

Mobile App Development Process

Step 1: Create a new Android Project

- + Target devices
- + Create an Activity & associated layout (screen)

Step 2: Create Android Resources

- + res/drawables: images, shapes, animations,
- + res/values/colors.xml: define a list of colors for your app
- + res/values/strings.xml, res/values/dimens.xml, etc.

Step 3: Design graphic UI (res/layout) – XML layout

- + Design layout frame (nested layout)
- + Add Widget controls (TextView, Button, EditText, etc.)

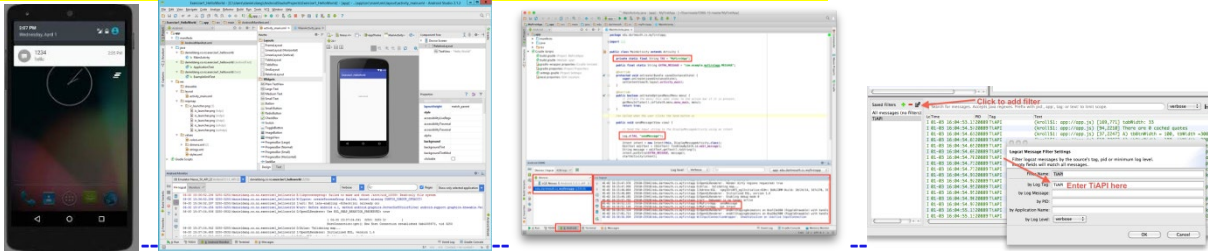
Step 4: Java coding – Activities and other java classes

- + Import classes, interfaces, and packages; Declare global objects, variables (right after class declaration)
- + Edit **onCreate()** method to create your Activity & its associated screen), to do casting/referencing (findViewById)
- + Edit **onClick()** method to respond to user events (clicks);

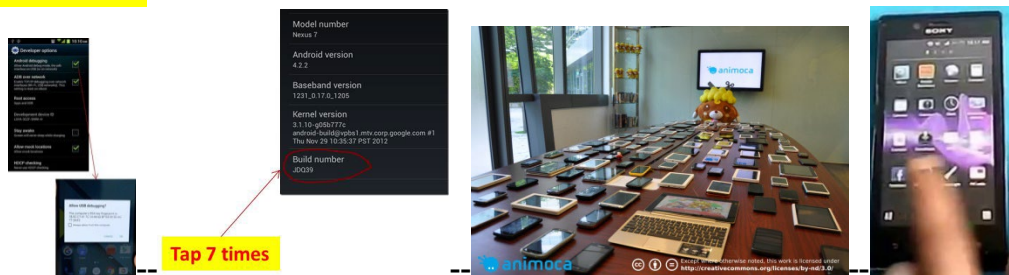
Step 5: Update AndroidManifest

- + App version, SDK target
- + Orientation
- + Permissions

Step 6: Debug the app with Android Virtual Devices (AVD) & Logcat (DDMS)



Step 7: Test on real devices



Step 8: Upload the app onto Google App Store



MOBILE APPS



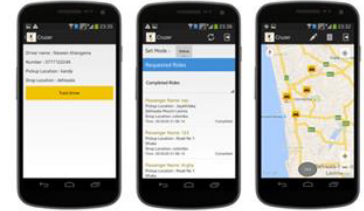
Websites:

Booking: www.booking.com,
Google Map: <https://www.google.co.nz/maps/>,
Trademe: <http://www.trademe.co.nz/>,
event cinemas: <https://www.eventcinemas.co.nz/>,
ANZ bank: <https://www.anz.co.nz/>,



Computer Software:

CCleaner, VLC Media Player, Chrome Browser, Microsoft Security Essentials, Adobe Reader, Picasa, Teamviewer, MS Office, Notepad++
 Source: <https://www.tricksgalaxy.com/top-best-software-for-windows-pc-laptop-computer/>



Mobile App:

Taxi Booking, Maps, Trade Me, Event Cinemas, ANZ Bank: goMoney NZ,

1. What is a Mobile Application (Mobile App)?
2. What is the difference between a Mobile App and a Website?
3. What is the difference between a Mobile App and Computer Software?

Mobile App Categories

ID	Category
69500	/All Apps
60000	/All Apps/Google Play
60001	/All Apps/Google Play/Books & Reference
60002	/All Apps/Google Play/Business
60003	/All Apps/Google Play/Comics
60004	/All Apps/Google Play/Communication
60005	/All Apps/Google Play/Education
60006	/All Apps/Google Play/Entertainment
60007	/All Apps/Google Play/Finance
60008	/All Apps/Google Play/Games
60010	/All Apps/Google Play/Libraries & Demo
60011	/All Apps/Google Play/Lifestyle
60012	/All Apps/Google Play/Live Wallpaper
60013	/All Apps/Google Play/Media & Video
60015	/All Apps/Google Play/Music & Audio
60016	/All Apps/Google Play/News & Magazines
60017	/All Apps/Google Play/Personalization
60018	/All Apps/Google Play/Photography
60019	/All Apps/Google Play/Productivity
60020	/All Apps/Google Play/Shopping
60021	/All Apps/Google Play/Social
60022	/All Apps/Google Play/Sports
60023	/All Apps/Google Play/Tools
60024	/All Apps/Google Play/Transportation
60025	/All Apps/Google Play/Travel & Local
60026	/All Apps/Google Play/Weather
60027	/All Apps/Google Play/Widgets
60028	/All Apps/Google Play/Games/Arcade
60029	/All Apps/Google Play/Games/Board
60030	/All Apps/Google Play/Games/Card
60031	/All Apps/Google Play/Games/Casual
60032	/All Apps/Google Play/Games/Live Wallpaper
60033	/All Apps/Google Play/Games/Racing
60034	/All Apps/Google Play/Games/Sports Games
60035	/All Apps/Google Play/Games/Strategy
60036	/All Apps/Google Play/Games/Action
60037	/All Apps/Google Play/Games/Adventure
60038	/All Apps/Google Play/Games/Casino
60039	/All Apps/Google Play/Games/Educational
60040	/All Apps/Google Play/Games/Family
60041	/All Apps/Google Play/Games/Music
60042	/All Apps/Google Play/Games/Puzzle
60043	/All Apps/Google Play/Games/Role Playing
60044	/All Apps/Google Play/Games/Simulation
60045	/All Apps/Google Play/Games/Strategy
60046	/All Apps/Google Play/Games/Trivia
60047	/All Apps/Google Play/Games/Word

GAMES



Pocket PC Phone



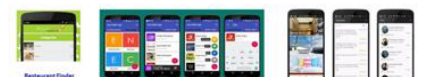
Blackberry Storm iPhone



Archos 5 Internet Tablet Motorola DROID



Google Nexus One



Restaurant Finder Radio App Maintenance Service App



Taxi Booking App Inventory Management App Educational App for Preschoolers Pinel Art

Source:

<https://developers.google.com/adwords/api/docs/appendix/mobileappcategories>

- **Android Eco-System**
 - **Android Ecosystem** & Android Architecture
 - **Android Integrated Development Environment (Android Studio IDE 2.1)**: Android Debug Bridge (ADB) (Monitor, Logcat) & AVD simulator; Compilation process & Grable Build System;
 - **Android App development process**: **App Specification** → **UI design** → **Java coding** → **Debug on AVD and ADB** → **Test on Real Android Devices** → **Upload on Google App store**
- **Visual design for User Interface (UI)**
 - **Visual components**: Layouts, TextFields, Buttons, EditText, RadioButton, Spinner
 - **Android resources (res)**: Layout (Activity), Values (string), Drawable (image, background), Mipmap (icons).
 - Toast and Log for debugging and testing
- **Handle user events**
 - **Click Event Handling**: Onclick in XML, Inline Anonymous Listener, Activity in listener, Explicit Listener Class;
 - **User Gestures**: Touch, Multiple-touch (pinch, zoom in/out), Swipe (down/up/right/left), Drag-and-Drop;
- **Intents, Services Broadcasting receivers**
 - **Open a new Activity**: Pass values between Activities. Implicit Intent: SMS, CALL, WEB browser,
 - **Broadcast receivers**: communication channel between activities and apps;
 - **Services in Android**: background tasks
- **Storage**
 - **Database**: SQLite Database
 - **SharedPreferences**
- **Multiple Threads and Internet**
 - **Webview, Threads (Asyntask, Handler), and Networking(SMS, HTTP)** to retrieve information/data from Internet;
- **Android Animations:**
 - **Tween Animation and Frame Animation**
 - **Canvas in Android**
- **Publish Apps on Google Play Store**