<div align="center">**UNIT-II**</div>
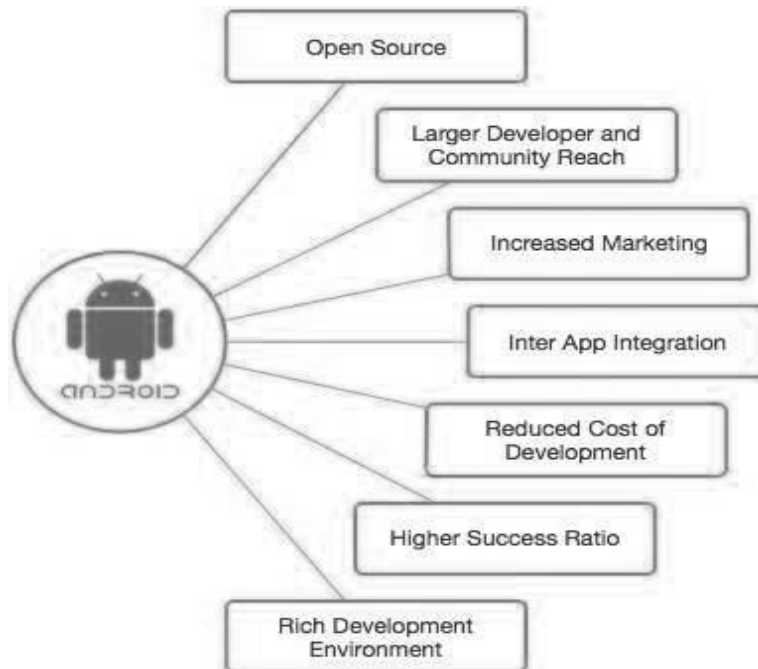
1. INTRODUCTION TO ANDROID

Android is an **open source** and **Linux-based Operating System** for mobile devices such as **smartphones and tablet computers**. Android was developed by the *Open Handset Alliance*, led by Google, and other companies.

Android offers a unified approach to application development for mobile devices which means developers need only develop for Android, and their applications should be able to run on different devices powered by Android.

The first beta version of the Android is **Software Development Kit** (SDK) was released by **Google in 2007** where as the first **commercial version, Android 1.0, was released in September 2008.**

On June 27, 2012, at the Google I/O conference, Google announced the next Android version, 4.1 **Jelly Bean**. Jelly Bean is an incremental update, with the primary aim of improving the user interface, both in terms of functionality and performance.

1.1 Why Android?

1.2 Features of Android
Android is a powerful operating system competing with Apple 4GS and supports great features.
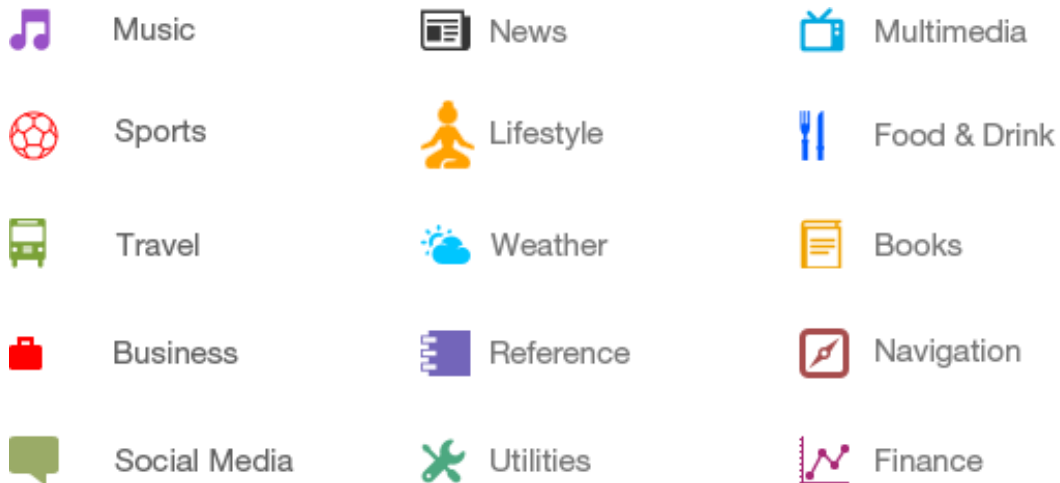
S.No.	Feature & Description
1	**Beautiful UI:** Android OS basic screen provides a beautiful and intuitive user interface.
2	**Connectivity:** GSM/EDGE, IDEN, CDMA, EV-DO, UMTS, Bluetooth, Wi-Fi, LTE, NFC and WiMAX.
3	**Storage:** SQLite, a lightweight relational database, is used for data storage purposes.
4	**Media support:** H.263, H.264, MPEG-4 SP, AMR, AMR-WB, AAC, HE-AAC, AAC 5.1, MP3, MIDI, Ogg Vorbis, WAV, JPEG, PNG, GIF, and BMP.
5	**Messaging :** SMS and MMS
6	**Web browser:** Based on the open-source WebKit layout engine, coupled with Chrome's V8 JavaScript engine supporting HTML5 and CSS3.
7	**Multi-touch:** Android has native support for multi-touch which was initially made available in handsets such as the HTC Hero.
8	**Multi-tasking:** User can jump from one task to another and same time various application can run simultaneously.
9	**Resizable Widgets:** Widgets are resizable, so users can expand them to show more content or shrink them to save space.
10	**Multi-Language:** Supports single direction and bi-directional text.
11	**GCM:** Google Cloud Messaging (GCM) is a service that lets developers send short message data to their users on Android devices, without needing a proprietary sync solution.
12	**Wi-Fi Direct:** A technology that lets apps discover and pair directly, over a high-bandwidth peer-to-peer connection.

1.3 Android Applications

- Android applications are usually developed in the **Java language** using the **Android SDK**.
- Once developed, Android applications can be packaged easily and sold out either through a store such as **Google Play**, **SlideME**, **Opera Mobile Store**, **Mobango**, **F-droid** and the **Amazon Appstore**.
- Android powers hundreds of millions of mobile devices in more than 190 countries around the world.

Categories of Android applications

There are many android applications in the market.

🎵 Music	📰 News	📺 Multimedia
⚽ Sports	🧘 Lifestyle	🍴 Food & Drink
🚌 Travel	☁ Weather	📄 Books
💼 Business	📒 Reference	🧭 Navigation
💬 Social Media	✖ Utilities	📈 Finance

1.4 History of Android

The code names of android ranges from A to N currently, such as Aestro, Blender, Cupcake, Donut, Eclair, Froyo, Gingerbread, Honeycomb, Ice Cream Sandwitch, Jelly Bean, KitKat, Lollipop and Marshmallow. Let's understand the android history in a sequence.

Android 1.6 Donut	Android 2.0 Eclair	Android 2.2 Froyo	Android 2.3 Gingerbead	Android 3.0 Honeycomb
Android 4.0 Ice Cream Sandwich	Android 4.1 Jelly Bean	Android 4.4 KitKat	Android 5.0 Lolipop	Android 6.0 Marshmallow

2. THE ANDROID PLATFORM - API

API Level is an integer value that uniquely identifies the framework API revision offered by a version of the Android platform.

Platform Version	API Level	VERSION_CODE
Android 6.0	23	MARSHMALLOW

Android 5.1	22	LOLLIPOP_MR1
Android 5.0	21	LOLLIPOP
Android 4.4W	20	KITKAT_WATCH
Android 4.4	19	KITKAT
Android 4.3	18	JELLY_BEAN_MR2
Android 4.2, 4.2.2	17	JELLY_BEAN_MR1
Android 4.1, 4.1.1	16	JELLY_BEAN
Android 4.0.3, 4.0.4	15	ICE_CREAM_SANDWICH_MR1
Android 4.0, 4.0.1, 4.0.2	14	ICE_CREAM_SANDWICH
Android 3.2	13	HONEYCOMB_MR2
Android 3.1.x	12	HONEYCOMB_MR1
Android 3.0.x	11	HONEYCOMB
Android 2.3.4 Android 2.3.3	10	GINGERBREAD_MR1
Android 2.3.2 Android 2.3.1 Android 2.3	9	GINGERBREAD
Android 2.2.x	8	FROYO
Android 2.1.x	7	ECLAIR_MR1
Android 2.0.1	6	ECLAIR_0_1
Android 2.0	5	ECLAIR
Android 1.6	4	DONUT

Android 1.5	3	CUPCAKE
Android 1.1	2	BASE_1_1
Android 1.0	1	BASE