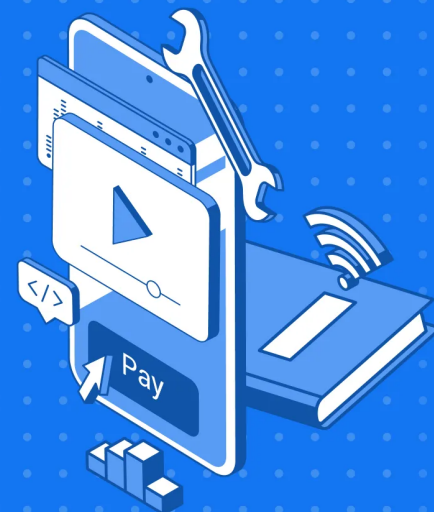# TIPS AND TRICKS FOR MOBILE APPS AND SOFTWARE

Having working as a web and mobile app design company for nearly 8 years, we all the time are studying the best mobile and web application solutions on the market. So, we have created a list of fundamental tactics that helped them get to the top and stay there. No matter if you are a newbie or a seasoned veteran in mobile, the following tips will help you become successful on mobile.

A native app, a hybrid app or a mobile website: what are the differences?

The primary thing anyone dealing with mobile should know, is the differences between a native and hybrid apps and mobile websites. While each one of them has their own pros and cons, it is clear that the native apps are the best choice for a great mobile experience.

If you take a look at the top charts, you'll see that the vast majority of the best apps on the list are actually native apps.

A native app is a specially designed program that was developed for use on a specific device or platform and is located directly on the devices of end users. These types of apps can typically be downloaded from app stores, such as Google Play or App Store. The don't always require internet connectivity to be used, but the majority of them still does. The main advantage of such apps is that they are optimized for a specific operating system and have access to devices' hardware.

You are probably wondering why this is so popular. To address your question, a native app is located directly on the devices of end users, which allows it to take advantage of smartphone features and to provide the fastest response time.

Mobile websites are browser-based and can be accessed from any mobile device with internet connection. They can also be opened through browser apps located on the phones, such as Chrome,

Safari, Firefox and so on. A mobile website is a great solution if you want to provide a wide range of users with mobile-friendly content. However, if you are looking to improve your engagement and retention rates, developing a mobile app will be the best way to go for you.

Hybrid apps are generally viewed as sub-par solutions, but they do have a couple of clear advantages over the native apps. They sound great in theory since these apps allow you to bypass app store approval every time you roll out an update and still reap the benefits of the app store distribution. However, when it comes to apps on iOS platform, users expect a fast and reliable experience, which often cannot be provided by a hybrid app. From the side of development hybrid apps can be a difficult point because of the internal conflicts between different platform directives. And to get a stable and functional app it's strongly recommended to stick to one of them: iOS, Android or Windows or to create 3 separate applications.

Advantages and disadvantages of iOS vs Android

So is it better to launch on Android or on iOS first? If you are going mobile, you should definitely be choosing both options. It doesn't matter which one you will start from, but it is important to know that each platform has its own benefits and limitation.

The biggest difference you should be aware of is fragmentation. Android platform is very open to device manufacturers. Because of this, there is a huge number of different Android OS versions and combinations of devices that have to be supported. With almost 25,000 different devices, keeping up with all of them is extremely difficult and time consuming, and so, making sure that your app functions well across the whole spectrum of devices becomes somewhat of a challenging task.

While the number of Android devices is significantly higher, it is worth noting that the iOS audience is in general more valuable. The Next Web, for example, stopped optimizing their magazine to Android because it took them days to adjust their iOS optimized version for Android and they barely saw any downloads, with a ratio of downloads by Android vs iOS users being 1 to 80. That is just one of many examples that shows that iOS users are more active and valuable, compared to their Android counterparts.

Developing for Android is also 30% more expensive. This is because developers need to write roughly 40% more code which adds 30% more time to developing for Android compared to iOS. There are also other factors involved such as slow emulators, fragmentation difficulties and XML layouting. This means that overall development for Android takes longer, so you will either need to adjust your timing expectations or hire more people to keep up with developing for iOS, which might just add to the higher cost problem.

The biggest disadvantage of iOS is definitely the review process by Apple, for your app to be added to the App Store. Being agile can be very challenging on mobile with a strict review process that doesn't always end in your favor. On top of this, every new version of your app will also need to get approved by the app store. Google Play, on the other hand, has a much less vigorous review process, which typically only lasts for a couple of hours.

The difference between mobile and web users

Every mobile product manager needs to know the two main differences between web and mobile users for their products to succeed. The first thing to note is that mobile users are very task oriented and the second thing, is that they are also easily distracted. While these two points may sound like cliches, they are actually key to understanding why a lot of apps fail to connect with users.

Mobile users unlock their phones to accomplish a certain task and to do so quickly. They might search for a cafe or a food truck nearby if they are hungry. When they become bored they look for distractions, such as surfing the web or checking out social networks. If they are heading to the airport, they might want to check in online while they are travelling. No matter what they are doing, one thing remains evident: they have a goal that they want to accomplish. The contrast with the web is actually quite dramatic, most web surfers want to explore or learn something.

Practically all web users are settled into a relaxed or work environment, such as a coffee shop, a desk at work or a table at home. Users are actually less distracted during these session than they would be on a mobile device. When they take out their smartphones, they are often on the go or in between tasks. This means that they are highly likely to get distracted by a co-worker, having to change transportation or moving on to the next thing in their checklists.

It is crucial for mobile teams to know and understand these differences and help users complete their tasks and quickly and as efficiently as possible. It is even more important to do so on mobile, by decreasing the number of hoops the user has to jump through to get to the end goal without getting distracted. Avery additional step, click, blocker or tap that your app has increases the chances of you losing your customer.

When creating a mobile app many companies fall into a trap of stuffing it with all the features that they have on their website. Needless to say, that as a result they often receive low ratings and problems with user adoption. All this method does is clutters UI, which lowers the processing speed and in turn leads to user abandonment. What you need to do instead, is help users achieve their goals.

Let's take a look at a company that manages to be highly successful on both mobile and web: Starbucks. They take into account the differences between web and mobile to optimize user experience.

Starbucks let's their web users familiarize with the brand by exploring their website. There, you can find anything from information about coffee, to product announcements and charity programs. They also offer a rewards program that website visitors are free to sign up for. The focus of their website is educational. They want their users to find out more about the brand and what Starbucks is all about.

Their focus is totally different on mobile. They know what their customers want to see on the go and help them quickly achieve their goals. As a result, they offer several core options that allow users to pay with their gift cards, find stores nearby, buy a gift card or go to the menu. All these tabs allow users to satisfy their food and coffee needs and to get back on their way as quickly as possible.

They removed all the extra features that can be found on their website from their app because they understand that complications like these only distract people from accomplishing what they really wanted in the first place.

Unlike the website, they've removed extraneous features and exploration options because they know that they'll clutter the UI or distract users from what they really want to do.\

Understanding standard design guidelines

Design guidelines for Android and Human Interface Guidelines for iOS are probably the best resources for reference when developing or iterating a mobile app. These guides give an overview of general best practices and help developers create apps that corresponds to accepted standards. Familiarization with these is necessary to understand how to build an app that is both beautiful and useful and keep up with the latest mobile design trends.

Mobile iteration with an MVP model

Best teams don't waste their effort and time on changes that are untested. What they do is make MVPs or minimum viable products, launch that and test the effects at early stages. Many teams like Facebook, Uber and Dropbox use MVPs to test small adjustments after iterations every other week.

When rolling out something new, it can be difficult to predict how the changes you made might affect user behaviour. There in a range of unpredictable factors in place. We often tend to develop complete features not knowing how each separate component might influence user behavior.

A/B testing small changes will allow you to reveal the correlation between the changes you make and the user behavior, which is otherwise difficult to prognose. This will allow you to test your ideas and see if the response is positive or negative and to adjust accordingly before rolling out a big release.

Using release train schedules

Apptimize collected data for 10,000 top apps in the App Store and found that the top 100 apps make app releases 3 times more frequently than all the others with Pinterest and Facebook iterating 10 times faster than the others. Frequent iterations allow them to quickly learn from their MVPs and react accordingly and they relieve uncertainty and pressure from mobile releases.

Instead of rolling out a release when the feature is ready, they have a timetable which mimics actual train schedule, which is called a release train schedule. Regardless of the stage the feature is in, releases happen at regular, planned ahead intervals. So if the feature isn't ready for the closest release, whatever issue might be, there is always a next train to catch.

Restrictions of mobile app stores

As previously mentioned, the biggest barriers to success of mobile apps are app stores. Releasing each new update also entails going through the app store, which delays the release for end users. There are 3 significant problems when it comes to deploying updates and app changes:

- It takes 7 days, on average, for an app to be reviewed at the App Store
- Each release covers an entire user base
- There is no rolling back to the previous version

These restrictions push teams to roll out big changes every couple of months, instead of slowly iterating small changes on a regular basis. Shipping big updates in this fashion is like going back to the days when software was shipped in the boxes. Instead of split testing the ideas and making appropriate changes, mobile teams end up guessing what users might like and invest a lot of resources and time in making these changes without knowing whether they will be accepted by users or not.

This also means that your team will most likely not be able to quickly respond to and fix major bugs that may arise. Since you won't be able to go back to the previous app version, mobile team will need to prepare and submit a new version to fix any bugs that appear in the code. With long app submission and review times, quick response becomes another challenge to deal with.

Feature flags

As previously mentioned, the biggest challenge of going through the app stores is the inability to go back to the earlier app version if something goes wrong. But what if there is a way to do so. Feature flagging actually allows developers to change app's features momentarily. Surprisingly, this development technique is not often used on mobile, even though mobile probably has the most need for it.

Many companies use feature flagging when developing mobile apps, because they comply to app store rules and regulations but still allow the company control its releases. Feature flags allow app dogfooding, setting up A/B tests as well as staged rollouts and rollback capabilities when needed. It also allows to rollout releases to specific individuals or groups of people, such as US users who are running Android Lollipop 5.1.2. This actually relieves some pressure from mobile developing teams which allows them to make releases and adjustments with more certainty.

You should also note that Google Play Store doesn't give teams the option of deploying to specific groups of people or rolling back changes, even though is does allow staged rollouts.

The guide to optimization

Smart teams understand that growth is the process and not the end result. This is why a process of optimization and constant improvement is so crucial. Using a formula to identify and systematically release key changes, is what allows teams to grow massively from small compound wins.

The primary step is to find opportunities for optimization that can better serve app users. It can be achieved by using one of the techniques we previously discussed. Once you identify these opportunities, you should define the progress measuring metrics and come up with a hypothesis on how to make these metrics grow.

Many mobile teams that are just starting out fall into a trap of stopping and spending months on developing features that can then be rolled out to all of their users. This is what differentiates them from the top mobile teams that test their hypotheses on MVPs or small groups of people through A/B testing before they start spending some quality time on on developing new features. If these tests are successful, they go on to deploy the changes to all their users.

Finding optimization opportunities

Figuring out what improvements will have a high impact for your app is not an easy task. However, there are several proven tactics that work for leading apps and allow them to gain the necessary qualitative and quantitative data to discover their high-value improvements.

You can take a look at your analytics platform to find the necessary quantitative data. Creating conversion funnels for mobile will help you understand at what stage you are losing your users. Using this data you can figure out what parts of your app need improvement.

To understand the data better, you also need to collect qualitative data, by using beta testers and collecting feedback. User testing will allow you to observe user behavior as they go through your app. This will let you discover places that puzzle your users or when their behavior is different from what you expected. By using surveys you can also get great insights on user behavior and what bothers them.

Methods for app discovery

There are two main ways to get your app to be discovered: you can either use the app stores or social sharing. Both these methods are capable of bringing you a large number of new users, so it is worth knowing how each of them drive discovery.

The biggest distribution channel is most definitely the app store. It is actually one of the top discovery channels currently available. This is where the app store optimisation can come in handy. Closely resembling SEO, the optimization of an app store is all about getting your app noticed by increasing your app's searchability. This increases the chances that users who are actually looking for a similar solution will find yours. The key to app store optimization is to target the right audience through optimizing your app's keywords and title. Moz provides an excellent guide on ASO, which can be found on their website.

The other significant discovery technique is sharing socially through family and friends. Ofcom's report shows that 77% of mobile app users say that they have downloaded an app based on recommendations they hears from their colleagues, friends or family members. Interestingly, the same report also shows that there are not that many mobile users who download apps based on ads or what

they read or heard through the media. The number doesn't even reach 20%

It goes to show how important social proof is when it comes to getting people to download and try your app. You can also use deep linking to leverage social proof and increase the chances that your target audience will download your app and engage with it in the future.