

General information when developing for Android

Overview

This tutorial presents general development information for the Android environment in the following topics:

- Project structure
- Designing for Android
- Environment-specific images
- Accessing native capabilities by using Apache Cordova
- Optimizing applications

Project structure

An Android app that is developed by using IBM MobileFirst Platform Foundation comprises the following components:

- A Java main Android Activity which hosts an instance of a WebView component. The main activity uses a provided template, but can also be a pure Android native activity.
- A set of Java and JavaScript™ libraries which provide access to various device features and capabilities.
- Web application code that is provided by the developer. Such code is written in HTML, CSS, and JavaScript, and runs in the WebView instance.
- All application components, including the web code from the developer, which are packaged into a single Android project.

The IBM MobileFirst Platform supports Android devices that run Android OS version 2.3.3, 4.x and 5.x

If you use a source control management system (such as Rational Team Concert, Git, Subversion and so on), see the topic about integrating with source control system, in the user documentation.

Designing for Android

Guidelines

When you develop applications, it is useful to always consult the GoogleDesign (<http://developer.android.com/design/index.html>) and Develop (<http://developer.android.com/develop/index.html>) websites.

Resolutions

Various Android devices have different screen resolutions, for example:

- HTC Hero – 320 x 480
- Nexus One – 480 x 800

If the Options Menu feature is to be implemented in an application, all the icons must be placed in the appropriate drawable folder, which is in *your-project-name\apps\your-app-name\android\nativeResources\res\drawable-**.

- Designates a screen density (LDPI, MDPI, HDPI, XDPI, XXDPI).

The MobileFirst builder then copies these images to the native folder of the generated project.

Accessing native capabilities by using Apache Cordova

You can use the Apache Cordova framework in Android applications to access the native elements of a device, such as contacts, geolocation services, media services, or the accelerometer.

For more information about Apache Cordova development, see the [Apache Cordova overview \(../../adding-native-functionality/apache-cordova-overview\)](#) tutorial.

Optimizing applications

When developing a mobile application, you can use minification and concatenation to reduce the size and number of files that are used within the application. This feature is available for the following environments: Android, iOS, Windows 8, Windows Phone 8, BlackBerry 10, Mobile Web and Desktop Browser.

For more information about minification and concatenation, see the topic about optimizing MobileFirst applications, in the user documentation.