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Rosie Sherry

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Introduction to Smartwatch App Testing



- Daniel Knott

Smartwatches are available since a couple of years and they are becoming more and more important in the wearable industry. In 2015, more than 24 million smartwatches [1] were sold worldwide and this number will likely increase in the next upcoming years.

An IDC report [2] from 2015 shows that basic wearables such as fitness trackers are growing by more than 70% every year. On the other hand wearables such as smartwatches are growing even faster.

The first editions of the different smartwatches weren't that mature and offered not that many apps and functionality. However, this might change in the near future and smartwatches can become the next big thing and will extend smartphones and tablets with useful functions. It may happen that you or your company decides to write an extension for your existing Android, iOS app also for the different smartwatch operating systems. This extension to the mobile apps add more complexity to your environment from a development and testing perspective.

Currently there are 4 different smartwatch platforms on the market:

1. Watch OS [3]
2. Tizen OS [4]
3. Pebble OS [5]
4. Android Wear [6]

Every platform provides unique features and functionality as well as design and interaction methods. In order to be prepared for the different platforms it is very important for software testers but also for developers or product managers to know the different



features and the design guidelines for the smartwatch platform.

To succeed in testing and developing smartwatch apps, there are 4 key areas to concentrate on:

1. Design
2. Usability / Interaction
3. Functionality
4. Connectivity

Some of you might think now that these 4 areas are important for every software product and you are right. These parts are the key for every software product, but if you take a look at the different smartwatch platforms with the different form factors, input methods and connection types to other systems the areas are even more important.

Designing an app for smartwatches is not easy but plays the central role. If the smartwatch app has a bad design, it will be very hard for the customers to use the provided functions in a fun and effective way. Therefore, it is essential to meet the design guidelines of every platform. Keep one thing in mind: Please do not

mix them. Jonathan Kohl wrote an excellent article about designing for smartwatches [7], which I recommend to read.

Next to the design the usability and the user interactions are the key for a successful smartwatch app. All smartwatches offer only a very small screen with less space to add button, text or other interaction methods. Therefore, it is very important that the platform guidelines are met in order to provide a usable app that customers will love. If you are not following the guidelines, the customers will most likely uninstall the app and will move to another one.

The third point is functionality. This is the key area for every software out there and is very important also for smartwatch apps. Your app should provide useful functions for the users and all the provided functions must work! Therefore, it is important to test the functions like for every other software system. The known functional test techniques are also valid for smartwatches.

The last point is connectivity. Currently most of the smartwatch use cases makes only sense with a connected smartphone, tablet or Wi-Fi. With the help of the paired device, the watch is sending and receiving data for further functionality. With smartwatches the connection with other networks or devices reaches the next level and is very important to test the different types in order to provide a high quality app to the customers.

Smartwatches may not be on everyone's wrists yet, but that time can change very quickly in the next upcoming months and software testers as well as developers must be prepared for the new way of interacting with apps and devices.

If you want to read more about smartwatch app testing take a look at a post from Eran Kinsbruner [8]. If you want to get the complete overview of all smartwatch platforms as well as testing ideas, take a look at the eBook "Smartwatch App Testing" [9].

Sources:

- [1] <http://www.statista.com/statistics/302722/smart-watches-shipments-worldwide/>
- [2] <http://www.idc.com/getdoc.jsp?containerId=prUS25696715>
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About the Author

Daniel is a mobile testing expert working as Senior Software Test Engineer at XING's Android team. He started his software testing career in 2003 as a trainee at IBM. After his time at IBM, Daniel studied computer science with a focus on software development and testing. Since 2009, Daniel has worked for companies such as Accenture, AOE and XING. In several agile development projects, he tested web, desktop or mobile applications. However, mobile testing became his passion and since the beginning of 2011 he is working in the mobile development and testing industry. He worked and is working with several mobile test automation tools such as Robotium, Calabash for iOS/ Android, Espresso and Keep It Functional. With the help of this tools, he developed a fully automated testing environment for Android and iOS.

Daniel likes to share his knowledge and therefore he started to share his experience on his blog www.adventuresinqa.com as well as in several testing magazines. Daniel is the author of the book „Hands-On Mobile App Testing“, more information about the book can be found at www.handsonmobileapptesting.com.