

Turning your App Idea Into Reality A Complete Guide For Mobile App Development



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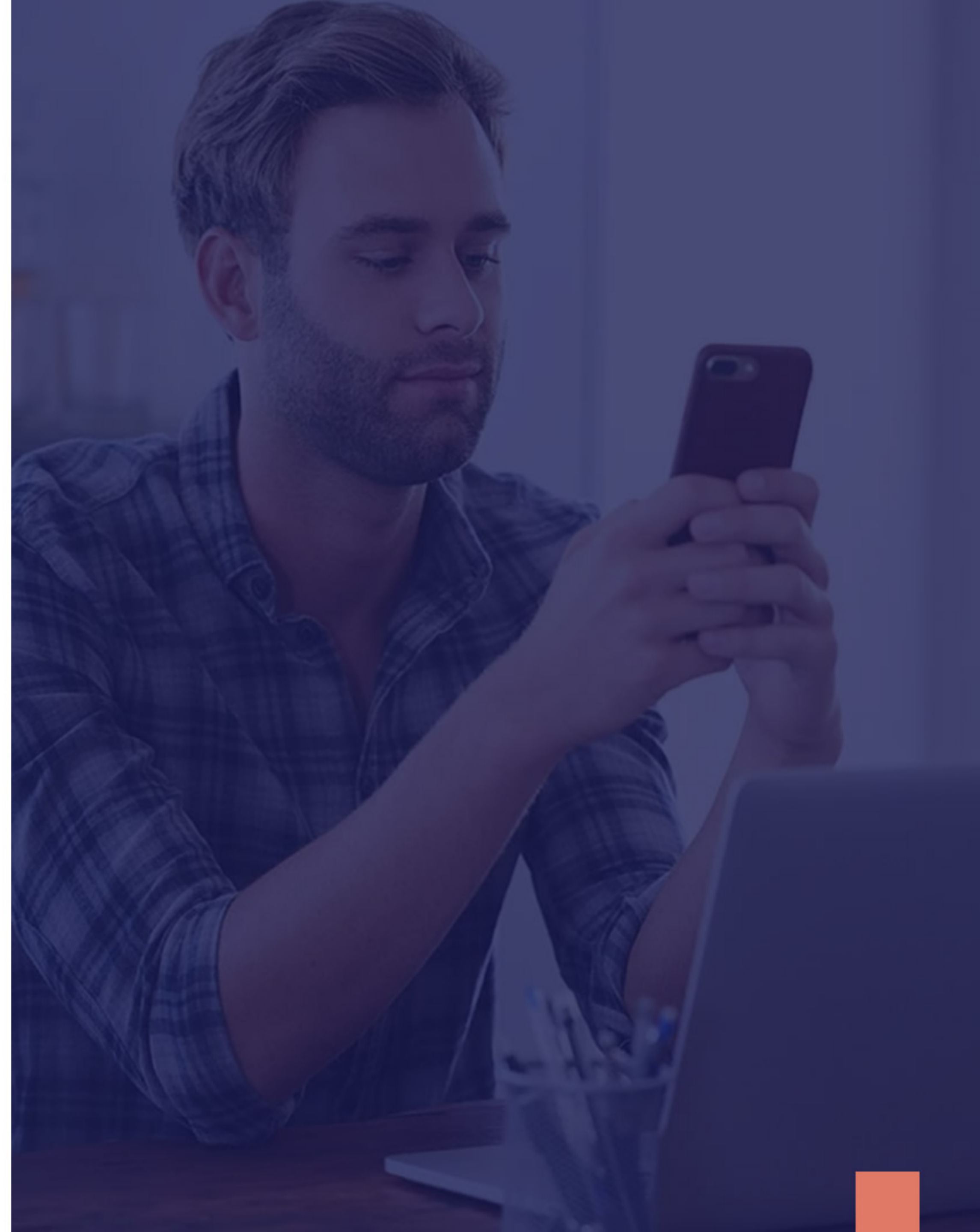
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Introduction

An app isn't just a distribution medium. It's a communications channel, and if you use it right, apps can help you learn from, adapt to, and engage with your customers. Customers are demanding convenience. They want instant access to information ability to explore options, regardless of where or when. And importantly, they expect their experiences with companies to be relevant to them.

If your brand overlooks mobile, you're not putting yourself where your customers are. As a consequence, you're missing out on major opportunities to connect, engage, influence, transact, and support your current and potential customers. This guide provides you with an end-to-end overview of developing an app, equipping you with everything you need to consider before you start development.

A person's hand is pointing at a laptop screen that displays various data visualizations, including a bar chart and a pie chart. The scene is overlaid with a semi-transparent orange filter. The laptop is on a desk, and a pair of glasses is visible in the foreground.

The Idea & Business Strategy

Product Discovery & Definition

Before you move into the design and development phase, your first step should be a deep dive into research—performing an in-depth audit of your business and target audience, as well as that of your competitors. Most importantly, you need to determine what your users want and have a clear strategy on how you'll fulfil their needs.

Outline Your Business Objectives

Write down exactly what makes your app a success in the eyes of your stakeholders. A clear vision provides your app development team with an end goal as well as reinforcement for the decisions they make to get you there.

Competitor Research

In addition, research other apps available on various app stores. This process might help you to get some more ideas about the features that can be included in your app and gain a better understanding of users' requirements. It's important to have a unique value proposition (UVP) to differentiate your product from what already exists in the market.

Understand Your Target Audience

Knowing exactly what your audience wants will help you better understand their pain-points and what they dislike about the apps that are already circulating in the market. It's important to uncover the underlying reasons for your user's pain-point by examining their behaviours and attitudes.

It's important to create user personas. Rather than tailoring an app to meet the needs of a generic group of people, a persona is designed with a specific group of users in mind.

Personas illustrate the goals and behaviours of users while market segments examine patterns in demographics such as age, location, gender, salary, and so on. Both are equally important however, personas offer a lot of added benefits during the development, such as ensuring a user-focused



Product Discovery

How do you know exactly what to build for your users? How will you solve their pain points and exceed their expectations far beyond what your competition offers?

Product discovery is the process of determining what the problem is, how to solve it, and how to know that you solved it. The discovery team should include the client or key stakeholder, product owner, designer, developer, customer expert, and business expert. When you bring a team of experts together, you're combining a variety of different skills and expertise with the goal of building the best product possible.

Product Definition

After the product discovery, your team should be left with the following outputs:

- Product Features
- Prioritization
- nProduct Roadmap

Product definition is notably valuable for managing scope creep, which is when a project grows far beyond its original size. If you haven't properly defined the product, scope creep will likely occur, often deviating from the initial product agreement.

Monetization

What mobile app monetization strategy drives the most revenue? There's no simple answer to this question as every app is different. Choosing a monetization model that is best suited for your app can directly impact growth, affecting both revenue and user adoption. Here are common app monetization strategies:

1. Advertising

With advertising, you can eliminate the cost barrier (pay per download) which will encourage more people to download your app. Advertising is often used in a mixed monetization model. Here some of the most common ad formats:

- Banner Ads
- Interstitial Ads
- Native Advertising

2. Paid Download

If you're going to market a paid download, you need to be able to showcase your app as new and unique. You need to persuade your potential users to pay for the app by showcasing its value over and above free alternatives.

3. In-App Purchases

In-app purchases involve selling virtual or physical goods within the app. Your app acts as a sales channel or a mobile storefront with this strategy.

4. Freemium

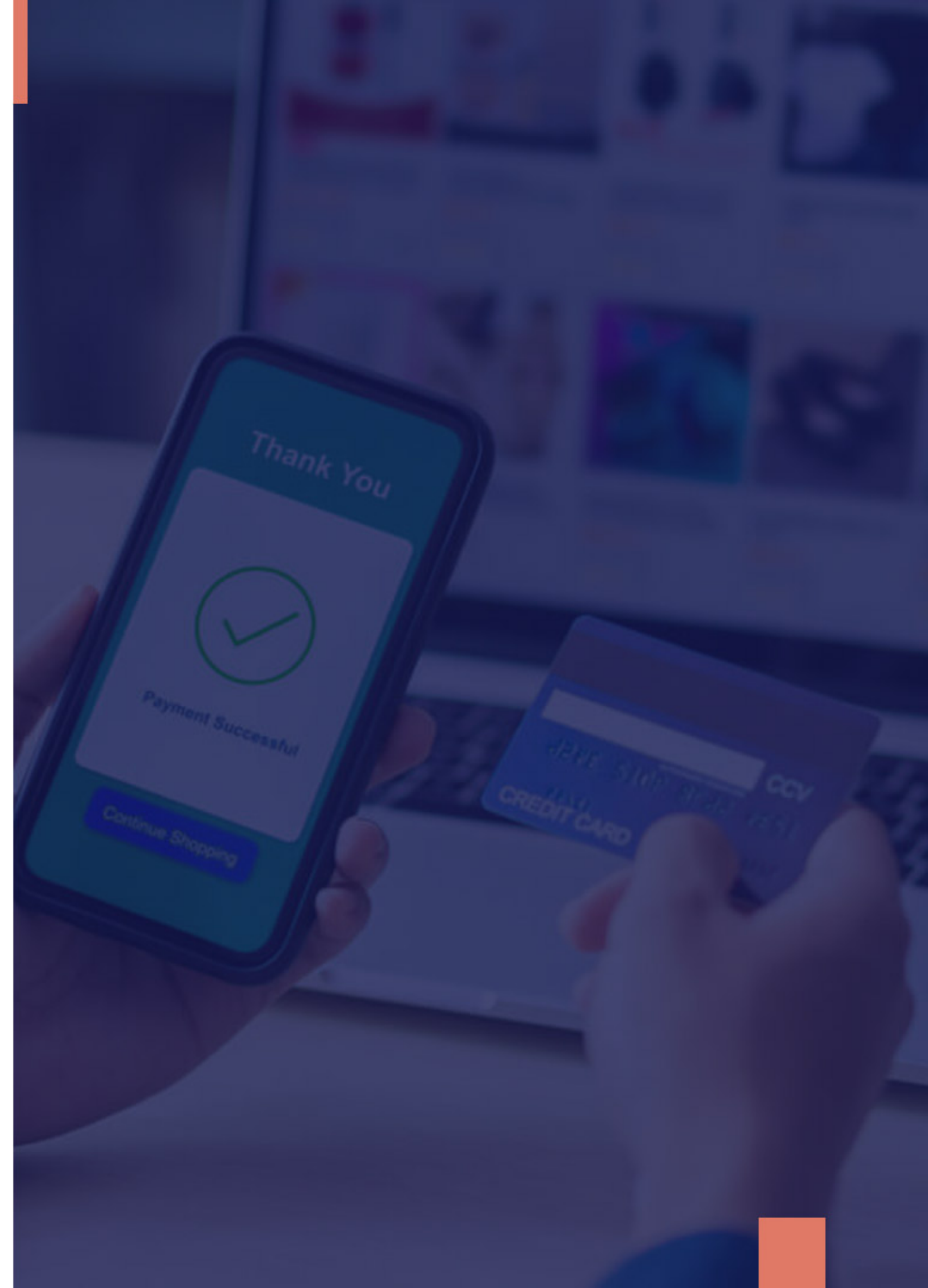
A freemium app has gated features. In this strategy, the app is available for free with locked features that require a fee for full access.

5. Subscriptions or Paywalls

Similar to the freemium model, the content itself is locked, rather than specific features. A specific amount of content can be viewed for free after which the user needs to sign up for a paid subscription to view additional content. Service focused apps can do well with this strategy and earn recurring revenue.

Examples include Netflix or Spotify.

Like other product decisions, a monetization strategy should be approached with the end user in mind. The real challenge is not only finding the right strategy, but striking the right balance to maximize revenue, while also maintaining high standards of user experience.



Marketing Activities

Pre and Post Launch

Running an awareness campaign before your product launch should be a part of your marketing strategy. Marketing is an ongoing process that should usually start a few months before the launch of your app and continue far past the original release date. Some effective pre-launch marketing activities include:

- Teasers and early sign-up pages
- Press kits & collateral
- Leveraging social media channels
- Paid advertising
- Websites or landing pages

The steps you take to prepare for your app launch may have the greatest effect on its ultimate success, and getting your marketing department involved early in the process is one of the most important.

Establish An ASO Strategy

You've invested a lot of time and money into your app, so how do you make sure people see it? App Store Optimization (ASO) is a great way to boost your app's visibility. ASO is the means of optimizing varied elements of your product listing to achieve a higher ranking in an app store's search results. Here are some factors that will affect your ASO strategy:

1. Keyword Search
2. App Name
3. Description
4. Screenshots & Video Preview

These ASO strategies are an inexpensive and effective way to ensure that your app gets seen in app stores.



Plan Your Launch Strategy

Once you have all the pieces in place, you will need to focus on going to market in a way that will set up your product for success. This means making decisions about launching with a MVP or more mature product, and choosing a hard or soft launch strategy.

Minimum Viable Product (MVP)

Launching an MVP with a core set of features allows you to test and validate key concepts early so you can improve your product with each iteration, while also reducing time to launch and cost of development. The product discovery phase should include your prioritized product roadmap, which will allow you to determine what is needed for your MVP.

Soft Launch

A soft launch is when you release your product to a restricted audience or market prior to launching it fully. Soft launches are often limited to a particular area or a small segment of ideal users and customers. Advantages include:

- Identify bugs & feature improvements early in a smaller market
- User feedback gained to apply to future iterations
- Marketing acceptance
- Better preparation for a hard launch

Hard Launch

A hard launch is when you release your product fully to the market, with the corresponding marketing push to match. Hard launches are more expensive and typically used by larger companies with the necessary budgets or more mature products. Advantages include:

- Competitive advantage (harder to replicate ideas)
- More feature-rich, developed products
- Hard marketing push for more rapid user adoption

Preparing a launch strategy may not guarantee that your app will be successful, but it does significantly increase the chances. At the very least, it helps you to avoid common pitfalls that result in product failure.





Measurement

The app market is saturated with products that fail to meet user expectations due to a lack of value, poor usability, flawed design, and many other common pitfalls. To avoid these oversights, it's imperative to measure in-app analytics that will reveal patterns of user behaviour and app performance so you can take actionable steps to optimize the overall user experience. Some common metrics to track include:

- App Functionality Metrics
- User Acquisition
- Daily Active Users (DAUs)
- Session Duration
- Lifetime Value (LTV)

These metrics will allow you to better understand your users so you can make data-driven decisions to improve the overall user experience and meet business goals.

It's a good idea to use an app lifecycle management platform such as Localytics, Google Analytics, or Crashlytics.



Budgeting

Mobile app budgeting is a task not many companies are adequately equipped for. Despite the prominence of mobile and the number of organizations that are realizing its importance, it's surprising how little is understood about what it takes to build a fully functional, user-ready mobile app. The result of this knowledge gap is that many underestimate the time, resources, and budget they require in order to build a useful product. In our experience, the biggest mobile app budgeting mistakes people make are:

Ignoring Backend Development and Service Integration

One of the biggest mobile app budgeting mistakes people make is assuming that it is a standalone product consisting of only the screens that users interact with on their devices. The reality is that the user-interface of the app is a very small part of a larger machine that allows the app to function.

There are a variety of moving parts: the content management system (CMS); the backend infrastructure APIs that handle business logic (cloud-based); and third-party integrations (user engagement via push, analytics for data capture, Facebook login, chat, etc.).

Many make the mistake of considering only the front-end when determining a mobile app budget. By doing this, they are ignoring the largest cost factors, which typically lie within the backend infrastructure and integrations that aren't immediately visible.

Thinking Mobile Apps and Websites Aren't Much Different

Not only do apps require the backend infrastructure, all of these different components need to be integrated and work together in order for the application to function.

Ensuring that all of the moving parts – the front-end, CMS, third party services, the backend – work together seamlessly requires a lot of time and effort; much more so than a website. There is limited real estate on a mobile screen, and the user experience is vastly different. Information needs to be more focused and content delivery needs to be faster. Mobile apps, therefore, make network calls more frequently and require services that are able to support this.



Failing to Consider Cross-Department Involvement

The old adage "it takes a village" could not be more apt for mobile app development. Much like there is diversity in the technical components needed for an app to function, there is a need for cohesion across internal teams for the app to be successful. Development is only one part of the picture.

Lack of Marketing Budget

Marketing will play a key role in driving user acquisition and growth. The app market is highly competitive, and like any other product or service, your mobile app will need to be promoted in order for it to be successful. All too often, the marketing function is an afterthought.

The cost of marketing your mobile app should be considered very early in the process when you are determining what your success metrics will be. Do you want to drive a certain amount of revenue in the first 6 months? Will you measure success by a certain number of app downloads or users in a particular timeframe? Goals are essential, but the marketing budget needs to be commensurate with these goals.

Customer Demand for Constant Updates

Continuous delivery is an important part of sustained success for any mobile app. Users are demanding, and with mobile technology evolving quickly, you can't expect to retain and delight users with a "set it and forget it" mentality.

As this is an ongoing approach, the needs to support it should be accounted for when planning a budget. Again, the numbers may not be exact at the outset, but developing a longer-term strategy with a product roadmap will give you a good idea of the effort and resources required.

These mobile budgeting factors are often completely absent when budget proposals are being created, even though they typically incur the highest cost. If you haven't considered them, you have only budgeted for a small portion of your project, not a fully functional, sustainable mobile app. Keep in mind that these will not all be upfront costs; you are preparing a budgeting framework that will allow you to sustain and improve your product in alignment with your overall mobile strategy.



The Design & Development

Determining Your Approach: Outsource vs. In-House

There is a tendency to see app delivery options as a binary: either we develop internally, or we hire a firm. But there are a number of strategies that can work for delivering apps, many that combine both in-house and outsourced work.

The takeaway is that you should not approach this decision as outsourcing vs. in-house, but rather define goals and objectives, take stock of internal expertise and experience, and assess organizational readiness to find the best approach to mobile app development and delivery.

Advantages of Outsourcing to a Mobile App Development Firm Experience & Expertise

Mobile app development companies are specialists, focusing exclusively on the development of applications. They have built the team that organizations who are exploring in-house development struggle to find. Product managers, mobile engineers, architects, UX/UI designers, and other key roles are readily available, and each of these people has a range of skills, expertise, and experience under their belts by virtue of working on a wide array of projects and overcoming a variety of challenges.

Early Adopters in New Trends and Technologies

In order to stay ahead of the competition, mobile development companies must be early adopters and gain expertise in new technologies quickly. They will have fresh ideas, understand the potential applications of nascent technologies, and understand how to make your product cutting-edge.

02 The Design & Development Plan Flexibility

There are many different options when it comes to outsourcing to a mobile app development firm. You can have your project handled completely by a third party; you can use a mixed-sourcing model, with some development done in-house and some completed by a partner; you can use a staff augmentation option; you may even have the app development firm on retainer.

It's smart to choose a vendor that focuses specifically on mobile app development rather than offering it as an ancillary service. These firms typically:

- Employ an agile development methodology
- Emphasize product strategy and UX/UI design
- Have strong technical capabilities and specialized platform knowledge

Even within this category, you will find a broad range in quality. Aspects including specific technical expertise, experience, proven ability to deliver, project complexity, team size and more will vary significantly.

Advantages of In-House App Development

While we want to avoid looking at mobile app development options as a binary of in-house vs. outsourced, the comparison is still useful to analyse the pros and cons using internal resources, or hiring a development firm. The second option is in-house which can become a game of catch-up, putting organizations at a competitive disadvantage and increasing time-to-market.

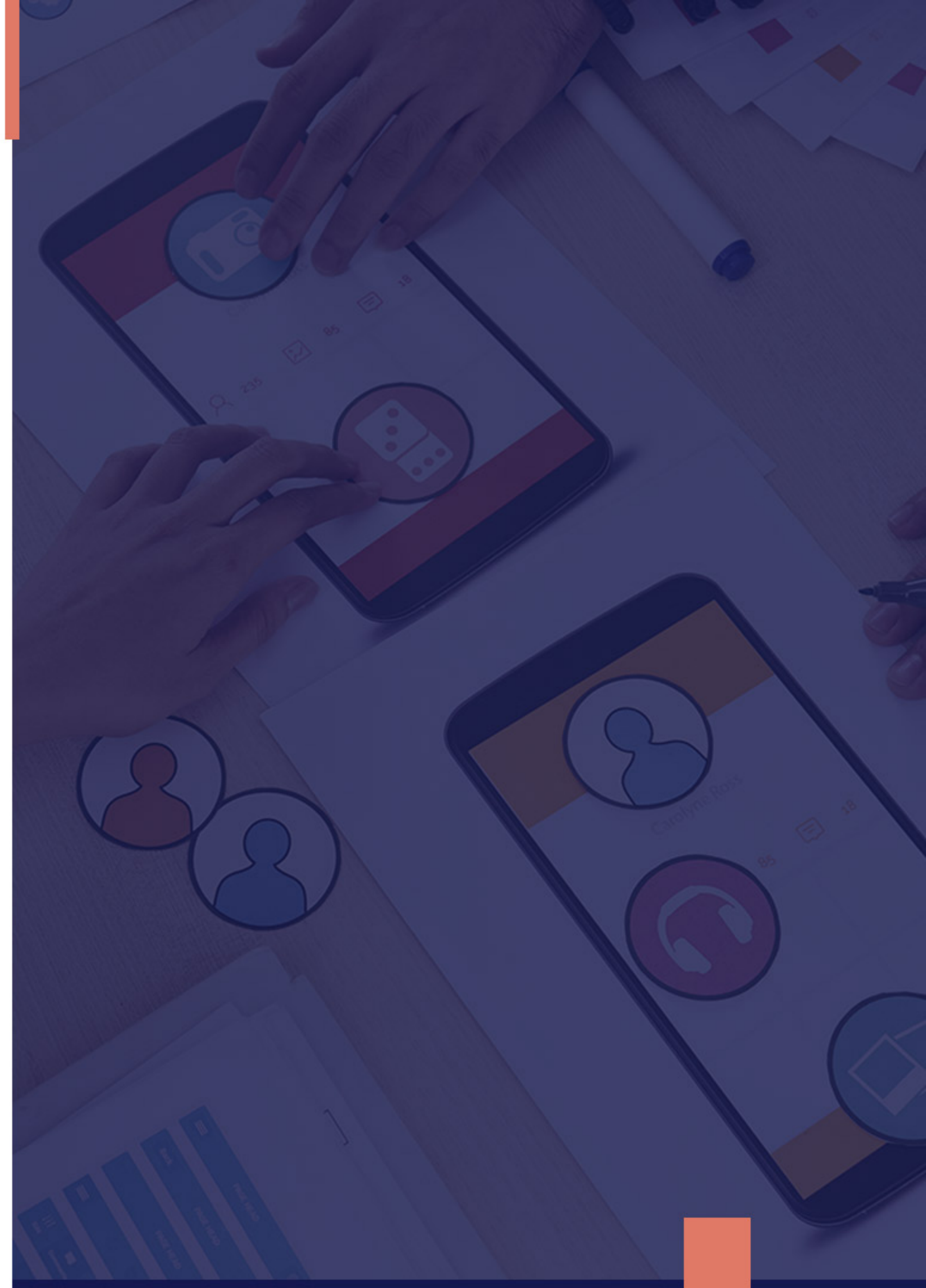
There are also advantages to in-house development, such as:

Gaining In-House Knowledge

Once you have sourced and hired the necessary in-house team, you now have the ability to easily transfer knowledge between team members, create documentation as you see fit, and have a team that over time learns all of the finer nuances of the project.

Project Control

Having an in-house development team can allow you more control over your project. You can dictate controls over coding standards; create and implement processes to be followed; decide which project tools your team will use, and more. However, more established firms that have experience working with enterprise clients will allow you to take the lead and integrate seamlessly with your team, tools, and processes.



Choosing a vendor or development model that is a poor fit for your organization will waste time and money, and at the end of it, you may not even have a viable product to ship. A great way to organize your thinking to scientifically select your partners is to put together a request for proposal or RFP. This is a great way to document what you need, what you need to accomplish, and what you expect from people before you actually go out and start interviewing your prospective partners.

Get in Touch with Expert App Developers

Your decision on how to approach app development and delivery needs to be based on a number of factors, not least of which is the readiness of the organization and internal understanding of the mobile ecosystem (from both a technical and market perspective).

03 The Design & Development Plan

Transitioning Mobile App Development Firms

Sometimes, companies find themselves in the position where they need to find a new mobile app development firm. Whether it be a change in business model, scalability needs, performance issues or another reason – the current vendor is no longer the right fit. In any event, if the development was started and you're looking for someone else to finish the job, you'll need to give the new developer the following:

- All existing source code and version files
- All hosting and web services administration
- Any third-party software (analytics, advertising, payment processing, etc.)

You should also keep in mind that when you ask a developer to take over a project, the new developer is going to need some time to "untangle" what was done before and determine why it is not working. This is going to add to your development cost. It can cost as much to "fix" a project someone else started than to start from scratch.



Choosing Platforms

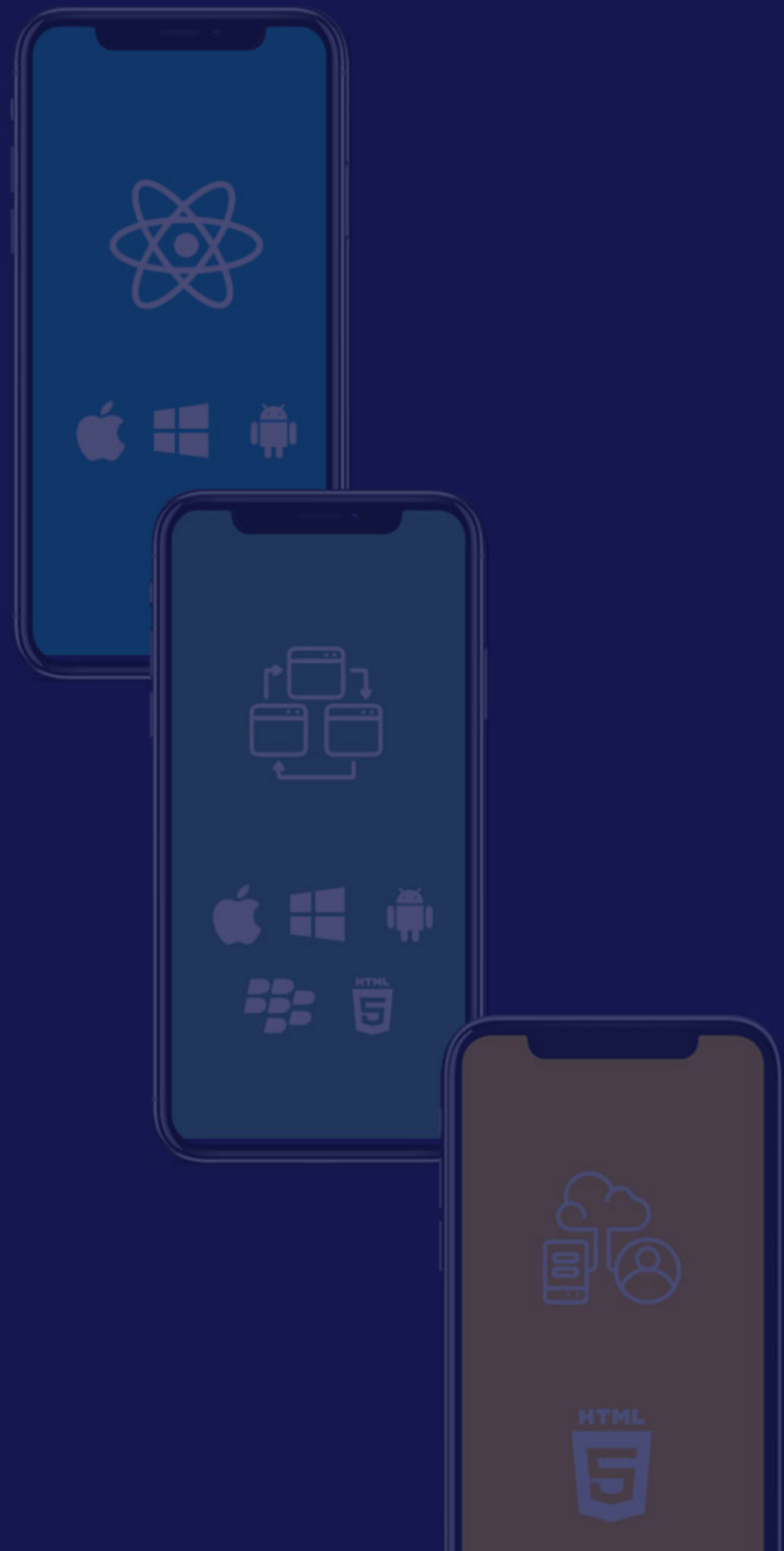
The ideal approach to mobile app development would be to create both Android and iOS apps from the get-go to reach the widest user base possible. However, this isn't always feasible, for a number of reasons ranging from timeframe to budget, to resource constraints, etc. Sometimes, given time and cost limitations, some companies need to choose one platform to develop for first. However, there are many variables that extend beyond cost.

Apple iOS is a proprietary operating system powering apple device including iPhone, iPad, and iPod touch devices. A great thing about the apple community is there is little fragmentation within the OS user base. iOS users are also known for spending more money on apps compared to Android users.

Google Android is the open-source operating system offered by Google and powers a wide range of devices developed and distributed by hundreds of device manufacturers around the world including Google, Samsung, HTC, and more. A challenge for developing apps for Android is device fragmentation. An advantage is that the app store submission is faster than Apple's App Store.

Android has gained a lot of traction in the last few years as companies are seeing the value of focusing on both platforms, and not just iOS alone. Now, they're both extremely successful which is why it's smart to invest in both iOS and Android app development.

Business Insider: iOS App Users Are Spending More 2017



Choosing An App Type: Web vs. Native vs. Hybrid

When looking into developing a mobile app, is it better to build a web app, native app, or choose the hybrid route instead? Here are the pros and cons for each option.

Web Apps

Pros

- Easy to build
- Easy to maintain
- An Inexpensive option
- Build one app for all platforms

Cons

- Users have to take another step to type in the URL of the app which amounts to a poor user experience
- Much slower than native apps
- Web apps are less interactive and intuitive than native apps
- No icon
- Cannot leverage device utilities

Native Apps

Pros

- Native apps are very fast and responsive because they are built for that specific platform
- They have the best performance
- They are distributed in app stores
- They are more interactive, intuitive and run much smoother in terms of user input and output
- Native allows developers to access the full feature set of their given platform with whatever performance optimizations the native system has
- Internet connection is not required, although it depends on the functionality
- Overall better user experience. To the user, the flow is more natural as they have specific UI standards for each platform

Cons

- Difficult languages to learn which means you need experienced developers
- More expensive
- Not the best option for very simple apps Although the initial cost may be higher with a native app, you'll end up saving a lot of time and money in the long run. By offering a great user experience, better performance, and leveraging the device features, you're able to offer your users a more personalized experience


Hybrid Apps

Pros

- Built on web technology HTML/ CSS/ JavaScript so it's much easier to build
- Cheaper than a native app
- One app for all platforms using technology like Cordova
- No browser needed as opposed to a web app
- Have access to the device's internal APIs, can access storage, camera, etc.
- Faster to develop than native apps because you have a single code base

Cons

- Slower than native apps
- More expensive than standard web apps because you have to work with the wrapper.
- Essentially, you're dependent on a third-party platform
- Less interactive than native apps
- Much slower than native apps
- Web apps are less interactive and intuitive than native apps
- No icon
- Cannot leverage device utilities



With hybrid, you have to contend with issues that stem from both native systems and hybrid systems, which makes bug fixing more difficult. The performance is also a disadvantage because hybrid apps load in web view. Additionally, the more customization you want within your hybrid app, the more expensive, and therefore a native solution may end up being more cost effective. Before jumping into development, you should consider the following

Factors:

- How fast the app needs to be
- The quality of the user experience you want your app to have
- Complexity of the features you need for your app to work
- Your budget

User Experience

The success of your app is contingent on a number of different factors, however, the most important one is the overall user experience (UX). Delivering a great UX will make the difference between a successful mobile app and one that fails in the market.

It's important to understand that the user experience should be considered throughout the product lifecycle. During every phase of development, you need to consider all elements of the UX. Here are a few important considerations to keep in mind:

Functionality

Your app needs to be error-free. Many app creators don't spend enough time perfecting the functionality of their app and regrettably end up with a faulty product. If your app doesn't work to begin with, the rest of your UX elements won't matter.

Efficient Onboarding

With mobile apps, the onboarding process is critical in determining the success or failure of your product. If the user is having trouble within the first few screens, they'll likely drop off with little hesitation.

Reduce Search Effort

There are a number of search strategies you can integrate into your app such as barcode scanning and keyword search. Provide users with a search option and filters to guide them directly to what they're looking for.

The Design & Development Plan

Creating an optimized mobile app user experience involves many elements that work systematically to satisfy users while also meeting business goals. An optimal UX requires an innovative shift away from conventional practices towards a mobile-specific way of thinking.

Prototyping

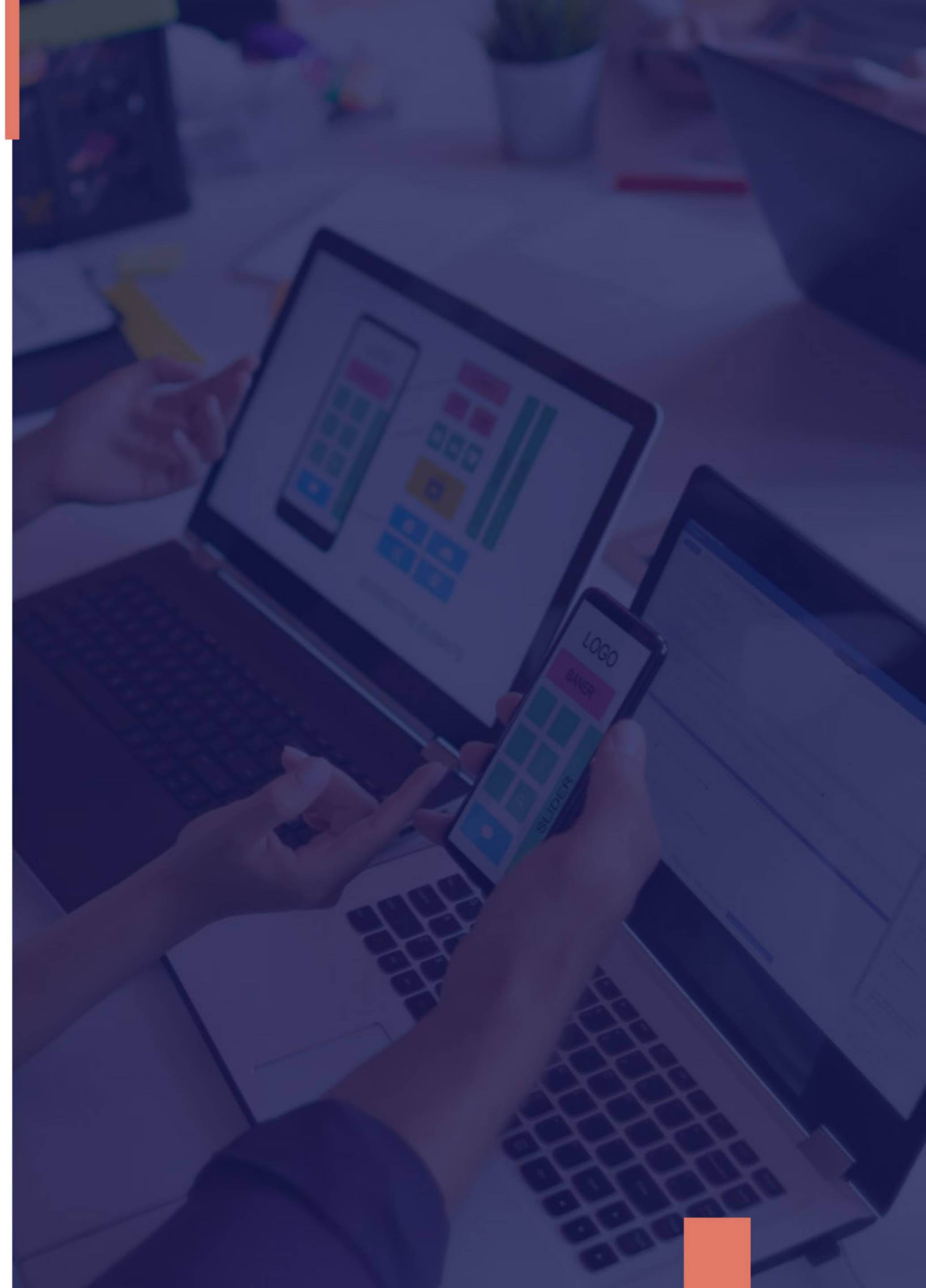
Many companies struggle to decide whether creating a proof of concept (POC), prototype, or minimum viable product (MVP), or a combination, is the right route for their project. This stage of app development will ensure that your product idea is received well by stakeholders and users, increasing the chance of success of your product launch.

Proof of Concept (POC)

A POC is a smaller project, typically used internally rather than introducing it to the public, to verify a certain concept or theory that can be achieved in development. Usability isn't considered at all when creating a proof of concept because it's not only time consuming but might interfere with proving that the principal concept is viable, which is the main purpose of this particular method.

Prototype

While a POC shows that a product or feature can be done, a prototype shows how it will be done. A product prototype is a working and interactive model of the end product, communicating the design and navigation of the app. Prototyping is a valuable exercise to allow you to create a visualization of how your product will function, demonstrate user flows, and give an idea of the design and layout.





Minimum Viable Product (MVP)

Prototypes often influence an MVP and work together to create a successful end product. An MVP is a minimal form of your complete product that is tested in the market. This allows you to learn how your users will react to your product, before you waste a lot of money and resources building something they don't want or need. While a prototype rectifies problems during the beginning stages of development, an MVP's iterative process is designed to identify users' pain points when the product is actually tested in the market.

LET'S TALK HIRE ANDROID DEVELOPERS

The MVP allows you to get a version of your product to market early to test your business concept. By offering the core set of features rather than a full-blown, feature-heavy product, you can test key hypotheses, gather user information and intelligence, get your product to market quickly, and keep costs down.

User Interface

During development, the UI designer will create the screens used in your mobile app. These high-resolution renderings of your wireframes represent the interface your users will eventually use to interact with your app. You are creating an app you want your customers and target audience to actually enjoy using, so all of the details matter. The user interface is the part of the app that is visible to users so it needs to be easy to learn.

Coding

You're now ready to move into the coding phase. If you've hired outside talent to develop your app, be sure to get a signed non-disclosure agreement and establish a timeline for deliverables.

Here are several considerations to keep in mind for the coding phase of your app:

Stability

Does your app crash? How will you respond to these crashes? A few reasons apps crash include memory and processing issues, connectivity problems, and SDK issues.

Scalability

How will your app meet the demand of stress caused by increased usage? A mobile app should be scalable enough to handle many requests at once.

Extensibility

Extensibility is the ability for the app to add, modify, or remove functionality without damaging the current system.

Maintainability

Aside from major functional extensibility, can minor modifications be made? How easily can these modifications be made? Above all, the functionality of your app is the most important consideration to keep in mind. Slow and bug-ridden app will negatively affect your return on invest and overall brand image.

Testing: Manual or Automated?

Testing can be manual, automated, and sometimes both. Manual testing is conducted on-device, by people rather than scripts, and carries the following advantages:

Get visual feedback

Scripts can't provide opinions and input about how a UI looks and feels like a person can.

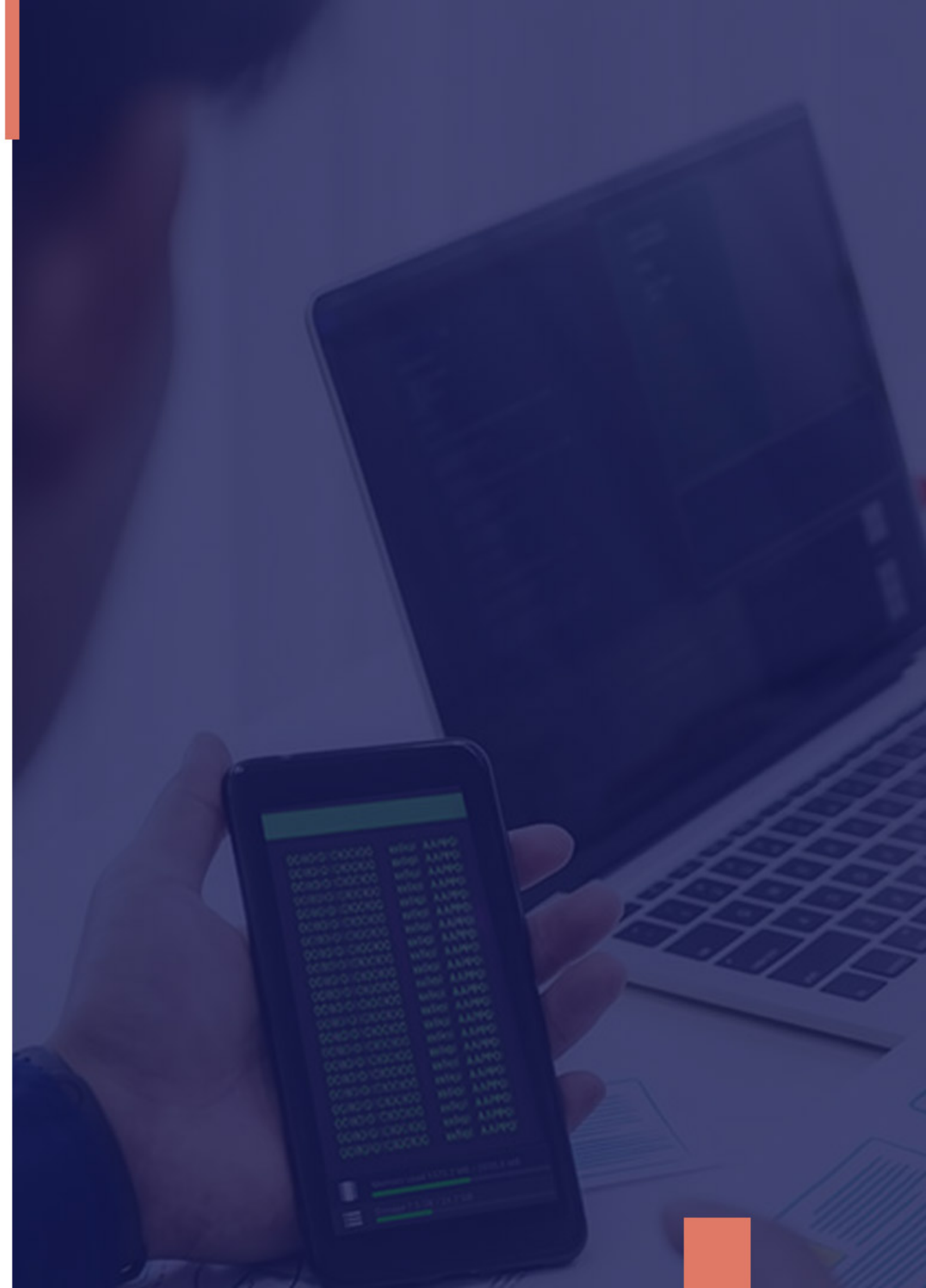
Human feedback

Good manual testers are able to predict what your users will or won't like, which a computer can't do.

Less expensive in the short-term

If you're only testing a simple app once, and don't expect a lot of updates, you don't need to invest in expensive tools or software. Overall, you lose the efficiency of automation testing, as manual testing is much more time-consuming – particularly if you will be making a lot of changes to your app in the future. However, you'll receive human feedback like you'd get from your actual user base, which is very valuable.

Automated testing on the other hand, is all about comparing how an app should function with how it actually functions. Automation testers will write and run tests that include a series of predefined actions that can occur in your software, then seeing if things run properly. Here are a few advantages of automated testing:



Speed and efficiency

Scripts are faster than humans, so you'll get more done in a shorter amount of time.

Reusable tests for code

If you're constantly making updates, you don't have to rewrite test scripts each time. You can reuse them in regression testing.

Better visibility into app performance

With automation testing, the team is on the same page as an opposed to just one manual tester.

Keeping these factors in mind will help you determine the best approach to build a high-quality product that fits within your budget and timeline.



Deployment & Maintenance

Publishing Your Mobile App

Different app stores take different times to approve apps. There are also chances of rejection, particularly in the App Store. It's crucial to plan this strategy in advance, because the App Store and Google Play Store impose strict requirements for the applications. Keeping this in mind, certain test cases and validations need to be integrated into the development process.

As our developers can attest, Android is the favourite when it comes to the release and approval process. For iOS, the release and approval process are typically between 2-3 weeks, and even longer if the app is rejected. Android apps typically take a day or two to get approved and updates can be pushed within a matter of hours.

For Android, it's a little more user-friendly in the fact that you just make a certificate, make sure you have the right keys in place for push, and other services the app uses. Then upload to the Google Play Store, and usually within a few hours if it gets accepted and you can release.

Maintaining Your Mobile App

Determining the process for support and maintenance after deployment is often overlooked. Most development teams are used to supporting products for bug fixes and iteration improvements, but make sure this is discussed upfront if you decide to partner with an app development firm. These firms typically plan projects far in advance in an effort to schedule team capacity, so unplanned work can sometimes be an issue.

Launching a new product on the market is just the first step in the process. After launch, it's crucial to focus on implementing your strategy, measuring the effects, as well as learning and quickly reacting to change.

Conclusion

Mobile has become rapidly integrated into our lives. According to new data released in March, consumers spend up to 5 hours per day on their mobile devices, and time spent in mobile apps had increased 69% year-over-year. Companies can benefit from a mobile app in a myriad of different ways, but here are just a few:

Increase Customer Engagement Provide Your Customers with Value Gain a Competitive Edge Generate Additional Revenue

Build Brand Recognition Boost Customer Loyalty

An app is essentially an extension of your brand and a means for companies to further engage with their customers. If your website is offering enough for your customers, then an app may not be the best investment. However, customers want hyper-personalized experiences and immediacy. For this reason, the shift in user behaviours over the last decade is an opportunity to expand your brand's mobile strategy beyond a mobile-friendly website.

Thinking about building an app?

At A3logics, we are dedicated to building end-to-end custom mobile app development services covering the full project lifecycle, from concept to polished product. Our custom squad-based agile process promotes transparency, quickens development, reduces risk, and has resulted in more than 500 apps released to market for some of the world's most respected brands.

Get Started on Your Mobile Project Today

Get In Touch ▶