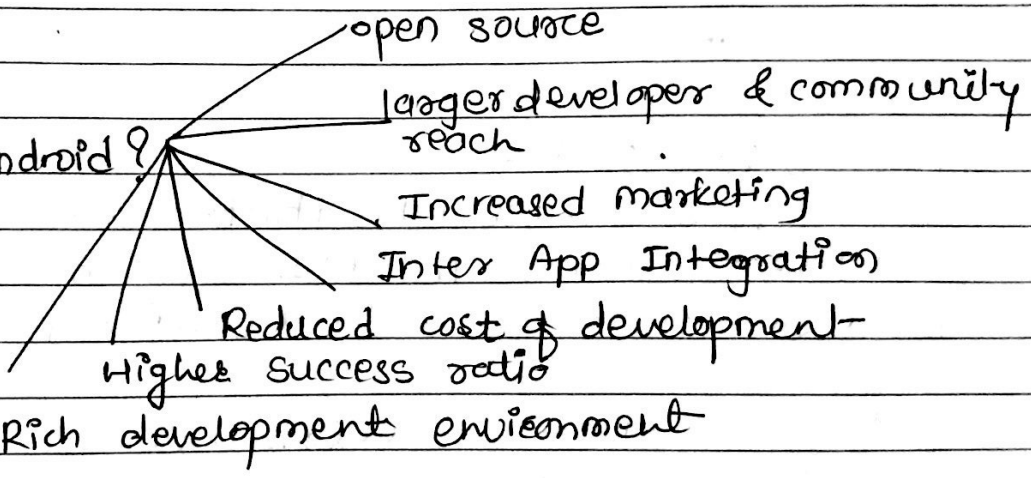
Chapter 1.

Android open source
- Linux based o.s for mobile device
- was developed by open Handset Alliance, led by google & other companies

The first beta version of the android s/w development kit (SDK) was released by google in 2007 where first commercial version, Android 1.0 was released on in sept 2008

On June 27, 2012, at the google I/o conference Google announced the next version, 4.1 Jelly bean. Jelly bean is incremental update, with primary aim of improving the user interface



Features of Android

1) Beatiful UI
2) Connectivity
3) Storage
4) Media support
5) Messaging
6) web browser
7) Multi touch
8) Multi tasking
9) Resizable widgets
10) multi language
11) wifi direct
12) GCM (google cloud messaging)
13) Android Beam

History of Andeoid
A to N. code name currently

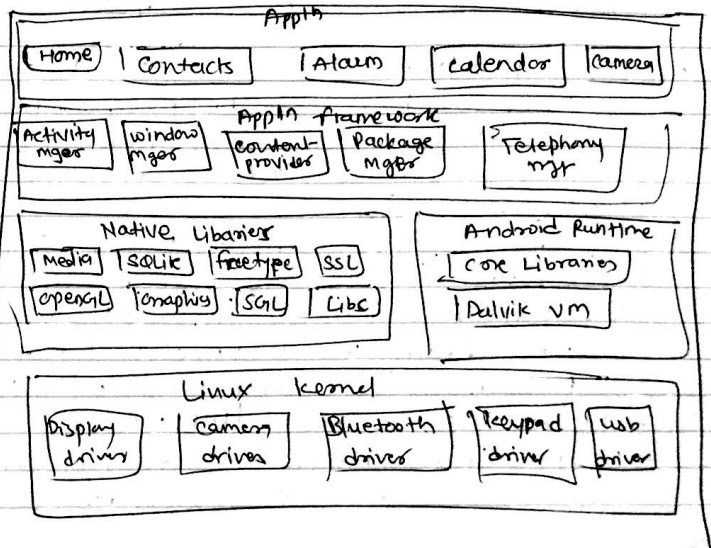
- Aestro
- Blender
- Cupcake
- Donut
- Eclair
- froyo
- Gingeebread
- Honeycomb
- ice cream sandwich
- ~~sandwich~~
- Jellybean
- kitkat
- Lollipop
- Marshmallow

What is API Level :-

It is integer value that uniquely identifies the framework API revision offered by a version of the andeoid platform

Platform version	API Level	version_code
Andeoid 6.0	23	MARSHMALLOW
Android 5.1	22	LOLLIPOP_MR1
5.0	21	LOLLIPOP
4.4W	20	KITKAT_WATCH
4.4	19	KITKAT
4.3	18	JELLY_BEAN_MR2
4.2, 4.2.2	17	JELLY_BEAN_MR1
4.1, 4.1.1	16	JELLY_BEAN
Android ~~4.0~~	4.0.3, 4.0.4	15	ICE_CREAM_SANDWICH_MR1
4.0, 4.0.1, 4.0.2	14	ICECREAM_SANDWICH
3.2	13	HONEYCOMB_MR2
3.1.x	12	HONEYCOMB_MR1
3.0.x	11	HONEYCOMB
2.3.4, 2.3.3	10	GENGERBREAD_MR1
2.3.2, 2.3.1, 2.3	9	GINGERBREAD
2.2.x	8	FROYO
2.1.x	7	ECLAIR_MR1
2.0.1	6	ECLAIR_0_1
2.0	5	ECLAIR
1.6	4	DONUT
1.5	3	CUPCAKE
1.1	2	BASE_1_1
1.0	1	BASE

Android Architecture :-



Android o.s is stack of s/w components which is roughly divided into five section & four main layer

1) Linux kernel :-

At the bottom of the layers is Linux Linux 3.6 with approximately 115 patches. This provides a level of abstraction between the device h/w & it contains all essential h/w drivers like camera, keypad, display etc

2) Libraries :-

on top of Linux kernel there is a set of libraries including open-source web browser engine webkit, well known library libc, SQLite db which is useful repository for storage & sharing of appln data, libraries to play & record audio & video. SSL libraries responsible for Internet security etc

3) Andeoid Runtime

This section provides a key component called Dalvik virtual machine which is a kind of Java virtual machine specially designed & optimized for Andeoid

This Dalvik VM makes use of Linux core features like memory mgt & multithreading, which is intrinsic in Java language

The dalvik VM enables every andeoid appln to run in its own process, with its own instance of the dalvik VM

The Andeoid runtime also provides set of core libraries which enable andeoid appln developers to write Andeoid appln using standard java programming languages.

4) Appln framework

layer provides many higher-level services to appln in form of java classes

appln developers are allowed to make use of these services in their appln

Key services

a) Activity manager

controls all aspects of the appln lifecycle & activity stack

b) content providers:-

allows appln to publish & share data with other appln

c) Resource Manager :—

Provides access to non-code embeded resources such as string, color setting & user interface layouts

d) Notifications Manager:—

allows appln to display alerts & notifications to the user

e) View system:—

an extensible set of views used to create appln user interface

5) Appln

You will find all the andeoid appln at the top layer