Modern-day mobile app development is focused on continuous improvement and optimisation, thereby every developer tries to release applications rich in features and technologies. As Android devices prevail in the digital market, the demand for Android apps is as big as ever. However, ask any mobile developer about which platform they prefer, and you will most likely get the answer "iOS". So why, despite Android being so popular, iOS is still regarded as the best and the most secure platform for business app development? The main reason is that Android development can be extremely challenging due to the platform's openness, vulnerability and a great range of different Android devices available on the market.

Software Fragmentation

There are many Android devices running different versions of the Android operating system, which makes it incredibly hard for developers to keep up with all the different options. Many app developers choose to focus only on the latest Android versions, although this approach is highly impractical because it encompasses only a small part of the Android users who installed the most recent upgrade of the operating system. As a result, the client who ordered the app misses out on the major part of potential customers. Another problem in regard to the software is that Android allows the leading smartphone manufacturers like Samsung, LG, and Sony to customise the OS, which again leads to varying standards for each device.

Mobile Device Fragmentation

It is not only the different versions of the OS holding Android developers back, but also the numerous different devices available on the market. Each device has its own unique features, the most important of which are the display size and resolution. Android app designers have to bear in mind that they need to thoroughly test applications to ensure that they work across all the major smartphone and tablet models. This will require significant financial investment and time resources.

Security Problems

The Internet is flooded with malware, which sometimes affects Google Play because of Android's lack of strict guidelines for app development as opposed to Apple. Moreover, it is extremely hard to deal with malware because of mobile device fragmentation, as every problem should be fixed on hundreds of various devices with different OS versions. Resulting in Android apps and devices being exposed to many security risks.

Patent Issues

Recently there has been a lot of legal incidents regarding the violation of patent issues on the part of Android software developers and hardware manufacturers. This can become one of the major challenges for an Android developer, because it can be really tempting to incorporate innovative features that you have seen in some other app into your own application, without knowing that they have been patented.

Market Penetration and Research

As we have already mentioned, Android devices prevail over all other mobile operating systems, including iOS, which makes it incredibly hard for new applications to penetrate the market and gain recognition. Another challenge posed by the large size of the Android market is the high cost of market research. Developing an Android app, you need to analyse the following data:

- user behaviour
- acquisition rates
- retention rates
- user interactions
- logging activity

This information is essential if you want to develop an application that is user-friendly, intuitive and visually appealing.

Without a doubt, developing for Android is hardly a pleasant experience, but every cloud has its silver lining and it is always up to the client to choose the platform their future app will run on. As an experienced team that have worked on a large number of projects for both Android and iOS, we always recommend going for the latter due to iOS's high security standards. But no matter what your preference is, we would be glad to help you with any issues regarding app development and navigate you through the world of online business solutions.