INDUS NET ®
TECHNOLOGIES

TOP
MOBILE
APP DEVELOPMENT
TRENDS 2018

A MARKET-DRIVEN
APP DEVELOPMENT SCENE

Mobile app market is booming at a staggering rate with a growing shift towards enterprise mobility and a spike in demand for retail mobile devices. BYOD and enterprise mobility market is slated to grow from $35.10 billion in 2016 to $73.30 billion by 2021.1 On the other hand, mobile apps are estimated to generate $189 billion in revenues by 2020 through app-stores and in-app advertising.

Mobile app development is driven by various underlying parameters. Advances in IoT device sensors and wearable devices will lead businesses to invest heavily in apps to power these technologies. Cloud application witnessed tremendous growth in 2017 especially with enterprises shedding inhibitions surrounding cloud security and the same will carry forward this year with much more vigor.

On the whole, 2018 will be a power-packed year where mobile app development will share a stage with pioneering technologies like blockchain, artificial intelligence, and predictive analysis to boost app security and explore many untouched possibilities in the arena of mobile app development to deliver an entire new outlook to mobile app users. Let us take a sneak peek at game-changing mobile app development trends to look forward in 2018.

CONTENT

More applications will be geared towards IoT, Wearable Devices, AR and VR

With more devices being connected to the internet, operating them via mobile apps will be of prime concern to manufacturers. In addition, IOT app developers will pull data from deployed sensors to stir innovation in app development. Apps will also have to deal with concerns pertaining to cyber security due to the rising number of **IOT devices**. IoT apps supporting blockchain technology will center on asset management and tracking.

Apps for wearable devices will take into consideration tiny screen sizes with wide range of sensors and data feeds. App developers will need specialized skill sets and tools to develop apps for platform-specific wearable devices with reliance on cellular networks.

The demand for mobile **VR apps** is exploding allowing people to work, transact and communicate through mobile apps for VR devices. VR app development in education sector, teleconferences, customer experience will witness a sharp rise in 2018.[2]

Use Cases

1. Audi plans to turns its AR app into a personal showroom allowing people to view cars in actual size in their living room and create personalized test track for test driving via the app.[3]

2. BBC will soon launch Civilizations AR app alongside its new TV series to allow people to view artifacts in their actual size in their bedroom.[4]

Cloud-based applications and instant apps

Cloud-based, simulated application market is one the rise for training, process improvement, predicting outcomes, and managing risk. Governments will increasingly use cloud-based apps for issuing cards. Payments-as-a-service apps as done by MindBody that processes payments on behalf of yoga studios will witness significant growth. Many benefits are in store for enterprises through artificial intelligence and machine learning based cloud applications.

Cloud-enabled Android apps will focus on improving user productivity through faster data access and save storage space. Android Instant Apps will create a lot of noise in 2018 enabling users with faster access to Android apps. It will further allow users to minimize data consumption and save storage space on smartphones.

Use Cases

MindBody is a cloud-based Payments-as-a-Service app, which has helped hundreds of yoga studios to focus less on payments, and more on getting people healthy.[5] After all, if yoga instructors have to worry about processing payments instead of teaching asanas to their clients, where's the mindfulness?

Mobile payments will focus on security, and blockchain will be involved

Considering the demand for robust and secure applications, mobile payments will be powered by blockchain technology for an added layer of security to process mobile payments and cryptocurrency transactions.

Mobile payment companies will be acquiring blockchain platforms to add strength to their underlying infrastructure. Application developers will need to focus on using blockchain to process payments quickly and authentically. The coming months will witness mobile apps using blockchain technology being increasingly used for security purposes, and payments will be no exception.

Use Cases

1. VTNetwork, an innovative mobile payment operator in Nigeria plans to set up blockchain lab to bring reforms in the financial sector.[6]

2. StarBucks is keeping an eye on blockchain technology owing to its rising mobile orders and payments. Singapore Airlines is working on a blockchain-based airline loyalty digital wallet for facilitating easy spending of flyer miles at POS transactions.[7]

3. Visa introduced payment-connected winter gloves build on wearable technology at Winter Olympics games this year. The technology is helping players to make cashless and contactless payment at NFC-enabled point-of-sale terminals boosting security as well as convenience.[8]

App data and predictive analysis to enhance future updates and app security

App data is expected to provide valuable information to developers who work on future updates and security fixes. This data will henceforth be used alongside predictive analysis to statistically recognize potential threats and vulnerabilities.

Similarly, app data will be used to improve user experience in future updates. While this has always been the case, app data will be scrutinized with the help of predictive analytics to identify user experience patterns, and improve app UI/UX.

Use Cases

1. AntiChat, a mobile app that tries to bring back the anonymity of the days of MIRC32, uses its own data to safeguard the anonymity of its users. A number of words that could potentially give away a user's identity are banned, even as they chat. This is a good example of how predictive analytics and app data help in safeguarding privacy and security.[9]

2. WalkMe AI Predictive Analytics works with mobile applications to enhance user experience through data collection and avoid inappropriate messaging, create navigation assistance, in-app sales promotion, and minimize cart abandonment.[10]

On-demand apps will focus on location data, and GPS

2017 already saw a deluge of app-based applications, which used crowdsourced data. App aggregators such as Uber, Ola, and others have made on-demand services easier to sell.

In 2018, on-demand apps will focus more on location data and usage patterns to deliver better services and user experience. This may involve using app data and user behavior alongside location data to deliver top-notch services to the user. Transportation and supply-chain industries will make use of on-demand applications more than ever.

Use Cases

1. **On-demand app-based snow removal services like SnoHub and Plowz can plan expansion and improve response times by analyzing location data. It can identify areas where demand is high and mobilize more contractors in those areas.**[11]

2. **Cab-aggregator services like Uber utilized GPS technology apps like Google Maps and Waze to replace taxi drivers and make it easier for Uber drivers to pick up and drop.**[12]

3. **Supply chain industry uses GPS technology for last-mile delivery and now it is leveraging smart mobile app features like dynamic routing, geofencing, and online routebook to iron out GPS errors.**[12]

Swift, Kotlin and Java
to rule the roost in development

Every year, a different programming language tends to be more popular among programmers. Programmers often depend on each other to foresee security threats, and to keep applications bug-free. Considering how existing trends are, they tend to use a language that is most suitable for that particular period of time. In 2018, this focus will mostly be on languages such as Kotlin, Swift, and Java.

Last year, Google gave a strong push to Kotlin as its official programming language for Android development. Kotlin that runs on Java Virtual Machine (JVM) can interoperate with Java language, which is good news for Java developers as well.[13]

Swift, a programming language developed by Apple, is apt for building apps for iOS, macOS, watchOS and tvOS. As it is open-source, it can also be used for Windows and Linux development. 2018 will find many programmers learning Swift language to push development of iOS apps.

Edge computing and accelerated mobile pages (AMP)

Carnegie Mellon University is investing a lot of its R&D efforts on designing future communication networks that are powered by edge computing.14 The research will focus on developing software that can utilize more processing power across different nodes in the network.

Such initiatives will help curb processing time and cost incurred by cloud data centers and conventional network infrastructure. Edge computing performs data processing at the edge of a network. This is more bandwidth-efficient, and is perfect for mobile devices and wireless technology. It even has applications in augmented reality, distributed data storage, and mobile edge computing.

Use Cases

1. Edge computing will lead the way for management of IIoT data (data generated by Industrial Internet of Things devices) improving productivity and efficiency of factory operations.[15]

2. Edge computing will also have significant impact on Healthcare IT infrastructure to redefine patient healthcare.[16]

3. With AMP Stories, Google has taken a plunge to enhance visual appeal of its AMP framework. The move will promote unique mobile-only content.[17]

Cross-platform, hybrid and lazy loading apps will become more popular

Cross platform mobile development tools like Xamarin, PhoneGap etc will continue their upward swing by minimizing technological barriers through cross platform application development. It will slash technology investment cost, decrease bugs, speed up time to market, and create robust and scalable applications.

Issues like high cost of mobile application development, complicated development process, and app maintenance among enterprises will trigger demand for hybrid mobile application development solutions in 2018. Hybrid app development is not only instrumental in delivering cost efficient solution but also enhances user design, improves offline app compatibility, and eases app integration.

Until now, developers used JavaScript's lazy loading scripts to improve page load times.18 This year, Chrome in its bid to further improve page load times for Android, is testing built-in lazy loading mechanism for images and iFrames. Similar developments in mobile apps, and how these built-in mechanisms coexist with JavaScript, will make 2018 an exciting year for developers and mobile users.

Preventing crime and self-harm based on user-data and usage patterns

Police departments have started using big data, machine learning and predictive analytics in a big way to forecast and prevent crime. Similarly, user data from social media and instant messaging apps can be used for sentiment analysis to identify people vulnerable to self-harming or with psychopathic tendencies. Still in nascent stage, mobile user data and usage behavior will be exploited this year for public welfare.

Use Cases

1. The Chicago Police Department is analyzing large sets of data from CCTVs, weather data, IoT data from sensor cameras detecting gun shots to outline crime patterns and identify high risk areas so that preventive measures can be taken.

2. Facebook uses AI pattern recognition algorithms in user posts and comments to track people with suicidal notions.[19]

3. Google launched a troll hunting AI system to track toxic posts.

App monetization will be
of prime importance

App monetization will be a prime criteria for clients, and developers will need to become more innovative in finding monetization solutions. For a sustainable business model, clients will look for apps that can be monetized. Mobile gaming apps is one such area where brands ad placement in games holds huge revenue potential.

According to a research by comScore, mobile games are the most download app category in Google Play and iTunes. Mobile game developers will use innovative techniques for placing ads in mobile games without affecting gaming experience.

Use Cases

WhatsApp will soon launch WhatsApp for Business and monetize its messaging app by charging large enterprises. Business users will get enterprise features for boosting commerce and customer service. With 1.5 billion user base, WhatsApp is looking at mind-boggling numbers. [20]

CONCLUSION

With both enterprise mobility and consumer mobile devices being omnipresent today, app development has taken the center-stage in IT departments across the world. 2017 already heralded a brave new world in which companies began to realize that mobile apps were a necessity which nobody could ignore.

This year, trends in app development will revolve around technology and improvement of user experience. In other words, app development trends will concern technological nitty-gritties, economics behind app development, and sociological patterns of how people use and misuse mobile applications. App development has matured to a level where companies have begun to focus on creating safer platforms that are financially viable, and technically sound.

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