

Top 8 Considerations in Choosing

A MOBILE APPLICATION DEVELOPMENT PLATFORM



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OVERVIEW

The explosive growth of mobility is putting enormous pressure on enterprise IT leaders. Employees and customers increasingly expect to have high quality, secure, reliable and fully satisfying interactions with organizations through their smartphones and tablets—whether they are iOS, Android, Windows or anything else. Enterprise IT has to deliver mobile applications that meet these demands or they will find they are missing significant opportunities and putting their businesses at risk.

According to exclusive IDG research, 46% of organizations plan to develop between five and 10 mobile apps over the next year, with a significant percentage of larger organizations developing a higher number of apps.¹ The overall market for mobile enterprise business applications is expected to double during the period 2012 through 2018², and leading analysts have said that enterprise mobile applications are poised to become a \$100 billion market.³

For IT leaders these lofty expectations mean that they must not only continually develop new mobile applications, but they must also focus on enabling existing apps with mobile features and capabilities. IT leaders identified mobility as one of their top two strategic initiatives in 2015, according to internal research from TechTarget. Nearly 50% said their No. 1 mobile initiative was to deploy a mobile enterprise application development platform.

Despite the best intentions, however, the unfortunate reality is that most organizations are struggling mightily to meet mobile application demand. They often lack developers with the right skill sets, and aren't using the right tools to expedite cross-platform, end-to-end development. Gartner states that by the end of 2017 market demand for mobile application development services will grow at least five times faster than the capacity of internal IT organizations to deliver them.⁴

What can IT decision-makers do now to address the growing opportunities—and challenges—in developing mobile applications? The first and most important step is to identify those challenges and then deploy a mobile application development platform that does the best job of addressing them. In this article we examine the top eight considerations in choosing a mobile application development platform.



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1 "Telerik Enterprise Mobility Survey," IDG, 2014

2 "Global Mobile Enterprise Business Application Revenue, 2012-2018," Strategic Analytics, December 2013

3 "The Next Billion Dollar Market Opportunity is Mobile Enterprise," Tech Crunch, March 30, 2015

4 "Gartner Says Demand for Enterprise Mobile Apps Will Outstrip Available Development Capacity Five to One," Gartner, June 16, 2015

Consideration 1:

TAKE A USER-FIRST APPROACH

No factor is more critical to the success of mobile applications than the user experience. In fact, user experience was by far the top answer when respondents were asked to name their most important consideration in developing mobile applications, according to the Progress State of Mobility Survey 2015. Approximately 44% of those surveyed identified user experience as their top challenge, nearly twice the number of the second most critical challenge, which was ease of development and maintenance.⁵

Defining exactly what you mean by user experience—and how to deliver it—is a critical factor in developing successful mobile apps. Some organizations have embraced a philosophy of “mobile-first” development. This typically means focusing on the design and making sure that the application works across the entire spectrum of digital devices. However, just focusing on the design is no guarantee that your users will get value out of the experience and actually use the mobile apps.

Instead, the focus of your design teams should be on each application and the users’ requirements—where they are using it, how they are using it, their work/lifestyle and the type of application, among other factors. According to IDG, 83% of respondents said user experience is more about the speed and reliability of performing tasks than the design.⁶

Developing a user-first process is key. It is a mistake to focus on design in isolation. Development teams often invest a lot of time upfront trying to achieve great looking apps, without thinking through how the app can be useful for its task and how it performs in the user’s environment. Because of this, many apps take a long time to develop yet still fail to gain user adoption.

A critical aspect in driving user adoption is to deliver a consistent user experience across all touch points. A user will typically interact with your company across desktop, tablet and mobile devices. For example, look at how a customer might interact with a bank. He or she might set up a new account on the Web using a laptop, review transactions on a tablet and pay bills on a mobile phone. Delivering a great and consistent user experience across all of these devices and activities is extremely important.

In choosing the right development platform for delivering a great user experience, some of the key technical factors to consider are:

- The need to integrate the mobile app into your legacy environment, including existing applications and data sources. You don’t want your mobile apps to be silos.
- Selecting the right backend infrastructure to support your mobile apps. Ideally the infrastructure should provide consistency across Web and mobile apps so that you can decouple the backend from the different user interface requirements.
- Adopting the right blend of native or generic Web browser application capabilities. While native apps written for each device provide the ultimate experience, the cost can be prohibitive for a typical enterprise business application. It is better to go with a hybrid model that leverages a container-based approach. Another option is to go with a cross-platform native approach, by which the development platform allows the developer to code once and deploy truly native apps across platforms.
- It’s not just about writing code—you should consider platforms that allow you to develop, deploy and manage mobile apps visually, without writing a lot of code.

⁵ “Progress Surveys 3000; Reveals Challenges to Embracing Mobile App Development,” Progress, August 2015

⁶ Ibid, footnote #1, IDG

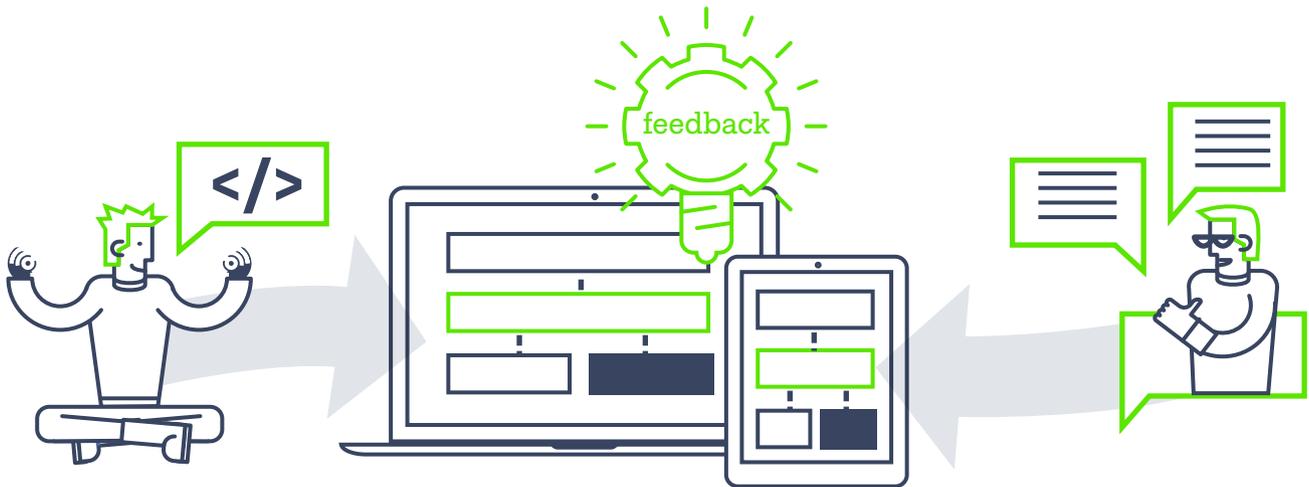
Consideration 2:

ENCOURAGE BUSINESS PARTICIPATION

Another important step in designing a great user experience is to ensure that you are involving the business user throughout the process. Gartner says mobile development teams “need to formulate a process of mobile app prioritization that involves understanding the needs of business stakeholders.”⁷

This means involving business users during the design phase through rapid prototyping and feedback. It also means extending your efforts beyond the design phase and into the testing phase, through usage information, analytics and proactive feedback to improve the application. Among the key considerations for your mobile app development platform:

- A rapid development approach that allows you to get quick feedback.
- A low code/no code development model that allows business users to participate in the development of the user interface.
- Tools that enable you to analyze usage and get feedback from users.

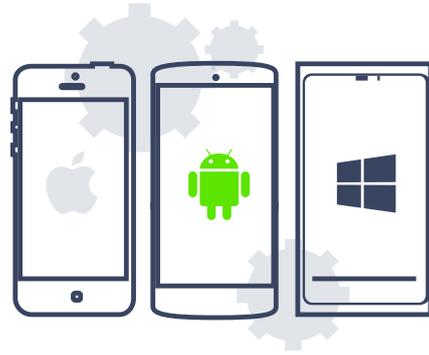


⁷ Ibid, footnote #4, Gartner

Consideration 3:

USE THE RIGHT APPROACH FOR EACH APP

Not all apps are the same, so you need to architect an approach that supports multiple styles—Web, hybrid and native. A development platform that supports all three models is critical because one of the biggest challenges in mobile app development is finding developers with the right skills. According to the Progress State of Mobility Survey 2015, 57% of developers are still brand new to mobile apps and have never built a mobile app. Gartner states that “mobile strategists must use tools and techniques that match the increase in mobile app⁸ needs within their organizations.”⁹



If your development platform supports multiple approaches, you will have the flexibility to choose the right model on a project-by-project basis. This way you can choose whether the application should be Web, hybrid or native based on its specific requirements. For example, you might want to use native development for a customer-facing app to deliver the best experience. For an internal contact list application or an app that catalogues company information, you may be able to save time and money by using a hybrid or Web approach.

An example of the type of tool necessary for flexible mobile development is NativeScript, a cross-platform native development framework that is available as part of Telerik Platform. With NativeScript, developers can build native apps from a single code base, using JavaScript and CSS. By re-using the skills of Web development, developers can reduce the switching costs of moving between Web, hybrid and native projects. NativeScript supports faster and more agile development, allowing developers to use the right approach for each app.



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⁸ Ibid, footnote #5, Progress

⁹ Ibid, footnote #4, Gartner

Consideration 4:

INTEGRATE THE MOBILE DEVELOPMENT EFFORT

Most organizations would like to ensure that mobile fits into an overall approach, so it makes sense to avoid isolating your mobile development teams in silos. In fact, because many organizations are using a large number of different technologies to develop applications, isolating any team can be counter-productive to developing, updating and supporting applications. If you integrate mobile with Web and other app development, you can leverage common coding practices and cross-channel experience to improve user engagement.

In integrating mobile development, you probably want to do two things: (1) Develop an “API first” approach and (2) cloud-enable your entire app infrastructure. With an “API first” model, APIs can be used to support your mobile efforts, thereby providing consistency of backend business logic that can be used across your mobile and Web apps. By cloud-enabling your app infrastructure, you can also take advantage of cloud models to share and re-use resources.

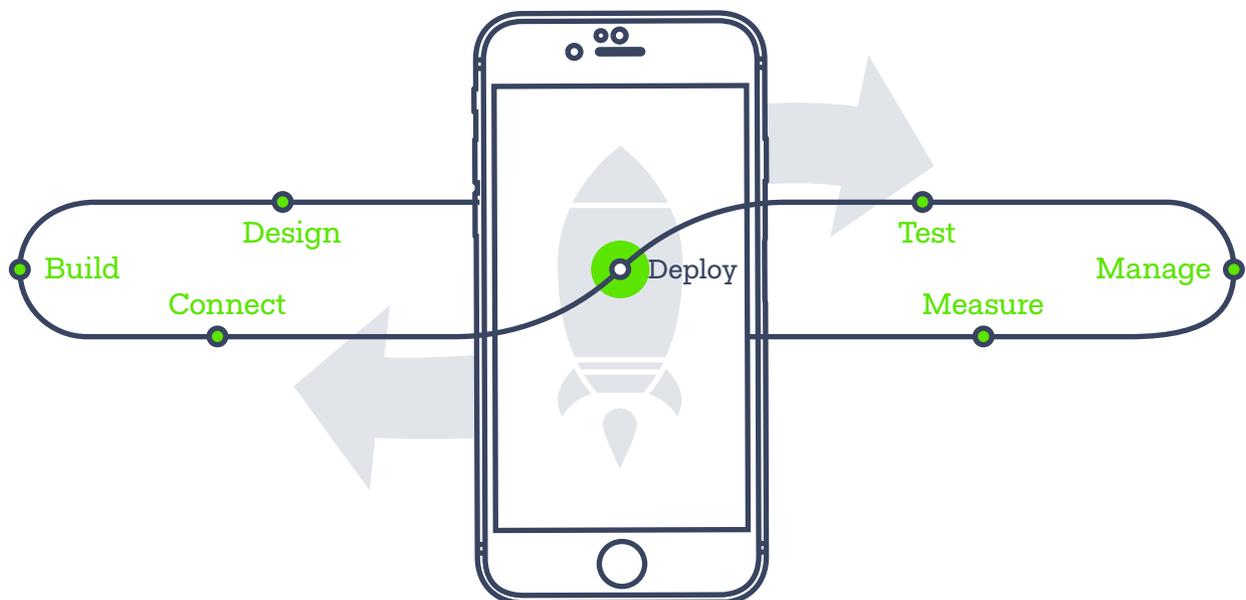


Consideration 5:

CONSIDER THE ENTIRE MOBILE LIFECYCLE

Developing mobile apps is an end-to-end challenge with a circular loop of design, build, connect, test, deploy, manage and measure—and then back to design again (see diagram below).

Your mobile approach is only as strong as your weakest link. As a development solution, you need an end-to-end platform that covers all aspects of the lifecycle—connecting, deployment, analytics, feedback loops, etc. You also need a platform that makes it easy to modify and adapt apps based on a continuous loop of user feedback and app analytics. If you consider the entire lifecycle in development, you will be able to deliver improvements more quickly, which, in turn will have a positive impact on the user experience and the overall success of the application.



Consideration 6:

BUILD A COMBINED STRATEGY

Mobile apps connect to a wide range of data sources to support the business requirements. With the growth of mobile applications, social networking, the Internet of Things and big data analytics, the number of data sources is continuing to expand. You need your apps to access these sources no matter where they sit—on-premise or in the cloud—and to also provide access to data of any type that is residing in legacy apps at any location.

You should therefore make sure that your mobile app development platform has excellent connectors to existing data resources so that mobility is well integrated into legacy applications and across co-dependent applications, such as for e-commerce. A great example of this can be found in Telerik Platform, which offers Progress DataDirect® drivers and technology to make it easier to access existing data sources wherever they are located.

Consideration 7:

AVOID LOCK-IN

As discussed in the paper, flexibility is key—to support the user experience, to accelerate mobile app development, to integrate with legacy apps, to manage the entire lifecycle of the application. As part of this flexible model, you want to have a choice of deployment models, including on-premise, private cloud or multi-tenant private cloud. Make sure your mobile development platform gives you the choices you need to be successful.

One of the important considerations is to avoid going with any solution that doesn't provide flexibility and locks you in to a specific model or approach. For example, say you decide to go with a C#-only mobile development platform. You would then hire C# developers. What happens if the platform doesn't deliver what you need for some of your business critical apps? You will then be forced to either retrain your existing developers to JavaScript or some other language, or you will have start over again or farm out development.

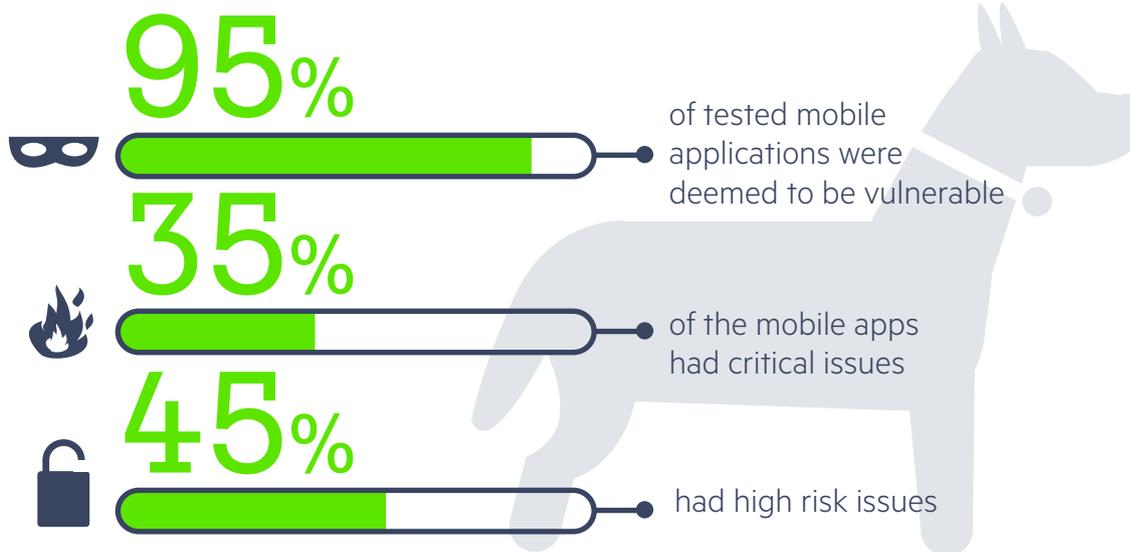
Consideration 8:

PAY CLOSE ATTENTION TO SECURITY

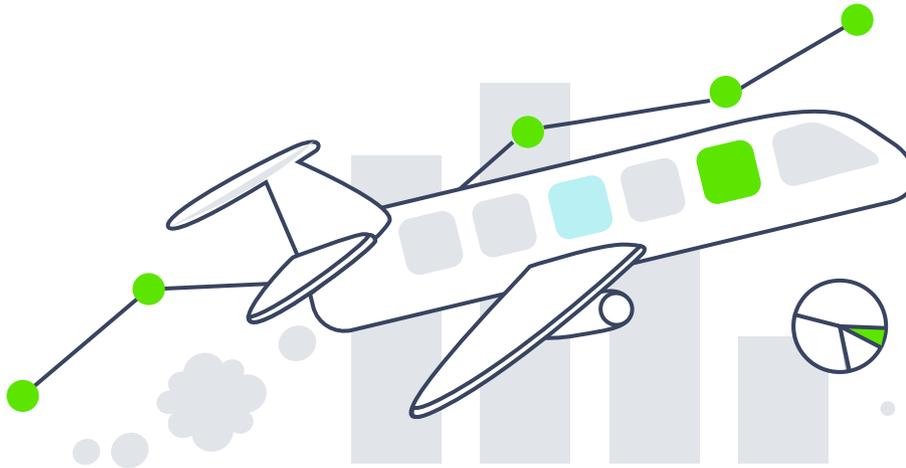
Mobile applications will present additional security risks to your organization, so you must do everything you can in the development cycle to protect employee and customer data. According to the 2015 Trustwave Global Security Report, 95% of tested mobile applications were deemed to be vulnerable, with a median number of 6.5 vulnerabilities for each mobile app. Approximately 35% of the mobile apps had critical issues and 45% had high risk issues.

While there is no single way to completely secure mobile apps against every attack, there are a number of security measures that can and should be taken to minimize risk. These include:

Encrypting data across all transactions between the device and the server. Ensuring that only authorized users can access the mobile application and putting in proper access levels to certify that users can only access data appropriate for their required tasks. Storing your data in a safe location, reinforcing your servers with redundancy and other physical protection, and deploying an enterprise backup solution that covers a vast range of data resources, including mobile devices and mobile apps.



TAKING THE NEXT STEP



There are few things more important to the future success of your business than the ability to support mobility for your employees and customers. The most innovative businesses consider developing new mobile apps—as well as the ability to upgrade legacy apps with mobile capabilities—to be a necessary aspect of their core competencies.

For any business, choosing the right mobile app development platform is a critical decision. In examining the eight considerations discussed in this paper, the one platform that stands out in each category is **Telerik Platform**. Key differentiators include:

- An end-to-end platform that enables a user-first model with full lifecycle design and management
- Visual development capabilities
- Great connectors to existing data sources
- A multi-platform approach, enabling developers to use their existing skills in native, hybrid and Web development
- Technical support that includes a community of more than 1.7 million developers
- A long history of leadership in providing a great user experience

Are you ready to take the next step in making mobile app development a core competency in your organization? Please contact Telerik at telerik.com/enterprise/request-a-demo to get started.