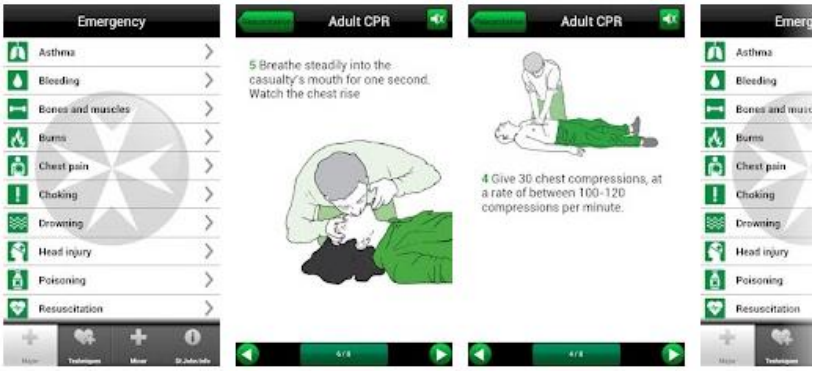
Animmersion - St John Ambulance APP for Android



Google play

Background

Animmersion UK Ltd (www.animmersion.co.uk) specialise in web based visualisation services, covering 3D computer graphics, virtual reality, web development, software development, graphic design, and games development.

Animmersion were commissioned by St John Ambulance to port its existing iPhone/iPad App to Android. The transfer of the application added the complexity of moving from a single operating system with single screen dimensions and resolution, to the Android operating system with multiple versions, multiple handsets and multiple screen dimensions and resolutions. The requirement from St John Ambulance was that the App functioned the same on Android as it did on the Apple platform. For Animmersion this was not just a simple port of code.

Autism Works undertook the cross platform port testing, and carried out:

- Devised and documented the overall Test Strategy
- Documented/Mapped the existing App
- Assessed the platform/devices to identify any restrictions which may obstruct an exact port
- Executed systematic tests to ensure flow and compatibility
- Created Android Test Environment
- Created a shared defect/bug repository within Jira
- Worked with the Animmersion developers in re-testing
- Undertook exploratory testing

Test Requirements

Gap Analysis - Page Checks

Manual page checks were carried out by first examining the existing iPhone/iPad version of the SJA app. This was used as a reference to create a complete map of the pages. Animmersion provided the apk file for the Android version of the app. The apk file was loaded on to real Android devices and compared with the original page map.

Comprehensive checks that were carried out on all pages included:

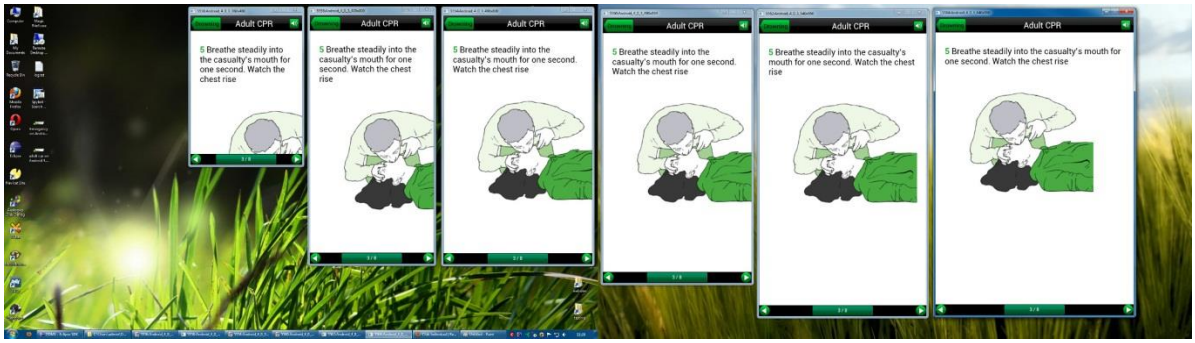
Content	The content on each page should be on the 'right' page e.g. page 1 of 'bleeding' should be on page 1 of 'bleeding', not page 2 of bleeding. The Test Analyst also needs to know how they can determine which is the correct page.
Text Flow	Text needs to be checked to see if it fits within the text area. If text is cut off at the bottom, it is a bug.
'Previous' and 'Next' buttons	These should be tested on every page to ensure that they go forwards or backwards. These are listed in the elements to test on each page.
Cross-links	All links to pages have to be comprehensively tested. An added complication though is testing links on ages that are accessed through cross-links.
Back button	This feature, located in the top-left corner of the screen is to be tested on every page.
Slider	All pages have a slider that can view and navigate to any other page in a section. Comprehensive testing should take place on each page
External Links	On the few pages that contain a hyperlink to an external website, these will need to be tested to see if the webpage opens.

Exploratory Testing

Exploratory testing was carried out on the application to search for bugs. No specification was provided for the app so the testers had to look through the application's screens systematically to find possible defects. Anything which appeared to be a defect was reported onto the see:detail JIRA defect website. These defects were acted upon by the developer before being retested by the same test analyst who created the original defect report.

The exploratory testing was carried out on six screen sizes and on the 3 most popular versions of Android. The official Android emulator from the Android SDK was used to complete the testing. The screen sizes tested were 260x480, 320x480, 360x480, 400x800, 480x800 and 640x960.

The three Android versions tested were: 2.2, 2.3.3 and 4.0.3. These versions were chosen based on the popularity of different Android versions provided by Google. The screen resolutions were chosen by Animmersion. This testing proved to be very effective. More defects were generally found on smaller screen sizes over larger ones. Different defects were also found on different versions of Android. The following screenshot shows the emulator in action for multiple resolutions:



Tools Utilised

The following tools were used for conducting the testing:

Android SDK

An initial research effort was conducted in order to locate the best tools to use for this testing. It was found that the Android SDK was the best tool to use for testing, whether it is on the emulator or physical device.

Command Prompt

This enables the Testers to load an Android app on to an emulator of a physical device. The command prompt was used to run an emulator manually; in most cases it's easier to use the Android AVD Manager.

Eclipse IDE

An effort was made to get the Android SDK working with the Eclipse IDE. This provided the following capabilities:

- Taking screenshots for defect reports.
- Acquiring logs to add to defect reports.
- Automating test scripts for running on Android (Gorilla Logic – MonkeyTalk).
- Creating an integrated environment for running tests from.

Jira

Autism Works provided Jira SaaS for defect management, and communicating improvements.

And finally…

"We inherited the responsibility for porting this app from Apple IOS to Google's Android operating system without any documentation in conjunction with tight timescales from our client. Autism Works took the existing app, accurately documented it, developed a test strategy and plan. This freed our developer to concentrate on the technical issues of moving from a single platform with single screen size and resolution, to a platform with multiple versions, multiple screen sizes and resolutions.

see:detail ensured that the functionality of the app was replicated through rigorous test execution, managing defect/improvement reporting and working closely with us. There is no doubt in my mind that without the see:detail Testers' diligence and speed of execution we would have had serious issues delivering this application on time. In addition, it meant that our Developers could do what they do best, building innovative high quality software."

Dominic Lusardi
Managing Director

see:detail is the trading name of Autism Works Limited, a Social Enterprise that offers the opportunity of sustainable employment to people with an autism spectrum condition or Asperger's Syndrome in the field of software testing. More information can be found at:

- www.seedetail.co.uk
- www.autismworks.co.uk