

# 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 and 4.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
- Samsung Galaxy S4 – 1080 x 1920



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.