solutions that we have seen in apps or games we use ourselves. They are not necessarily from the same app category as the app we are working on because good solutions can be adjusted to a lot of app genres.

Maria Lígia Sarramito, Marketing Manager

Exaud, Portugal

The data we analyze usually depends on the industry in which the app is related to. However, the benchmark process is more focused around several key metrics such as:

- Performance metrics, which show how the user is experiencing the app (e.g.: App crashes, API latency)
- User and usage metrics, which focus on the user and their demographics (e.g.: Monthly Active User, Devices and OS metrics, Geo metrics)
- Engagement metrics to highlight how the users are engaging with the app (e.g.: Session length, Retention rate)
- Business metrics that give feedback on the revenue coming from the app (e.g.: Acquisition cost, Transaction revenue, LTV)

Although the benchmark is mostly in quantitative terms, it is not limited to it. Our benchmarking process includes some qualitative items such as the usability and aesthetics of similar apps. We always try to compare in terms of separate features, it provides better insights.

For basic quantitative metrics, we usually focus the comparison process with apps from the same industry and category. For more qualitative items, we check apps from different categories. We're aware that looking outside the box might bring some new fresh ideas.

Sahil Kohli, Director

Exousia Tech, India

The priority is to compare with the same category apps which target to a similar audience but in today's complex world we have to check the interdepence with other category apps which might have some features that we are including in our app.

Ronak Shah, Director

Agile Infoways, India

We review user flow that is UX. Most of the applications get success because of the UX and designing part. We review how features are implemented and their flow. We also compare similar features, interface and core features of our apps. We try to make easy user flow. So when users download the app, they do not need to learn how to use it. They can easily understand it and start using it.

Generally, we check applications of the same categories because they have similar features. We can take references of other categories apps for design (UI-UX) purpose.

The client's influence on the benchmark

Communication is key throughout the entire app development process and benchmarking is no different. More often than not, clients are more informed about their apps competitors and where they are supposed to fit in the market place. Not sharing this information would only be detrimental to the mobile app development process and so developers usually like to involve their clients particularly when it comes to the benchmarking process.

Ronak Shah, Director

Agile Infoways, India

For the benchmarking process we need the client's involvement 'till UI-UX process. So we will have a clear idea of the app flow after the UX is completed.

Sahil Kohli, Director

Exousia Tech, India

We prefer to involve the clients during the entire process because they have been doing research about their app, many times they are well aware of their competition and similar apps in the market. Sometimes when we are not aware of the competitors, the clients provide us with a list of features and we use it to find out apps that are already using those features.

Maria Lígia Sarramito, Marketing Manager

Exaud, Portugal

That always depends on the client, if they want to be more involved with the benchmarking process we're happy to accommodate that. We have our own benchmarking process and our team can handle it without any external help but we're totally open to listen to our client's ideas and suggestions. It's extremely helpful if the client brings their own list of competitors and items they would like us to check, it shows strong motivation and willingness to collaborate.

Michał Kowalski, Marketing Manager

Ready4S, Poland

We are convinced that our clients know their market best as they are experts in their own branch. That's why we often ask them to tell us everything they know about the market and their main competitors, so that we can truly understand their needs as well as chances and obstacles to the project.

Many clients do a great work here, digging really deep not only in their industry and competition, but also giving us some benchmarks to follow. Some clients find it even easier to describe their app idea by giving us a benchmark that inspired them to create a certain app. We always consider such insights to be very valuable and pay careful attention to them. But we always do our own in-depth banchmarking analysis as well and suggest clients possible solutions.

Similar mobile apps

There are literally hundreds of thousands of mobile apps across different platforms. Needless to say it is an industry full of noise. Trends rise and fade quickly but there are categories of apps which see a lot more competition than others. On demand, dating and photosharing apps are but a few categories that witness a huge competitor pressure.

Ronak Shah, Director

Agile Infoways, India

Food apps, taxi apps, chat apps and deals/offers apps are the mobile apps with more competitors.

Maria Lígia Sarramito, Marketing Manager

Exaud, Portugal

We think that the most competitive apps are on the games, education and lifestyle categories.

Michał Kowalski, Marketing Manager

Ready4S, Poland

Every app is different. Judging from our experience, many clients decide to develop a mobile app that is somehow connected with communication between people e.g. social app or messenger app. Apps that gather offers or products and allow to simply find a desired thing are also popular, as well as tools designed to solve specific problems.

Sahil Kohli, Director

Exousia Tech, India

The competiton is on apps like Uber (on demand), Tinder (dating), Periscope (Video on Demand), Whatsapp (chat apps) or Instagram (photosharing apps).

The hardest benchmark

As previously mentioned, the benchmarking process can drastically differ from client to client and from project to project. However, there are times when a considerable amount of effort and resources must be committed to setting a benchmark.

Sahil Kohli, Director

Exousia Tech, India

The most efforts were involved in 2 projects we are currenly doing which are in the VR field.

Ronak Shah, Director

Agile Infoways, India

GL Deals and Bounty Star apps have represented the biggest efforts in the benchmarking process for our company.

Michał Kowalski, Marketing Manager

Ready4S, Poland

We are developing mobile apps for many different branches and for various platforms, including wearables, so we sometimes face a situation that we make a certain app type for the first time. That's a great challenge but it also takes more time and effort to develop such an app. Fortunatelly, we already have experience in so many different branches that this scenario happens less and less often and we can provide our clients with many valuable benchmarks that we've already developed ourselves.

Maria Lígia Sarramito, Marketing Manager

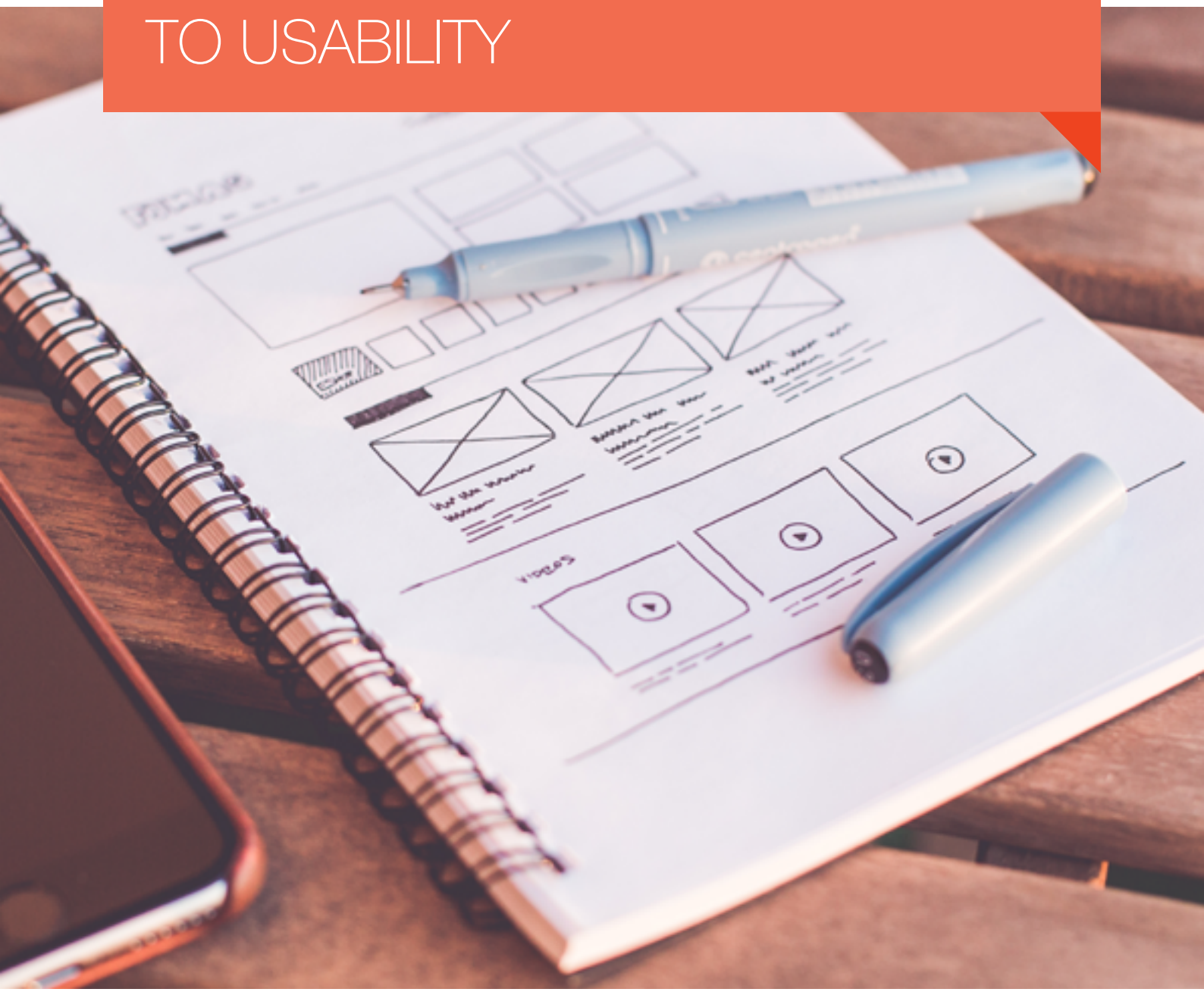
Exaud, Portugal

We have developed mobile apps for different categories and each of these projects presented unique challenges in terms of benchmarking.

Conclusion

In this day and age, the importance of benchmarking cannot be overstated. Developers and mobile app creators should do their best to go through this step in as much detail as possible. A benchmark sets the tone towards the completion and launch of the app. It is easy to say that benchmarking is merely a comparison of two apps, but it is more than that. It is the creation of a blueprint towards bringing an idea through the app creation process and breathe life into it.

WIREFRAMES, THE KEY TO USABILITY



Why do mobile app developers need wireframes before they start any design or development? Wireframes are usefull for top mobile app development companies. Made in paper or with online tools, wireframes can make a difference when developing your app.

Read about how creating good wireframes is crucial for the future usability of the mobile app.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

A wireframe is a visual guide that helps developers to easily craft and lay out all the crucial information hierarchy, draft a fluid design, manage screen position and plan the entire application flow easily.
By using wireframes, developers easily understand the complex ideas and efficiently present them in a simple and comprehensible framework.

They are the skeletons of screens, thus, providing a structural and detailed look at the layout of a mobile app and usually take the form of simple line-sketches. It helps in keeping a record of the developer's thoughts on how the app screens should be laid out, including the labels, navigation and buttons.

Shruti Mittal, Sales Director

Shubhashish Reliantekk, United States

Wireframe or screen blueprint or prototyping are key elements when planning an application or a website. It separates the graphic elements of the product from the functional elements in such a way that the developers can easily explain how users will interact with the application.

Wireframes play a very important role during the mobile app development process as they focus on what the screen does and it also defines the structure of the process making it easier to understand. Wireframing also helps while creating a better UI and UX design.

Wireframes reduce the chances of major changes when the project is under development.

Victor Costache, President

Devodrome, Romania

They are very important in building what the client envisioned. The wireframes also save a lot of time during the UI design.

Information, navigation and interface

Wireframes have 3 phases included in their development process: information design, navigation design and interface design. While the information design is the presentation of the app, the navigation design provides a set of screens so the client can envision how the mobile app will work.

The last phase, the interface design, is all about the usability and efficiency of the mobile app project.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

This design element focuses on the very minute, yet crucial, aspects found on apps and web pages that helps in simplifying user's behaviour.

Navigation design focuses on understanding how users will navigate from screen-to-screen and the connectivity between the links. The lack of a right roadmap may result into a bad User Experience.

Information design is basically used to focus on creating the flawless communication of ideas and proper arrangement of content. It is highly useful in drafting the clear and concise presentation, thus helping in understanding what users may be looking for.

Victor Costache, President

Devodrome, Romania

The wireframes should normally give clear and detailed information regarding the UI layout, flowchart (screen to screen navigation) and functionality. Although "a picture is worth a thousand words", describing what is not obvious in terms of user interactions and/or processing would require further (written) clarifications.

Shruti Mittal, Sales Director

Shubhashish Reliantekk, United States

The relationship between these 3 modules is represented by the wireframes: information design reflects the goal and process of the mobile app; navigation design allows communication i.e. it allows the user to move from one screen to next screen; interface design enables the user to interact with the functionality of the mobile app.

Ask the client

When wireframing, mobile app development companies must follow different steps depending on how the project has evolved. Before wireframing, developers have to sit with the client and ask all the questions that may occur to them just to check both parts have understood the same about the mobile app funcionalities and goals.

Wireframing is a very creative process, arranging UI elements to improve the usability of the mobile app. And what better way to do that than sketching the screens and patterns?

Even though we live surrounded by technology, paper still exists in this phase. Pencils and papers will never disappear. Sketches are the base for the future wireframing and development of the app.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Sketching always comes before wireframing. One of the biggest advantages of sketching is that it enables expression of ideas and involves other to contribute to creating a better User Experience. Along with wireframes, we create mind maps for each project. Mind maps help us analyse the entire flow and the centre focus of the app concept.

Victor Costache, President

Devodrome, Romania

Depending on what the client already has regarding the project they want to build, some questions may be needed prior creating the wireframes.

Shruti Mittal, Sales Director

Shubhashish Reliantekk, United States

The process while wireframing is: gathering information, determine design layout components, sketch the basic design, develop initial wireframe design, review/feedback and wireframe deployment.

How long does it take?

But clients might be asking: how long does it take to wireframe my mobile app project? It depends a lot on the functionalities of the app, as well as the previous material provided by the client.

It is also important to know if the mobile app development company provides the client with interactive wireframes, also the number of screens needed among other features.

To imagine any case scenario that may occur when using the app is key to create wireframes with all the possibilities the mobile app brings and all the scenarios that can happen.

Victor Costache, President

Devodrome, Romania

It mostly depends on the size and complexity of the project e.g. the more screen the app gets, the more time is needed. For most projects, 15-30 hours would be enough for creating good wireframes i.e. covering the entire app.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Wireframes are not the final designs. How long does it take to create good wireframes? Well, that totally depends on a number of factors: number of screens, complexity of the mobile app, number of types of end users interfacing with the app, etc.

If you have a whole day to put a bunch of screens together, then you can spend a day. And, if you have couple of hours, do it for a few hours.

Shruti Mittal, Sales Director

Shubhashish Reliantekk, United States

The time taken to create a fully featured and good wireframe which provides the best User Experience depends on the scale of the project.

To create wireframes equivalent to your idea and flow, first we need to review the complete project requirements or scope of the project then we move to the next stage i.e. to convert the ideas and the flow on a paper or on the wireframing tool.

If the process is perfect and we are using a wireframing tool to create interactive and clickable wireframes, then it will be generated in less time period. Ideal wireframing takes generally less than a week but it depends on the project scope.

UI, UX

And once the wireframing is done, what comes next? Basically mobile app developers focus on UI, UX and interface experience for each and every individual screen. It's the moment to add widgets, images, labels, buttons and define the visual styling attending the needs of the brand and mobile app.

Wireframes are not the final designs. They are just the base to understand how the app works and how it will look like in general. So, after the client's approval of the wireframes, the designers start their work.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

After wireframing the next step involved is to create visual graphics and design prototypes. We can use different design prototyping tools available (like Flinto, Invision). Designing prototypes help developers understand the flow and the transformations that need to be implemented during the development of the product.

Victor Costache, President

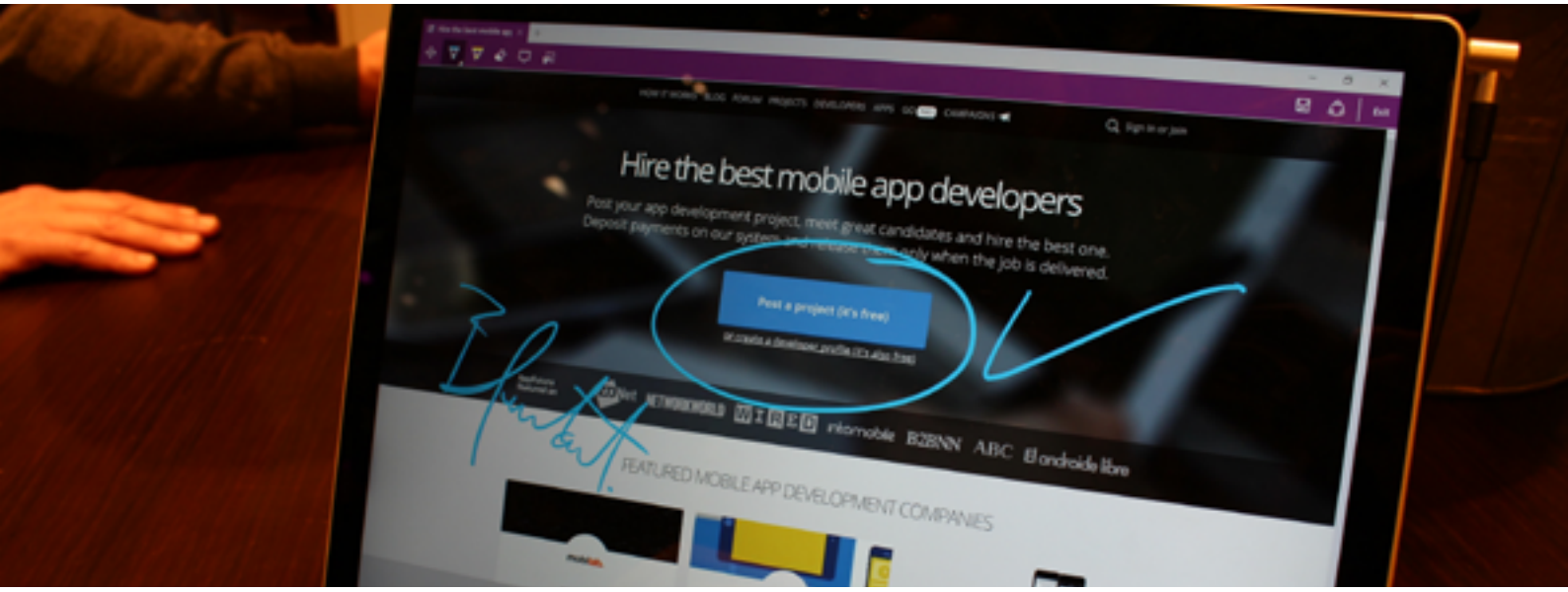
Devodrome, Romania

Creating the detailed functional specs document and development plan.

Shruti Mittal, Sales Director

Shubhashish Reliantekk, United States

Once the blueprint for the product has been defined, the next step is to create a visual style i.e. UI and UX design. The design plays a crucial role in this part of the process. When designs get approved, the next stage is development/coding. The further steps that follow are testing, product launch and maintenance.



Is it very important to create wireframes of the apps? The answer differs among developers:

Victor Costache, President

Devodrome, Romania

It depends on the information we initially got from the client and the size/complexity of the project. For example, a small project could be developed without wireframes.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

We actually avoid developing an app without wireframing. And this practice has been extremely successful for us. Wireframiing really helps in putting forth the thought-process or the skeleton. This helps in soliciting feedback and giving a high level glimpse of how the app would look like or how the navigation will happen.

It helps in throughout the lifecycle of the development: analysis, prototyping, soliciting feedback, UX and desiging the flow and navigation.

Wireframing helps us bring out any disconnect or discrepancy or flaw very early in the cycle, and hence, helps prevent unnecessary iterations, efforts overshoot. Consequently, helping in keeping schedule in check, prevent from developing a flawed app.

Shruti Mittal, Sales Director

Shubhashish Reliantekk, United States

We will not develop any project without wireframing because we never compromise our work quality and it is only possible when you start a work from zero. Wireframing is a method to define a project scope in a creative manner where we can show the first visualization to our clients and once they approve, it gives confidence to designers to define correct UI/UX of any project.

In simple words, wireframes describe the functionality and if the position of elements is defined correctly this initial process ensures that we are on the right track or not.

Tools for the wireframes

Here you will find some tools that will help mobile app developers during the wireframing (there are some traditional and some technological tools included).

Prateek Saxena, Co-Founder and Director

AppInventiv, India

There are various tools for wireframing that provide an environment for quickly enhancing and customizing common interface elements that help in providing a visual lift. Here are a few tools to choose from for hammering out the User Experience: mind-mapping software (like Mind Maple), prototyping software (like Balsamiq, Axure) and hand sketching on paper.

Victor Costache, President

Devodrome, Romania

Just to name a few: Balsamiq, Mockingbird, Axure, InDesign, Mockflow.

Shruti Mittal, Sales Director

Shubhashish Reliantekk, United States

There are a variety of tools that help developing wireframes. The most popular are Just in mind, Zeplin, Balsamiq, Omnigraffle and Axure. These tools allow designers to easily outline and organize content in an efficient manner.

DESIGNING MOBILE APPS

Users rank the look and feel of a product among the deciding factors to purchasing or using that product. Products across various industries must not only be visually appealing but customers must also enjoy interacting with them.

The goal of the manufacturers, producers, fabricators and developers of these products is not just to get the customer to buy their product, but to use it, consume it and maybe spread it to their friends and families. But does that same sentiment transfer into the mobile app world? Sure the notion of good looking, functional and shareable apps is fairly common, but is it actually important for mobile app development companies to have a good design when developing an app?

How important is the design?

Much like when it comes to people, visually attraction is the primary reason why customers would stop scrolling through the list of mobile apps in the store and click on an app to see what it does and then test it out. The visual layout and design of any app is perhaps one of the first steps for mobile app development companies towards designing any app, however it is also an important step in defining the User Experience.

A users first interaction with an app is not with their fingers, but with their eyes. Due to this, particular attention should be paid by developers with regards to how a user may perceive the app interface and what will motivate them to keep paying attention.

No matter how sophisticated or complicated the app actually is, there should be no mistaking its intent or purpose from the very first page. The app should be intuitive and easy-to-use right from the jump, as this will not only increase adoption rates but attention retention as well. The overall design of the app, from a UI/UX perspective, should be near the top of the priority list when developing a mobile app.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

One of the most effective ways of getting an app to stand is app design. How an app looks is the first and foremost aspect that people look for.

Users check the app's look and feel even before they download it and certainly before they test it out to see how it functions or works. And design is the element that provides the initial visual impression and it is something that impacts the entire User Experience. Design majorly determines the ultimate success of a mobile app. However, many app developers don't spend enough time on it or bring in creativity, which may result in a bad UI/UX design and may impact the success of an app.

It definitely impacts users' reactions towards the mobile app because effective User Experience and design into the app development is critical in engaging the end-users' emotional or transactional response.

Anil Sharma, Founder

Mobulous Technologies, India

The best standout methods for getting an application to emerge as an obvious self-evident is creative design. How an application is actually looking is the main viewpoint that people use to observe about it, even before downloading it. The visual of any application is the main factor that a user notices positively before they test the app out. That primary visual impression influences the whole User Experience and will probably decide a definitive achievement of an application. Designing ought to be faultless in all aspects, whether it is for the perfect User Experience or for a crystal-clear interface.

If we discuss about the User Interface plan, the designer must guarantee that the interface seems easy-to-use right from the first run so that users can interact with the application in a better way. To design an easy to understand application interface, the designer needs a detailed comprehension of all the components that concerne with the general execution of a mobile application. Everything should be overseen appropriately right from the design to the UI/UX in order to bring out an absolutely perfect user-friendly business application.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

Design holds high importance in the app development process. It provides the interface between the users and the backend. It is the face of the application.

Design is as important for a good application as functionality. A good app design balances appearances with functionality. Any great application without a good design might not appeal to the users. A good design enables users to interact with the application in an easier and more efficient way and hence provides a better User Experience. Appearance has a great impact on popularity as well as usability.

Sahil Kohli, Director

Exousia Tech, India

We would say that even though the idea or concept is the brain of the app, its design or presentation to users is what matters the most. Every app needs a good design in the sense that it is easier and faster for the user to find out what they are looking for in your mobile app. A neat User Interface leads to a good User Experience, better user responses and customer loyality to your app.

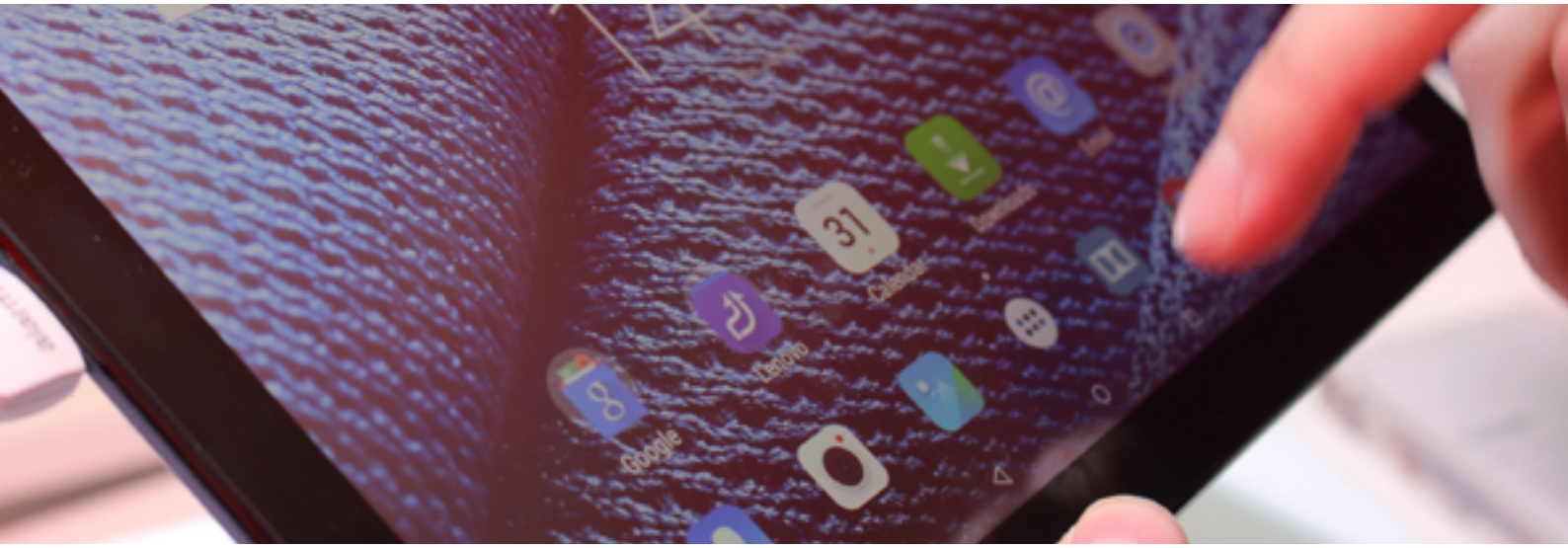
Michał Kowalski, Marketing Manager

Ready4S, Poland

The way to a user's heart is through graphics, says one of the most successful rules in the mobile industry. It may be enticing or discouraging. That's why it is so important to consider design as one of the priority elements of the app development process.

The design is not only a 'cover' of the application, it creates a natural connection between the app engine and its usability. It determines how your target group will react to the app and whether they just install and abandon it or it becomes a really useful tool for them.

Design may also be the key attracting factor for acquiring users to use the app.



The different elements

There are various design elements to consider when developing an app. UI specs, wireframing, navigation and identification are but a few of the elements deemed important in the app development process. However, there are only a handful which are deemed mission critical. Without these elements, the app simply doesn't get off the ground. And if it does by some miracle see the light of day, its lifespan will surely be a short one.

Information gathering, wireframing and testing. The holy trinity of design in the mobile app development world. As long as you have these three elements covered, your app has a fighting chance. However, like a three-legged stool, should one of these factors be neglected then the app will fall sooner or later, but likely sooner.

While the holy trinity of design can be considered the foundation of an app, several other elements need to be considered to make sure that it is a user-centered app. These elements are: UI specification, identification of users and contexts, structural and navigational outline of interface, compositional design of interface, visual configuration, design of product model and usability testing. These elements build upon the foundation of the trinity to make a well-developed, well-designed and well-rounded app.

Sahil Kohli, Director

Exousia Tech, India

There are 2 major elements in the design process: User Interface (UI) and User Experience (UX). A mobile app should be a perfect blend of both. By sticking to a simple UI and understanding the target audience, app developers can create a better User Experience for users.

Every app is expected to generate revenue after a certain period of time and that can be achieved only if users are loyal and love their experience on your app.

Michał Kowalski, Marketing Manager

Ready4S, Poland

Design process has many stages. They are: deep analysis, getting insights, building prototypes, testing, implementing and improving. For us, the most crucial element is analysis. Firstly, at this stage we do research on the target group of our application and build personas. It is important to know who the users of the app are going to be to precisely adapt functionalities and design of the app to their behaviours and preferences.

On the other side, we take communication with clients very seriously at this stage and we have to be sure that we know the app idea and its must-have features very well. When we accomplish these 2 things, we start doing big research on the best solutions and trends on the market.

We must not only respond to the needs of users but we also want to provide them with the solutions they will simply love. In our opinion, building an app without a very carefully taken analysis doesn't give great results and it can be really damaging for the result.

Anil Sharma, Founder

Mobulous Technologies, India

The goal of an app design is to envision what clients may want to do and guaranteeing that the interface has components that are easy to get to and understandable and use to ease those actions.

Different elements are used to create the user-centred design. These are the important elements comprises in-app designing: identification of users and contexts, structural and navigational outline of interface, compositional design of interface, visual configuration, design of product model, usability testing and UI specification.

The most crucial elements that are used for app designing are information gathering, wireframing and testing. The whole process that synthesizes these classic elements of good design creates a perfect application.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

Visual design elements include: color scheme, fonts, usability, theme consistency, navigation, call to action, etc. We consider usability to be the most important element of all.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

There is a set of process we follow for a mobile app design:

- Wireframing: navigational flow and structural layout.
- Branding: it helps a developer to select the overall color preferences to choose the theme of an app.
- Moodboarding: it's basically a collection board which is used as a reference for a designer to define a mood. It requires participation of the client.
- Digital design: interface design as per wireframes. This element includes the implementation of the above three processes i.e wireframing, branding and moodboarding.
- Feedback: understanding all the interpretations.
- Back to design board: applying all the feedbacks and finalizing the design.

For us each and every design element is important.

Some tools to improve or create mobile app developers' designs

Adobe Photoshop, Adobe Illustrator and CorelDraw are the tools of the trade when it comes to app design. Not only are these tools well equipped to help designers bring ideas to reality, but more importantly their flexibility allows app developers to implement pivots and changes to the designs of their apps on a whim.

Sahil Kohli, Director

Exousia Tech, India

The best of all tools is paper and pen. Although there are many tools like Invision, which help create good prototypes. If the developers and app owners have a good understanding, nothing can be better than using pen and paper to discuss everything.

Before the start of any app, developers, marketing team and owners should sit down for brainstroming and use pen and paper to define the User Experience and interface.

Anil Sharma, Founder

Mobulous Technologies, India

To improve the User Experience and create a user-friendly app, the designers use different tools like Photoshop, Illustrator or CorelDRAW. These tools allow the designer to quickly change their thoughts into a creation with fully intuitive models. These designing tools help the designer to make a simple-to-follow and understanding board for the application and its capacities.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

Sketch3 and Zeplin are the tools that have bridged the gap between design and development process to a great extent. Hence making it easier for the developers to implement the designs in a much better way.

Michał Kowalski, Marketing Manager

Ready4S, Poland

We use:

- Adobe Photoshop and Adobe Illustrator to create graphics and ilustrations
- UXPin and Adobe XD to create prototypes and empower our UX/UI design
- InVision to create wireframes

Prateek Saxena, Co-Founder and Director

AppInventiv, India

We leverage many groundbreaking tools and techniques to make our designs user-centric. Two of them are:

- Style Guide (for web)
- Design Specs (for mobile app)

The above tools enable developers to understand the design related metrics including color codes, size and font, etc.

Billable hours

While the concept of “billable hours” is certainly a real thing, the fact of the matter is that quality just cannot be rushed. To release an app without solidifying its design would be comparable to skydiving with only your goggles and helmet on. It’s just not going to end well. A strong User Interface requires time, and developers (even season developers) should be aware of this. Ideas must be manifested, tested, feedback received and changes made. This process is repeated as many times as it takes to refine the experience into a flawless one.

Before ideas of the app are even discussed, the client must be told and constantly reminded of this small, yet crucial, reality. The client must be made aware of the refinement cycle and even though it may take longer than they initially thought, it is well worth the resources that they can commit to it.

Sahil Kohli, Director

Exousia Tech, India

A good design requires brainstroming. But at the end only users can give real feedback.

At the start the best we can do is give our best to decide User Interface and experience, launch the app. And then take the user feedback into account to do the necessary changes. Interaction with the client is of utmost importance during these days.

Michał Kowalski, Marketing Manager

Ready4S, Poland

Time needed for creating a good design depends on how big the app is. Usually it takes 1-2 weeks. At this stage, it is important to keep in touch with the client and to work in iterative scrums. It boosts the speed of the process and helps to gain synergy effect while working on the design.

The good practise is to create something, then have a break from that task and come back to see if your ideas still seem intuitive and if you still like your job. That insight from a different perspective can be really helpful.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Well, design takes time. Time required to get a creative design done depends on many factors including project requirements, timelines of the project and type of the project. One of the common myths is that it only takes a few minutes. It's being expected that designers are adept and have a skill-set that allow for things to be done quicker.

But it isn't an exact rocket science and inspiration that strikes at the most random times. Often, a designer just needs more time to spend on a project to experiment with color, space and ideas to come up with just the right concept before presenting the layout to a client.

Client communication is one of the most important aspects of designing a user-centric app. As focusing on customer communication is the important aspects in the long-term success of design. In every stage of the project, effective client communication ensures your design meets the customer's immediate needs. As time goes on, regular communication with your client allows you to adapt and grow so you can continue to meet its design requirements.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

Time to create a good design depends a lot on the functionality and understanding of the requirements. If we are clear about the aim of the application and the target audience then it is easier to come up with the design that is just right for the application in lesser iterations. Communication with clients is very important, it helps us understand the aim of the application and target audience. Inputs from the client help us come up with a design that meets client's expectations.

Anil Sharma, Founder

Mobulous Technologies, India

Numerous designers, and as it should be, aren't actually aware of the sheer measure of time and exertion that goes into making a strong User Interface application. One needs to put in a design that may take an entire week or more than that. To make a configuration for a whole application is truly conceptualizing process as one needs to look into every concise depiction of the clients.

It is vital in each progression to discuss straightforward with the potential clients and solicit them a ton from top to bottom questions regarding their business, their industry, their group of onlookers, their competitor and their objectives. The designers must have to research and take a look into the desired users to provide the best solution.

After the design

The Low-Level Design Document, LLD, should only be issued once the initial design has been refined and the UI tested. In order for the LLD to be issued, not only must the desired design be implemented, but the entire app must also be fully functional.

Sahil Kohli, Director

Exousia Tech, India

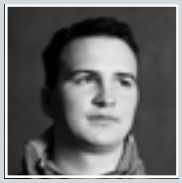
Well, if design is done in a good manner, the next step is coding and implementing them.

Jaspreet Singh, Principal Consultant - Business Development
Seasia Infotech, India

After getting the designs approved, we create notes for the developers. These help developers understand and implement the design in the exact way that they have been created.

Anil Sharma, Founder
Mobulous Technologies, India

After designing, designers use to analyze the entire configuration of the application. UI testing is done to ensure that the application serves its functionality. This process is required to complete the designing phase in a proper way. Once testing is completed, LLD gets prepared for the final design.



Michał Kowalski, Marketing Manager
Ready4S, Poland

Simultaneously to the prototype, we create specifications of the app. When everything is ready and accepted, we put it into wireframes to give our clients a better possibility to check if they like our design ideas. If yes, we start programming the app.

Prateek Saxena, Co-Founder and Director
AppInventiv, India

If clients and users love the design and want to play with it on the phone, it's time to write code. Then we continue with the app coding part. The client will be frequently updated about the progress made by our team. This is because, coding is an expensive process and efforts should be taken in order to minimize the possibility of mistakes.

The tools and SDKs used will depend upon factors such as the platform for development and programmers' skills.

Testing your designs

Would you ever jump into some unknown body of water without first testing it with your toes? So why would anyone ever release an app without first testing it thoroughly. The design, the look and feel of the app may be on point, but it is not the “be all and end all” of the app. At the end of the day, the app must still function as needed. The clients may have their views on what the app needs, the developer and designer may have their own thoughts on this, but at the end of the day it is the users who will be downloading and using this app.

Getting direct users input, or at the very least their thoughts or ideas, are crucial to the app's success. This information will supplement the information given by the client to create a more balanced product.

Michał Kowalski, Marketing Manager

Ready4S, Poland

We have many app testers who also test our app designs. Our employees from non-tech departments are also a valuable source of insights so we always ask them to tell us if they like our ideas or not. Showing the design to the potential random users is usually not posible because of keeping the app idea safe, but when the client is willing to do it, we test the design also on a random group.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

Our designs go through a thorough testing process. Our quality assurance team test our designs to make sure that all design goals are met in the most efficient way. After the QA members, the client is the potential user for us to guide if there is any room for improvement.

Sahil Kohli, Director

Exousia Tech, India

We always want to test our designs with real potential users. And a lot of online tools are available these days. We use multiple of them.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

We identify the target audience at every phase of the design process and ask them to do the user testing to ensure the design is as per the requirements and compatible on all the devices and screen sizes.

We show our designs to the potential users and get real user feedback on everything including wireframe sketches, hi-fidelity prototypes, unreleased beta apps, unreleased versions, app store pages and the current release. Then we closely watch the real User Experience on the wireframe or prototype before ever committing code. And, if we find a design disagreement with users, or within our team, we run a test and let the users settle.

Anil Sharma, Founder

Mobulous Technologies, India

Testing an app design on the premise of what they look like is not the only thing to judge about it. Testing additionally depends on read-through the ease of use of any design as according to the potential users and clients viewpoint. The ordinary route to solve the functionality issue is to concentrate on what the user needs, instead of what the client or designer believes.

We usually to show the configuration to potential users and take their input additionally to keep up the balance between both usefulness and visual components. This testing strategy lets the design reflect the great vision of the organization it represents.

The team

Usually it takes a team of talented and skilled individuals to bring an app from a clients idea to a full blown published app. Designers are a key component in this team as they will tackle the all-important duty of crafting a UI/UX interface that will both please the client and will give users the interactions that they crave. While designers must possess a host of skills, they must possess above all the ability to think creatively.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Well, it solely depends on the project and timelines assigned to the project.

Sahil Kohli, Director

Exousia Tech, India

A good design team would be: client, 1 experienced backend developer, 1 experienced Android developer, 1 experienced iPhone developer, 2 marketing team members. So in total 5-8 people.

Michał Kowalski, Marketing Manager

Ready4S, Poland

Basically, there are 3 people involved in a team for a good desing:

- Graphic and UX designer to give creative ideas and solutions and then design them
- Specification specialist to help with designing UX/UI, analyse and create functionality solutions for the app and keep an eye on it in the design process
- Skilled developer to advice on good solutions and tech possibilites of developing some functionalities

Practically, the design process often involves much people from all the company's departments.

Anil Sharma, Founder

Mobulous Technologies, India

Making a successful application requires expertise in a variety of skills and the designer is essentially responsible for creating the application's User Interface. Well, it can't be considered precisely the quantity of specialists that one requires for making an application interface design. It all relies on the creativity and thoughts. An app interface plan works with the speed of creative ideas only.

Jaspreet Singh, Principal Consultant - Business Development
Seasia Infotech, India

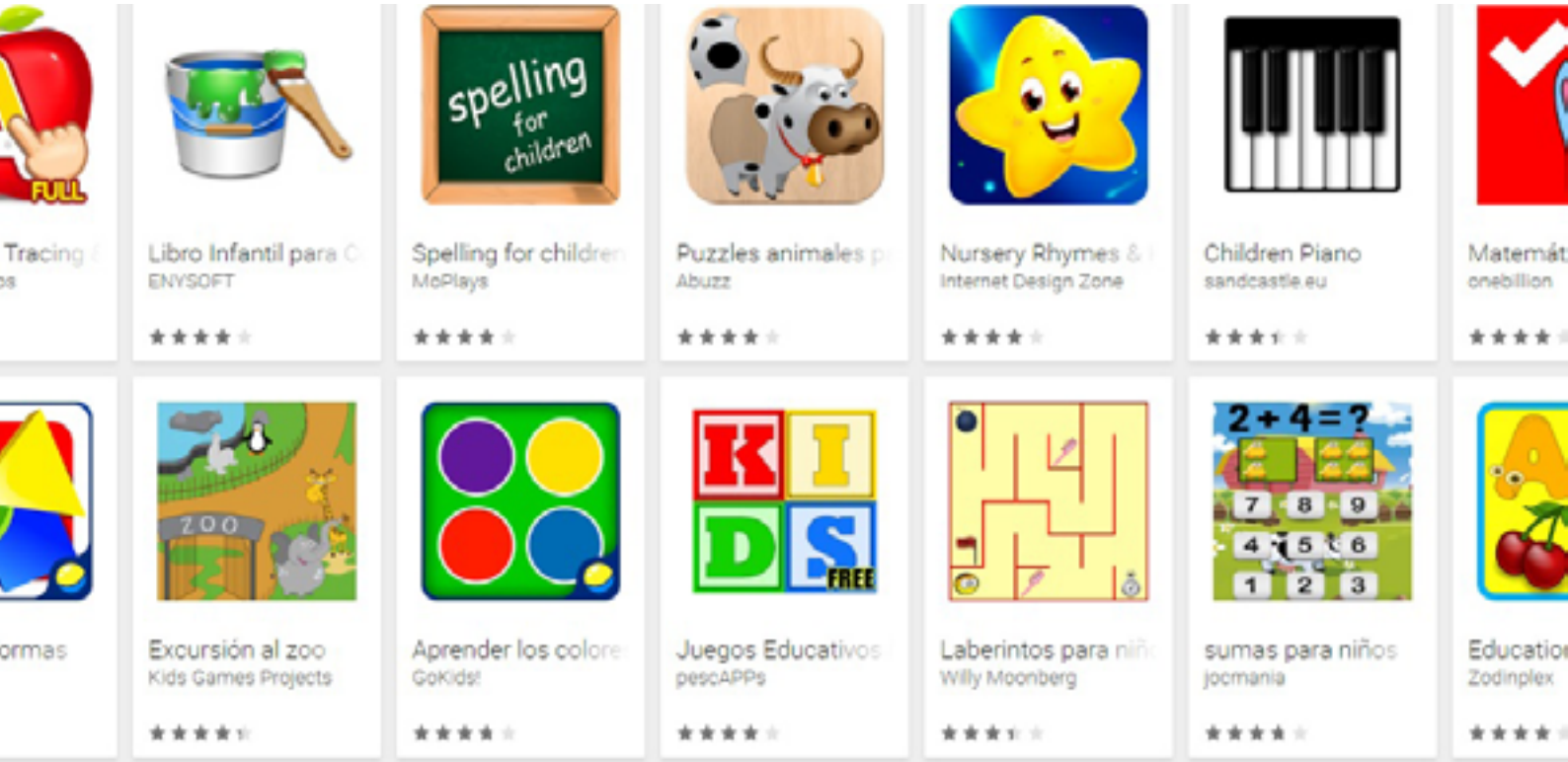
The number of people depends upon the size of the mobile application. However, we do assign people with the following roles for each app which helps us create a great design:

- User Experience designer: the responsibility of the UX designer is to create a wireframe of the application according to the functionality keeping in mind the best possible User Experience.
- User Interface designer: the UI designer takes the wireframes created by the UX designer and creates a graphical interface for the application.
- Design tester: the design tester tests the design and provides us the inputs to make the UI/UX better.

Conclusion

A client can have the best app idea the world has ever known, and a developer could even put that idea into code, but without an equally great design, this app will be glazed over by users. Creative design is not only a fancy arts term, but is a method in which the users interactions with the app are taken into account to form a design interface that will not only catch their attention but will retain it. Good design, proper design and professional design do not only make apps visually pleasing, indeed the very lives of these apps depend on them.

APPS FOR KIDS



These days more and more parents are choosing to expose their kids to technology, mobile phones and apps at a much younger age than ever before.

Developement companies looking to create a mobile app for kids must approach things differently from an adult-centric app. In order for a kid's app to be successful the developer must see things from a child's perspective and cater to their specific wants and needs.

The UX and UI in a mobile app for kids

It's a no brainer, kids interact with apps differently from adults. When developing UX or UI for a kids app, developers must throwaway any preconceived notions that they were used to dealing with in adult apps.

For starters, the UI must be that much more intuitive for children. You cannot expect a kid with little experience using technology or interacting with much of the world in general, to all of a sudden pick up a mobile device, open any old app and start using it flawlessly. On the UX front, developers must constantly struggle with retaining a child's ever wandering attention. Kids are curious by nature. They are as curious about the app's features as they are with the bird flying outside or the cardboard box in the other room.

Anil Sharma, Founder

Mobulous Technologies, India

UX/UI is the heart of any application because the design of the application attracts the users and makes it more user-friendly. For example, if you think of any mobile app, then the design of that application will first come to your mind and will let you know how satisfied your users are. If we talk about UX/UI for kids' apps then, yes we have to put ourselves into those little shoes so that we can think like them.

So before jumping into the pixel and codes, step into the look and feel of the application. A kids' app should be bright, colorful, funny and engaging and it should incorporate cool textures, 3D effects, fun buttons, sound and about a thousand other options.

So, we can say creating a child app is actually not a kids's game. It needs much more care and consideration.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

User Experience and User Interface are a critical part of a kids' app. The designers have to emulate the kind of experience a child gets while playing with real toys. A kids' app should be able to capture the attention of a kid and the kids should be able to interact easily with the app. The pixels shall be colored and designed in keeping the experience focused on how kids' eyes like them more.

Paweł Kruk, Managing Director

RAD4M, Poland

UX and UI are very important when it comes to apps for kids. An app must be readable for kids. What is vital is a clear menu, a text big enough and easily understandable and vivid colours. The product should be adapted to a particular age group so that the navigation of it is facilitated making the app intuitive and easy in reception for kids.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Designing apps for kids requires an entirely different approach. The main elements of the User Interface must remain constant across all devices. Vibrant colors, interactive elements and animations attract kids. Also, loud sound effects along with large icons and buttons help kids to connect with the app better. Best suited actions in kids apps include swipe, tap and drag and drop.

Clear cues are also important as they help kids to discover what actions they can take such as stretch/squish and pulsating circles emerging from an object. Also, there should be feedback like vibration, animation or any sound effect to let the kids know that they have performed an action. The bottom line is kids are curious, impatient and enthusiastic and while designing an app for them, focus should be on making it appealing, easy to use and combined with fun factors.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

While targeting apps for kids the UI and UX is the most important factor. Kids love color and they expect their apps to be bright and engaging. Designing interactive elements with a clear characteristic indicates the interactional factors.

Android vs iOS

Some features are only available in iOS apps, while others make Android mobile apps more suitable and appealing for kids. Which are they? How useful are the features in each platform?

Anil Sharma, Founder

Mobulous Technologies, India

As such, there is no difference in the features of Android and iOS for kids' apps but the ways to implement various features in both platforms are different. We can implement a few features in iOS easily but not in Android and viceversa.

For example, while implementing animation in any kids' app, for iOS this can be done with less effort and time as there are native methods for implementing this but for Android the mobile app development company has to write the complete code or use third party apps that will take more time and efforts.

Users can also feel a difference in the UI/UX of Android and iOS apps because there are many features that are custom built in the iOS but not in Android, and in case of kids' apps we have to focus on the design that should attract them.

As we know, Android is an open source, developers can implement any feature in an Android app easily but for iOS, Apple has put many restrictions due to which developers have to think before implementing any feature.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

With Android platform, the monitoring of the app can be performed to gain insights such as: what are the kids sharing, how much time they are spending on the app and what is stored on the device. With iOS, it is difficult to find these things. iOS offers a limited set of restrictions like preventing kids from installing or deleting apps or making in-app purchases. Whereas Android can impose limits for phone usage, block individual callers and texters and get reports on how your child is using the phone.

Jaspreet Singh, Principal Consultant - Business Development
Seasia Infotech, India

Both platforms are equal when it comes to usage by kids. The benefit of Android over iOS could be the availability of various screen sizes and compatible external hardware devices such as Bluetooth based game controllers and Direct TV Streaming.

Talking in terms of performance of the games, iOS is better than Android.

Age groups

While many would lump all sorts of kids apps together, the truth is that a range of apps actually exist within. This range corresponds to the various age groups. Understandably, an app for a 5-year old would greatly differ from an app that targets the 12 to 16-year old demographic. Developers must painstakingly adjust their apps to suit the particular age group that they are trying to attract. To help developers and parents alike, regulations and guidelines have been developed by various governing bodies such as the International Age Rating Coalition (IARC) and the Pan European Game Information (PEGI) system.

Ruchhir Agarwal, Chief Executive and Technology Officer
E2logy, India

Apps for kids are usually divided into categories based on the age groups where each group is a few years apart. Apps belonging to specific categories suit the specific developmental stages of kids, providing them digitally nutritious content. Broadly there are three age groups: 5 and under, 6 to 8 and 9 to 11. However, these can be further divided and extended like toddler apps, preschool apps, kindergarten apps, primary school apps, middle school apps and high school apps.

Be it any type of categorization, developers must consider that when the little fingers move over the mobile screens, the apps must work to boost the creative and logical thinking of kids, providing them an effective and fun way of learning things.

Paweł Kruk, Managing Director

RAD4M, Poland

Apps for children can be divided in terms of age groups. App stores, such as Google Play Store use IARC system of age marking. In Europe the PEGI system is used. It was introduced to help European parents make informed choices about an app or a game purchase. The PEGI markings indicate one of the following age groups: 3, 7, 12, 16 and 18. There are three colour markings. The green ones are for 3-7 year old children. Games for 12-16 years old are orange, whereas red colour is reserved for adults.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

There are mainly 4 age groups namely: kids (0-11), teenager (12-17), young adult (18-25), adult (25+).

While developing games, our favorite age group would be for kids and teenagers. I believe kids in these age groups are more creative minds and learn things very quickly.

Anil Sharma, Founder

Mobulous Technologies, India

As we all know kids grow and change faster than adults, so while developing any app for kids, developers must keep in mind the changes and growth of the kids. We can divide the age group into three parts:

- Ages 5 and below
- Ages 6-8
- Ages 9 and Above

This is a great fact that nowadays kids of every age group want to spend more time on smart devices rather than TV or other playing activities. So the main focus of any mobile app development company is to make the application in such a manner that it would serve the ultimate goal of the kids i.e. an app that should help them in learning while playing on smart devices.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

There are primarily 5 groups for kids apps, namely:

- Preschoolers (2-4 years)
- Little kids (5-7 years)
- Big kids (8-9 years)
- Tweens (10-12 years)
- Teens (13+years)

What you must keep in mind for each age group

Age-based app development is crucial for the success of a kids' app. Developers must take into account the various tastes, preferences, capabilities and limitations of the age group that they are creating the app for. Apps that fall within the “kids' apps” category are simultaneously fun and educational. App development companies must be keenly aware of what the users in their chosen age demographic can and cannot comprehend.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

It’s important to share app ideas which parents, educators and early childhood development professionals appreciate and look forward to engage with. Keeping in view the mindset of kids belonging to specific groups, the app should be designed to add value to kids development. Consider how kids of different age groups use movement and touch to present them with great apps.

Some market research always helps and discussing with friends and families about what kind of activities they like to engage their kids with is also a great way of getting app ideas.

Another important factor, irrespective of age groups, is fun and the app concept should be well blended with it.

Paweł Kruk, Managing Director

RAD4M, Poland

Apps for little kids help them explore the world. They must be particularly simple and easy in reception for the little users. Apps for 6–9 years old help the children learn in an out-of-school environment. They facilitate maths comprehension, alphabet memorisation and develop creativity. Such games should educate in a way that is not direct but rather by means of adventures and fun. Games for older children should be more complex. They cannot be too infantile but still they should be more simple than games for adolescents and adults.

Anil Sharma, Founder

Mobulous Technologies, India

Developing a mobile app involves creativity, forward-thinking, and an eye to detail. Before developing an application you should know for whom you are developing the app and the age group. What are they interested in? How do they think?

While developing apps for different age groups one should have to keep in mind many things such as:

- If you are developing for kids then the app should be more colourful, funny and entertaining while adults are sensitive to social changes, influences, circumstances, and moods.
- Kids love visual and auditory feedback whenever they do anything from the app, for example, some sort of response and reaction, but adults like feedback at the time of success or when they do something wrong. Adults are more often irritated if every mouse click or gesture results in sound or animation but kids enjoy that.
- While developing an app for kids we have to focus on one feature i.e. time-on-screen. With this feature, parents can restrict too much screen time for their kids. The app will show a prompt after a particular time and will lock the app so that kids are not able to use it anymore.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

To develop an idea for different age groups, it requires prototyping and testing the design. Designing for a particular age group requires participatory design. In participatory design, you need to observe how different genders, as well as different ages, interact with your content, functionality, interactions and visual design.

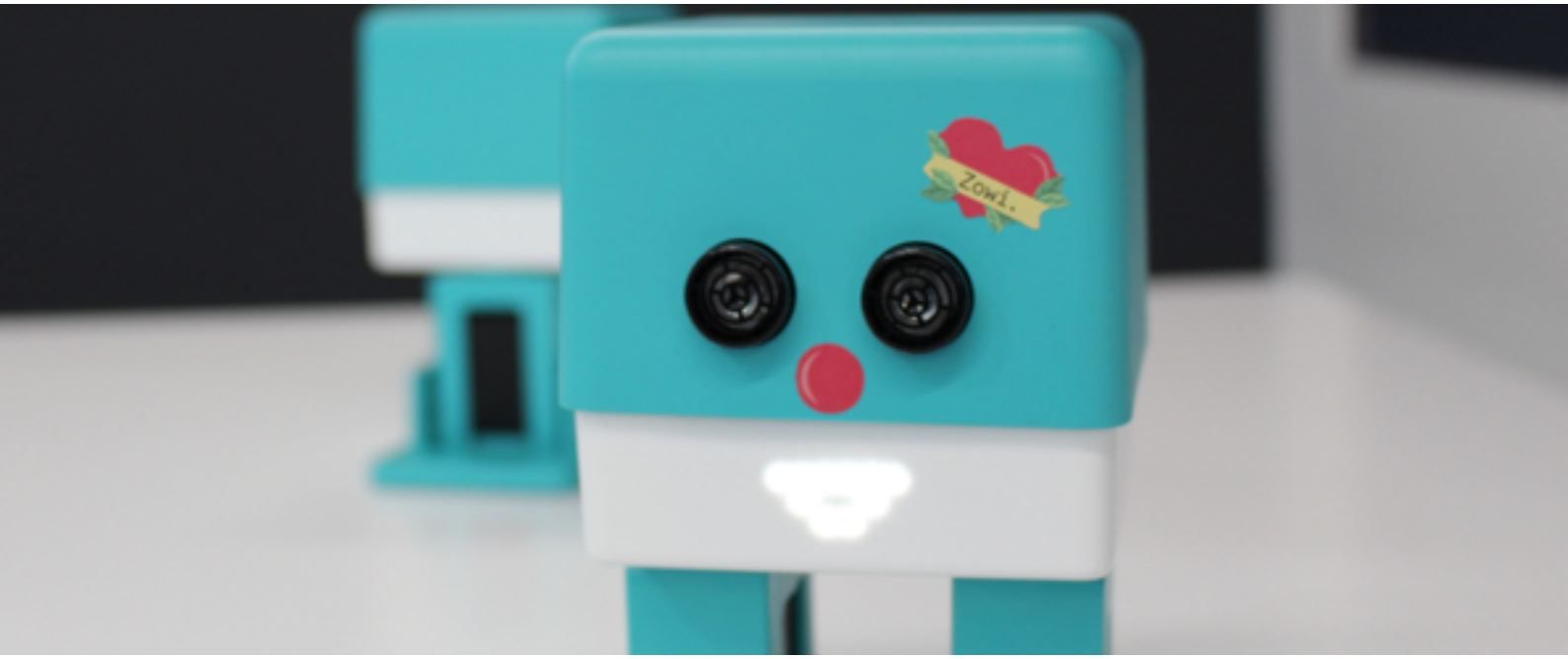
In this design process, the user is placed in the center of research and development where immediate feedback from the user is taken.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

Since the interest of each age group is different, their way to see the world also changes. While designing and developing apps/games for kids we need to target vivid colors, gamification and interactive elements.

This evolves to use of smooth colors and precision controls when we target apps/games for teenagers and it further turns to clean and crisp interface when developing for adults.



Inappropriate advertisement or in-app purchases: avoiding some business models on apps for kids

For parents, the safety of their child is paramount and developers should keep this in mind when creating apps for kids. Fortunately, almost every major app distributor has some sort of built-in parental control tool that will allow parents to dictate what ads can be shown or what in-app purchases can be made.

Paweł Kruk, Managing Director
RAD4M, Poland

iOS system is equipped with in-built tools which limit the mobile's functions. They enable switching some functions off or limiting the possibility of apps' installation and removal as well as online app store downloads, which can be achieved by setting a password.

Android offers two possibilities: parent control of apps use or store download can be activated with a password; or a user account with chosen limits can be created for the child.

Smartphones with Windows system can have a special kid corner created, where the child gets acces only to some previously chosen content.

Jaspreet Singh, Principal Consultant - Business Development
Seasia Infotech, India

The general solution to it could be using Parental control SDKs which restrict the items that are shown to kids during game/app. We can also implement certain kid safe check such as age confirmation and simple mathematical calculations (such as 2+3=, 6-2=).

Apart from this, there are multiple third party SDKs which are kid-safe mobile advertising solutions. Few of them which we use are Floop and SuperAwesome.

Anil Sharma, Founder

Mobulous Technologies, India

This is one of the major points we have to keep in mind while developing an application for kids because inappropriate advertisement can divert their mind towards the wrong direction and in-app purchases will lead to a lot of money loss for the parents. So while developing a kids app we have to incorporate various parental controls to prevent them accessing inappropriate content, advertisements or in-app purchases.

Before downloading any application, we need to enter ID and password and after the password is entered, the default is set for some time. Within that time interval, your children could accidently download hundreds of pounds worth of in-app purchases. To avoid this situation, kids' apps must have the option of changing settings where parents can change the required password setting to immediately. Now, whenever your child goes to buy something, whether it is an app or in-app purchase, they'll be asked to type in the password before they can progress further.

Apple recommends that, for children over 13 years, you should create an individual Apple ID for them to use. By doing this you need not to turn on/off the restrictions again and again, moreover you have the option to switch from your Apple ID to your child's ID and viceversa. However, parents must ensure that the child's Apple ID has no credit card entered, means there's no money for them to spend.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

Tools such as AdMob by Google help in the mediation of advertisements with the app. AdMob helps in preserving User Experience with innovative video ads to keep users engaged. There are various tools to control inappropriate advertisements or in-app purchases which will help in adhering to the business model, letting the app owner display ads of specific genre.

The best apps for kids

Choosing the Best of anything can be difficult. So how can anyone create a shortlist of best apps for a category with such a wide range encompassing nearly a dozen demographics. A better way to look at things would be to discuss the characteristics of high quality.

Ruchhir Agarwal, Chief Executive and Technology Officer
E2logy, India

There are, in fact, many apps for kids that make it to this list. Some of them include DragonBox Algebra 5+, Faces iMake – Right Brain Creativity, Crazy Gears, Marble Math Junior, Shape Arts and Shiny Circus. Selecting the right apps, based on age group and purpose could benefit kids in great many ways.

Paweł Kruk, Managing Director
RAD4M, Poland

The best apps for kids keep their minds active and teach outside the classroom. It is very important for an app to be a way of exploring the world and learning about life, that is why they should entertain, educate and inspire.

Kids lose interest very easily, apps should have specifically eye-catching looks, but at the same time they should be user-friendly. For very young kids one of the best apps is Endless Alphabet. This is a unique, interactive and educational app that teaches kids their ABCs. Another interesting app is Drawnimal (unfortunately only for iOS). The app encourages kids to draw an animal on the iPhone screen on the basis of the letter they have chosen.

For kids aged 6 to 9 there are a lot of popular games e.g. Toca Life: Vacation, My Talking Tom. Toca Life is an app that lets kids pretend they're going on holiday. In My Talking Tom, children can adopt a cat and take care of it. Older kids eagerly play Pokémon GO or Minecraft.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

So far, we believe the following are the best apps/games for kids:

- Toca Boca Series
- Migalolo Ocean Book
- The Rainforest Musical Kakamega
- Jobi's Bistro

Anil Sharma, Founder

Mobulous Technologies, India

The best apps for kids in 2016 which encourage learning and creativity are:

- Dinosaur Park Math: this is a fun way for children to learn addition and subtraction from 0 to 20. Kids need to answer sums correctly in order to chisel away at rocks that hide dinosaur fossils within them. Kids can also learn dinosaur facts apart from just learning maths.
- Dino Tim: this is a great way for young kids to get to grips with colours, shapes and their first words. Dino Tim's family has been kidnapped by witches, and kids have to solve various educational puzzles in order to save them. The game involves solving colour and geometric shape puzzles, as well as running, flying, jumping and even a little bit of magic. The aim of the game is to teach kids to recognize basic geometric shapes, as well as to learn about colours and even their first words.
- Super Why: this app helps kids with reading and writing skills. It features three games that are led by different characters. Kids can help Alpha pig follow the alphabet path to create words, princess Presto lays out words kids can trace with their fingers to learn how to write and wonder Red teaches children how to find words that rhyme. It also includes interactive storybooks where kids are instructed to plug in the correct words to complete sentences.

There are other apps like Scribble, School of Dragons, How Many Saturdays or Ocean Forests which keep kids both entertained and educational at the same time.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

It is difficult to name a few apps when the word best is associated with such question, still, listing a few apps that kids love:

- Super Why
- Monkey Preschool Lunchbox
- Moonbeeps: Fireflies
- Shapes Toddler Preschool
- Endless Alphabet
- Rosetta Stone kids
- Artkive
- Drawnimal

The most used features on an app for kids

The features that developers choose to incorporate into their kids' apps are what attract youngsters to download and use the app. Kids' apps need to be engaging, stimulating, entertaining and educational all at once. Developers must keep this in mind when designing their apps to enhance experience and functionality.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Certain features are very crucial. Such apps should have simple UI and easy navigation. Use of music and speech are widely preferred.The activities are short, simple and well explained. They are more focused on encouraging the kids to apply their critical thinking, creativity and problem solving abilities.

Learning apps for kids aim at setting goals which help in learning naturally and playfully. Another important feature is avoiding unwanted distractions like pop ups and social media notifications. These apps also emphasize avoiding too many options that may confuse kids and tend to focus on the central activity.

Anil Sharma, Founder

Mobulous Technologies, India

The mobile app market has become very competitive, and only apps with the greatest features and child-friendly design tend to make it to the top. The most used features in apps for kids are:

- Speech: kids under 5, generally, are not fluent readers. So narration should be a feature in any kids' app. Giving an option of sound to any text in the app increases the interest of the kids and motivates them to keep using the app. In a kids' app, directions or introductions are read aloud to the child with the text highlighted as the narration occurs. Children who are on a lower reading level can be benefited from speech support.
- A Settings or Parent Page that locks everything that isn't part of the child's activity: ads, pop-ups, links, social media or other unrelated visual components distract the learning in the kids' space. While developing any kids' app it is necessary to make sure that these are locked up on a page that is only accessible by the parents and not by the kids.
- Bonus material on the Settings page: inside the Settings section, parents could easily find valuable tools to help their child navigate the app. For example, helpful settings include the ability to check a child's progress or customize the material, bonus material and tips for how to extend the learning away from the app.
- Good flow: within the app, the buttons should be easily designed for going back and forth between pages, using home icons or arrows, so that the app leads kids in the direction they want to go in the app. Offering too many choices means there may be less focus on the direct activity in which the child should be engaged.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

We believe that these are the most used elements in apps for kids: graphics, animations, characters and music effects.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

- Narration: the option to have the text read increases chances of success of the app
- Music: kids apps should have soothing music to engage kids
- Navigation buttons: the app should have buttons to jump around pages
- Parents setting: a settings page for parents to block ads, pop-ups and unwanted content
- App information: the app should have accurate information about what the app is all about

Paweł Kruk, Managing Director

RAD4M, Poland

Apps for kids should be educational, creative and exploratory. Apps for very young children are aimed at exploring the world, for example they help to learn names of animals or colors.

Apps for kids aged 6 to 9 often teach alphabet and maths but, above all, they help visit a fantasy-world.

Older kids expect something more than education. They will do exciting things and have an adventure. Application’s features should enable them to experience that and help to discover their passions.

Virtual Reality

Virtual Reality (VR) has the potential to elevate the current state of mobile kids' apps. It will change the role that the user will play from mostly a passive observer with limited amounts of interaction, to one that will be actively interacting with and even modifying their virtual environment. Of course safeguards are needed by mobile app development companies to ensure that children are not exposed to anything that can upset or damage them, but for the most part, Virtual Reality can greatly benefit kids' apps in the future.

Paweł Kruk, Managing Director

RAD4M, Poland

Virtual Reality should be implemented in games or apps for kids with beautiful colors, kind and interesting characters, like in old cartoons on TV. Humour and entertainment should have equal priority as education. With VR children can do exciting things without the risk of getting hurt. Apps should have adequate PEGI for the user. Young children are fine with being a passive observer on roller coaster rides or flight simulations but older kids want to actively shape virtual worlds “like building a castle”.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Virtual Reality implemented in educational apps for kids can make learning far more interesting. Kids can experience underwater worlds, zoos and historical worlds and can explore things in a way that boosts their thoughts and creativity. Virtual Reality can bring in huge transformation in the teaching style, making it more effective. Kids can step into the scene created by app developers and can have a better understanding and imagination of the world around them.

VR can also open up new possibilities in gaming apps for kids where multi-player sessions can be created to promote socialization and collaboration among kids.

VR in kids apps can better meet the needs of such kids by offering a different and innovative way of teaching and learning.

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

Virtual Reality can be implemented to provide experience tours of a range of different places. VR can be used for providing an immersive gaming experience to the kids. It can also be used for learning and educational purpose to help kids learn about animals, plants, body parts, solar system and a lot more.

Anil Sharma, Founder

Mobulous Technologies, India

As we all know Virtual Reality is the current big innovation in the world of mobile technology. Many businesses and enterprises are moving towards VR technology as it helps them to grow faster. Also, many educational businesses are also moving towards VR technology and can deliver more interactive and enriching learning experience to the kids. If you are into education business, VR apps can make learning more enjoyable for kids bringing a potential opportunity to grow.

With the help of VR technology, we can develop different apps that can help kids learn in the real world. Many education centres are using VR to collaboratively construct architectural models, recreations of historic or natural sites and other spatial renderings. We can also build games for kids with the help of VR.

A few examples of VR apps for kids are: Google's Expeditions, Jurassic land, Lamper cardboard or Froggy VR.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

Virtual Reality gaming is where a person can experience being in a 3D environment and interact with that environment during a game. This is an essential part of the game.

We can use Google Cardboard as a base while developing games for kids. This includes VR libraries and gaming tools combos. We can use Unity Gaming Engine along with Google Cardboard concept to meet the desired needs.

Apps for kids

Below, mobile app developers detail some of the apps that they have produced as well as how they have used key features and functionalities to set themselves apart from other apps.

Paweł Kruk, Managing Director

RAD4M, Poland

We are currently working on two educational games for children. The setting of one of them is Space. The first level consists in an astronaut's traveling in a rocket through the solar system and its planets and planetoids. In the following levels, the kids travel around some other planetary systems or whole galaxies. Each visit on a planet entails a mission set in that planet's environment e.g. the Rings of Saturn or freezing cold of Uranus, etc. The missions often consist in collecting things such as mineral samples in a platform game. Another example of a mission task is a race. There would also appear some additional tasks to be done in the rocket cockpit e.g. petrol filling, feeding the astronaut or restocking the supplies of the space station.

A game for the little ones is a small farm for the children to keep some animals, learn their names, the sounds they make, etc. A simple memory or maze game is assigned to each animal.

Jaspreet Singh, Principal Consultant - Business Development

Seasia Infotech, India

We have worked on plenty of games/apps for kids. Few of noteworthy apps/games are:

- Fido Goes Places
- Learning Tots Animals
- Migalolo Ocean Book
- The Rainforest Musical Kakamega
- Truth & Dare
- ELF Jump

Shoeb Zahoori, Manager - Strategic Alliances

Mobiloitte Technologies, India

- Speech Treats: the educational app features interactive activities for engagement like kids' games, multiple avatars to personalize your character, etc. With complete user instructions for a lively experience.

- Crossword: is a kids' app that help them learn spellings of fruits, animals, vegetables, in an intuitive and interactive manner. The app has an innovatively designed keypad that allows kids to complete the word with ease and convenience.

- PLAYGround: the best parental control software to keep your minors safe. PLAYGround is 100% child safe and offers the most comprehensive parental control of all Android applications for kids of all ages.

- iSchoolMate Parent: the app helps locate your kid and navigate to them in a case of emergency. It has a panic alert functionality and one-to-one private chat only between authorized parents and children. The app encourages kids by giving simple rewards.

- iSchoolMate Child: the app contacts a parent in case of emergency by pressing the panic button. The app provides a direct one-to-one private chat with the parent authorized by the child. The app lets a child collect rewards from parents.

Anil Sharma, Founder

Mobulous Technologies, India

We have developed many apps for kids and are currently working on some of them. Below are a few examples of kids app that are developed by us.

- Top 10 quizzer: is one of the successful kids' app helpful for all age groups. This app is for both, entertainment and education, but most importantly for fun with friends and family. There are around 1,000 different quizzes in the game, spanning a wide range of categories.

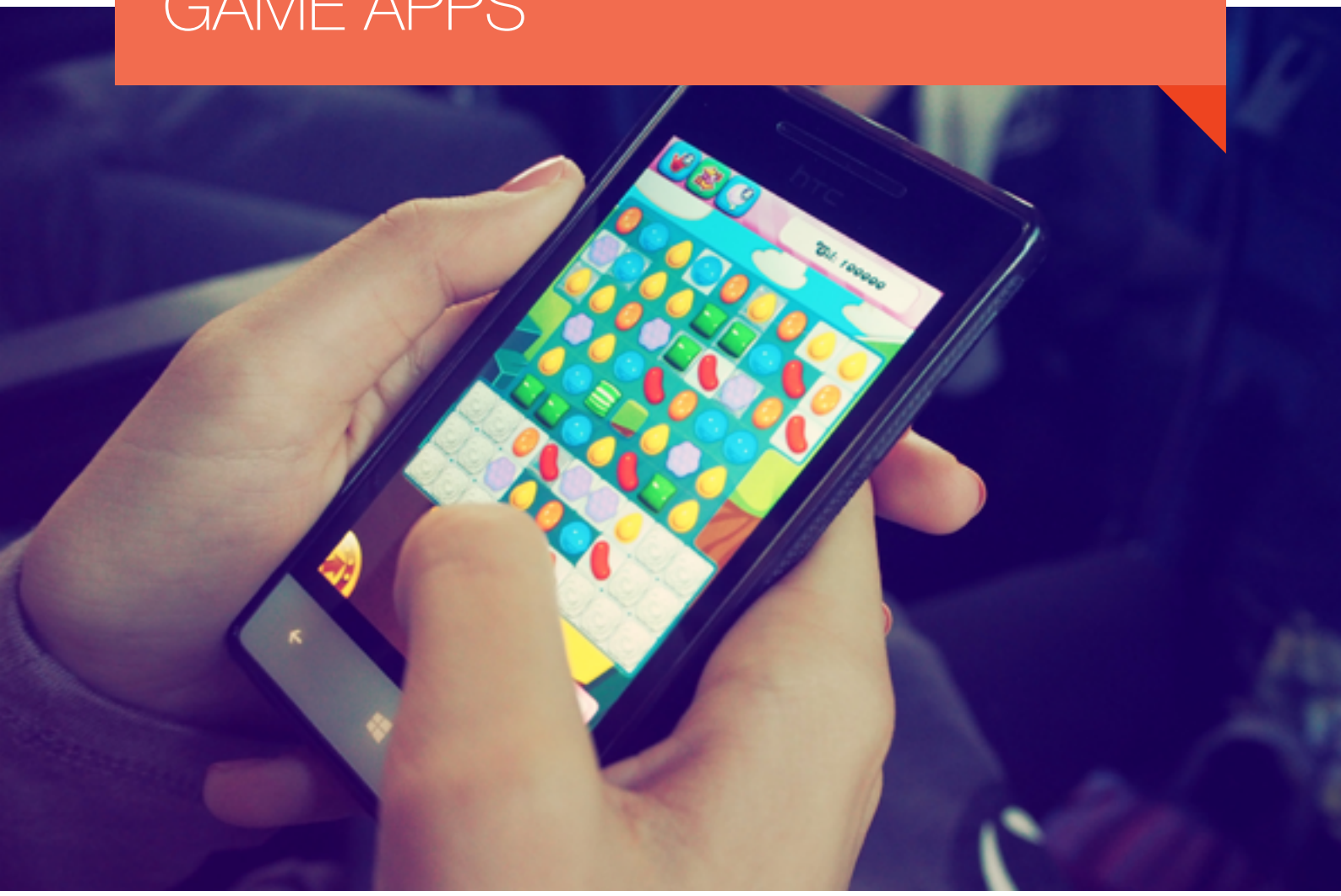
- Trivia: is a fun game as well as it helps kids to gain knowledge while playing. This app is developed in two languages: Turkish and English. The game has various quizzes based on different categories, you have to answer the questions and after successful completion of one quiz, you will move to the next level.

- Ebiz: is the unique model which allows you to learn and grow. This educational app is for all age groups which presents an opportunity that will not only quench your thirst for knowledge but will bring you face to face with the vast powerhouse of information. In this app, kids can read various tutorials based on different subjects, can give tests and based on the test results they will be evaluated. Students are able to download the certificates of their tests.

Conclusion

The children of today are growing up surrounded by technology. Apps have the ability to bring knowledge and the world to their fingertips. In this light, developers can be educators and entertainers. Using age appropriate design and content, development companies can tailor their apps to not only attract kids, but to also provide them information for their own personal development. New advances in technology have the potential to further enhance the experience and delivery of information to kids of all ages.

GAME APPS



Mention apps to most people and the first thing that hits their mind are games. Indeed it can be argued that games skyrocketed the growth of app culture. They helped bridge the mainstream mindset with the adoption of smartphones like iPhone and Android devices. Without a doubt it is a powerful and profitable endeavor.

But, only if executed properly.

UX and design

The look and feel is crucial to success. It may seem like an extreme statement to say that without good UX an app is doomed to fail, but it is actually closer to the truth than most would think. Contrary to popular belief a tried and tested UX design is not the only key to

the hearts and minds of users.

Sometimes it pays to be different, and UX is where apps and developers can set themselves apart. This wrinkle may actually cause the app to go viral as its virtues are shared by word of mouth, blogs and reviews by users that have experienced it.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

The very purpose of creating a game app is to entertain your user. Thus, UX indeed is a crucial piece of your future app success. Design and usability are tied closely with the emotions your customer will experience while playing. Having fun is a key factor when people decide to download a game on the app store. They are not looking for entertainment using an app to check their finance or make an appointment to the doctor. They expect vivid impressions in the game app. Don't let them down!

Sometimes unusual UX may help you save with a marketing campaign, there are many proven examples in the game app world. How? People enjoy sharing news about new cool apps they've tried. If your application gives a great experience, most likely many users will tell friends about it and you'll get a self-spreading promotion.

Summing it up, you should consider the User Experience of your game app as the main indicator of your future app's popularity and therefore revenue.

Sahil Kohli, Director

Exousia Tech, India

We believe UX is the most important thing when it comes to both apps and games. The primary difference in case of games, our main focus remains to keep the user on the game for máximum duration, and I believe Virtual Reality games will redefine the whole space now, starting with Pokémon GO as we all know.

Vipin Jain, CEO

Konstant Infosolutions, United States

We all know how much User Experience and a rich layout for each mobile app is necessary to mark the place in the race of millions of mobile apps. We can't actually compare other categories of apps because each one brings its own importance to users. Gaming apps are mostly played by kids, so for them we should create a simple layout, bright color combination and easy navigation. One thing which is very significant on the part of game apps is that the layout of an app should be highly engaging, more intuitive and very much compatible with the gaming hardware of smartphones.

Game apps for kids

In an age where most children grab for a tablet or a smartphone in the same way that they would grab for a ball or an ice cream, developing the right way for children is not only a "nice to have", but rather a necessity. While various portions of a game can be tweaked to attract kids it seems that the UX plays the most vital role due to a child's natural reaction to act on impulse. And while that may attract their attention, a method must be developed to walk a child through the proper use of a game. It is key to get them to keep on using it.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

I can't really imagine what other things kids are considering about the game apart from UX. They are the most emotional part of your audience and also very impatient. They never forgive you the freezing screen or non-friendly interface, they'll quickly count the app as dull and unattractive, delete it and never launch it again.You'll need a serious preliminary analysis of user personas.

The task is complicated by the fact that your market researchers and developers are adults. They will have to overcome age barrier to understand children's feelings and deliver the product which meets their inner expectations. Bright colorful design, plain

navigation, good usability and quickness are your best friends in achieving this goal. Special attention must be paid to the improvement of onboarding experience, particularly when you develop for the youngest audience. If children find the functionalities intuitive and easy to use, the app will be in demand.

The youth likes to discuss various tech news and they easily can give your app repute and fame as well as bad name. So, watch out for UX, especially thoroughly in this case.

Sahil Kohli, Director

Exousia Tech, India

If you want to engage kids you need to make them happy and reward them often. Kids love variety, so do adults, but kids love variety more and if you want to keep kids engaged you need to make them feel important.

Business model

For developers and owners the draw with game apps is their potential to bring in big revenue. But which route to take? Should you offer the game for free and then charge for in-app purchases? Go totally free and try to attract sponsors? How about a hybrid? How about something different? Needless to say, there a lot of ways to make money with game apps. The real question now becomes “which one gives you the biggest bang for your buck”? It seems that the best way to earn a buck is to offer the game for free but implement in-app purchases.

Vipin Jain, CEO

Konstant Infosolutions, United States

Gamers want continuous access to the games they are playing for free. Once they get addicted they want to go further and look for more improvements and expansions of services. If the game provides the value, they are more willing to spend money on it. That’s why Freemium model is the best suited business model to build a perfect balance between consumer value and organization profit.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

Based on our experience, the most common business models in game monetization are Freemium and in-app purchases. Paid model remains actual too e.g. Minecraft Pocket Edition and Five Nights at Freddy's, top revenue generating paid games. This approach shows effective when you already have a strong brand and a famous name. And there is a lot of prospective buyers willing to pay for it.

But absolute leaders in making money still are free-to-play apps. Think about incredibly popular Angry Birds, Candy Crush Saga and Clash of Clans. The practice proves that users spend even more money in Freemium games. They don't feel the obligation to pay for anything downloading the game, feel free to try it and gain their first impressions. And then, when the person already likes the playing process, comes the perfect moment to offer a bargain: upgrade or new levels.

According to statistics, more than 90% of app stores revenue is generated from Freemium apps.

Another good case study of successful free-to-play app is Pokémon GO, released recently. The main income source at the moment is the in-app purchases which are estimated to bring about $1,6 million per day.

Sahil Kohli, Director

Exousia Tech, India

Freemium is the best strategy, specially for kids. According to research if you can convince a user to play your game for 3 days, chances are they will stick to your game, that way game owners can earn more but in the future.

iOS vs Android features

Choosing which platform to launch your game on is usually an exercise of give-and-take. Unsurprisingly, each OS has its Pros and Cons when implementing features. However, developers have noticed that the compiling stage has become the quintessential battleground on which OS is to be chosen.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

The difference in challenges that developers are facing may emerge on the compiling stage for game apps. This is a bit more complicated task when developing for Android because the linking with C++ code is implemented through Java Native Interface. Therefore, it's usually easier in iOS development to link the needed feature with the game itself.

Vipin Jain, CEO

Konstant Infosolutions, United States

We can't discriminate the level of efforts that developers put while developing any game app. Although, nowadays, we are using game creation engines to develop a mobile game app for users. We work on Unity3D, BuildBox, Game salad and Cocos2D. We develop in these environments and tools as they export the game in native IOS and Android version. But one thing we find more difficult is animation in Android mobile app.

Sahil Kohli, Director

Exousia Tech, India

The major difference lies in the fact that while developing an Android game, we as developers need to spend more time making the game perfect for all screen sizes. In terms of Android, there is a large number of screen sizes.

I believe this is the reason why many games have the strategy of iOS first.

Most used features

Features are what set one game app from another. There are tons to choose from and even though you can try implementing all of them to great cost, it may be better to, much like the question about business models, ask which feature gives you the greatest return on investment. While it may be easy to jump on the social media bandwagon, it may come as a surprise that achievements and the ability to “level up” are huge motivators for users

Vipin Jain, CEO

Konstant Infosolutions, United States

As per the trends of playing multiplayer games, we understand that social networks are the most used features in game apps.

Sahil Kohli, Director

Exousia Tech, India

Character voices are the most important part. After that, soft animations are really helpful to give a great experience to the game user.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

The most used features in games are achievement system, levels system and multiplayer functionality. Achievements and levels are an integral part of every game: they stimulate players to move forward, tease them by setting the milestones of progress. Multiplayer spices up the competitive factor.

Smartphone features

The feature being used will greatly depend on the type of game being played. Cameras, touchscreens, voice recording and accelerometers are only a handful of features that can be utilized by game apps. While gyroscopes and touchscreens have been the most commonly

used features in the past, the success of the break out hit, Pokémon GO, has led to the rise of requests for more Augmented Reality (AR) implementation, meaning that the GPS and camera will see heavy use in the near future.

Sahil Kohli, Director

Exousia Tech, India

In the new VR era of game development, the smartphone location and camera will be some of the most important parts.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

Voice recording is a quite rare function in game apps, although it may be suitable for karaoke-like games. Probably the most used features in games are gyroscope and the touchscreen. Undoubtedly, for multiplayer games wireless connection (Bluetooth, Wi-Fi) is the essential feature. After Ingress and Pokémon GO appearance camera and AR screen look like the most used features in future games. We are already getting many requests from our clients to develop augmented reality games.

Vipin Jain, CEO

Konstant Infosolutions, United States

Nowadays, gamers like to indulge in a social group to explore other players. However, every feature is as important as the other ones, but some carry their specific role in playing a game over smartphone like gyroscope, accelerometer, touchscreen, GPS.

OS version and screen size

Let's face it, an app can only be experienced well if it is seen properly. Unsurprisingly, the majority of developers agree that bigger is better. Big screens generally equal better quality. With a smartphone, you don't want to go below a 4-inch diagonal as images just get too compressed once screen sizes dip below this figure.

Vipin Jain, CEO

Konstant Infosolutions, United States

Every latest version and upcoming advance versions are best to fully enjoy a cutting edge game app as the game development organizations design and develop the games compatible with the latest technologies whether it is software or hardware. As far as screen is concerned: bigger is always better.

Sahil Kohli, Director

Exousia Tech, India

The new versions of Android and iOS are always designed in a way to offer a better experience to the user with more features.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

Of course, you can play games on any screen size and the only requirement for current OS version is to support the game functionality. But in most players' opinion the rule is simple: the bigger and the higher the quality of the display is, the better. A large part of mobile gamers has smartphones with a 4-inch diagonal or more. However, you will get the greatest experience on a 7-10-inch tablet.

The best smartphone for a game app

The war between the platforms rears its head once again. While they may have personal preferences, developers have taken an understandably neutral stance when picking a side, at least when it comes to iOS and Android. Both operating systems have proven their mettle time and time again. To developers each has their strengths and weaknesses but nothing so glaring to put one over the other.

Sahil Kohli, Director

Exousia Tech, India

Samsung S7 Edge works out the best, and iPhone 6 Plus.

Alexandra Titova, Head of Sales and Marketing

Eastern Peak Software, Ukraine

Different platforms have different advantages, it's more a personal choice of the user. In general, gamers pay attention to the screen size and color quality and choose the platform more convenient for them. The most common platforms are iOS and Android and the vast majority of games are being developed for them. Some games are exclusive for certain platforms but this is not usually the deciding factor when choosing a smartphone. The only thing to mention is that less common platforms like Windows Phone or Blackberry have a less gaming app choice.

Vipin Jain, CEO

Konstant Infosolutions, United States

Although there are endless smartphones available in the market, when it comes to selecting a smartphone, particularly to satisfy your need for gaming, features like long battery life, high and advanced processor, huge storage capacity and bigger screen become the must-have specifications in any smartphone.

- Samsung Galaxy S7/Samsung Edge 7: just name your activity need to perform and you'll find these smartphones as the most suitable powered by Android. Edge 7 is packed with the most advanced technologies like Snapdragon 820 processor, the Adreno 530 GPU and 4 GB RAM. Even Samsung Galaxy 7 offers the finest gaming experience.
- LG G5: is another good choice opted by game lovers as it is packed with Qualcomm Snapdragon Octa-Core 2.9 GHz processor and high-end graphics Adreno 530 GPU (graphic processing unit) which provide better graphics and realistic 3D scenes and effects.
- OnePlus 3: another popular name in the race of smartphones. It is equipped with 6 GB RAM, 3000mAh battery, 1.6GHz quad-core Qualcomm Snapdragon 820 Processor with 64 GB internal memory.
- iPhone 6S/ iPhone 6S Plus: the most powerful smartphone powered with iOS till date to play games as it is packed with 3D touch screen, A9 processor, up to 128GB memory, 2GB RAM and six-core graphics to provide an exceptional and remarkable experience of playing games over smartphone.

The most difficult game app

While there are many successful game apps to choose from (some have even turned their creators into multimillionaires) there has been a recent standout that has made waves not only in the mainstream media but also in the developers circles. Pokémon GO took the world by storm. Niantics amalgamation of the popular video game and geolocation has paved the way for AR games down the line.

Vipin Jain, CEO

Konstant Infosolutions, United States

Each gaming app has its own programming. As per our understanding, some of the existing successful gaming apps are Assassin's Creed, Clash of Clans and Grand Theft Auto. And how can we forget to mention Pokémon GO, the most recent successful game app. The mentioned apps are integrated with high-level of programming with a lot of efforts and time.

Sahil Kohli, Director

Exousia Tech, India

I would say Pokémon GO has been a great challenge for its developers.

Pokémon GO and Augmented Reality

Pokémon GO's ridiculous success has put every developer on notice regarding VR and AR. Its creator and developer, Niantic, has laid the foundations of AR's future in the app industry.

Vipin Jain, CEO

Konstant Infosolutions, United States

Augmented Reality featured apps are going to be a huge success and the biggest is Pokémon GO. Augmented Reality with all its exceptional benefits, making its own way in this advance technology world. Applications integrated with AR giving a new way of seeing your surroundings in real time.

Alexandra Titova, Head of Sales and Marketing
Eastern Peak Software, Ukraine

Augmented Reality seems to be one of the most important trends of the next years. We already can forecast the development of a huge number of similar apps in the nearest future. Every company with strong enough technical basis most likely will intend to repeat the successful experience. We are already getting many requests from our clients to develop similar games and apps. Moreover, remember, Pokémon GO isn't a real pioneer in this field, it just attracted the most widespread attention to the Augmented Reality and location tracking in the public and app-development spheres.

Now, when Augmented Reality has been shown in all its glory, developers are ready to do their best creating cutting edge products.

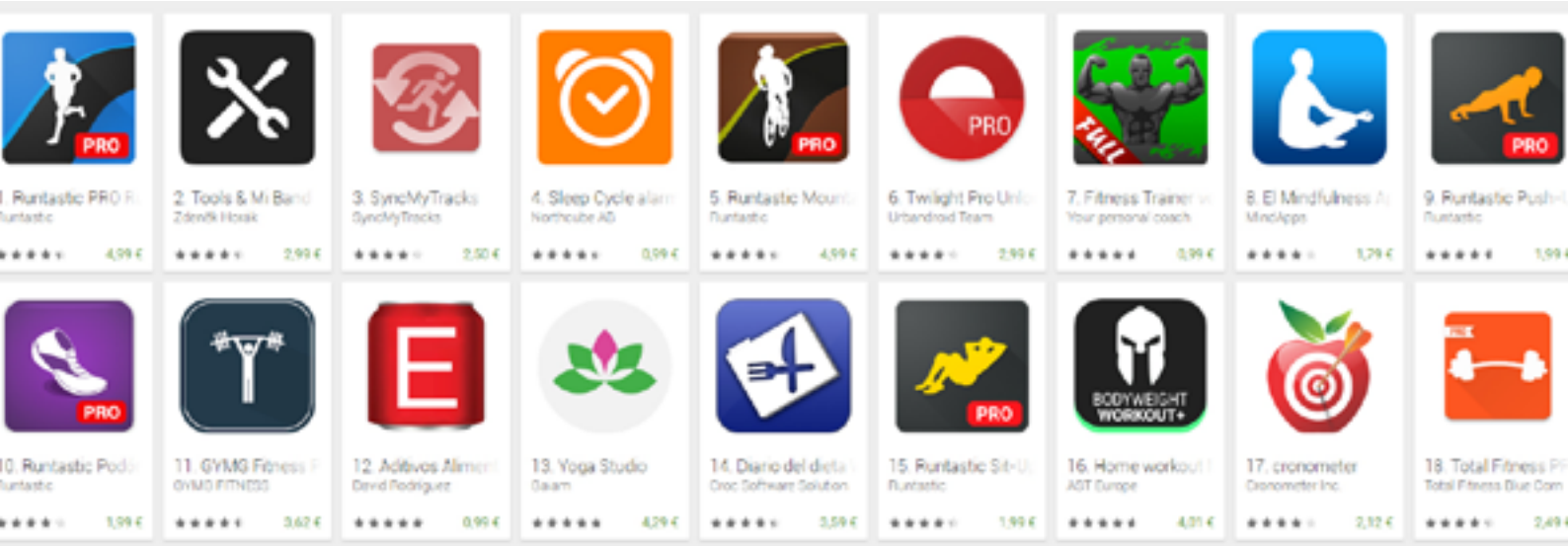
And the most important thing is people's high interest to these technologies. Users' audience is already anticipating with enthusiasm innovative products in this area. And developers have plenty of opportunities.

Every game app developer has their one or two "home runs", games that were more successful than all the rest. Some have even become "unicorns", games that have been adopted and played worldwide, and have catapulted their creators and developers into a world of fame and fortune. Companies like Niantic (Ingress and Pokémon GO) have since become household names.

Conclusion

Game apps were almost singlehandedly responsible for the quick adoption of smartphones and similar devices and they are here to stay. Even better, their creators, developers, programmers and coders continue to push the capabilities of these devices by adopting new technologies and implementing new ideas. It is very possible to join the ranks and release your very own game app. Just be sure to follow some uncontestable truths and listen to the advice of developers.

HEALTH APPS



We love mobile apps, sometimes a little bit too much. Mention the word “apps” to most people and they will automatically think social media (Facebook), photography (Instagram), games (Angry Birds) and even dating (Tinder). Unfortunately, words like addictive and distraction have also been associated to the term. However, there is another side to apps that may change all that. A new crop of developers and companies are using apps to not just connect with others or to be entertained, but to help people.

These health apps utilize the functionalities within the phone itself or by pairing with a wearable device (think heart rate monitors and personal trackers) to provide users with information, data, videos and images regarding their health and wellness.

Main characteristics of a health app

An app is an app. Or is it? This is a person’s health we’re talking about here and great care should be taken in deciding which app to let into lives. So what sets a great, knowledgeable, legitimate and useful health app from the run of the mill app? Ease of use

Follow us on

comes at the top of the list, followed by unparalleled tracking and recording, and the ability to share the information across several platforms.

Taking it to the next level, would be the ability to further share the information to healthcare professionals. Finally, give the user some peace of mind and encrypt their data. It is their health after all, and it is theirs to choose with whom they want to share it and no one else.

Ruchhir Agarwal, Chief Executive and Technology Officer
E2logy, India

Needless to say there are a number of health apps serving different purposes, but some of them have garnered far greater popularity than others. There are some key features that enhance the utility of such apps. Health apps must be user friendly and come with instructions to manage different conditions effectively. Features that allow sharing of data with others are much appreciated by users.

Apps focusing on an specific disease or health aspect are more popular than generalized ones that emphasize on maintaining the overall health. A health app must be interactive and analyze information fed by users, providing feedback. A multifunctional smart health app is what the users always look for.

Sudeep Bhatnagar, Mobility Consultant
Agicent, India

Tracking, recording and presentation of health data, easy access to the same, suggestion on deviations, and recommendations on daily schedule, diets, etc.

Prateek Saxena, Co-Founder and Director
AppInventiv, India

Healthcare industry is swiftly changing. And, due to recent advancements in technology, industry has completely revolutionised, especially in terms of how we approach the prevention, early diagnosis and treatment of ailment. This is just the beginning of the revolution in healthcare industry. Mobility

Healthcare industry is swiftly changing. And, due to recent advancements in technology, industry has completely revolutionised, especially in terms of how we approach the prevention, early diagnosis and treatment of ailment. This is just the beginning of the revolution in healthcare industry. Mobility has been playing a crucial role in this journey. Healthcare related mobile apps are growing in number and becoming smarter every passing day. Talking about this evolution, there are basically three waves:

- Apps to help care providers
- Apps for patient support
- Apps for care tracking and monitoring

Furthermore, here're a few ways that show how health app innovation is revolutionizing the gigantic health industry.

- Accessing instant medical data, even without being present physically
- To a certain extent, enabling treatment and live assistance for patients
- Accelerating emergency room check-ins, thus reducing wait times
- Frequent medication reminders and provider alerts
- Instant medical advice and assistance anywhere, anytime
- Apps and wearables that help keeping track of crucial health traits

Vipin Jain, CEO

Konstant Infosolutions, United States

It's the beginning of health revolution. There are so many health trackers available in the market, but without efficient software, no hardware has worth. Nowadays, people are encountering multiple health issues and hence, they are getting conscious about the health-giving, an exponential rise in health apps. The features need to embrace to develop the right health and fitness app.

- Simple dashboard layout so users can easily measure the health and fitness data.
- Functions that can measure and collect necessary health data regularly: heart rate,

calories burned, blood sugar, cholesterol, with easy access and navigation as well.

- System to contact and take an appointment to a nearby doctor or a specified doctor for emergency or regular checkups.
- Create a tracking management system.
- Access to share the data of the user's health and fitness with physicians.
- A button of an urgency of health that is accessible on the locked screen or emergency contact with a registered doctor.
- Create a feature that lets medical researchers gather robust and meaningful data for studies.
- Data should be encrypted within the health app, even when the phone is in sleep mode, flight mode or locked.
- Sync the health and fitness data into one of the cloud services.
- Make system compatible with any health and fitness trackers so users can take care of their health by fusing hardware and software together.

Features used

The data that can be gathered and delivered is dependent not just on user input but on the device itself. The type of health apps consumer varies greatly from a person suffering from an illness to an aspiring triathlete and everything in between. The devices must be able to capture their data no matter the user. Whether it be the smartphone or a wearable, mobile app developers weigh in on what they believe are the essential components of these devices to harvest and display the most essential data.

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

Motion sensor, accelerometers, heart rate meter, pulse meter…

Prateek Saxena, Co-Founder and Director

AppInventiv, India

From health apps and wearable gadgets to refined medical equipment, the information retrieved from the ground-breaking mobile technology has the potential to revolutionize how clinical research will be accompanied and therapies will be executed in the coming years. Since its inception, mobile phone technologies have emerged as a pioneering technology to manage complex tasks by leveraging the following features, among others:

- Gyroscope
- Accelerometer
- Motion data
- GPS
- Heart-rate detection

Vipin Jain, CEO

Konstant Infosolutions, United States

Mobile phones and wearables are working as hard as the user with health apps for their health and fitness problems. Smartphones are provided with internal sensors like accelerometer, digital compass, gyroscope, GPS, microphone or camera to monitor the well-being of their users.

- Wearables can measure the heart rate every day, an application will fetch the data and allows to display it on the screen of your mobile device.
- Fitness trackers can measure sleep automatically and the app will play the role by measuring the tracked data to advise you on how to get a better sleep.
- Track the burned calories per day.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Health apps are being developed for a variety of devices and so far the iPhone has proved to be the best one for using such apps, followed by the iPad. Android, Blackberry and Windows phones are far behind in this league. It's evident that iOS serves as the best platform for using health apps. However, Android and Windows devices are also working hard to provide better User Experience.

Improving users' lives

When measuring whether an app can impact users' lives, you must be aware that there are factors that you can measure and others that you can't. There are metrics for heart rate, weight, caloric intake and even the amount of volume in someone's lungs. These can be recorded by the device and then neatly displayed on chart to determine whether there have been improvements or not. But, there are factors that can't just be displayed on a pie chart like happiness, empowerment to manage their own health and the like. There is also the other side of the healthcare equation to consider. If the data was made available to healthcare professionals, then the quality of care that they can provide their patients would greatly increase.

Vipin Jain, CEO

Konstant Infosolutions, United States

A study shows that 96% users think that health apps help them to improve the quality of life.

- The users do a daily workout or exercise to track their health record in health apps.
- Apps helped users to manage chronic conditions.
- Even health apps help healthcare professional to get a better and clear understanding of a patient's medical condition with the aid of data saved and shared on the iHealth apps.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Through health apps, now, managing a healthy lifestyle and even chronic conditions is simpler, friendly and well-organized, while being available for both parties patients and providers.

For healthcare professionals

- Helps in enhancing healthcare professionals' knowledge of patients' illnesses
- Rapidly increasing the efficiency of patient treatment
- Improving healthcare professionals' bond with their patients
- Enable those patients to access medical help who are at a rising-risk of developing fitness and health issues

For patients

- Encouraging patients to become more responsible for their health and wellness conditions
- Easy monitoring of activities and workouts
- Monitor their existing health conditions
- Encouraging them to exercise with record keeper, tracker
- Keep proper record of calorie intake
- Monitor their weight loss
- Sharing information composed by the mobile apps with their doctors and nurses
- Remind them to properly take medication

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

They give handy tracking to users on their health data and that can be further utilized to suggest them best course of actions, preventive care suggestions or any serious concern alerts in time.

The best health apps

Just take a look at Apple's App Store or Google Play under the "Health & Fitness" tab and you will be hit with a wave of apps that claim to do everything from track weight to track steps to track your sleep quality. But which ones are legit? Which are the best of the best? And which ones actually work?

Vipin Jain, CEO

Konstant Infosolutions, United States

There's a storm of health apps in the market, from which it's difficult to select the right one out. Although, we are mobile application experts, we understand what features need to embed health apps. The best health apps are:

- Equinox
- Runtastic Pro
- My Fitness Pal
- Pocket Yoga

I think each and every iHealth app is trying to get easier and better as per the user's demand. I have installed some of the apps and using health apps for iPhone as well. They all are unique and high in their kind of apps.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Let's take a look at a few health apps that can help end users achieve a healthy lifestyle:

- Couch to 5K
- Blogilates
- MyFitnessPal Calorie Counter and Diet TrackerFitnet
- Sworkit

- Motion Traxx
- StrongLifts 5×5
- Strava Running and Cycling
- Spotify Running
- Yonder

MyFitnessPal Calorie Counter and Diet TrackerFitnet will evolve in due course of time as it is too simple and user-friendly. This app also serves as a cutting-edge food diary, exercise monitor and tracker and diet coach as well.

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

iPhone Stock health app, Healthjournal by Leafgate, VimoFit (track my fitness), Nike Plus. I use VImoFit and Nike app.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

The popularity of health apps has encouraged a number of mobile app developers to make new and innovative apps for assisting fitness freaks. Among the plethora of apps, some stand out with their noteworthy characteristics.

- Sleep Cycle: the main job of the app is to track your sleep pattern and to wake you up when you are in light sleep. This feels like waking up naturally and unlike waking up to the alarm, feeling groggy. With this app one can start the day feeling refreshed and energized.

- Start: dealing with depression is often a tough and time taking job. The search for appropriate medicine for an individual often continues for months. Start helps you to overcome the condition through depression tests and programs. It also tracks and allows sharing your progress and side effects of medicines with the medical professional who is treating you.

- AliveCor: with the help of this app, your iPhone turns into an electrocardiogram. One can take cardiac measurements by pressing the device against the skin near heart. The app is quite useful for detecting irregular heart rhythms.

- Power Nap: as the name suggests, this app helps you to get a dose of energy in the middle of hectic days. It plays pleasant sound to help you sleep and gently wakes you up after some time with an alarm.

- HealthTap: if you suspect that you are likely to develop a medical condition, instead of turning to Google, you can submit your query to the app. The app connects with a network of doctors and answers your question within a few hours. It has a sea of information regarding common medical problems which makes identifying symptoms and adopting the best remedy easier. The app also allows chatting with doctors through text or video.

The best device

A health app is, in a way, only as good as the device it is being used with. When Google Glass first hit the scene, everyone thought that in a couple months' time everyone would be wearing and tracking everything using the fancy eyewear. However, that was not to be the case as Google Glass lost appeal, traction and users. These days there are a myriad of smartphones and wearables (Fitbit, Samsung Gear, Apple Watch, etc) to pair with health apps.

Vipin Jain, CEO

Konstant Infosolutions, United States

It's not like once you failed in one matter, you will not go in another way round and change the world with your innovations.

Nowadays, fitness bands are ongoing devices; you can see mostly in the hands of users using health and fitness apps. These wearable devices can track your diet, sleep, walk, heartbeats, etc. The most famous and featured vibrant bands are: Jawbone, Fitbit, Misfit, Gramin and Move. There is not a point where these trackers will stop.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

If we talk about healthcare, apps currently include three major categories: health and fitness trackers on mobile devices, watches and glasses. And, in each of these categories, there are many devices that are pivoting to solve the world's biggest health challenges. Here are a few wearables from the past year that are applauded by users:

- TomTom Spark
- Fitbit Surge
- Apple Watch
- Microsoft Band 2
- Moto 360 2
- Sony SmartBand 2
- LG G Watch Urbane

In recent years, we have seen variety of gadgets including watches, glasses, shoes, necklaces, earrings, clothing and many other bodily accessories that are being outfitted. But yet, it's difficult to say which is the best one to use. There is abundance of devices in healthcare industry. Almost daily, we got to see a new wearable device launched. I think it is too early to comment on the one that will become the big bang.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Our health app development team focuses on specific features of the devices for providing best User Experience. QR code reader is used to read the existing files of the users whereas Wi-Fi and Bluetooth printers are used to print the disease or treatments. The apps also use PDF file for revealing symptoms, diseases and treatments.

Going with the trend, mobile industry is increasing its focus on wellbeing of the users and, consequently, more and more users are giving in to this concept. Numerous patients are accessing different health apps for dealing with different medical

conditions, although the utility, efficacy, and safety of many of them have not been firmly established. Nevertheless, still many health apps are serving the purpose, at least, by alerting the patients about the severity of their condition. Blind belief on such technology is certainly not good but using them to monitor your health problems could definitely be helpful as long as you remain aware of the need of visiting a doctor when the health app rings the alarm.

Fitness apps vs. health apps

Is it a fitness app or a health app? One is not necessarily separated from the other as fitness is a natural part of health. If you wish you can lump it under the rising term “iHealth” which takes into account both fitness and health tracking, recording and interactions using a smartphone or wearable device.

Ruchhir Agarwal, Chief Executive and Technology Officer
E2logy, India

Health apps and fitness apps are in vogue these days and often the terms are used interchangeably, including all the apps that focus on improving health in some way or the other. However, there’s a marginal difference between the two. Health apps are concerned with specific medical conditions and help you to fight through it. There are apps to overcome depression. For insomniacs there are apps that measure sleep cycles and some also help to sleep.

Health apps also pour in plenty of information about common ailments and suggest ways to cure them or keep them in check. On the other hand, fitness apps help you to maintain a healthy state of being by motivating you to indulge in activities like running, meditating, having balanced diet, exercising and many more. Fitness apps look after the overall health while health apps are more focused towards specific medical conditions.

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

Both are different, though slightly. While health apps are more concerned towards preventive health, vulnerability to diseases, suggestions on better life style, person's health records (test data, allergy information, etc); fitness apps are more concerned towards tracking the physical activity of a person and mostly focused on taking a sedate lifestyle to active and an already active lifestyle to athletic one. They are also useful in real sports environment.

Vipin Jain, CEO

Konstant Infosolutions, United States

Fitness is a part of our health. Health apps can monitor your heart rate, blood pressure, weight, calories and fitness. Yes, we consider both fall under iHealth industry as iHealth apps and devices let you track, measure, save and share the vital health and fitness data to assist you in staying on the top of your health.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

These days, the terms 'health apps' and 'fitness apps' are often used interchangeably. But there are significant differences between them. Health apps are for monitoring the overall health status of a person. While fitness apps help in measuring and tracking the amount of physical capability and habits rather than measuring of well-being. The best fitness apps let you set your own goals and maintain a pace that's right for you. However, both fall under the category of iHealth industry.

Subcategories of health apps

iHealth can, in the end, be a broad topic or field. Just take a look at any Apple or Google app inventories under their Health & Fitness section and a deluge of apps will be sent your way. Deciding which apps to use for which part of your health and wellness plan can be a little confusing.

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

Electronic Medical Records Apps (EMR), preventive healthcare apps, medical engagement apps and general health awareness apps.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Primarily, there are two major categories that are included in the iHealth apps, health and fitness apps. Here're a few apps under both the categories:

- Fitness Apps
- Charity Miles
- Cyclemeter
- Digifit iCardio
- Endomondo
- Fitbit
- Health Apps
- Human
- Medscape
- S Health
- Instant Heart Rate
- Water Drink Reminder

Vipin Jain, CEO

Konstant Infosolutions, United States

A wide-range of health apps are available at the app stores for subcategories as mentioned above.

- Hypnotherapy: Harmony Hypnosis, Hypnosis
- Aerobics: Aerobics for total fitness app, Aerobic and Fitness exercise
- Cardio: IheartRate, Cardio Track 2, Cyctastic
- Gym: Sworkit, Gym Goal 2, Gym Hero, Carrot fit
- Weight Loss: Lose it, CSPI Chemical Cuisine, Endomondo, Eat this, not that - The Game

- Yoga: Yoga Studio, Pocket Yoga
- Cycling: Strava running and cycling
- Meditations: Buddhify, Relax Melodies, Headspace
- Running: Zombies run, Mapmyfitness, Nike Run
- Dieting and Nutrition: Lifesum, MyFitnessPal

Doctors prescribing mobile apps

A recent trend has made headlines lately as doctors have apparently prescribed their patients to download and use specific mobile apps for health and fitness. Is this ethical? Is this safe? Are they being paid by the app developers to push their apps onto patients? Technically, the iHealth sector is still fairly young and there is still a lot of legal and ethical grey areas.

Ruchhir Agarwal, Chief Executive and Technology Officer
E2logy, India

Health apps are not only emerging as a powerful tool for amateur health monitoring but the physicians are also recommending some of them for tracking health issues. But, although some of them have proved to be beneficial, some physicians have raised questions about the reliability of such apps. Certain add-on devices and apps sometimes lead to inaccuracies. Misleading results have been found in many cases which put health apps in an uncertain position in terms of accuracy. It's clear that the results generated by health apps often suffer from anomalies and before prescribing any app it is important to investigate the quality of each feature of the app by evaluating user reviews as well as assessing them manually.

Sudeep Bhatnagar, Mobility Consultant
Agicent, India

We created one app for the Australian market where skill specialists will prescribe to their patients as it will record the vulnerable skin conditions over time and doctors will use that to pull historical or current info.

Vipin Jain, CEO

Konstant Infosolutions, United States

Even doctors are amalgamating their services with technologies to get quick and precise results. As these apps can increase patient engagement in their treatment because of the ease and convenience offered to the users. Due to the efficiency of these apps, doctors can make a decision better and faster based on the data methodically tracked. They can share and send them further for advanced treatment. In a health app survey by Accenture performed by Nielsen of 8,000 people, 20% were asked by doctors to use an app and wearables. Among them, more than 75% followed through and 80% said either they are already using it or would if their doctor asked to.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

According to a report compiled by Medical Economics, apps including iTriage, Glucose Companion and Tummy Trends are among some of the top mobile apps that doctors are now recommending to patients for monitoring and treatment. However, this shift has both, Pros and Cons. But apps are definitely leading to increased efficiency.

Mobile apps for patients' health

When a doctor prescribes something to a patient it is with the intent and assumption that whatever it is will help the patient better their health and wellbeing. With that in mind, it is equally important to question whether prescribing an app will better a patient's health and wellbeing, by simply asking how can it better their health?

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

They can better track their own health, can take preventive measures, can better engage with their doctor and doctors shall have all patient history handy and retrieval of data shall be easy, and so would be the overall treatment.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

There is an emerging trend of prescribing health apps by physicians and needless to say it has both Pros and Cons. Use of health apps by patients allows the clinicians to improve decision making with the help of long term, methodically tracked data. It also motivates patients to actively engage in activities that heal the ailments. But the use of mobile apps becomes detrimental when people start believing the apps blindly, overlooking the necessity of visiting physicians for treatment.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Mobile apps are helping patients in improving their health and fitness and prevent and manage diseases by:

- Tracking diet/nutrition
- Receiving medication reminders
- Tracking symptoms
- Tracking physical activity
- Manage a personal health issue or condition
- Get free workout ideas
- Set fitness goals that you can achieve
- Carry out Yoga studio
- Monitor diet every day

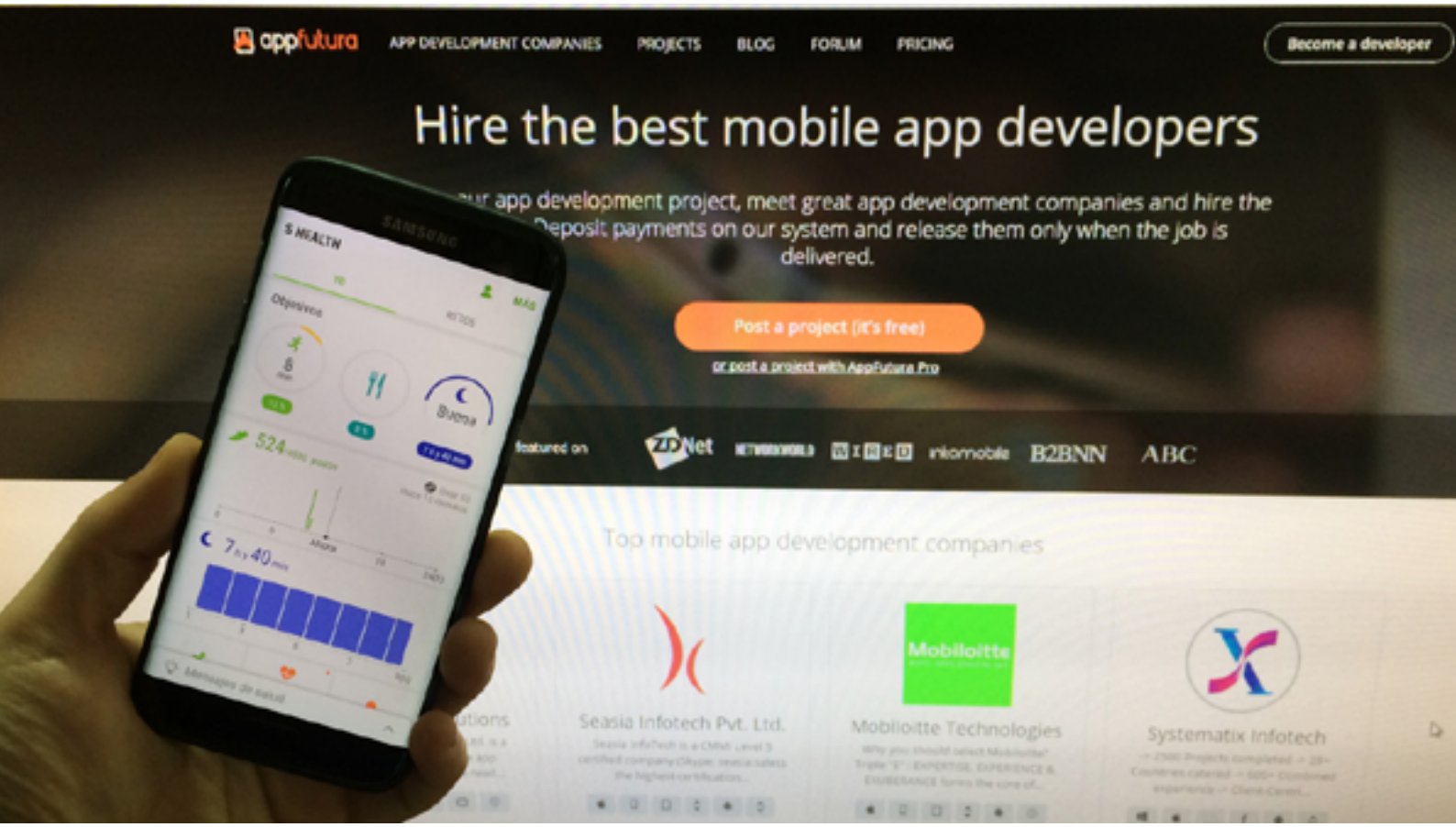
Vipin Jain, CEO

Konstant Infosolutions, United States

Health app are helpful for monitoring healthcare analytics, checking electronic medical records and exchange health information for further assistance. Mobile health apps are an efficient health information system to improve the overall health of patient experience.

Certifying their safety

Most over-the-counter and prescribed medication has to pass strict testing and abide by equally strict regulations in order for them to be given to and safely taken by a consumer. If apps are also to be prescribed should they also face this kind of scrutiny as well? App developers all agree that some sort of standardization or regulation is necessary to maintain the physical and digital safety of the user.



Sudeep Bhatnagar, Mobility Consultant
Agicent, India

There must be unanimous standards created by now by world medical associations for the apps and websites which every health app should adhere to before going live.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Each health app needs to meet certain standards to get certified as safe and useful. Different agencies have their own procedure for certification, however, in general, the procedure includes vigorous technical testing of the app to determine whether the app meets the standards for security, privacy and operability. Following technical testing, the apps must undergo content review by appropriate medical professionals.

For instance, cardiology apps are reviewed by cardiologists and nutrition apps are reviewed by dietitians. The overall procedure of app certification is lengthy and includes several steps such as submission requirements, review, feedback, re-certification requirements, fees and many more. For apps that fail to qualify, resubmission opportunities are also given to the developers.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Health Insurance Portability and Accountability Act (HIPAA) has set the standard for protecting sensitive patient data. Any company that deals with Protected Health Information (PHI) must ensure that all the required physical, network and process security measures are in place and followed. There are numerous entities that provide best processes to ensure that the apps are both useful and compliant. Moreover, the Workgroup for Electronic Data Interchange (WEDI) is a well-versed authority on health data exchange. They have developed the best practice guidelines and compliance standards that organizations should keep in mind while developing apps.

Similarly, Integrating the Healthcare Enterprise (IHE) is an initiative driven by healthcare professionals that promotes the coordinated use of established standards to help technology systems communicate with one another effectively and securely. The group hosts annual “connectathons” across the world in which developers are invited to test solutions for compliant and secure interoperability.

Vipin Jain, CEO

Konstant Infosolutions, United States

It is a long process to verify that health and fitness apps are clinically appropriate and technically sound.

- Request for the personal health data only if you have a valid reason to do so.
- Don't ask unnecessary inputs for health data until users get what it will use for.
- Avoid duplicate information from permission sheet of your app. Use system provided UI to request authorization to access user's data.
- Appropriate utilization of activity rings.
- Don't try to promote your app through activity rings. Maintain its background color, its elements and margins.
- Send app-specific notifications only in activity information column.

Regulation problems

If you don't already know, there are stringent Federal regulations in place for the protection of personal, medical and health data. If you need a refresher just Google HIPAA, Health Information Technology for Economic and Clinical Health Act (HITECH) and WEDI. There are steep fines for non-compliance and a number of healthcare, insurance and medical professionals have already lost millions or been forced into bankruptcy due to the fact that they were not able to keep patient data secure.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

More than being a problem, the standards and regulations are in the larger interest for everyone. From the end user perspective, anyways, it becomes more important. On the other side are end-users too. Hence, my perspective is that we should not see these standards and regulations as a problem. Rather we should find out a mechanism and set standard process and quality assurance that ensure these regulations and rules are complied with.

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

User's health data privacy is top concern and we respect that as well as world's responsible citizen. The major compliance we had to adhere to was HiPPA if we talk specifically about USA.

Real users?

It is difficult for an app that, in most cases, relies on the honesty and participation of the user to gather data to ensure that the information it is collecting or being fed is actually true. There is no one there to count sit up reps or to check whether the user did or did not have a late evening snack. There are limited ways, but no app is perfect.

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

Using modern authentication methodologies like finger touch, motion sensors, eye scanning, etc.

Vipin Jain, CEO

Konstant Infosolutions, United States

Health apps need to be very alert and careful while picking data from a real user. The developer needs to integrate authentication systems to get data from real users. Like e-mail authentication, login securities, users health ID and password.

Paying for a health app

With so many great apps currently on the market it would be interesting to see if iHealth has a chance at dethroning social or gaming apps when it comes to paid content. It all depends on consumer demand. The current trend points to an unlikely outcome but who knows; people change, priorities change and technologies change.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

Well, it depends on many factors including demographics and consumer needs. Some factors suggest that health apps are a necessity. Moreover, there are different categories of apps and have disparate needs and objectives.

Vipin Jain, CEO

Konstant Infosolutions, United States

In application revolution, healthcare application is the next move to take health and fitness care further with smart technologies, including devices and mHealth (mobile health applications). I think users will pay for a health app as they are engaging in health apps as much as they are in a social, game or any other type of app.

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

People would pay, but the benefits should be tangible and use cases must be highly real, it can only be done if apps are made considering the mass usage instead of making them only for a certain class of people.

Which health apps have you developed?

Mobile app developers give us their experience in working with health apps. Which have they worked on? Which have they brought to market? And the hard earned lessons that they learnt along the way.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

We have developed an excellent app for the health examination of children named IMCI. Details about the symptoms can be fed to the app and the app reveals the disease and the appropriate treatment for that. Our app iCircuit

Training is a fitness app that helps users with more than 50 different exercises to stay fit and fine, acting like one's personal trainer at home.

Safe Runner is another app which is just like a personal safety alarm. It monitors your progress while exercising and allows you to activate the alarm whenever you feel unsafe. This helps you notify your partner about your location. While developing an app a lot of things require consideration. Proper logic and information regarding why the app is required is of prime importance. Our app developers also need the details about the symptoms of specific diseases. Sometimes similar symptoms indicate different diseases and such possibilities shouldn't be overlooked.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

We have worked on multiple health apps including health and fitness tracking and monitoring apps and apps for healthcare providers. We have also worked with apps that are supported on Apple Watch. While we cannot disclose the app names, we would like to tell that it has been an excellent experience to work on such cutting edge technologies. We are expecting more such apps in our pipeline soon.

Vipin Jain, CEO

Konstant Infosolutions, United States

Health apps are the most successful mobile applications. And we are taking the advantage at this stage to cater the best health apps to users or patients as well as doctors. The apps we developed are:

- Recover Link
- Tab Doctors
- Injection Aid
- Get Doctors

Sudeep Bhatnagar, Mobility Consultant

Agicent, India

We did the Healthjournal app, ReveMed and GloEMR (an electronic medical records app).

We learned about the sensitivity of user's health data, compliances like HiPPA, disclosures of processes to Department of Health and Human services (DHHS), patient access (as per 45 CFR 164.524 of the Privacy Regulations) and related laws.

Conclusion

The truth is that apps are here to stay. But they need not be a bad thing. Indeed, apps such as those in the iHealth or Health & Fitness sector have the potential to greatly benefit our lives. New changes in technology, general thinking and the healthcare sector are opening the gateway to the possibilities that health apps can give us.

But there are things that should not be missed in the push for innovation. The primary being to keep the safety (both physical and digital) of the patient the highest priority. Make sure that the app, devices and healthcare practitioners that would prescribe them are held to the highest of standards. And finally, keep patient's data safe. The user is already worrying about their health and wellbeing; it would be best not to give them yet another thing to worry about.

But can you imagine a world in which everyday people, people who may have very little medical or scientific knowledge, are empowered to act on their health and wellness on a scale unheard of in human history. That is the true potential of health apps. That is what developers and companies should be working towards. The good news is that iHealth has already taken its first steps. It is growing, it is learning and it has a bright future ahead of it.

SOCIAL APPS

We can find hundreds of social apps on Google Play Store or Apple's App Store. Social networking has been key for the success of mobile app development companies and the spread of smartphones worldwide. So we've wanted to investigate more about social mobile apps: how are they made? what are their main features? who uses them?

Future successful social apps

There are some social mobile apps that everyone knows: Facebook, Instagram, Snapchat, Pinterest, Skype, Telegram… We see they are focused on images and social life. But

technology evolves and mobile app development companies get hired constantly to develop new social apps. Companies and clients have seen a great opportunity in developing a social app to prepare a space where their users can share thoughts, opinions, pictures, videos… Some of these new social mobile apps can become a success: Peach, Wanelo, Yik Yak or Hyper.

Vikas Mishra, Executive Director - Marketing

Hidden Brains, India

Yik Yak is a location-based social network that helps people discover local community, lets them share news, share jokes, volunteer to various causes, ask important questions and interact freely. Without giving your names or profiles, this social networking app provides an opportunity to experiment with ideas minimizing the changes of getting implicated directly. This is very important for people who are still developing their identity. This app is casual and heartfelt to connect with people from their community. Social media is all about evoking emotions and celebrating best moments with your family and loved ones.

Time Hop lets you do just that by showing photos and updates from any given day in history. Timehop shows old photos, updates and posts from different social networking sites such as Facebook, Twitter, Foursquare, Instagram, Flickr as well as your camera roll photos.

With more than 100 million daily active users primarily, the millennial generation comprising mainly 18 to 24-year-olds, Snapchat is fast becoming a cult. This app takes the idea of ephemeral messaging to the next level as the message once viewed, disappears. It is fast becoming a preferred promotional medium for businesses worldwide. Several leading brands like BuzzFeed, ESPN, NGC and People magazine have adopted Snapchat by providing fans an inside look at what's going on behind the scenes.

The most used

The number of worldwide users of social networking sites is expected to touch 2.5 billion by 2018, that's about a third of the population on Earth. This brings us to think of which social apps are the most used? Mobile app development companies know a lot about this because they are the ones developing social apps for their clients. Also, everyone we know is using a social app daily, if not constantly, to keep in touch with family, friends, meet people or simply looking for ideas.

Wojtek Szkutnik, Managing Director

Tango Agency, Poland

I'm really excited about Pocket's new social features. I think content curation (along with calendars and time management) are untapped markets with still a lot of potential. The first wave of content aggregation came with services like Digg or StumbleUpon a decade ago. Now people are looking for a more personalized, mobile experience. Pocket does an excellent job at that. Also, think about calendars and time planning. Those are interaction-heavy areas where still no efficient solution emerged. Sunrise was a good attempt, but after the Microsoft acquisition its growth stagnated and users are beginning to look elsewhere.

As for the big players, it's very interesting to see platforms, relatively unknown in Europe, like musical.ly, accumulate a hundred millions of users in young demographics in the US. The growth of Snapchat was really inspiring too, showing there's still a lot of space on the market, even though there were already perfectly capable messaging apps around, Snapchat is really good at quickly attracting younger demographics.

I don't think they will survive in their current state, though, the Snapchat User Experience is still far from perfect, and the way these platforms are right now, it feels more like an ongoing experiment with 200 million users on board rather than a finished product. I believe those apps will have to pivot in order to keep the growth rate and cater to wider demographics.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

The desire to keep in touch with old friends is best-served by messengers i.e. WhatsApp, which is the best in its class. The second desire, making new friends, is driven by two things: finding similar interests and seeing a self-presentation of the other person/community/institution through visual content: images and videos. Instagram, with its tags, is great for interest matching, and its filter collection is great for increasing interaction and attraction amongst users. And of course, Facebook is another top social app.

The second reason why people use social apps is the wish to not just communicate virtually, but to turn virtual-world communication into reality. So we're talking about platforms where people can search for others who share the same desire, and make plans with them: go on a date, play tennis or have lunch. For this particular market, the most interesting apps in our opinion are two that have only recently appeared but are already gaining significant popularity: Hinge (for dating) and Down to Launch (for hanging out with friends who are free at the same time you are).

As it has been for several years now, Twitter and Facebook continue to stand apart from other social apps in that they serve as a kind of "user-generated mass media", which naturally is born of our information-oriented society.

We must also mention the growing popularity of live video-streaming in social media. Only a year ago this was the domain of a small minority who shared similar interests. For example, Twitch for e-sports streams. Today we see platforms like Periscope and Facebook Live bringing live video-streaming to a wide audience, and getting an overwhelmingly positive response. There's little doubt that this platform will continue flourishing.

One more important criteria for a successful social app is its availability on several platforms and its ability to achieve complete user-experience synchronization over multiple devices. We hope this approach continues improving.

Valentin Balanescu, Founder

648 Group, United States

We did a quick survey within our group and the top 5 prefered social apps are Facebook, Whatsapp, Instagram, Reddit and Quora. We see growth with all of them, probably with an edge for Whatsapp.

Vikas Mishra, Executive Director - Marketing

Hidden Brains, India

Used by 1 billion people across the globe, Facebook continues as the leader among social networking sites. Facebook needs no introduction. Video in Facebook app has also taken off and this leading social networking app now sees the News Feed consisting mostly of video content. We believe Facebook will continue evolving in the future. With strategic acquisitions like Instagram and Whatsapp, Facebook is strengthening its position in the social networking category. Facebook is taking a giant leap towards the future of social networking, Virtual Reality.

Consistent with its ambitions, Facebook acquired Oculus VR for $2 billion. Facebook views the VR technology much more than just a peripheral for video games, it is an important aspect of people's everyday life.

The difference

Every mobile app is different because of the needs of the user, the industry or the demographics. So, what makes social mobile apps different from any other mobile apps? Affordability, UX design and speed.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

From elementary school students to their grandmothers, that's the age range of social mobile app users. Equally diverse is the user's social background, especially since today's smart devices are so affordable. And unlike

domain-specific apps i.e. health or finance, user exploits social apps several times a day, every day. Actually, it's more like a dozen times.

For all of these reasons, social apps must be extremely obvious and fast. "Obvious" meaning that "new event" notifications are delivered in a friendly, convenient manner and a straightforward UI that leaves no room for doubt as to how the user should complete a task. "Fast" as in easily accessible, time-saving interactions resulting from a well thought-out architecture and highly optimized code.

As for the social apps development process itself, the most important thing is to design the architecture so that it can withstand high loads (thousands or even millions of simultaneous queries from hundreds of thousands of users) and store/process large data amounts (not only text data, but also photo and video content). A social app's User Experience design also requires a huge amount of work. Since these apps are used for fun and not for completion of a particular task i.e. a banking app, only a very engaging social app has a chance to become popular with users.

Vikas Mishra, Executive Director - Marketing

Hidden Brains, India

When it comes to social media apps designing there is a lot of variety and different approaches. Networking sites like LinkedIn adopt a conservative and professional look. On the other hand, sites like Facebook combine elements of professionalism and personalization for a better User Experience.

But what's the best approach when it comes to social media app design? What are the essential elements that make a social networking app more user friendly? Social media apps are all about designing for smaller screens for quick attention spans. You need a UI that works at the speed of thought. Whether it is novice or experienced users, your app needs to support both in an efficient manner.

Wojtek Szkutnik, Managing Director

Tango Agency, Poland

Instead of stand-alone “social apps”, I would prefer to talk about a thing I like to call the “social layer”. A lot of apps which are not social by nature have realized by now, that integrating social features such as messaging, recommendations or content curation increase user attention and adoption, and that’s what fuels growth. A big challenge here is to pick the right tools for the job, with dozens of communities already out there, sometimes it doesn’t make sense to build the technology from scratch.

Think Facebook comments or Gravatar. The WordPress team did an excellent job when they jumped very early on board and built Gravatar. There will be more coming where that came from. As for social apps as such, focus on UX is one distinctive aspect. Health, sports or finance apps are usually targeted at very specific user groups and that lets you make some assumptions about the end user. With social you have to be very aware of how diverse your user base is and how differently they use your apps.

Also, most social app users are heavily engaged, they use them on a daily basis, which makes every annoying detail count. Speed and intuitive interaction design are among the key elements.

Valentin Balanescu, Founder

648 Group, United States

This audience of digital-omnivores have stronger UX expectations, they are sensitive to Premium design and expect all features to be coherent and holistic. Social app users really are the early adopters and drive the market forward by rallying behind the apps that improve their online experience and that have freshness and are also robust.

Therefore, the key differentiator in the process of the development of social mobile apps is to constantly be aware of the consumer audience, constantly iterate to identify key features and have a solid QA team to test properly before each release.

The audience

And what about the expectations of the users? Mobile app development companies must have in mind what users are looking for when they purchase or download a social mobile app. It is very important that clients and companies realize the needs of the future users of that mobile app in order to clarify the features of the app.

Valentin Balanescu, Founder

648 Group, United States

They expect a seamless experience. For a first time user of a social app, you have about 1-2 minutes to first catch their attention. You can win them through a simple and fun registration process or an innovative way to quickly find their friends. Another important aspect for user retention is the notification algorithm the app has in place.

Wojtek Szkutnik, Managing Director

Tango Agency, Poland

Nowadays every user is a social user. With Facebook's penetration of the US market at over 80%, people expect social interactions in most apps. Speed and intuitive interactions are key for keeping users engaged.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

It’s absolutely vital that every social app has a clean, crisp User Interface; that it’s secure and ensures encryption of private information; that it offers new-event visibility and the ability to customize new-event notifications and that it provides full accessibility to data, even in offline mode. This data could be anything: an important address, a phone number, meeting coordinates sent to the user or a tennis lesson to watch while traveling somewhere that lacks WiFi.

Vikas Mishra, Executive Director - Marketing

Hidden Brains, India

- Focused content: many people use smartphones while on the go, often in a rushed state. Also, social networking is about capturing moments of life impromptu. While designing a social media app, think about easy navigation and minimalism. It is important to rise above the clutter and have a focal point for your app that keeps users engaged.

- Make it easy: tell users how to maneuver around the features with a hovering message. Do whatever it takes to make it easy for users to find what they're looking for. Mobile users always appreciate small things that makes experience smoother. And of course, it works better for you too.

- Keep it simple: a social media app is all about effortless navigation. Many designers fall over the trap and cut corners when designing for mobile devices. They simply scale down desktop website to come up with app design. Instead of just scaling down, it is important to focus on the key message you want the user to receive.

Different social apps

There are some subcategories when we talk about social apps: meetings, sharing knowledge, social networks… Which are they?

Wojtek Szkutnik, Managing Director

Tango Agency, Poland

We see a lot of requests related to the "sharing economy". The first inquiry from all customers is still "Uber for X". Very often they also feature social elements, allowing their users to interact with each other. Knowledge sharing and educational apps are also big, with fitness, wellness and personal development sectors growing very quickly. In 2017 we will see a lot of progress and launches in dietary, training and fitness applications.

Valentin Balanescu, Founder

648 Group, United States

The main subcategories are: messaging apps, video/screensharing apps, general (content sharing with friends), microblogging, media sharing (video, photo, etc), social bookmarking and recommendations. We would categorize them as:

- Meeting apps: Skype
- Messaging: WhatsApp, Facebook Messenger
- Microblogging: Twitter, Tumblr
- Media sharing: Instagram, Vine
- Social bookmarking: Reddit
- Recommendations: Pinterest, Behance

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

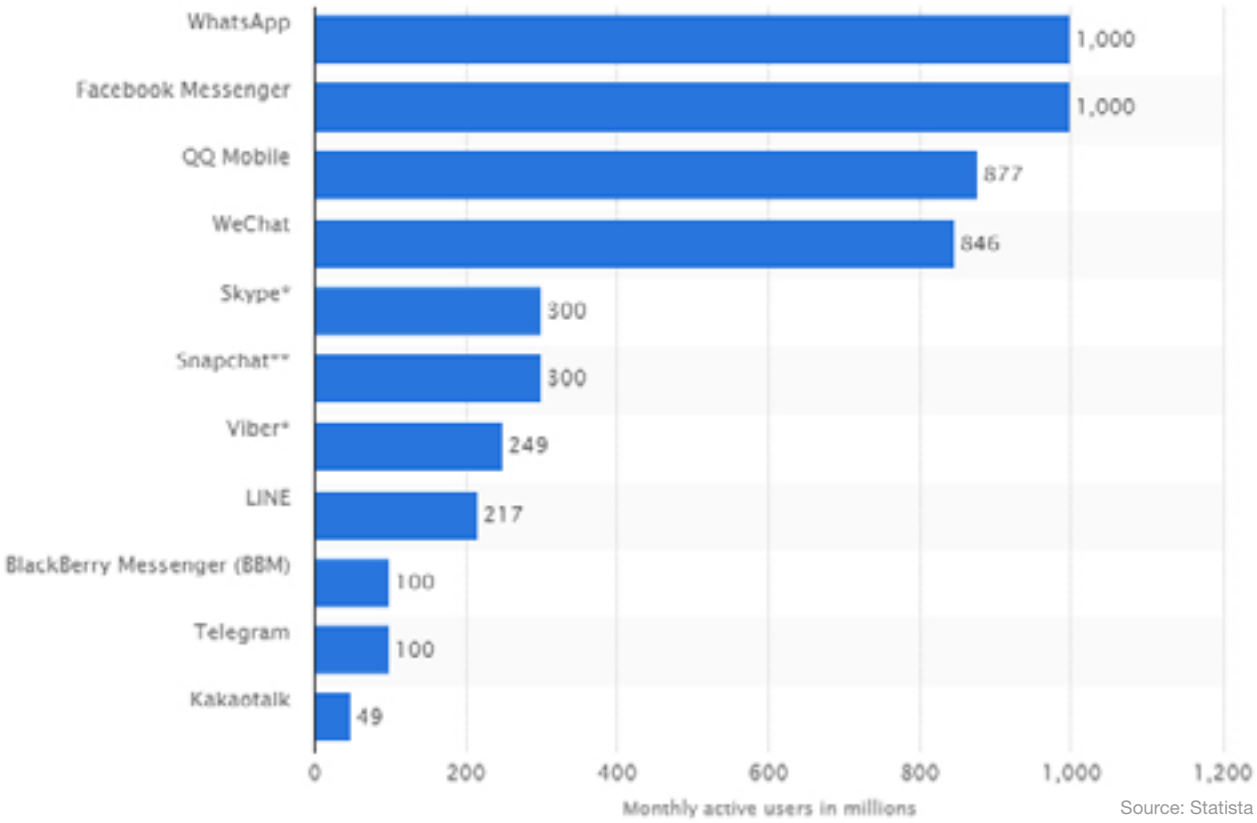
Based on our experience, sports, dating and knowledge-sharing are the three main trends for social apps. Sports apps like Cody are popular for a few reasons: they provide access to world-class coaches, they offer enriching video lessons and they create a community which supports the user and encourages them to succeed.

- Dating apps reflect the societal tendency to meet new people virtually first and then bring the friendship into the real world.
- User-generated content and knowledge-sharing are so reflexive and natural now that we don’t even question its value and advantages.
- Our top developed apps in each category are: ProAngler for passionate fishing fans, Double for dating and Livday, a user-generated guide to all things San Francisco.

Cody is a truly inspiring, richly-featured social sports and fitness application. Tinder is believed to be the best social dating app and both Swarm and Foursquare bring unique and helpful content about the users' location direct to their phones.

Messaging apps

Messaging apps are thriving and big social networks are gobbling up these apps to increase their demographics (for example, Facebook buying WhatsApp). At this point, mobile app developers consider that messaging apps are part of social apps.



Vikas Mishra, Executive Director - Marketing

Hidden Brains, India

The message is clear that when it comes to social networking, instant messaging apps have the largest user base. Instant messaging offers the option of online chat with real-time text transmission over the internet. Since the mobile app revolution, low-cost or free instant messaging apps come across as an alternative to operator based text messaging system.

Messenger apps provide features such as group chats, video and audio files sharing,

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as well as stickers and emoticons. Facebook's 19 billion dollar acquisition of WhatsApp proves that instant messaging apps have a phenomenal growth trajectory. Meanwhile, other messaging apps like Line and WeChat use intuitive stickers, user-to-user payments, ecommerce, and other revenue streams. When you have as many users as WhatsApp (more than 900 million users) generating even a few minuscule dollars per year/user creates a mind boggling business opportunity.

Undoubtedly, instant messaging apps continue to challenge other social networking sites.

Wojtek Szkutnik, Managing Director

Tango Agency, Poland

It goes beyond that. Messaging apps are must-have utilities for pretty much all mobile users. We're close to reaching the tipping point for the amount of messaging apps that you can use concurrently (if you use an iPhone, you probably use iMessage for private communication with Apple users, WhatsApp for Android users, SMS for family with older phones, Facebook Messanger and Snapchat for… well, all friends, Slack for work… that's already 6 channels).

I don't expect another 6 apps to emerge as messaging tools with 100M+ communities, but we'll be seeing a lot of development on the meta level: APIs, aggregation and cross-channel communication. Over the next 24 months one of the big players will announce that. I believe the recent bots hype is the first step in this direction.

Also, Facebook didn't buy WhatsApp to increase their demographics. Money is where user attention is, and messaging apps are far more engaging than Facebook content, no matter how hard Facebook tried. Even though they have largely the same customer base, users operate on Facebook in a different context than WhatsApp. I would consider it multiple channels used by largely the same user group (which is, well, the majority of people with internet access living in developed countries). That's also why Facebook isn't even trying to connect or brand WhatsApp, considering this approach, it's fine the way it is now.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

What are messaging apps if not social apps? After all, the ability to "message" is what makes an app social. Providing the opportunity to reach out and communicate with other people, publicly or privately. Every popular social app has a messaging functionality in some form. Though of course, messaging-specific applications have very defined characteristics architecture and UI.

The merging of social networks and messaging apps is a natural evolution. We spend so much time online using all kinds of social networks that switching between them gets annoying. It's way too time-consuming to find and follow a new friend on Facebook, and then find/follow them on Instagram, and then text them on WhatsApp and so on. We want everything in one place and to do everything with one click.

This path was successfully pursued by WeChat, an extremely popular social app in China. Due to Facebook and other popular networks being blocked there, WeChat rapidly monopolized the Asian market. Users can message each other, share photos, play co-op games together, challenge each other to exercise more and look for a date via location-based search. And that's just a partial list of features.

WeChat is a dozen top-rated mobile apps squeezed into one, and their success makes us wonder if this is what western market social media giants like Facebook aspire to be. Looking specifically at the instant messaging space, this market is occupied by giants. Any new player will not only meet obstacles related to positioning and earning new users, but to pass this market's entry threshold you need to meet challenging (to say the least) requirements regarding development of a high-loaded backend in order to provide seamless interaction between millions of users. Trying to achieve the required performance level demands a significant amount of time and some seriously advanced technical expertise.

Valentin Balanescu, Founder

648 Group, United States

Definitely, messaging is just reaching its potentials in the B2B space. We see more and more potential applications (from general social networking to business and enterprise) and we feel that it will become the standard in business communication with their customers in the coming years.

Name your social app

The market is full of social mobile apps because that's what users want. We want to stay connected every day, any time. We want to communicate with everyone we know and we even want to meet new people via a social app. What was once called Virtual Life seems to exist now as a regular life. It also helps to keep in touch with people all around the world. Social apps help us to know people and places that without the mobile app development we would have never known.

Vikas Mishra, Executive Director - Marketing

Hidden Brains, India

- Wed Me: matrimony/dating app that allows registered users to search their prospective life partner through friends and friends of friends only. Users can login with their Facebook account to identify mutual friends with several features including chat functionality, save chats option and push notifications.

- Midjoint: a social network application that connects users who share common interest with features to like/dislike anonymous user's profile, internal chat functionality for communication and push notifications.

- Go or No: this unique app allows users to quickly upload photo of products they plan to buy, add short text about products and get feedback from people whom they trust. Feedback will be summarized in a concise graph.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

In terms of a stunningly convenient User Interface and an interesting domain niche, the clear answer is Double. This app addresses the main concerns a person has when meeting a stranger for the first time, specifically, safety and ease of communication. It's called Double because a user can pair up with a friend, search for another set of "doubles" and enjoy a double date. Another app we proud of is a high-loaded messaging service for iOS, featuring complex server-side. We built its backend using Microsoft technologies.

Valentin Balanescu, Founder

648 Group, United States

We have seen interest from a wide spectrum of industries for these type of applications. We are currently developing a messaging platform, intended as a social mobile app for consumers (messages, group messages, file sharing, calls and group calls), as well as an innovative enterprise solution, highly encrypted. Think of Slack combined with Skype.

WEARABLE APPS

Wearable apps are the next big thing. Basically, wearable apps are the same as apps for smartphones but with a customized designed and different functionalities. When using a wearable and its apps, it is recommended to have the app on your mobile phone or tablet and then use the wearable app to get the results or information instantly.

Ronak Shah, Director

Agile Infoways, India

A wearable app such as a fitness app can measure heartbeats of users very accurately while in smartphones users need to take their phones out and manually perform navigation between the screens.

Ashish Parmar, Director Sales & Marketing

Prismetric, India

The basic difference lies in the proximity. Wearable apps run on devices with a completely different hardware, have a designed set of functions and hence executed in similar fashion. The apps for every set of device will be different and will differ with respect to their design and usability.

The wearable apps work in sync with smartphones and usually carry out operations from smartphones primarily and then pass it on to the synced device for further processing as per the flow of execution.

Vipin Jain, CEO

Konstant Infosolutions, United States

We understand that wearable devices are compact size in comparison with smartphones, due to which wearable apps should be developed with limited functionality and usage of devices. Furthermore, wearables have a small display or may not have any display at all, so the UX and usability of the wearable app also differs from the regular app.

Sahil Kohli, Director

Exousia Tech, India

Wearable apps are more interactive with the user. In a mobile app, the user has to do it all while the wearable app will do it automatically.

Developing wearable apps

The process of developing a wearable app is still a rather new situation for most of the developers around the world.

Ashish Parmar, Director Sales & Marketing

Prismetric, India

We have created two wearable applications so far; however both of them are under strict Non Disclosure Agreement (NDA) so we can not disclose the links. Pro is we can do many things in a tiny device, but there can be many limitations to operate huge features in small gadgets. That is the only Con.

Ronak Shah, Director

Agile Infoways, India

"Watchface Smart" is our latest wearable app. When we develop any wearable app, it takes less time for designing the layouts as the screen size of wearables are small. So we can focus more on the functionalities. This is one of the advantages. If we talk about disadvantages, debugging such applications can be difficult sometimes.

Apps that require data from sensors often need more development time than others which do not include device level integrations as it may take more time to implement activity recognition and integrate usability for different third party SDKs.

Vipin Jain, CEO

Konstant Infosolutions, United States

SemaConnect is a wearable app for Apple Watch. While using the app, you can discover the magnetic charging stations at home, at work or at a wide variety of public parking locations throughout North America. We use Objective-C platform for developing the app.

We observe the time-saving point, which is one of the big advantages while developing an app. The problems we usually face during development is a strict guideline for the User Interface, we can't leverage the users with all functionalities on a wearable device as compared to smartphones and the reason is the compact size of wearables.

Sahil Kohli, Director

Exousia Tech, India

We have developed a healthcare app which is focused in heartbeat, speed, kms… all in a single app. All these parameters appear in a single app, but we have combined all in just one. Wearables are more intelligent, it takes less time in designing due to the screen size.

On the other hand, not many people are aware of this technology so the demand is low, in the future there will be more wearable apps than mobile apps.

Mobile app developers also have favorite apps developed by others:

Ashish Parmar, Director Sales & Marketing

Prismetric, India

Apple Watch apps ought to be the best with its set of built in apps that range from all the functions of a smartphone along with a camera remote, Apple TV Remote and the most important feature of Siri makes interacting with the Apple Watch easier. You just need to raise your wrist and speak out what you want Siri to execute for you: call someone, open an app or even check your mail.

Ronak Shah, Director

Agile Infoways, India

Evernote for Android Wear is the best wearable app in the market right now. It allows you to create notes and to-do lists using voice commands. It automatically retrieves notes and content which are relevant to particular situation and it also lets you save location based notes and share them with others.

Sahil Kohli, Director

Exousia Tech, India

Airbnb is the best wearable app right now. It gives instant notifications and it's very user friendly. It also lets you chat from the watch itself so you really don’t need to take out your phone.

Vipin Jain, CEO

Konstant Infosolutions, United States

Strava is one of the best wearable apps in the market. Strava can track and record all your jogging stats, distance and time via GPS through your mobile. With the help of this app, you can log your workout records automatically. Significantly, it runs on the best fitness wearables or smartphone powered by iOS or Android.

Wearable market

The evolution of technology and the constant improvement of devices make it difficult for a wearable app or device to stay in tune for more than 6/12 months. There is not yet a mature wearable market. That's why when you decide to start a project for a wearable device, it is recommended to study the market and the different technologies or devices that are the most used now and in the near future. No one wants to spend 3 months developing an app for a wearable device that will disappear in a week.

Vipin Jain, CEO

Konstant Infosolutions, United States

Fitbit is a pretty hot wearable device, while in smartwatches Apple Watch and Pebble are the most used wearables till now.

I think Google glass didn't match the level of the wearable industry, maybe in the current age, they have been forgotten, but as per the market predictions, Google is planning to come up with improvements that will embrace the quality of the product.

Ronak Shah, Director

Agile Infoways, India

Smart watches (LG Watch Urbane 2, Moto 360 Sport) are the most used wearables of the year.

Pedometer (counts each step a person takes while jogging) has been forgotten as smartbands are out in the market to do the same task.

Sahil Kohli, Director

Exousia Tech, India

Apple Watch is in demand these days, people are actually trusting Apple.

Ashish Parmar, Director Sales & Marketing

Prismetric, India

The smartwatches will be the most used and the most sorted devices of all with its vast area of functionalities provided along with the added lifestyle status. It is more about prioritizing with the options available as the technology changes. Technology today requires you to go with the flow so when one has an option for a much more technically advanced device why would one opt otherwise?

Innovation with wearable apps

Just like apps for other kind of devices, different industries need different features in their apps. In a constant changing world, developing wearable apps is more about learning what's needed in a moment and what will be needed next, rather than looking for a perfect app that will be quickly obsolete. Experimentation and innovation are a must these days, as well as keeping your feet on the ground. Not all industries need a wearable app neither they need an app for every wearable device.

Ashish Parmar, Director Sales & Marketing

Prismetric, India

Healthcare is one such industry that can benefit immensely from the wearable technology. It increases the option to provide real-time reporting and monitoring such as heart rate, activity level, calories burnt, stress rate, etc. Precisely it could turn out to be a life-saver for many.

Every wearable app developed has a definite set of functions, but it is not the same for apps to be developed for fitness, health or task management. The depth required in the development differs from app to app depending on its purposes and tasks.

Ronak Shah, Director

Agile Infoways, India

Health and fitness are the industries which are going to grab a number of advantages from the wearables. For example, we have a glucose-sensing lenses which are assembled to measure glucose levels in the tears; CUR, the first smart pain relief band-aid to manage and track pain as well as muscle soreness; smartwatches to monitor your vital signs such as heart rate and blood pressure, your stress level, your sleep patterns, give alerts to possible oncoming heart attacks and strokes; smartsocks allow users to manage their running techniques in real time as well as monitor heart rate; or electronic sensor tattoos are able to measure skin hydration, temperature and any electric signals from muscle and brain waves.

Sahil Kohli, Director

Exousia Tech, India

Healthcare is the sector that can benefit more. Restaurants are also using wearable apps. I can book a restaurant from a smartwatch.

Vipin Jain, CEO

Konstant Infosolutions, United States

The healthcare industry can take more advantage of wearables to track the records of their patients' health, facilitating remote monitoring on them and taking good care of their treatment with the help of quantified information data given by smart medical wearables. The utilities of fitness, health or task management differ from each one.

On one hand fitness apps are useful to set workout plans, log vital metrics, provide access to fitness information for oneself and on the other hand, a health app is useful in facilitating remote monitoring of patients, self-monitoring of medical health and provides a huge data information in related sectors, now the third one is task management apps that keep records of your to-do list, events and give you notifications.

The future of wearables

And what's coming in the future? 2017 will be full of surprises. Most of us aren't even aware of the powerful devices and apps that will appear this year. Let's see what developers think.

Ashish Parmar, Director Sales & Marketing

Prismetric, India

If we are talking about wearable devices, I would say: prepare to be amazed. There are plenty of technology embedded devices that are vying for consumer's attention and with smartphones and Internet of Things (IoT) in the picture together we can expect some really good game changing devices.

Wearable devices are already a hit with the healthcare and entertainment industries specifically the gaming industry is catching up fast with their list of devices. With technology changing at such a fast pace there is no time for the wait and watch game, all you got to do is dive in and get started today.

Ronak Shah, Director

Agile Infoways, India

Following are the trends which are definitely going to rule the app development industry of wearables: cloud driven technology, application security, beacon and location based Wi-Fi services, IoT, big data and app analytics, in-app advertising and smart cities, homes and offices.

Vipin Jain, CEO

Konstant Infosolutions, United States

Trends are something that come and go. We understand that smart wristwear (smartwatches, medical wristbands, fitness bands) are ready to make up to 70% of total wearables shipments throughout the next five years but along with this, it is going to be a big year for Virtual Reality gaming gadgets as well.

Sahil Kohli, Director

Exousia Tech, India

- Wearable apps for the Internet of Things: it would be really amazing if I can control all my home appliances with my watch.
- Food delivery apps: give you options to choose everything from the watch.
- Security apps: for example I can control my car with my watch or get notifications when there is a problem.

Some recommendations

Finally, if you are thinking about developing a wearable app, please take in consideration the following recommendations.

Ashish Parmar, Director Sales & Marketing

Prismetric, India

Wearable app development takes a good amount of risk and creativity with respect to app functions and special features, so need to put a lot of thought into that. Research and select the right SDK and development environment. Consider successful cases and maintain usability standards.

Use the data collected to improve productivity and engagement by providing them with actionable steps. Most of all, be realistic and focus creating something that people will look forward to buy, wear and continue to use in the years to come.

Sahil Kohli, Director

Exousia Tech, India

- It has to be really user friendly app and easy to use
- The app should be really intelligent and be able to do things by itself
- The app should solve the purpose of not taking out your phone for small things
- The app has to be interconnected with your phone and laptop to see all reposts
- It's very important that everything is really quick

Ronak Shah, Director

Agile Infoways, India

Try to make your wearable app more user friendly. Develop applications compatible with all OS versions, with backward compatibility and which support different OEM careers and their OS customizations.

Develop applications that require less physical interaction with user. For example, use of voice and activity recognition.

Vipin Jain, CEO

Konstant Infosolutions, United States

Keep the following things in mind:

- Design prototype: wearables with small screens require a minimalistic and different design approach compared to smartphones apps, as they are attached to your body and continuously on movement with you.

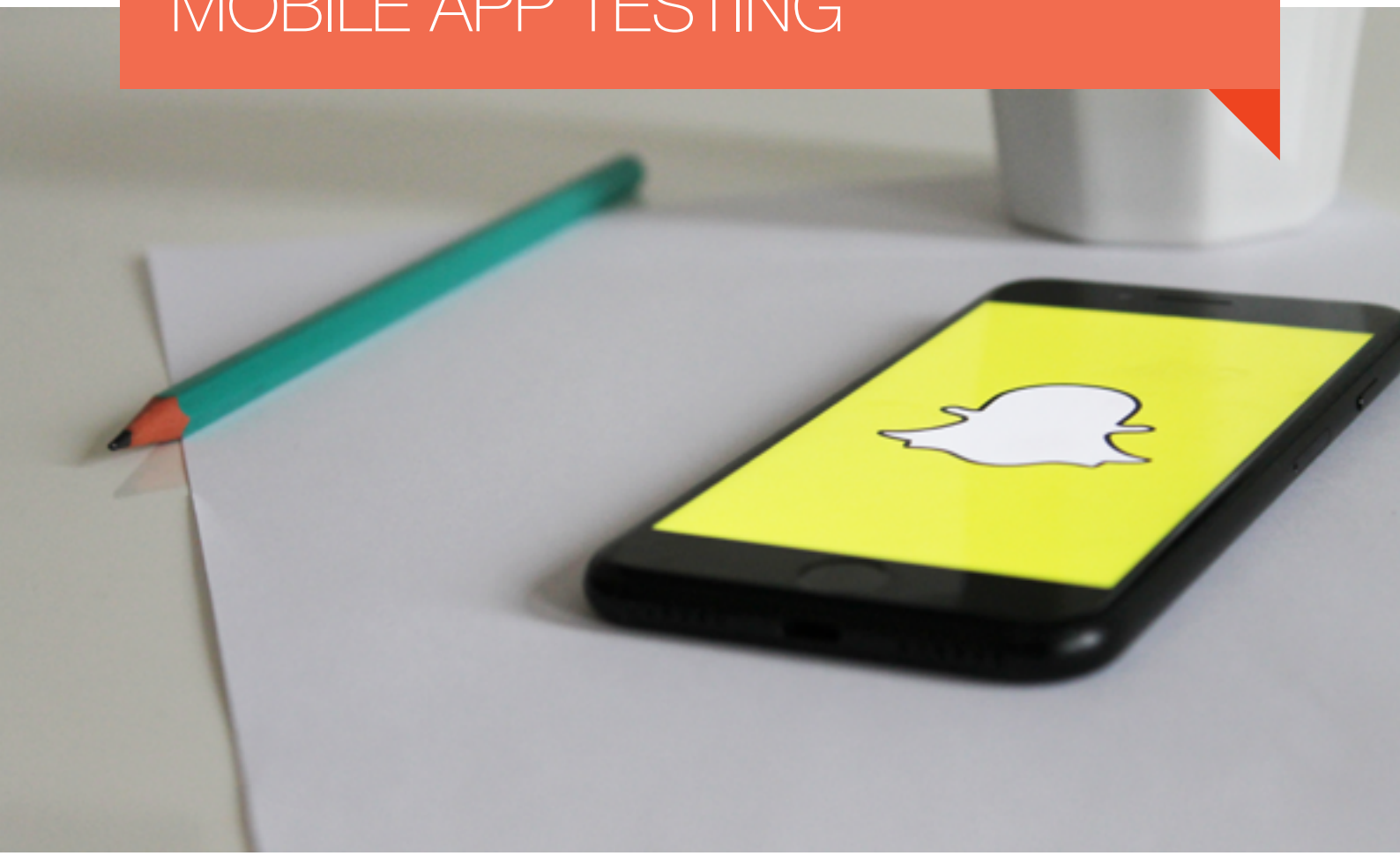
- You have to make sure that a wearable app must be developed for the device itself and for a smartphone as well because the wearable has a small display or may not have any, in such cases, mobile connectivity is required to run apps.

- We believe that for better results you need to develop these apps on the latest SDK's either for Android or iOS i.e. Android Wear SDK or Apple SDK respectively.

- An ecosystem of wearable tech designed accordingly, which in turn give the relevant information through a dramatic change of small screen size.

- Build an app that will consume low-energy to ensure a longer battery life of the wearable devices.

MOBILE APP TESTING



Mobile app development consists of creating, developing and testing. It is very important to test every step of your development process as well as the final app before sending it to the client to make sure that you deliver your best.

Manual or automatic testing

Mobile app testing checks the functionality, usability (key to commercial success, making sure that User Experience is uniform), installation, security and scripting. Since the app market has grown so much in the last couple of years, having the best and original app you can develop is key to achieve thousands of downloads. There are two different ways of testing apps: manual or automated testing.

Alexey Gavrilov, Marketing Manager

Redmadrobot, Russia

About 90% of our effort is still manual for our clients, but we have a plan to automate up to 30% of our manual testing by the end of 2016.

Vasily Malyshev, Founder and CEO

Messapps, United States

We use manual and automated testing. Basically, we try to test with all the available resources because submitting a bug free app is very important. Each app goes through multiple hands-on testing stages performed by project managers who compare the functionality of the app with our comprehensive app audit for functionality. Utilizing recorded screens during testing and function-by-function analysis, manual testing is an integral part of ensuring an app's success.

Ravish Baliyan, Quality Analyst

AppStudioz, Singapore

Manual and automated testing are carried out to test different features. New functionality? Use manual testing. Only testing once? Make it manual. Automated tests are essential for complex scenarios. We also have QA people who have good knowledge about various mobile automated testing tools like Appium, Robotium, Calabash, etc.

Types of apps

There are different types of apps in the market: native, hybrid, cross-platform and web applications. Some apps are more difficult to develop and test but provide the final user with a greater and more customized experience according to their specific features. Cross-platform apps have the need to be tested in all the platforms they are developed for: an app can work efficiently on iOS but not on Android.

Greg Fraczek, CEO

Ready4S, Poland

Cross-platform apps are simultaneously tested on every platform on which they will be working. It is really important for the functionalities to be the same on every platform. Cooperation of the whole team has a significant influence on the final result.

Ravish Baliyan, Quality Analyst

AppStudioz, Singapore

We test the applications on all the platforms for which they have been developed. We have a set of devices with different OS and hardware configurations for each platform to ensure maximum coverage on different devices along with varying capabilities for each platform available in the market.

Physical devices or simulators

Most of our developers try manual and automated system, a mix that makes them reach almost perfection on their apps. Whether you test manually or automatically, there are a lot of different devices and softwares out there so testing can be a little bit expensive if you want to test your apps with all the available devices. You can always sign up to the waiting list of manufacturers so they loan you the smartphones and tablets they have.

What can you do to make sure your app works on all the devices available? Using real devices and emulators. Physical devices give you the opportunity to test with all the limitations and potential, but it takes time and you don't get automatic analytics. On the other hand, emulators are easy and have all the devices available in the market. However, there are some circumstances an emulator cannot anticipate.

Alexey Gavrilov, Marketing Manager

Redmadrobot, Russia

We use physical iOS and Android devices in our office (over 50 devices with different OS versions). We rely on real devices for many reasons but mostly because of all the differences noticed in app behavior on real platforms vs. simulators.

Vasily Malyshev, Founder and CEO

Messapps, United States

We test on both. Unfortunately, the simulator does not cover all the issues that might come up and therefore it is very important to test on actual devices. Testing functionality on the device(s) that the app will be used is important in ensuring real-word functional operations for the final launch.

Outsourcing the test part?

So, physical devices and simulators can be helpful, but as a developer, don't trust only one of these platforms to test your app. Each method has its flaws, keep in mind that smartphones, wearables and tablets out in the market differ in screen sizes, QWERTY, touch and hardware capabilities, Android, iOS, Windows Phone or Blackberry, and the app must respond the same in all those platforms.

On the other hand, unlike mobile app development, outsourcing the test part is not recommended.

Ravish Baliyan, Quality Analyst

AppStudioz, Singapore

We have good QA resources in our company. The QA team gets involved in the project from the initial phase.

Greg Fraczek, CEO

Ready4S, Poland

It is very important the quick information flow and direct contact with programmers. It gives the possibility to react immediately to errors and problems. An iterative model of the project forces a quick reaction to the errors so that the next iterations are tested and are ready to be presented to the client.

Vasily Malyshev, Founder and CEO

Messapps, United States

It is essential that the collaboration between project managers and designers/developers is as transparent as possible so that any issues can be fixed in real-time with ease. External testing resources are only helpful to other developing companies that don't prioritize transparency and work collaboration or simply lack the internal resources.

QA and testing

As we can see, the figure of a QA analyst is very important during the app testing process. And all this work, how long does it take? Every mobile app development company uses its own method:

Alexey Gavrilov, Marketing Manager

Redmadrobot, Russia

Our QA efforts depend on many things starting from a certain release scope, amount of functionality implemented by our development team, client-approved requirements, number of devices under test and approved set of assumptions. For every single release, QA of Redmadrobot starts with planning and efforts evaluation. Usually, this effort is about 40% from development effort.

Greg Fraczek, CEO

Ready4S, Poland

The time for testing the application is strongly connected with the specification of the application, its appointment, the number of functionalities, and their complexity. In most of the cases, the time for testing takes 20% of the total time for the whole project. However, in special cases or in the case of some functionalities of a particular application, the tests can take even 50% of the time.

Conclusion

Testing an app has to be a process with no hurries. To test an app is as important as a good design and a good development. After all, what's the point of having a nice app if it doesn't work?

MARKETING YOUR MOBILE APP

No matter how amazing or revolutionary a mobile app is, no matter how much potential it has to help users or bring joy to their lives, the truth is that it cannot be deemed a success if users are never made aware of its existence.

An app is not a success if it doesn't get seen. An app is not a success if it does not get downloaded. An app is not a success if its popularity never grows. Unfortunately, the majority of people and businesses that want to create mobile apps don't really realize or appreciate this. Many believe that simply launching an app is enough, even a great one, is enough to secure success and the riches that are sure to ensue, but seasoned developers know that this is simply not the case.

Those that have ever had to deal with sales in the non-digital world know that proper marketing is critical to the success of a product. Great marketing spans the chasm between a relatively unknown product and the target audience. And, to the surprise of many, this is true for digital goods as well. Come to think of it, this may actually be even more important in the mobile app world. With only a handful of app distributors (iTunes, Play Store, among others) and thousands of apps, the ability to set yourself apart from the pack and grab the attention of users is more important than ever.

Knowing the audience of your mobile app

If you don't know your audience, then you don't know what app to make for them. It's as simple as that. Those wishing to build an app should first learn as much as they can about the behavior, nuances and mindset of their target demographic. This may take more time than they thought was necessary but it is time well spent. These key data points can then be turned over to mobile app developers to aid in the tailoring of the app to suit the wants and needs of the target audience. Not only that but customer information and expectations can greatly impact everything from design, app architecture and even resource allocation.

Ronak Shah, Director

Agile Infoways, India

It is very difficult to develop mobile applications without an end user in mind. Work of companies is not limited to completion of development on time, they are also associated with the success of that application. Research has analyzed hundreds of stories on failing startups and concluded that 14% of them hadn't examined their client.

Having a unique idea for an application is not enough. An application should provide real value for an specific group of people. If a client takes time to define their target audience first, they will save a lot of time and money during the app development and promotion stages.

Greg Fraczek, CEO

Ready4S, Poland

Knowing the target audience of a mobile app is the basis of any services, including mobile app development. If our clients have already conducted some research of the target audience, the competitors and the market in general, and included them in their app specification, we can easily understand the project and its functionalities. This way we can provide the clients with the best solutions, from design to app architecture, and suggest improvements based on our longstanding experience.

Vlad Korobov, COO

Live Typing, Russia

What is the target audience of the project? That is one of the first questions that we ask on a stage of getting to know the client. Knowledge of our target audience helps to make right decisions on a design and prototyping stage, we start to think from a potential user's perspective and to test different versions of our design on real users from our target audience.

A search and interview process is handled by our UX/UI team. A feedback from real people with different age, gender and experience allow us to design easy to use high-quality products. Also, we have to choose the right channels for promotion and advertising, a right style of communication and a right message using that knowledge.

Ajeet Singh, Co-Founder

Algoworks, India

It is imperative to know the target audiences their viewpoints on mobile apps. Having clients' choices handy and knowing them beforehand ensures less chances of last minute changes. Additionally by this we can avoid a complete change of flow of the mobile app development process.

The target audience and the design of a mobile app

Not all users think the same, this much we know. Users are groups of individuals, and each individual has their own personal wants and needs. However, when looking at demographic and behavioral characteristics trends may eventually reveal themselves.

By studying and analyzing these trends, developers and app creators can make educated guesses and decisions about the mobile apps' design and development. The key is to strike a delicate balance between an intuitive and user-friendly app that appeals to a wide range of people, but simultaneously catering to the demands of a smaller target audience.

Ajeet Singh, Co-Founder

Algoworks, India

Opinions of target audiences play a vital role in the designing part of the mobile app development process. As far as aesthetics and look and feel of the application is considered, the point of view of audiences matters a lot.

On the contrary, the development process of application does not require much of audiences' involvement. Certain categories and features which are specifically set for audiences are driven by them.

Ronak Shah, Director

Agile Infoways, India

Target audience plays a major role during designing and development. There are two major aspects we need to take care that depend directly on the target audience:

- Color scheme
- Content

As per the target audience (age group, public or private sector, mass or individual) designers will select the color scheme and flow. Content will be written accordingly.

Vlad Korobov, COO

Live Typing, Russia

Target audience is one of the most defining and significant factors in an app's design and development, it's logic. The way it works, the way it looks, everything depends on the audience. Knowing and predicting user's behavior, habits, way of thinking and way of a lifestyle are some of the keys in a production of a successful and high-quality app, because you need to create one that will be easy and comfortable to use, otherwise it will make no sense. In the end, we make a useful tool for people, not just an app.

Greg Fraczek, CEO
Ready4S, Poland

Mobile app users are not a homogenous group with the same wants and needs. They can and should be divided into segments based on both demographical and behavioral characteristics.

A business app with minimalistic design and many boxes to fill in differs a lot from a sweet game for children or a social app for teenagers. The colors, shapes and buttons should all depend on who will use them.

Also the structure and idea behind the app is different from one target group to another. That's why we often advice our clients to decide on target audience and create personas before they have their app developed.

Which metrics are more relevant?

The beauty about the majority of mobile app marketing campaigns is that success or fail can be clearly delineated thanks to metrics. App makers and developers take the guess work and mystique out of the entire process by using hard figures. Download and install figures, conversion rates, retention values and advertising revenue are but a few of the metrics that successful app companies rely on to determine whether an app lives or dies, to invest more or cut losses.

Greg Fraczek, CEO
Ready4S, Poland

The main metrics for evaluaiting the succes of a mobile app marketing campaign are:

- Number of app downloads
- Application bounce rate
- Application convertion rate
- Unique users at app landing page
- Share of voice (in traditional and digital media including social media)

Vlad Korobov, COO

Live Typing, Russia

A number of downloads and installs, customer retention and repurchase rate, advertising CTR, advertising investment payback (if we're talking about a paid app or e-commerce projects).

Ajeet Singh, Co-Founder

Algoworks, India

- The number of downloads: of course, this data can't show you the true number of active users, but it helps you to check the effectiveness of promoting channels and count user's base. Users download apps from different resources and analytics tools have the capacities needed to track the performance of all the traffic sources that you use to promote your app. Most people who'd downloaded your app will drop it after the first usage. That's why you must analyze if the app provides a real value for users, which is impossible if you don't know who they are.

- Users: information about user's age, gender, preferences, devices or locations can help you understand their expectations about your app.

- User engagement: user engagement metrics show how attractive your app is. These metrics usually include session length, time that user spent in the app, session interval, in-app activity and number of active users.

- User retention: this metric shows how many users use your app after the first sessions. Analyzing user retention will help you understand what's working and what isn't, how updates affect your users and eventually, how to create a solid, loyal user base which will guarantee stable revenue and high conversion rates.

- Monetization: monetization rates describe how successful your app is at reaching the business goals you've set. The following are the KPIs referring to app monetization: conversion, average revenue per user and a user lifetime value.

Ronak Shah, Director

Agile Infoways, India

- Building personal online presence
- Validate your app idea
- Determine the right brand icon
- Include the right app screenshots
- Study and analyze your audience behavior
- Get your app approved
- Choose your app revenue model
- Choose the best app name
- Start marketing within your app
- Do surveys and get feedback
- Deep linking
- Get your app reviewed
- Localize
- Do App Store Optimization
- Do video marketing for your app
- Leverage new technology features
- Built up the hype about your mobile app
- Do real life marketing
- Choose the right promotion campaigns
- Analyze, improve and keep on marketing

App metric tools from the marketplaces

Mobile app marketplaces have come a long way since the inception of the idea over a decade ago. They understand the need to provide app publishers with the data, figures and values they need to make the proper adjustments to their apps. They have built-in a plethora of metric trackers within the marketplace consoles and have even developed accompanying apps to provide real-time data to publishers and developers. With that being said, there is still plenty of room for improvement.

Ronak Shah, Director

Agile Infoways, India

There are 'N' number of app metrics analytic tools available in the market using the latest technology to track users' behavior to help changing the metrics of app usage. There are lists of app analytic tools that will perform detailed analysis of app metrics and give you the data to help you understand how people are using your app, where the pain points are and how to make your app the best it can be for a better performance.

Greg Fraczek, CEO

Ready4S, Poland

When considering m-commerce apps there is always a place for new tools to measure and provide data about users' engagement.

Ajeet Singh, Co-Founder

Algoworks, India

Indeed, lots of data can be captured from tools. If we integrate second or third party tools, we capture almost everything which is required to track app metrics.

Vlad Korobov, COO

Live Typing, Russia

They're [app stores tools] not good enough yet, but it is really great that Apple and Google are working on improvements constantly. Useful features and functions appear inside dashboards. It's an absence of an accurate installs' number tracking integrated inside the stores that feels the most noticeable.

Tools to track mobile app metrics

Metrics trackers can save an app publisher and a developer a great deal of time and resources. While the marketplaces have built-in trackers, there is always a thirst for more and more information. Several companies, seeing the growing demand, have launched ventures aimed at providing businesses with the trackers they need to capture the precise pieces of data being generated by their app.

Greg Fraczek, CEO

Ready4S, Poland

We usually use Google Analytics for mobile apps and Apple's app analytics.

Ajeet Singh, Co-Founder

Algoworks, India

To track metrics we use tools like Flurry, MixPanel, Twitter Fabric, Google Analytics, Kissmetrics, Apsalar and Amazon mobile analytics.

Vlad Korobov, COO

Live Typing, Russia

The tools we use are: Fabric.io, AppsFlyer, Yandex AppMetrica, Google Analytics and MAT.

Ronak Shah, Director

Agile Infoways, India

We're tracking critical app engagement metrics using:

- Flurry Analytics
- AppSee
- Apsalar - ApScience
- MixPanel
- Countly

- Localytics
- Heap Analytics

Below are the key metrics that we need to analyze:

- Acquisition: referring the channels from where you users come from.
- Activation: referring to initial experience with your app.
- Retention: referring to the number of prospects who've opened your app repeatedly after downloading it.
- Referral: referring to the people who have shared their app experience with their family, friends and to everyone else by using social media after posting links or image about your app to their Facebook profile, Twitter and other social networks.

Mobile App Store Optimization

When competing with thousands of other apps for the consumer's attention, every little edge or improvement can make a difference. Hence the rise of App Store Optimization or ASO. The techniques, strategies and goals of ASO are similar to that of its more well-known cousin, Search Engine Optimization (SEO). The primary goal of ASO is exposure. By getting your app to show higher in search results the chances of it catching the eye of and converting a user will be that much greater. Keywords, titles, descriptions, pictures, screenshots and demo videos all play a part in ASO.

Vlad Korobov, COO

Live Typing, Russia

First of all, we're looking at the stores' recommended guidelines. We choose a semantic kernel for a description based on 10-15 top competitors' apps analysis (ones that are on top of a certain search). We work on an app's title and we add relevant words besides the app's name itself, words that are basically a short description of the app's insight. But it's more difficult now because of the stores newest restrictions.

Ronak Shah, Director

Agile Infoways, India

- App keyword research: choose appropriate keywords for the mobile search that both describe your app and match your users' needs.
- App description optimization: the description has to be unique, relevant and illustrative, at the same time enticing readers to find the value it's offering to do an action and install it.
- App or brand logo: app logo should define your app ultimate goal to make it easy to understand what your app is all about.
- Screenshots optimization: images are more compelling than words. A good practice is to start with the best screen you have of your app in-front, but also we need to make sure to provide several that are relevant and give users a good idea of what the app looks like, how it functions and what it does exactly.
- Video trailer: preview video of the app will be more beneficial in terms of explaining the app navigation and its functionalities.
- Competitive research: consumer research is very important to figure out what kind of search queries your target audience might be using to find apps.
- Effective app name: we choose names which normally describe the app utilities and fundamentally it should pinch the idea of the app functionality if possible and it will be more beneficial for the app promotions.
- Reviews and 5 star rankings: rating and reviews are key factors, the more reviews posted to other reputed websites the more reputation will have the mobile app.
- Category: category is the top element in submitting the app to an app store as well as promoting your app to the directories available online which will get you the target audience of your app making sure they use your app and make a review on it.
- Price: the price of any app would give you the basic idea of its usage and policy information, this is required to define at each space when we do promotions of your app.
- Localization: target region will give us stance to make pace reaching out people who are actually looking for similar apps like yours, it results in more downloads and reviews.
- Analytics: stats always perform a good impact on every app's performance, analyzing the app performance is the best idea.

Greg Fraczek, CEO

Ready4S, Poland

App Store Optimization is a set of techniques used to increase discovarability of your app in an app store. Some of them are very similar to SEO and once used well, they will make your app appear higher in the serch results.

ASO techniques include using keywords, especially in the title and the description of an app. Other techniques have an impact directly on potential users. A well-designed icon and a catchy app name can attract their attention while searching through an app store. Writing a compelling description and including screenshots or videos make potential users interested and help them decide to download your app.

Ajeet Singh, Co-Founder

Algoworks, India

As a technology consulting company we believe that certain elements are paramount in ASO strategy of a mobile app. Hence, we also understand a well designed and bug free application to outreach the maximum of its targeted audience.

We duly perform testing procedures of application and ensure to deliver error free mobile application. As a distinguished technology consulting firm we help clients in projecting and shaping ASO process which includes Social Media Marketing, SEO, Content Marketing, Paid Ads (if their budget allows us), PR and Cross Promotion.

Steps to promote a mobile app

Mobile app marketing doesn't need to be complicated, even though it can seem as confusing as graduate level calculus. Tools and strategies exist to make the process easier, or at the very least, more user friendly. The best, and often most efficient approach, is to enter a marketing campaign with a plan in mind. The target audience is the most important of the process. Identify them, their needs, wants and concerns, then build an app around those data points. Followed through by tracking metrics and continuously tweaking app details to have the greatest reach possible.

Ajeet Singh, Co-Founder

Algoworks, India

While promoting mobile apps we always keep in mind our target audiences, hence a complete strategy is prepared and starts with research on target audience.

The process also involves surveying the industry and competitors which can help in identifying audiences in order to target the app content. Creating a persona of set users helps us defining most of the app content types and formats in order to attain maximum reach and user engagement.

We also understand the challenges faced by target audiences. The applications and technologies related to app content (in form of blogs, press releases, articles, write-ups) provide valuable information to the audiences. Such vital piece of data helps highlighting the typical problems and challenges of our audiences.

Ideating on ASO process also plays an indispensable role in application marketing activity. By offering clients high quality screenshots and formulating guidelines of App Store Optimization mechanism (which comprises of app description, impact of wisely chosen keywords and informative description of apps with suitable keywords).

Ronak Shah, Director

Agile Infoways, India

- Build a great app landing page
- Include app download links on the website
- Get featured on mobile app review sites
- Promote the app through a promo video
- Social networking
- Write an announcement blog
- Join LinkedIn and Facebook Groups
- Sincerely respond to all reviews
- Paid campaigns on Facebook, Twitter and Instagram

Greg Fraczek, CEO

Ready4S, Poland

A good marketing campaign begins with an in-depth analysis of the market, app's target audience and competitors' actions. Once we've done it, it becomes clearer in which direction the promotion of our newly developed app should go and when combined with defining marketing goals of an app, we get the overall picture of what our next steps should be.

The promotion of an app should consist of two pillars. The first one is designing a perfect app site in all app stores it is published (ASO) because many users search app stores for new apps. The second one is to create a dedicated landing page for our product on which we will direct all potential users from search engine ads, banners, social media and other forms of promotion.

Vlad Korobov, COO

Live Typing, Russia

- Try to understand the app's target audience to get a full picture of it, describe people's expectations and their benefits from using an app.
- Make a right ASO, create website/landing page for an app, create pages in social networks for it.
- Plan a promotion campaign, brainstorm everything, choose the right advertising forms and channels, come up with ideas for advertising slogans, find out and compare prices for advertisement.
- Discuss our vision and strategy with a client.
- Come up with banner's and teaser's design, prepare reviews, book an advertisement placing, start a promotion and advertising campaign.
- Always track a campaign's success, work on advertising banners efficiency's growth, turn off ineffective advertisement channels, constantly search for the new ones and test them. Pay attention to user's feedback, respond to their needs and opinion as fast as possible.

Conclusion

While there are connotations attached to the word “marketing”, there is no denying that it is absolutely necessary for a budding app to survive and thrive. Knowing the target demographic is of paramount importance. Without the information garnered from interacting with the audience, the prospects of having a successful app is close to zero.

Veterans of the marketing community will tell you that “marketing” is not about selling, but about listening. Listen to the desires of your audience, then build the product to bring users their desires.

FUTURE MOBILE APP DEVELOPMENT TRENDS

Some may say that peering into the future is the realm of seers, prophets and charlatans. The funny thing is that they would not be wrong in this. History has been rife with people proclaiming to see tomorrow but often fall short. The same can be said of more common and mundane things. Business, stocks and technology are not immune to the whims of charismatic individuals. Great care must be taken when deciding which advice and which individuals to follow.

Data and the first-hand knowledge of top mobile app development companies should guide the way with their thoughts and predictions on the future trends of mobile app development.

Sensors and the Internet of Things

Money makes the world go ‘round, or so the saying goes, and the tech world is no different.

Devices which cost a small kings ransom a mere ten years ago can be purchased by a high school student in this day and age (if you want proof just look up how much a DVD writer or a 1 TB portable hard drive cost back in 2000). This trend of devaluation is not just restricted to large retail devices but also to raw components. Sensors are one such component, and the recent price drops has seen some massive ripples when it comes to the Internet of Things (IoT).

Greg Fraczek, CEO

Ready4S, Poland

Internet of Things is one of the most important trends today and judging from its rapid growth, it will bring huge opportunities for the whole IT industry in the near future. New devices are being launched every day, creating a huge demand for mobile apps to control them. After all, users prefer to have as many features in one place (their smartphone) as they can, and mobile apps are the best way to both operate the IoT devices and see the information they may send.

We had a great chance to see the enormous potential in IoT on our own while developing a smart home app ExtaFree. This elaborated system of receivers allows to control a great deal of electronic devices at home but needed one thing: a way to control all of them wherever user wants, a mobile app. We did our best to create such software and we are convinced that mobile apps are inseparably connected with each other.

Maciek Bakalarz, Founder and Managing Director

Proexe, Poland

Companies are constantly looking for ways to better advertise their product. Adding the ability to control your household items with a smartphone is a thing that customers take into consideration when making a purchase. We think IoT will play a large role in our everyday lives in the near future. Opportunities that arise from the fact that every device being connected to the Internet are endless. Mobile apps will surely be involved and play an important role in IoT development.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

We are witnessing the new possibilities of creating mobile apps related to IoT based on low cost sensors. There are many mobile apps that have high usage in smartcities and in smarthomes in which one mobile app can be used for reporting issues like illegal trash dumping, management of potholes or broken tiles of the sidewalk related to the cities. We see more mobile applications on parking lots for finding a suitable parking space.

In case of smarthomes, we see smartphone based mobile apps in home automation either for controlling the room temperature or for turning on the lights before you enter your home. It will be a pleasant surprise to open your garage before you reach there with such wonderful mobile apps. You may even track anyone with authorized access near your home and entertain your guests by opening the door through remote control when you are away.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Latest mobile devices are already powered with multiple connectivity options like Bluetooth and WiFi that allow them to interact with sensors installed in other devices. With increased use of sensors in almost every object, mobile apps are definitely going to be the crux of IoT's ecosystem.

IoT related mobile app development would soon enable people to operate their office access system remotely or to monitor their entrance gates from anywhere. The trend of in-built sensors and enhanced mobile connectivity have already begun strengthening the IoT ecosystem, with some hotels replacing keys or card based access to rooms with smartphones so that guests can enter the room just by opening the hotel app. New IoT developments in healthcare, travel, education and other sectors shall soon follow with mobile apps working as remotes.

Maheep Gupta, President and CEO

OCDLab, United States

There is some fascinating work happening in this domain and we think it is only going to increase further. Gartner analytics report that the number of internet-connected devices will increase to 6.4 billion by the end of 2016, which is a 30% increase from 2015.

As on today, most IoT devices fall in the consumer class, in particular electronically-equipped cars and the infrastructure elements of smart homes, businesses and entire cities. However, this will change.

There are some really great innovations like Amazon Dash and I am sure the mobile app landscape will completely change in the next few years if we think about Amazon Echo, internet connected buttons (bt.tn), etc. There are several interesting developments happening in this field. We have seen a significant increase in IoT mobile apps and people are coming up with great ideas from connected spas to mobile operated water heaters.

Vipin Jain, CEO

Konstant Infosolutions, United States

When we think of Internet of Things it's an all-connected community, a virtually connected home that comes to our mind. With smart things developing all around, IoT is expanding rapidly and relentlessly. Wearables, machine equipment, cars, thermostats, wind turbines, refrigerators, street lights and an infinite number of devices are being entrenched with sensors, buttons, software and connectivity in a seemingly fast pace. The future is certainly vivid. We're going to live in a home and work in an office that's driven by interconnected and integrated technology.

No wonder IoT will further accelerate mobile opportunities and transform how we interact with various tools of modern life. Mobile app development plays a key role here. Through mobile apps, the Internet can make everything function more intelligently in a virtual world, be it our economy, education, healthcare, safety and security, environment and our standards of living.

Paweł Kruk, Managing Director

RAD4M, Poland

IoT is a grand idea coming true just in front of our eyes. Miniature sensors communicating with each other provide completely new possibilities, the only limit of which is the designer's imagination. Thanks to their low price, sensors are becoming more commonplace and thereby almost everyone can reach for them, which in turn opens up new possibilities for mobile app creation.

Active control of our belongings is possible now, the only necessary thing is being a good mobile app which will complete our ideas and will do it effectively. Mobile app developers have many possibilities to make our lives easier with IoT. A good mobile program will help us save much time and be constantly informed about what is happening with a particular object, whether at home, in the car or at the office.

We can check at any time if we have set up the alarm or turned off the iron and do it then if necessary. This remote control, possible from any place in the world, ensures that we can come back to a warm and properly prepared house. IoT may also help the elderly or disabled people who lack the strength or skills to do all household management on their own.

In addition, miniature sensors are able to perform some basic functions which up to now were done by us, and they will do it perfectly, on time and with guaranteed effectiveness and confirmation of being finished. IoT will help us better plan our time and focus on the most important things, whereas the rest will be carried out by house equipment, facilitating our lives. Finally, a mobile app is our planning and entertainment tool, designed to make our lives more simple and convenient.

We are convinced that the trend of using IoT and communicating with IoT via mobile tools will strengthen. We have made a strategic decision and designed FlexiHome app which enables the control and steering of what is happening in an intelligent house.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

Internet of Things has a huge potential to change the world and our everyday routines. But with it being a relatively new concept comes a certain euphoria. Consumers, and hence potential customers of IoT-related development, sometimes have over-the-top expectations, forgetting about important issues regarding security and protection of information regarding users' private lives. And this is a serious concern we share.

Speaking of new possibilities, we already can see the increase in the number of orders for mobile and low-level IoT-related apps. And our engineers are definitely excited about this trend, they are always eager to take time off from software development to solder some hardware, sensors including.

Car apps, connected cars

Even though Tesla and the rest of the automotive industry are hard at work at perfecting their "autopilot" systems, the so-called smartcar industry is still very young. And that's not a bad thing. For mobile app developers, this new segment poses nothing but new opportunities and possibilities. The footings for the infrastructure of auto app stores are just now being laid.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

There is a huge opportunity in the car app sector with autonomous and smartcars, which are enabled with GPS. Google and Apple have already come up with smartphone infotainment systems in these connected cars. We will see inclusion of features like advanced traffic solutions around clogged bottleneck and gaming inside smartcars.

We see mobile apps directing the drivers to the nearest service centres when running short of fuel and automatic configuration of user settings like the seats and the air conditioning systems.

Maheep Gupta, President and CEO

OCDLab, United States

The Internet on the automobile industry definitely has a bright future. The best part is, it is not limited to big players. While companies like Ford are doing a remarkable job within the car entertainment software, small companies are not behind. I recently read about a very interesting adventure game, featuring interactive storytelling to help drivers avoid boredom. Then there was another quiz-based game like the ones we used to play as kids in the back of the car.

There are no business rules, there's no constraints, except the driver distraction concepts, that limits apps from being developed.

Vipin Jain, CEO

Konstant Infosolutions, United States

With cars, there's much more to come. Autonomous and smartcars will represent a step change in the making and functioning of a car vehicle with new levels of connectivity inside and outside the car.

Car-sharing apps are already popular in this on-demand economy thanks to app-enabled services like Uber, Lyft, Zipcar and more. The day is not far away when everything from unlocking the steering to switching on the air conditioner to parking the car will be controlled by our mobile apps. The connected car will change the whole scene of how we drive a car today setting up a self-driving subsidiary with the remote control in the form of a mobile app. It will be an era of friction-free riding with one-touch features on your phone.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

Connected cars with all their variety of sensors are already here and we cannot be more excited about it. Automotive industry leaders are pouring significant amounts of money into this area, and this could be one of the reasons to be optimistic on the smart car apps' chances.

Alongside with auto suppliers and carmakers coming up with new features such as advanced driver assistance systems, human-machine interfaces and autonomous driving. We are influencing the growth of the range of connected car technologies with such smart mobility services as travel-related and rental, in-car targeted advertising and navigation, on-the-journey education and news, communication and media content. All these programmed offerings include Internet and cloud-based digital services that add to the driving experience. We believe this sector would become a significant part of app and cloud-based development.

Besides, we expect the regulations and policies in the sector to appear soon, that will help customers and mobile app developers to maintain a cybersecurity of smart mobility services in particular, and connected cars in general.

Greg Fraczek, CEO

Ready4S, Poland

As in many other sectors, automobile industry has to front a world where more and more devices are smart and machines can work autonomously without users paying attention. Such attempts have been already made various outcomes. On one hand, it is great that autonomous and smartcars already exist and work. On the other hand, this sector has yet to come a long way with pressure put on safety of such self-driven machines.

For mobile app development companies, the growth of the smartcar sector is of course a huge opportunity. Such technology is just too tempting to be abandoned any time soon, so software developers can be sure that creating apps both directly for smart cars and those connected with them will remain a great niche to take.

Maciek Bakalarz, Founder and Managing Director

Proexe, Poland

The car market is already going under huge changes. Nowadays the governments are introducing strict emission regulations which put restraints on car manufacturers. One way to go around these regulations are electric cars. We're seeing big companies investing in renewable energy and electric cars to make them more appealing and easy to use.

We think autonomous cars have a long way to go before they become used on a global scale. In the near future the cars will help the driver to steer the vehicle and make driving safer, which we can already see in cars like Tesla. Mobile apps are already used as a management tool for electric cars, so with the growth of the electric car sector, surely there will be a bigger demand on mobile apps to go with them. Third party apps could be used to control things like audio, mileage and fuel consumption tracking. I think the next 10 years will be crucial to see how the car technology develops.

Paweł Kruk, Managing Director

RAD4M, Poland

Autonomous cars are the key issue for car sector giants. Big companies interest in it may point to the huge potential of this market. The automotive sector development going in this direction creates perfect development conditions for mobile technologies sector. Whereas IoT enables a remote control of equipment, we may also expect the appearance of intelligent cars where we will be able to use a smartphone app to check and modify car parameters. Moreover, the VW corporation has announced that in 2019, Golf VII will be optionally equipped with an autopilot. This news lets us imagine that it will be possible to steer a car with smartphone interface or with voice by the visually impaired.

Android vs iOS

For the majority of consumers there are seemingly only two sides to choose from: Android or iOS. However, this doesn't nedd to be the case for mobile app developers. While Windows, Blackberry and Samsung held a drastically smaller market share than Google and Apple, there may be hope yet as they exist solely on the devices of specific manufacturers.

Paweł Kruk, Managing Director

RAD4M, Poland

The mobile market is changing very dynamically, therefore it is hard to predict what it will look like in the following years.

Although mobile brands can boast of well-grounded positions now, the market is so dynamic that things may change within the next several months. Therefore, we cannot say that Windows has no chance of development in the mobile sector. It can always positively surprise the clients and grow in popularity. We can’t forget that Windows is still the most frequently chosen system for PC. Windows mobile may be successful when integrated with its brother dedicated for PC. Microsoft may surprise us in the future with some functionalities which will revert the trend. Anyway, I would not write Windows mobile off, especially when we consider its users in business.

Maciek Bakalarz, Founder and Managing Director

Proexe, Poland

We're sure there are companies out there that would like to enter this space. As of right now, it seems to be nearly impossible to break the hegemony of Google and Apple, but maybe if someone comes along with a significantly better product, the things will change. If there's anyone with resources to do that it might be Samsung. Proexe has a Samsung partnership. We developed a few apps for their new system called Tizen. They have very strong points, like the fact this system is used on many types of devices like SmartTV's, fridges, cars, smartphones, smarthome sensors. Samsung will not abandon Android, but can grow with Tizen because of their growing ecosystem of IoT devices.

Right now, Windows platform for mobile lags behind Android and iOS and I don't see that changing unless it undergoes an overhaul. A third player in the mobile OS market would be great for us, mobile app developers and customers as well. We cross fingers for Tizen. This is a really good system.

Maheep Gupta, President and CEO

OCDLab, United States

We live in a world full of surprises. A world, where a simple and silly idea like Flappy Birds become a huge success overnight. While looking at the current market it is really difficult to imagine that something new will come up and take over Android or iOS but then who thought that Apple would make a phone which would change the future of smartphones and force the established players like Nokia and Blackberry to fold their shops.

We do believe that there is always room for better and we will live to see a day where something better than iOS and Android will appear. Steve Jobs once said: "When you are behind, don't try to catch up, try to leap forward". Maybe someone from Microsoft is following Steve Job's steps and who knows, next big thing can be from Redmond this time.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

There are many alternatives for the iOS and the Android platforms like Ubuntu, Tizen, Firefox OS, Jolla Sailfish and MIUI. But, as of now these are not feasible options for the mobile app development as they do not offer any advantage over the Android and the iOS based devices. There is a limited future for Windows 10 for the mobility space.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

While the remaining popularity of iOS and Android does not raise any doubts, we also put our beliefs in Windows. They do have a cohesive and loyal community of users and with all the power of Microsoft Corporation, Windows for mobile will remain a stable player on the market. One of the factors beyond their success is the fact their OS is universal for mobile, tablets and PC. Supporting this, some sources indicated that Google has started the branch of Chrome OS development that will cover the mobile sector, making the universal OS for all types of devices, just as Microsoft.

Thinking of the possibility of new mobile platforms appearance, no one can be sure of this. Each corporation, stable enough, could launch its own OS. Say some private aerospace corporation or its billionaire owner, will invest in new development and promotion. They could gain popularity and become prosperous if they wanted to. And all the industry would welcome a new player.

And we should never ignore the Chinese market with its “introverted” nature of economics. Few people know they have their own YouTube named Youku with 500 million monthly active users, so why won’t they build their own mobile OS? If that happens, their new platform could get a great piece of market share in just a few months.

Vipin Jain, CEO

Konstant Infosolutions, United States

We never imagined that a free messaging service like WhatsApp would spread so crazy that people couldn't live without it for a single day. So, technology is something unpredictable.

However, looking at the current market, what I anticipate is the undisputed existence of iOS and Android for the next decade. They are the most established OSes and doing amazing jobs in their fields. Google has some exciting projects under progress like Project Ara, Project Tango. Similarly, Apple is trying for an app-driven car and other premium devices. But again, technology is ever evolving and so shall be the mobile OS. Sure thing! there will emerge a new powerful advanced mobile operating system, which will beat the other two, but not anytime soon, we believe. And you never know, what if Google and Apple become one OS in the future and rule the whole mobile world as G-Apple?

For Windows, it's a tough struggle. It tried to enter the market with some decent Lumia devices but seems to have a very limited present and a declining future. Windows Phone market has acutely dropped in the last three years. Undoubtedly, Microsoft stands a winner in desktop/laptop but lost mobile.

Phablets and tablets, one app to rule them all?

Contrary to popular belief, tablets much like laptops are not going anywhere soon. Even though on the surface it may look like tablets are being made extinct by phablets, the truth is there are certain environments where tablets reign supreme. The experience that consumers have with tablets is also not the same, no matter how hard phablets try to emulate them.

Greg Fraczek, CEO

Ready4S, Poland

Mobile phones are bigger and bigger and that's the most important reason why some tablets sale fall, especially the smaller ones. It seems

that a user can simply buy one phablet and use it both to make phone calls and to read books or watch movies.

However, it is not wise to predict tablets' disappearance yet. Firstly, although smartphones can be suitable for similar functions as tablets, their size has its limits. Just try to make a phone call with a 13" phablet or make a selfie holding a phablet in one hand. Secondly, tablets also have their specific features that are difficult to mimic by smartphones. Users can draw, read books or watch movies on tablets and as long as mobile phones are not as big as tablets (and they are not for a reason) they won't be completely replaced.

Most mobile apps are developed for different screen sizes and can be used both on smartphones and tablets. But of course some of them fit better for a certain device.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

It is true that tablet sales have gone down. There is a gradual convergence towards phablets poised as the best of both worlds solution. The larger screen sizes of phablets bring a stronger mobile app engagement. The apps for tablets and small screen smartphones will hold more niche use cases. With the advent of more sophisticated apps that perform the daily work of our lives, the large screen phablets are more likely to win the race.

Maheep Gupta, President and CEO

OCDLab, United States

There are no fixed rules in this world. While on a personal level, we think it is more logical that both devices merges into one, but then the world and people have always managed to surprise us. So we wouldn't say it's the end of tablets. However, I do believe that the future is neither a tablet nor a phone. It will be beyond that, something like a chip or a virtual entity where you are not carrying a 6 inch brick in your pocket.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

In our opinion, tablets' nature is a bit different from smartphones, being closer to laptops. Tablets' lifetime is a bit longer, their users are not forced by the social opinion to update to the latest model available on the market, while smartphones users are. Smartphones are also used outside, so they get worn out quicker, while tablets are mostly used at home, treated more accurately. So, we don't think that sales are down, but we had a fantastic growth before that has reached the threshold of active users and from now on they will buy new devices in a slower pace, say one in three-four years, not yearly.

Speaking of specific apps for tablets, we are confident they should remain popular. Some functionalities need larger screens, say for near-professional video and audio-editing with multiple tracks and custom effects or full-featured graphical designing, thus requiring tablet-specific apps.

One should also not forget about some niche usage of tablets, like POS-terminals, this area is also experiencing growth in popularity and requires custom mobile app development.

Maciek Bakalarz, Founder and Managing Director

Proexe, Poland

The biggest advantage that smartphones have over tablets is their portability. Manufacturers pack their smartphones with the latest technology and people don't want to carry tablets which don't fit in their pockets. Having said that, we think tablets still have their use in places like schools, at work or even at home where a bigger screen is something that you need.

Smartphones are not going to get much bigger since they have to fit in our pockets and, more importantly, our hands. Mobile apps created specifically for tablets will still be developed, although not often. The way of the future, in our opinion, is to create apps which will be tailored to both smartphones and tablets, since both will continue to exist.

Paweł Kruk, Managing Director

RAD4M, Poland

Both tablets and smartphones have many different advantages. Smartphones are much more handy and may be easily carried everywhere in our pockets. Tablets, in turn, have bigger screens, which makes watching films or playing games more convenient.

Tablets and smartphones should not be combined into one device beacause each of them is used in deferent situations and conditions. Too big smartphones will be cumbersome, whereas a tablet will lose its functions if it is not big enough. However, it is of no use to design separate apps for those tools. Each user should have the possibility to download any app which can be used for both, a tablet and a smartphone.

Vipin Jain, CEO

Konstant Infosolutions, United States

Due to wide screens and big displays available on smartphones, the tablet market share is shrinking. One of the quarterly reports of this year revealed a 14% drop (compared to last year) in tablets shipments in the third quarter of 2016. The first choice of every user today is a smartphone as mobile apps cater to all the essentials and luxuries of users of all types and all ages.

And yes, soon the time will come when 95% of the tablets will merge in mobile phones making it a single device: a phablet. A tablet is a little too big to carry around but few users are also not satisfied with the phone's small screen especially for reading and playing games. Even a 5 inch screen falls short for some people, so a phablet is a perfect device.

Some wonderful examples of phablets introduced lately are Samsung Galaxy S7 Edge, Apple iPhone 6S Plus and LG V10. With the introduction of spectacular displays, top-notch cameras, exceptional performance in phablets, mobile app development will flourish more. There is no distress for mobile app owners for their business mobile apps as they could easily convert to work well on phablets with the next-level multitasking.

Wearable apps

When wearables became mainstream a couple of years back, it seemed like there was no turning back. For a while it looked like every step, every heartbeat, every calorie and every act would be recorded and tabulated by something attached to someones wrist or some other device on them. But that just isn't the case. The wearables trend line has started to plateau as of late and adoption rate has decreased significantly. But what has been the cause and can its future be saved?

Paweł Kruk, Managing Director
RAD4M, Poland

Wearables, such as smartwatches, may be very useful for sportspeople (both professional and amateurs), the elderly or the sick and any person willing to lead a healthy lifestyle. Perhaps wearables have not achieved the expected success yet but their sales are constantly rising. It is possible that the time for wearables is still to come.

We have several wearable apps and we recognize a huge potential in this market. The growing number of wearables users, especially in the fitness area, bodes well for the future of wearable tools and apps. We have already created apps for cardio trainings dedicated for those who do high-performance sports. Each type of sport requires a different running endurance: a maraton runner must run 40 km as fast as possible keeping a steady speed, whereas a basketball player must be dynamic for the whole duration of a match. This means that they should have their trainings chosen individually on the basis of their maximum pulse as well as the objectives they want to achieve.

The app helps choose and carry out a training within the set time limit, at the same time providing information on the advised pulse the user should have at a particular moment. In addition, the program is a special place for the coach, providing the possibility to monitor the progress of each member of the whole team.

Maciek Bakalarz, Founder and Managing Director

Proexe, Poland

We have found much success in the wearables market. Our apps for smarwatches won multiple awards at International contests. It's definitely a different market with different apps and limitations. You have to be really innovative and succinct in your ideas and design as you have to take into consideration the limitations of wearables like the small screen size and processing power. On the other hand, portability of wearables is a massive asset. People don't always want to have a smartphone on them, but a light watch is something that you can always wear.

There is a demand for smaller apps that make your life just a tiny bit easier. For example, you're more likely to wear a smartwatch during your morning run to track your results rather than having a smartphone in your pocket to weigh you down.

Wearables are here to stay and will continue to grow but not to the size of smartphone apps.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

We totally do believe in success of sports and fitness-related wearables. Actually, most of our 150+ people team wears some kind of fitness bracelets daily and heart-rate monitors during jogging, swimming or riding. This niche is very fruitful and still has a capacity for new star apps.

Though smartwatches could be more successful in the market, they still have their own audience and it certainly becomes kind of a standard to have your developed app (at least iOS apps since we are more optimistic about Apple Watch than Android-based wearables) compatible with phones, tablets, phablets and watches.

Such wearables as glasses, GPS-enabled shoes and clothes of conductive thread fabrics are at the very beginning of their market journey and we are carefully watching their evolution, ready to act and try their potential.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

We have developed many apps in the wearable segment, mainly for the fitness sector for measuring parameters on walking and calories burnt by an individual. As per a Gartner report, wearable devices will exceed more than 500 million mark in 2020. There is a growing popularity of wearable devices in industries like health and tourism, healthcare, enterprise, lifestyle finance and social communication.

We will see more healthcare apps for remote monitoring of patients, chronic disease treatment and elderly care. The healthcare wearables will stimulate the growth in the next five years. Fitness and health categories are expected to produce the killer apps.

Greg Fraczek, CEO

Ready4S, Poland

Wearables, especially smartwatches, try to substitute mobile phones with an all-encompassing approach but they haven't achieved the expected success yet. There are multiple reasons behind this failure e.g. immaturity of wearable technologies, small screens or small amount of software for this kind of devices. Many of these disadvantages can be overcome though, so the smartwatch idea won't probably be abandoned any time soon.

What's more, the future of wearables can also be seen in dedicated devices, created to meet specific goals. A great example can be the SidlyCare Band, for which we have developed a mobile app called SidlyCare. This is a medical wearable which measures all important data about patients' health and allows to remotely control the data via a mobile app. It also shows an immediate notification when a patient presses the SOS button on the band or falls. We believe that the future of wearables is in dedicated devices and the mobile industry is going to develop quickly in this area.

Vipin Jain, CEO

Konstant Infosolutions, United States

We don't think wearables will die anytime soon. In fact, last year's IDC Magazine reports recorded a total 21 million (triple than what was sold in 2014) wearables shipped including smartwatches, fitness bands, Google Glass and other wearable devices.

It's just that the concept emerged to cater to a specific segment of audience including millennials who are more into fitness tracking morning and evening and love to operate their smartphones via a Bluetooth connectivity of their smartwatches, sportspeople and fitness enthusiasts.

Calling it an unsuccessful innovation isn't fair. It may not have made the expected success for which we have a justifiable reason: they were meant for a certain audience across the globe.

A big development in the wearable category will be advanced sensors to addressing more chronic lifestyle conditions like heart disease, blood pressure, sleep disorders, iron overload, obesity and others. The future of wearables is fueling for more advanced capabilities and improved User Interfaces, User Experience and third-party applications.

We have developed an Apple Watch app known as SemaConnect for one of our clients in the United States. The app is built to help people manage electric vehicle charging sessions at ChargePro stations nationwide. It informs the users with certain details related to gas stations. The details include location of the station, real-time availability, charging cost and other related.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

It is true that wearable technology hasn't gone mainstream yet, in spite of tech giants like Apple and Google being involved in the same. However, the excitement for wearable is still on and techies are putting in more and

more efforts to overcome the physical and design barriers that are holding these gadgets back. Even research predicts that there will be a substantial rise in the number of wearables in upcoming years, with more and more core industries investing on its development.

Wearable apps do have a promising future if the techniques of the squeezing technology in small devices are made more efficient and focused on providing functionalities that users cannot have with any other device. Also, with different industrial sectors exploring the innovative applications of wearables, custom apps for such devices are surely going to experience an increasing demand.

Maheep Gupta, President and CEO

OCDLab, United States

The rapid growth of digital devices promises far more powerful and cost-effective wearable technology in the days to come. The potential convenience, greater range of features and new innovations like Augmented Reality seem to hint that a brighter future for wearable devices may be just around the corner.

We have worked on several apps in this domain and we still see a constant demand. We recently worked for Threatstream for their Apple Watch app and it is a very useful tool. The response has been very positive. We also launched an Apple Watch version of one of our own apps Future Scheduler and again, response was very positive.

Beacon technology trends

Technically speaking Beacon technology or BLE is nothing new, however it has been under-utilized: consumer understanding, low adoption rates and little to no push from the industry. There are a host of reasons as to why this particular technology hasn't taken off. However, it seems as if it has been enjoying a bit of resurgence in the world of m-commerce.

Maheep Gupta, President and CEO

OCDLab, United States

We have done significant work with BLE and Beacons. Mobotour is one of them. Then there is a whole mobile advertising platform, Moboapps, that was designed around beacons. BLE will definitely see more growth in the future given the obvious advantages in terms of power consumption and connectivity convenience.

Greg Fraczek, CEO

Ready4S, Poland

Beacon technology is currently used mostly in m-commerce industry to wirelessly send promotional messages when a potential customer passes a Beacon device in the street or in a shop. It is easy to find other uses of this technology though e.g. to send descriptions of pieces of art in a museum or information about certain events. One of our Beacon apps, for example, was created for a chain of car parks in one Italian city.

Judging from our experience with Beacons, we can see their future very brightly. M-commerce apps with such functionality cannot only send coupons or notifications about promotions, but also gather a lot of important information about users and combine them with other data to provide users with suitable content. As our example shows, this technology can also be used in many other branches, some of them to be invented yet.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

BLE surely has a bright future, especially in retail industry. It can take personalized marketing and advertising to a complete new level. A customer walking in a store can get notified about relevant offers in his smartphone, can locate specific items through indoor mapping or can enjoy hand-free payments. BLE can open up a new market for retailers where they can better target consumers and enhance their overall shopping experience. In fact, it can also revolutionize event marketing strategies to increase engagement. Event organizers can send push notifications to nearby mobile devices of prospects to inform as well as attract attendees to an imminent event like a flash gathering.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

We have developed many apps with BLE or Beacon technology. One example is in the home automation sector for controlling home appliances like refrigerators, air conditioners, etc. We have also used apps based on Beacons for promotional services for the retailers, which are location-based. We have extensively worked with indoor navigation for the retail sector, fulfilling the purpose of location identification.

Indeed BLE is a technology with future growth. In the coming five years we will see the growth of BLE devices to 60 million devices. Beacons will be increasingly used in the retail segment for optimization of the retail experience. We see a growing BLE app demand for the smart textile industry as the BLE enabled garments will be used for monitoring and sensing with internet connectivity.

Vipin Jain, CEO

Konstant Infosolutions, United States

We have developed a few iBeacon apps. Partiac app works on Beacon technology, the mobile app is connected to local bars in the US, sending messages/signals to users with the latest activities happening in there, active offers and deals by app owners when users are around so that they can redeem them before it ends. So, the Beacon here works for users checking in and checking out of the bar.

As Beacon works on BLE technology, it has a great way to go. The day will soon arrive when users can see their television sets turning on to their favorite channels as soon as they enter the room. Along with smartphones, the smart technology will interact with other devices to make custom interactions possible.

Currently, retail industry is making the most of this technology through Beacon apps. Google has also stepped in last years with some Beacon-enabled apps.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

BLE is the technology that every mobile app developer and user should be excited about. It made some things possible that we couldn't even dream of five years ago. There is a limitation though, BLE does not allow transferring large volume of data e.g. audio and video streaming. So if you want to connect a custom headset for iOS or VR glasses with video streaming for your favorite TV-series, you need to purchase proprietary Apple's chip for classic Bluetooth data exchange.

The potential of BLE is far away from what can be called exhausted. The number of devices with BLE technology for mobility will grow, alongside with home-made devices for personal use by geeks.

This technology already allowed our engineers to solder the custom application that opens window-blinds at our homes in synchronization with an iPhone's morning alarm or make a BLE-enabled finger-print scanner at our office snack fridge that allows access to only mobile app developers who successfully committed their written code to our internal version control system the day before (and let us say, yummy treats are a great motivation for self-management!). So, overall, BLE technology has a real potential to make our lives not only easier, but more fun too.

Maciek Bakalarz, Founder and Managing Director

Proexe, Poland

Quite recently we have developed a mobile app using Beacon technology, a virtual guide through one of the biggest Polish commercial chains store selling books, international press and media products. It enhanced the shopping experience by displaying information about the sections you were currently in.

Beacon technology is quite big in Poland, we have two companies specialized in making beacons, Estimote and Kotakt.io. We've used the products of both companies and we were pleased with the quality of their products. Advertising and tourism are areas that could potentially benefit the most from this technology.

Paweł Kruk, Managing Director

RAD4M, Poland

Beacons are the real hit of 2016. Whereas GPS positions us globally, Beacons do it locally. They are used mainly in shopping malls for marketing purposes, yet they also perform their functions at conferences and festivals. They make contact with a mobile app installed in the phone and display the necessary information or direct the user to a particular place.

The main objective of the BLE system is low energy use and quick access to data. Therefore, it is predicted that soon each field, in particular medicine and retail, will become the addressee of this solution. Apps with BLE or Beacon technology have many uses, the only limitation being human creativity, therefore a dynamic development of such systems is predicted.

Our portfolio contains several apps based on Beacons, including one of our flag solutions, FlexiCRM. One of its functions is collecting and analyzing the customer relationship data, together with those from Beacons. With this aim in mind, we have created a promotion mobile app, thanks to which we could gather information on the shopping preferences of the clients and present customized offers on the basis of historical data from CRM.

Virtual Reality apps for more than games

We've all heard it before, Virtual Reality is the next big thing. It has been fictionalized and fantasized in the social consciousness for decades now. However, the technological advances that have been achieved recently are making it possible to turn fiction into fact, to put fantasy into practice. Industry leaders are quick to say with confidence that VR is a multi-billion dollar industry in the making.

Prateek Saxena, Co-Founder and Director

AppInventiv, India

VR has apps in all these three areas arts, health and education. Example of VR in art is Tilt Brush, which is a VR based painting app. We have seen the world's first VR exhibition in 2015. There is a VR app in the health sector also, the world's first surgery screening with VR, reducing the cost for training doctors.

VR has immense possibilities in the field of education as well. This comes in the form of immersive education whether that is an experience with the seabed for marine biology or teaching languages with 3D immersive environment.

Ruchhir Agarwal, Chief Executive and Technology Officer

E2logy, India

Virtual Reality can bring in revolutionary changes in healthcare, education, museums, defense, courtrooms, manufacture and many other sectors. The technology has immense potential to transform the way things are done.

For instance, certain museums are already making use of VR to provide unique experiences to the visitors where they can get transported to a distant world using VR headsets. They can also interact with historical artifacts and environments. Some museums, like the American Museum of Natural History, also allow people to visit the exhibits remotely using smartphones or specific gadgets, sitting in the comfort of home or in a classroom.

Maheep Gupta, President and CEO

OCDLab, United States

This is our favorite technology these days and we have been closely following this. We see so many practical use cases for VR, and gaming is just the tip on the iceberg. From exposure therapy to virtual tourism, there are endless possibilities with VR.

Maciek Bakalarz, Founder and Managing Director

Proexe, Poland

Games are a great way to showcase the latest VR tech, many of them are quite impressive but they seem to be more of a novelty rather than something groundbreaking. VR app developers have more restraints than regular game app developers, they have to consider motion sickness and the game has to work perfectly smooth to achieve a desired level of immersion.

We hope that VR isn't just another trend to draw more customers that will disappear in a couple of years. This tech has obviously a lot of potential which doesn't necessarily lie in gaming. One of the examples is Tilt Brush by Google, it shows what could be done with VR. We're interested to see what direction it will take in the upcoming years.

Greg Fraczek, CEO

Ready4S, Poland

Virtual Reality is going to face a huge boom in the next few years. The market size of VR hardware will rise by almost 50% in 2017 and till 2020 it will reach $15,5 billions. The growth of VR software market is even more significant. It will rise by 240% in 2017 and reach $24,5 billions in 2020. So there is definitely a space for developers to take. And it is not all about games!

Virtual Reality is currently more and more widely used in education. This technology has already moved from military or aviation trainings to the mainstream of professional development. Therapists, instructors, coaches and managers are already taught this way.

For example, an app called VirtualSpeech allows you to step in shoes of a public speaker to help you overcome public speaking anxiety. Such apps are already in schools, too. Just take an example of the World of Comenius project in Czech Republic, it is a VR way to teach children biology. With the rising popularity of VR software, we can be sure that this technology will develop in other categories, too.

Igor Chertenkov, iOS Development Team Leader

Sibers, Russia

We have developed some very successful Virtual Reality systems that have nothing in common with games and entertainment. One of them is an educational system that is used for field-training of safety professionals (police, fire, paramedics, etc). It is a platform to create a 3D virtual reality training simulations according to each agency's unique protocols and scenarios. Realistic graphics and animation, along with professionally recorded sounds, allow safety professionals to be completely immersed in a virtual environment where they can master their desired skills. The training involves the latest hardware such as Oculus Rift, HTC Vive and Samsung Gear VR.

The development of an educational system of such kind, combined with its further marketing and promotion, is a much more complex and expensive task comparing to the small VR game. That is the reason why most of the software development companies will not face VR-related development in the non-entertainment sector.

Vipin Jain, CEO

Konstant Infosolutions, United States

High-end gaming will be the major segment VR will target for a while yet. However, much of the predicted market share of Virtual Reality and its cousin, Augmented Reality, will move towards more professional services and sectors like healthcare, education, real estate or manufacturing in the years to come.

A perfect example of VR in education is Astronomy. Students, with the help of those virtually real objects, can study stars, planets and comets in the actual system. They can physically touch the objects and get to know about the solar system or the whole process of physical movement that happens within the system. They can see around stars, track a comet's progress and see how things work in a 3D environment.

Similarly, healthcare can be more advanced with VR as a complex surgery deep inside the body and veins can be handled by a robot controlled by a human, where the doctor uses VR to instruct the robotic surgeon.

Paweł Kruk, Managing Director

RAD4M, Poland

Virtual Reality is the future of entertainment. It makes it possible to do exciting things without taking any risk. Thanks to VR, everyone can experience an adventure in places all over the world. However, Virtual Reality is a chance not only for entertainment popularization. It constitutes a perfect support also in other fields and aspects of life.

Thanks to VR, children, adolescents and even adults get a chance of learning by experience as it is much easier to memorize things and phenomena which can be seen with one's eyes.

Virtual Reality may constitute a support for art, both for its recipients and for the very artists. It can provide a place for displaying works of art, creating huge multidimensional installations and be a source of inspiration.

VR can be also used in the area of health. For instance, rehabilitation is often longlasting, exhausting and tedious. It can be much easier and more pleasant with VR. Instead of spending time on repeating boring exercises, the patient has a chance to do them in an interesting virtual scenery of carefully chosen absorbing gymnastic tasks, which will help them recover.

Conclusion

When discussing future technologies, it is easy to get romantic and start dreaming of robots, spaceships and that flying car from the Jetsons. But joking aside, the reality is that the future lies in the advancement of technologies such as AR, the IoT, and yes, wearables.

Ditch the crystal ball, say goodbye to the techno-guru. To predict the future of mobile app development you must listen to the facts. It has been said that the data doesn't lie. Adoption, usage and engagement rates do not lie. Stamped chip sets do not lie. And mobile app developers and industry experts who have their ear to the ground and their nose to the grindstone day in and day out, do not lie.

FINAL CONSIDERATIONS

Wearables, chatbots, IoT, AR, VR, AI... technology has changed so much within the last few years. When you think about an app, it doesn't need to be compatible with smartphones only, but with tablets, smartwatches and a lot more.

Mobile apps are here to stay and choosing the right mobile app development company as a partner is key. How will I create the best mobile app on any app store? You can succeed if you work hard on it with the right developer by your side.

A lot of information is needed so the development company can present a decent and correct budget to the client as well as the schedule for all the assignments. During this process, constant communication is important.

Before deciding which mobile app development company to hire, check their reviews, their team and their portfolio. Don't be afraid to outsource your app. Companies worldwide are capable of developing an application compatible with your needs and those of your users.

Study the market before deciding what features your mobile app must have. App creators and entrepeneurs should benchmark their apps to compare similar apps and create a blueprint. Checking other designs will also help you define your own app.

It doesn't matter if your app is for kids, a social network, for wearables or an iHealth app. Design is crucial. The design of your mobile app is what all users see, it is what makes them buy it or leave it. A good wireframing work before the design will also help the app run well and get an accurate idea of all the design screens that
will be needed.

Other than design, different apps may have different features: apps for kids are colorful and participatory; game apps are better if you play them on a large screen like a tablet; health

apps must follow the highest standards to be the most accurate ones on the market; and social apps are used daily (if not constantly) by a large number of different types of users. Wearable apps may not need such a good design, but they need to be updated regularly due to the new devices appearing every month.

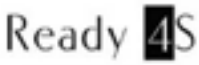
And what happens after all work is completed? Test your app. Try all the options your app offers and make sure nothing is wrong with it. Do not hurry this process. Do it with a simulator or with a real device, with a focus group or with your colleagues, but test all the work done. Once everything flows in your mobile app, it will be time to make it noticeable for all its potential users on the app stores. Remember: good marketing is not about selling, but about listening to your audience.

Prepare yourself for future technologies that may not be that present nowadays in our lives but will disrupt the app market in a few months or years.

Virtual Reality and Augmented Reality have the top postitions in the future trends on mobile app development, even though they are not stablished technologies yet. Game developers, for example, still have some work to do to be groundbreaking. VR developers also have more restraints than regular game developers, they have to consider motion sickness and the game has to work smoothly to achieve the desired level of immersion.

Internet of Things brings endless possibilities for connected homes and smartoffices among other countless applications. Wearables, 3D printing, drones, enterprise apps, the cloud, voice commands, foldable displays, beacons… The best of mobile app development is definitely yet to come.

COLLABORATORS



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