



# Mobile Application Development

Version 1.1

September 2016

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## 1. Introduction

Divine Pixel & Codes is a technology consulting firm that offers end-to-end solutions, from concept and strategy, to design, implementation and support. Our specializing in Web Applications, Mobile App, Custom Software Development Solutions. To ensure the support of this development we also provide hosting and infrastructure management. We pride ourselves on keeping overheads low, we are a team of creative and happy individuals who love what we do. Excellence, Partnership and Commitment are the three hallmarks with which we approach our clients; we believe you will see this in our service.

We are a team of 42+ who are dedicated to serve the customers and have been functioning in the IT industry since 2013. DivinePNC specializes in the fields of web development and mobile application development. We engage in a massive endeavor of inventing and developing multiple web and mobile applications that are suitable for all verticals of the industry.

**DivinePNC's** commitment to reaching their audience with targeted mobile application will put you far ahead of your industry. We're here to help with all your mobile app needs and we have thorough analytics that are measurable for making strategic mobile marketing decisions.

We are proud to present our products which have earned reputation in the market. For us, the "customer is always right". You can always rely on us for all your web and mobile application development projects. We have a good support team who will guide you at every point in time and clarify your doubts. Contact us today at our Delhi/NCR office and convert your ideas into reality. We are here to shape your imaginations and provide Ace developments.

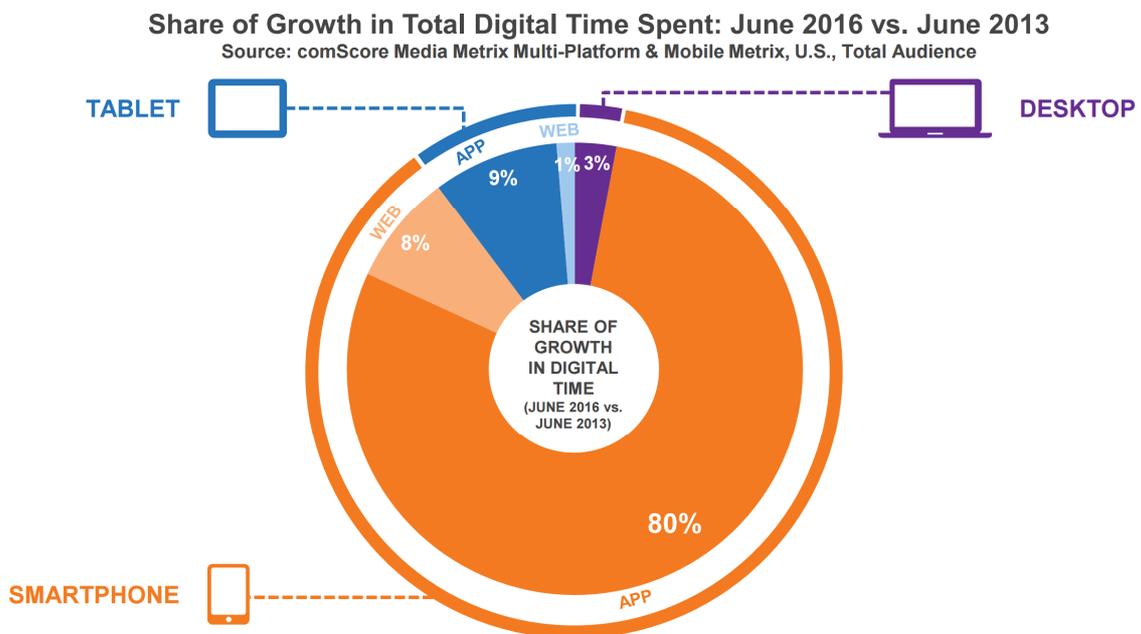
## 2. Mobile Applications

Mobile has grown so fast that it's now the leading digital platform, with total activity on smartphones and tablets accounting for two-thirds of digital media time spent, and smartphone apps alone now capturing roughly half of digital media time.

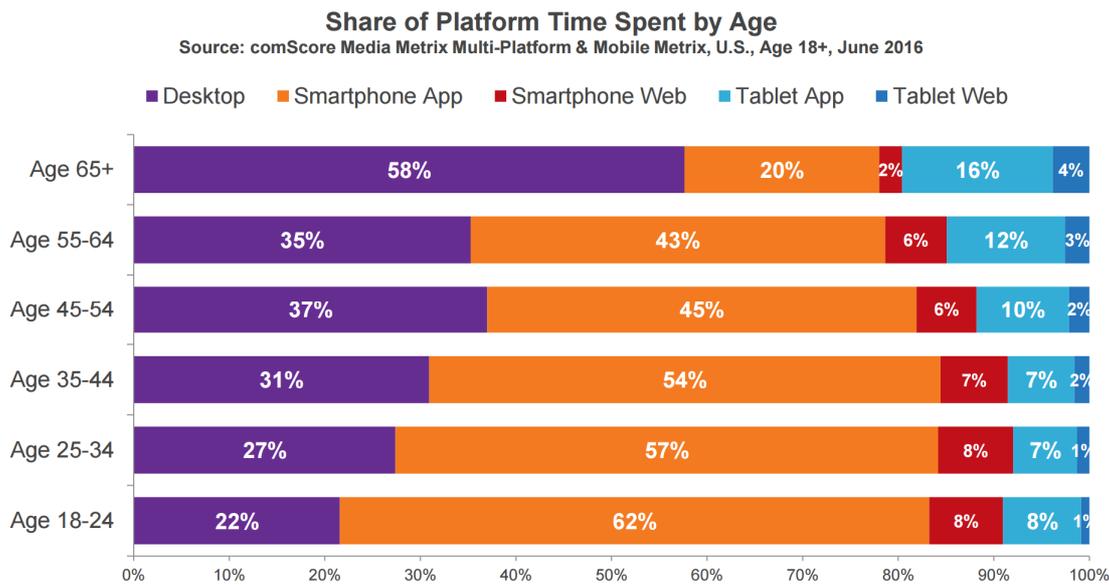
If you have any thoughts/ideas on mobile application and want to convert your visualization into a mobile app, then you have come to the right place; our team is graced with technically high qualified developers and architects who will coordinate with you, analyze your requirement, share their expertise and knowledge and will help in bringing life to your ideas.

### 2.1 Mobile App vs. Mobile Web Audiences

Smartphone apps have driven the overwhelming majority of growth in digital media usage over the past 3 years.



### 2.1.1 App User Habits



Target your audience by smart phone app uses statistics.

## 3. Technology

### 3.1 Native

Native apps live on the device and are accessed through icons on the device home screen. Native apps are installed through an application store (such as Google Play or Apple's App Store). They are developed specifically for one platform, and can take full advantage of all the device features—they can use the camera, the GPS, the accelerometer, the compass, the list of contacts, and so on. They can also incorporate gestures (either standard operating-system gestures or new, app-defined gestures). And native apps can use the device's notification system and can work offline.

#### 3.1.1 Advantage

- Executed directly by the operating system.
- Launched from the home screen.
- Does not require another "Container app" to run it.
- Make explicit use of operating system APIs.
- It runs faster on each specific device and use the full architecture of the device.
- Native apps interact with the preparatory API calls that the OS exposes. Through these API calls, access to all the hardware components of the device such as Touch Screen, Keyboard, WIFI, GSM network, Microphone, Speakers, Camera, Vibration, Accelerometer, compass, GPS, Storage is made easily available.

#### 3.1.2 Disadvantage

- If the app is developed on one platform it cannot be used in another.

- Similar approach, but different source code and expertise results in expensive development and maintenance.

## 3.2 Hybrid

Hybrid apps are part native apps, part web apps, because of that many people incorrectly call them “web apps”. Like native apps, they live in an app store and can take advantage of the many device features available. Like web apps, they rely on HTML being rendered in a browser, with the caveat that the browser is embedded within the app. It supports a large number of development platforms: iOS, Android, BlackBerry, Windows, Symbian and even Tizen.

### 3.2.1 Advantages

- Companies can build hybrid apps as wrappers for an existing web page.
- Hybrid apps are also popular because they allow cross-platform development: that is, the same HTML code components can be reused on different mobile operating systems, reducing significantly the development costs.

## 3.3 Native or Hybrid?

Each of these types of apps has their advantages and disadvantages, as I’ve tried to point out. Let’s summarize them here.

**Device features:** Native apps (and the native components of the hybrid apps) have access to the full paraphernalia of device-specific features, including GPS, camera, gestures, and notifications.

**Offline functioning:** A native app is best if your app must work when there is no connectivity. In-browser caching is available in HTML5, but it’s still more limited than what you can get when you go native.

**Speed:** Native apps win the speed competition, hybrid app replaced with a truly native app. Installation. Installing a native or hybrid app is a hassle for users, are installed through an application store.

**Maintenance:** Maintaining a native app can be complicated not only for users, but also for developers (especially if they have to deal with multiple versions of the same information on different platforms): Changes have to be packaged in a new version and placed in the app store. On the other hand, maintaining a hybrid app is as simple as maintaining a web page, and it can be done as often or as frequently as needed.

**Platform independence:** Platform independence is important, you definitely have a better chance of achieving it with hybrid apps than with native apps. As discussed before, at least parts of the code can be reused when creating hybrid.

Content restrictions, approval process, and fees: Dealing with a third party that imposes rules on your content and design can be taxing both in terms of time and money. Native and hybrid apps must pass approval processes and content restrictions imposed by app stores. And buying a subscription within an iOS app means that 30% of that subscription cost goes to Apple, a big dent in the publishers’ budget.

**Development cost:** It’s arguably cheaper to develop hybrid, as these require skills that build up on previous experience with the web. Clients often find that going fully native is a lot more expensive, as it requires more specialized talent. But, on the other hand, HTML5 is fairly new,

and good knowledge of it, as well as a good understanding of developing for the hybrid apps is also fairly advanced skills.

**User Interface:** Last but not least, if one of your priorities is providing a user experience that is consistent with the operating system and with the majority of the other apps available on that platform, then native apps are the way to go.

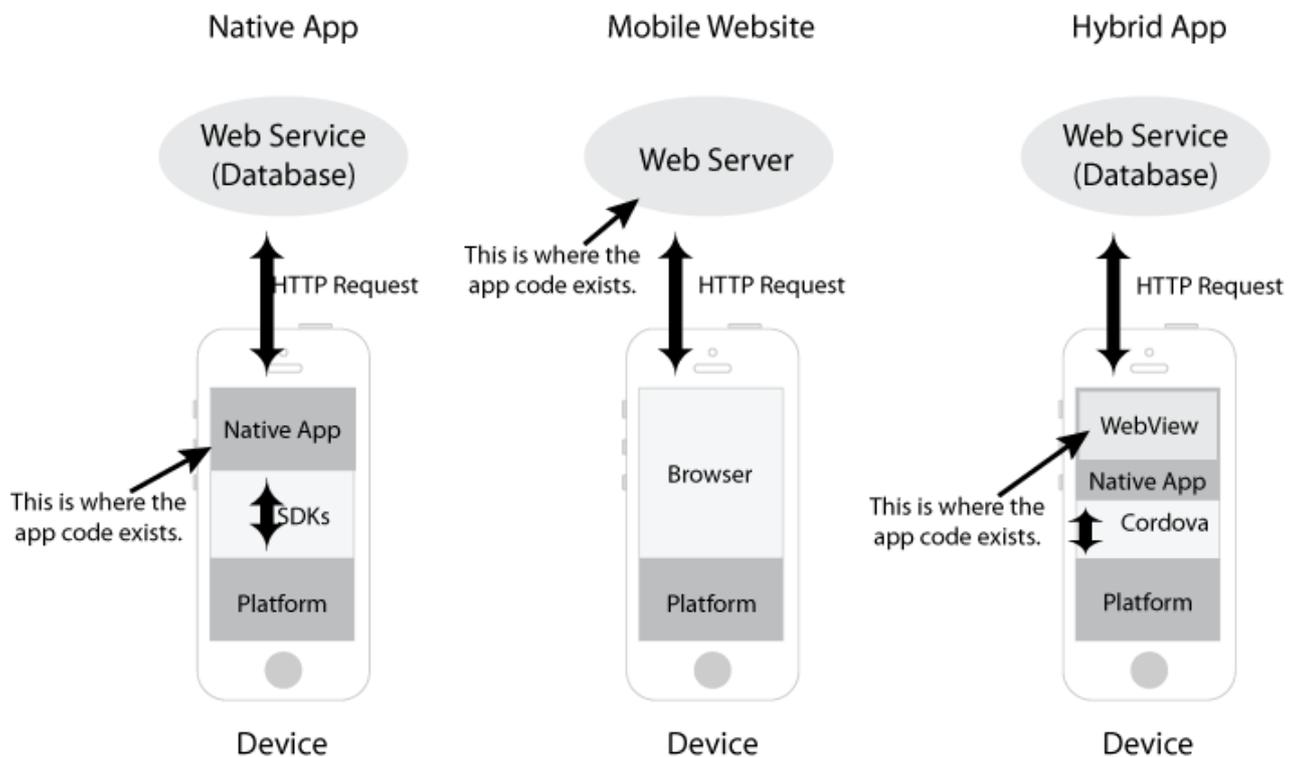
That doesn't mean that you cannot provide a good user experience with a hybrid app—it just means that the graphics and the visuals will not be exactly the same as those with which users may be already accustomed.

### 3.1 Native vs. Web vs. Hybrid: 7 Factors of Comparison

KEY    CON    PRO    NEUTRAL

	NATIVE	HYBRID	WEB
<b>COST</b>	Commonly the highest of the three choices if developing for multiple platforms	Similar to pure web costs, but extra skills are required for hybrid tools	Lowest cost due to single codebase and common skillset
<b>CODE REUSABILITY/ PORTABILITY</b>	Code for one platform only works for that platform	Most hybrid tools will enable portability of a single codebase to the major mobile platforms	Browser compatibility and performance are the only concerns
<b>DEVICE ACCESS</b>	Platform SDK enables access to all device APIs	Many device APIs closed to web apps can be accessed, depending on the tool	Only a few device APIs like geolocation can be accessed, but the number is growing
<b>UI CONSISTENCY</b>	Platform comes with familiar, original UI components	UI frameworks can achieve a fairly native look	UI frameworks can achieve a fairly native look
<b>DISTRIBUTION</b>	App stores provide marketing benefits, but also have requirements and restrictions	App stores provide marketing benefits, but also have requirements and restrictions	No restrictions to launch, but there are no app store benefits
<b>PERFORMANCE</b>	Native code has direct access to platform functionality, resulting in better performance	For complex apps, the abstraction layers often prevent native-like performance	Performance is based on browser and network connection
<b>MONETIZATION</b>	More monetization opportunities, but stores take a percentage	More monetization opportunities, but stores take a percentage	No store commissions or setup costs, but there are few monetization methods

### 3.1.1 Device, SDKs, Web Service



### 3.2 API Services

API Services will always do everything possible to provide the fast and on-site service that you deserve. We're committed to you and your business and you'll always be treated with the utmost professionalism and efficiency. APIs has allowed web communities to create an open architecture for sharing content and data between communities and applications.

In this way, content that is created in one place can be dynamically posted and updated in multiple locations on the web:

Photos can be shared from sites like Flickr and Photobucket to social network sites like Facebook and Myspace.

Content can be embedded, e.g. embedding a presentation from Slide Share on a LinkedIn profile. Content can be dynamically posted. Sharing live comments made on Twitter with a Facebook account, for example, is enabled by their APIs.

Video content can be embedded on sites served by another host. User information can be shared from web communities to outside applications, delivering new functionality to the web community that shares its user data via an open API. One of the best examples of this is the Facebook Application platform. Another is the Open Social platform.

**Upload the filed under:** API services which let other News board provider can have the access to our stories or magazine available in our server.

Communication of our API towards other API services depends on the requirements from client's end.

We should have a study to find the most commonly used API server, which lead us to have a easy, fast and secure access of your product.

### 3.3 RSS Feeds

RSS feeds enable publishers to syndicate data automatically. A standard XML file format ensures compatibility with many different machines/programs. RSS feeds also benefit users who want to receive timely updates from favourite websites or to aggregate data from many sites.

Once users subscribe to a website RSS removes the need for them to manually check it. Instead, their browser constantly monitors the site and informs the user of any updates. The browser can also be commanded to automatically download the new data for the user.

To accomplish this extension, a tightly controlled vocabulary (in the RSS world, "module"; in the XML world, "schema") is declared through an XML namespace to give names to concepts and relationships between those concepts.

- We use the latest RSS 2.0 modules:
- Media RSS 2.0 Module
- OpenSearch RSS 2.0 Module

## 4. Design & Development Strategy

Every app is different, but our tried and tested mobile app development process is designed to ensure that your app is a success. That means it's delivered on time, it's bug-free, and it does everything it's supposed to do. We believe in an agile approach based around iterative design and development; feedback, testing and flexibility are key.

### 4.1 Concept Sketching

### 4.2 Research & Strategies

This stage is where your concept will actually start taking shape. By applying the proper tools and resources we will provide a customized approach to every facet of the app building process. We keep you involved in every step of design and development to ensure that you are constantly meeting or exceeding your goals.

### 4.3 Wire-Framing

At this stage, we focus on fine-tuning and modifying the user experience. Meeting and exceeding user needs is essential. Wire-framing is one of the highest importance and it is the foundation for providing a successful application development we believe.

### 4.4 User Interface Design

After completing the wire-framing, we will have a good idea of how user engagement and screen flow will take place on your specific application. Next, the experts within DivinePNC's UI design team will convert the wireframes into clean and attractive interfaces. The ease and quality of UI design is what steers consumers towards App Store downloads.

### 4.5 Development

Once the user wire-framing has been completed, we's development team will start coding your application. Server components will be taken into account during the process to streamline

development time and to avoid any complications. We encourage you to work side by side with our development team during this phase.

#### 4.6 Testing

During the development stage, we take a methodical and organized approach to guarantee superior quality and efficiency in the operation of your application. You will also be provided with builds during all stages of the process so you can be thoroughly involved in all aspects of the development stage.

#### 4.7 App Store Submission

Submitting applications to their appropriate stores is the last step in the development process, and we will take care of that too. You create the company account on the proper platform, and we will handle everything else! Once the app has been submitted, it will be under your full control, unless you subscribe Annual Maintenance Service.

## 5. Development Cost

### 5.1 Development Cost Factors

Generally, there are a number of factors that contribute to the costs of mobile app development. They include:

- App platforms and environment
- Use of native programming language
- Use of Hybrid development technology
- Third party API Integration
- Customizations vs using standard app widgets and convention
- Customized UX and UI elements
- Number of app screens and their complexity
- In-app purchase functionality
- Support for multiple mobile screen resolutions
- Inclusion of handoff features

Although this is not an exhaustive list of factors that can contribute to the costs of mobile app development, it does show the prime factors that all businesses will need to consider. While there will be a number of specialists on the development team the general costs per hour falls into the range. To understand the overall costs of mobile app development, businesses must also have an understanding of the cost components and drivers that go into the project.

Factors such as having an app that requires a back-end server build or integrated APIs versus an app that is completely standalone can mean drastic cost and complexity differences. Even apps without any server component or API integration can be complex and challenging.

## 5.2 Cost Components and Drivers

A mobile app development project can yield a simple or highly complex app in terms of its functionality. Regardless of the chosen path, there are still many cost components that will make up the overall project, which include:

- Planning, Research, and Discovery
- Scope Definition
- User Experience and Visual Design
- Features
- Infrastructure
- Web Portal or CMS to Manage App
- Cloud Services
- Testing & Deployment

## 6. Conclude

Regardless of the scope and complexity of the app, mobile app development is a major investment of time, money, and vision. Determining the purpose from a company and user perspective is crucial to everything that follows. In order to define these aspects, DivinePNC partners with each business to develop a custom approach to mobile app development that fits the needs of the business and the project.

Every mobile app development project starts with understanding the business on a micro level as well as its place within the business' market vertical. Only then can the right customized solution be created to fit the needs and budget of the business and its vision. Whether it's a single project or development of a mobile application strategy, MYTEK brings a broad palette of services to bear in order to ensure the project's ultimate success.

Our skilled and highly experienced consultants can provide:

- Concept Outline and Strategy Support
- UX & Design Support
- Development and Optimization Support
- Quality Assurance & Launch Support
- Monitoring and Insight Support
- Evaluation and Analytics

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