



SNS COLLEGE OF TECHNOLOGY, COIMBATORE –35  
(An Autonomous Institution)  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
(UG&PG)  
19CSB303 Composing Mobile Apps

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### Introduction

Android is a software package and linux based operating system for mobile devices such as tablet computers and smartphones.

It is developed by Google and later the OHA (Open Handset Alliance). Java language is mainly used to write the android code even though other languages can be used.

The goal of android project is to create a successful real-world product that improves the mobile experience for end users.

#### **What is Open Handset Alliance (OHA)**

It's a consortium of 84 companies such as google, samsung, AKM, synaptics, KDDI, Garmin, Teleca, Ebay, Intel etc.

It was established on 5th November, 2007, led by Google. It is committed to advance open standards, provide services and deploy handsets using the Android Platform.

#### **Features of Android**

After learning what is android, let's see the features of android. The important features of android are given below:

- 1) It is open-source.
- 2) Anyone can customize the Android Platform.
- 3) There are a lot of mobile applications that can be chosen by the consumer.
- 4) It provides many interesting features like weather details, opening screen, live RSS (Really Simple Syndication) feeds etc.

It provides support for messaging services(SMS and MMS), web browser, storage (SQLite), connectivity (GSM, CDMA, Blue Tooth, Wi-Fi etc.), media, handset layout etc.



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### **Android applications**

There are many android applications in the market. The top categories are:

Entertainment

Tools

Communication

Productivity

Personalization

Music and Audio

Social

Media and Video

Travel and Local etc.

### **Android Architecture**

android architecture or Android software stack is categorized into five parts:

linux kernel

native libraries (middleware),

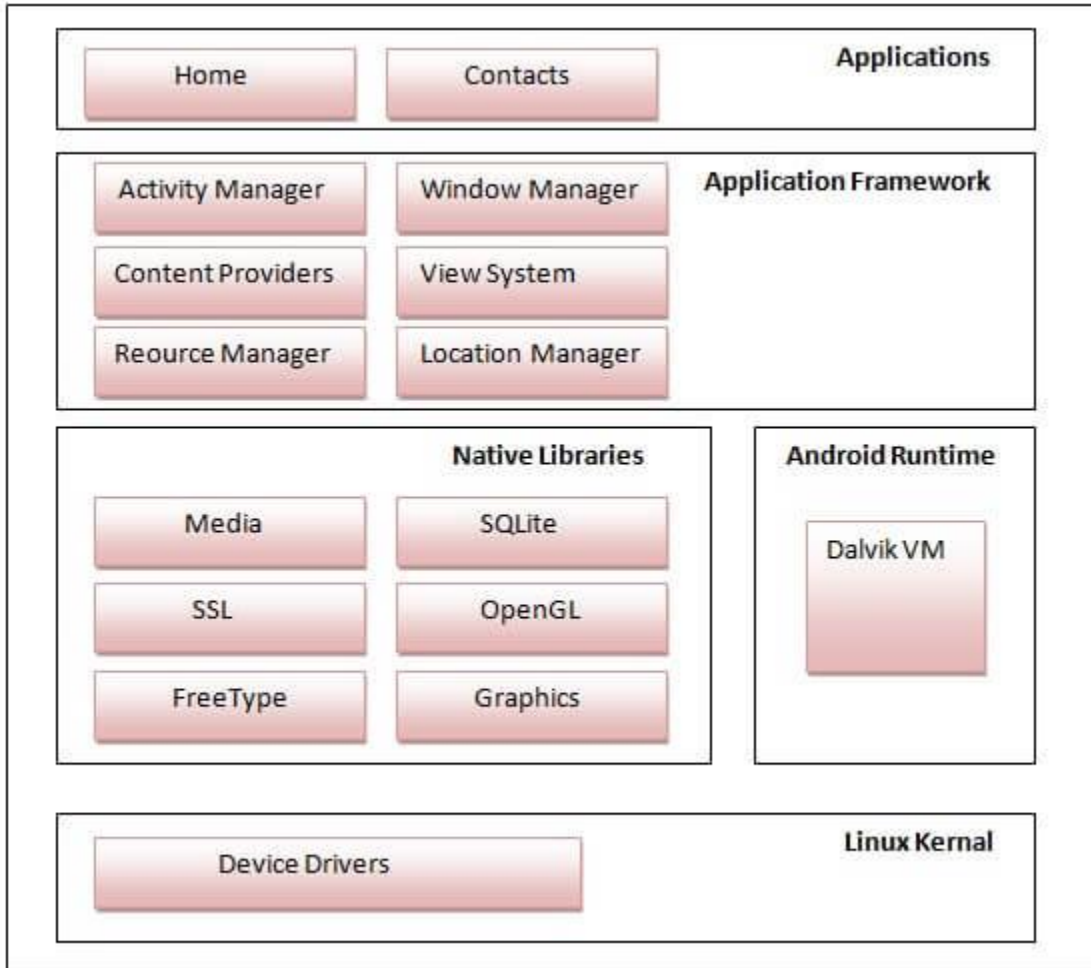
Android Runtime

Application Framework

Applications



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### 1) Linux kernel

It is the heart of android architecture that exists at the root of android architecture. Linux kernel is responsible for device drivers, power management, memory management, device management and resource access.

### 2) Native Libraries

On the top of linux kernel, there are Native libraries such as WebKit, OpenGL, FreeType, SQLite, Media, C runtime library (libc) etc.

### 3) Android Runtime



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In android runtime, there are core libraries and DVM (Dalvik Virtual Machine) which is responsible to run android application. DVM is like JVM but it is optimized for mobile devices. It consumes less memory and provides fast performance.

#### **4) Android Framework**

On the top of Native libraries and android runtime, there is android framework. Android framework includes Android API's such as UI (User Interface), telephony, resources, locations, Content Providers (data) and package managers. It provides a lot of classes and interfaces for android application development.

#### **5) Applications**

On the top of android framework, there are applications. All applications such as home, contact, settings, games, browsers are using android framework that uses android runtime and libraries. Android runtime and native libraries are using linux kernel.