MINI PROJECT

(2021-22)

"QUICK RENT APP"

Project Report

Institute of Engineering & Technology

Submitted By -

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Under the Supervision Of

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Technical Trainer

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Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project "Quick Rent App", in partial fulfillment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Akash Choudhary, Technical Trainer, Dept. of CEA,GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled "Quick Rent App", carried out in Mini Project – I Lab, is a bonafide work by Chetan Singh , Srijan Aggarwal , Manendra Singh is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

Name of Supervisor: Mr. Akash Choudhary

Date: 15/11/2021

Training Certificates

- **Chetan Singh**

BRONZE

GLA UNIVERSITY MATHURA

Accredited with **A** Grade by **NAAC**

Job Oriented Value-Added Course
on

Hybrid Mobile App Development with React-Native

Certificate of Participation

This certificate is awarded to **CHETAN SINGH**, Roll No. **191500226** from **GLA University, Mathura**, for successfully completing the *Job Oriented Value-Added Course* on **Hybrid Mobile App Development with React-Native**, organized by Department of Computer Engineering & Applications (CEA) GLA University, Mathura (U.P.), India from **29th June, 2021** to **31st July, 2021**.

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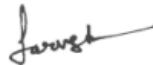
- **Srijan Aggarwal**

INTERNSHALA TRAININGS

Certificate of Training

Srijan Aggarwal

from GLA University, has successfully completed a eight weeks online training on **Android App Development**. The training consisted of Introduction to Android, World of Kotlin, Android Kick-Off, Higher Order Functionalities and The Final Project modules.

We wish Srijan all the best for the future endeavours.

Sarvesh Agarwal

FOUNDER & CEO, INTERNSHALA

Date of certification: 2021-08-17   Certificate no. : C76D58A8-981A-AC69-E9F3-67C13B11C2DC

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- **Manendra Singh**

GOLD

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Job Oriented Value-Added Course
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Certificate of Participation

This certificate is awarded to **MANENDRA SINGH**, Roll No. **191500433** from **GLA University, Mathura**, for successfully completing the *Job Oriented Value-Added Course* on **Hybrid Mobile App Development with React-Native**, organized by Department of Computer Engineering & Applications (CEA) GLA University, Mathura (U.P.), India from **29th June, 2021** to **31st July, 2021**.

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Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the instructor Mr Akash Choudhary, our technical trainer and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You

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ABSTRACT

In this project , we are creating an android application, basically a Vehicle Renting App which we have named Quick Rent. This application will provide us a platform to search and get for the Vehicles we are looking for at reasonable rates . All the users will be having their separate accounts on this app which will be connected to their email id. Any Vehicle that user want will be entered by him in the search box which works on the basis of queries input. The query is the name of the vehicle or its company of vehicle. The app is suitable in the present scenario as the we nowadays make last minute plans for travelling and getting transport is becoming more and more difficult so our can easily provide vehicle at comfort of time , One can also rent the vehicle to earn some extra revenue . This app is completely efficient and transparent to the reviews of the people on the cars and customer satisfaction. To get more information about customer and one who is renting you can also check profile and rating . User Interface attached to the firebase a perfect login system with email id and password and a forget password too

Android App ecosystem is diverse and is changing people's life all over the world. Android users are expected to increase because of the advance changes of the operating system and the way it deals with issues and compatibility with other mobile devices. Furthermore designing solutions for the problems that we may face in future is essential.

CONTENTS

Chapter 1 Introduction

- 1.1 Context
- 1.2 Motivation
- 1.3 Objective
- 1.4 Existing System

Chapter 2 Software Requirement Analysis

- 2.1 Impact Of Vehicles Renting
- 2.2 Problem Statement
- 2.3 Hardware and Software Requirements
- 2.4 Modules and Functionalities

Chapter 3 Software Design

- 3.1 Use Case Diagram

- 3.2 Data Flow Diagram

Chapter 4 Technology Used

- 4.1 Android

- 4.2 Version of Android

- 4.3 Tools and Languages

- 4.4 Basic Terminology

References

https://developer.android.com
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https://lucid.app/lucidchart

CHAPTER-1

INTRODUCTION

1.1 CONTEXT

This Android Application "Quick Rent App" has been submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mr Akash Choudhary. This project has been completed approximately three months and has been executed in modules, meetings have been organised to check the progress of the work and for instructions and guidelines.

1.2 MOTIVATION

In the recent years, we have realized the importance of travelling and how difficult it is for us to find transport services. Getting the vehicles online is one the easiest way to find transport and getting the vehicle at comfort of time is what everyone wants these days

In the century we are living the world is progressing at a really great pace, a lot number of technologies come up every single day. To keep up with the technology is also important to survive in this world of digitalization . Along with this we need to have a place to find the Vehicles as per our interest so we thought of developing a app which could provide us with vehicles as well as a platform where we could keep the vehicles we like marked. Adding to its features, some of these vehicles will pop up into the suggestion box according to the recent search, making your journey more fun and easy.
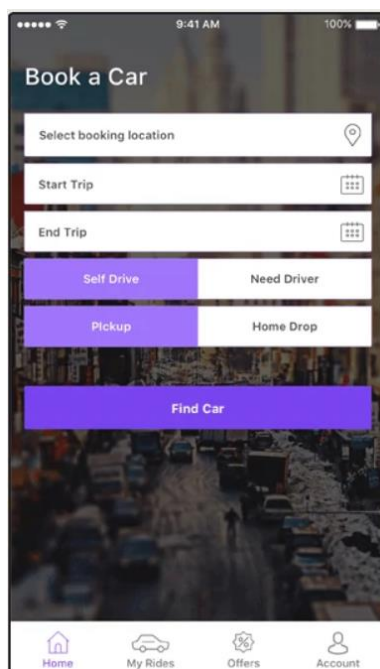
Moreover this kind of application can be used where it is difficult to find services like OLA and Uber. This would be an excellent effort to provide great transportation facilites to all.
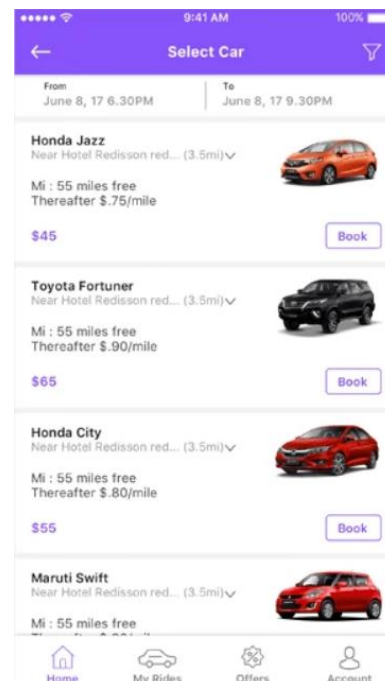
1.3 OBJECTIVE

The main objective of this application is to create a Renting app named "Quick Rent app" which will have a lot of vehicles and a space to keep up the vehicles one wants to travel. There will be a facility to search any vehicle one wishes to drive.

1.4   EXISTING SYSTEM

In this project , we are creating an android application, basically a Vehicle Renting App which we have named Quick Rent. This application will provide us a platform to search and get for the Vehicles we are looking for at reasonable rates . All the users will be having their separate accounts on this app which will be connected to their email id. Any Vehicle that user want will be entered by him in the search box which works on the basis of queries input. The query is the name of the vehicle or its company of vehicle. The app is suitable in the present scenario as the we nowadays make last minute plans for travelling and getting transport is becoming more and more difficult so our can easily provide vehicle at comfort of time , One can also rent the vehicle to earn some extra revenue

(a)   **(b)**

Figure-1: Existing System

CHAPTER -2

SOFTWARE REQUIREMENT ANALYSIS

2.1 IMPACT OF VEHICLES RENTING

Luxurious living has become the new trend in the town and people from all walks of life like to enjoy the little joys they get in availing usual services at decent prices. With car rentals becoming a service easy to avail, the service providers have made a drastic move to the car rental apps and have been selling their services on the platform. Whilst the people have got a lot of options of cars to choose from and drive it themselves, they can now avail lucrative offers by comparing prices and the availability of cars from various apps available. It is quite easy to use as well, as users do not have to look up for services on a web browser and make unnecessary calls.

The car rental apps have gained immense recognition due to the growing demand, and one can see an upsurge in the use of such mobile applications. These apps help the users place their booking order on the app and get notifications giving them information on the details of the car and the timings.

2.2 PROBLEM STATEMENT

Transportation is one of the major emerging problem which people are facing now a days. Due to emerging problem of over population public transport are becoming over crowded and on the spot travelling plans are very hard to execute so we are providing an app to solve this problem which is vehicle renting app name " Quick Rent " which is used to rent vehicle which are present in your locality.The best part is buyer and seller both are customer so rates can be easily bargained . It is also easy to find vehicle at comfort of your time

2.3 HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirement

- Processor :intel i5

- Operating System :Any Operating System

- RAM : 8 GB (or higher)

- Hard disk : 256GB

Software Requirement

- Software used: Android Studio

- Language used : Java, XML

- Database: Firebase

- User Interface Design : Android Application

2.4 MODULES AND FUNCTIONALITIES

- **Splash Screen** : The first screen with which the user interacts will be this screen containing the logo and the app name .This will disappear within 5 seconds after the app is displayed.

- **Login Page**: This page is for those users who have already registered themselves on the app and have a username and a password. There is also a way on this page for the new users to register themselves which will take them to the registration page.

- **Registration Page:** This is page is solely designed for the new users of the app who are willing to register themselves. This page takes input of the various details of the user and stores it in the database, later helping the user to login into the account with credentials they have provided.

- **Forget Password Page:** This page comes into picture when one of the user forgets the login credentials. In this case this page asks for the email-id with which the user has already registered. The app will check if there is any entry in its database

with the id and if there a mail will be sent to the same id for recovering the credentials and notification will be given to the user.

☐ **Navigation Drawer**: This is the most important part of the application that provides interactivity within the app as it connects the various activities together like it is a side bar on which the profile, the dashboard, the favourites section, the FAQ section ,the About page of the page are linked and on clicking on each you can visit the pages.

☐ **Dashboard Page:** This is the page displayed for every user after entering the app successfully. It contains the search bar where the user can search the vehicle according to the wish as well as some of the vehicles are suggested with the genres recently searched or the most popular one.

☐ **Vehicle Description Page**: After searching the vehicle there are a number of vehicles that appear, when the user select the vehicle the page will be displayed that will contain all the details of the vehicle i.e. the vehicle poster, owners name, price and a short summary of the vehicle .

☐ **Favourites Page:** Initially the page is empty, but when the users search for a vehicle and like it then one can add it to the favourites section. This place is a user's personal space to store any vehicle he likes or want to mark.

☐ **Profile**: This page will contain all the user details that the user entered while creating the account on the app. The user can update and make changes to all this information as desired.

☐ **FAQ Pages:** This page contains some of the questions that might arise in the mind of the users while using the app and to answer those, these answers are pre-written.

☐ **Logout page**: Then is this last panel for the users to sign out from the account. As soon as the users sign out they are brought back to the login page.
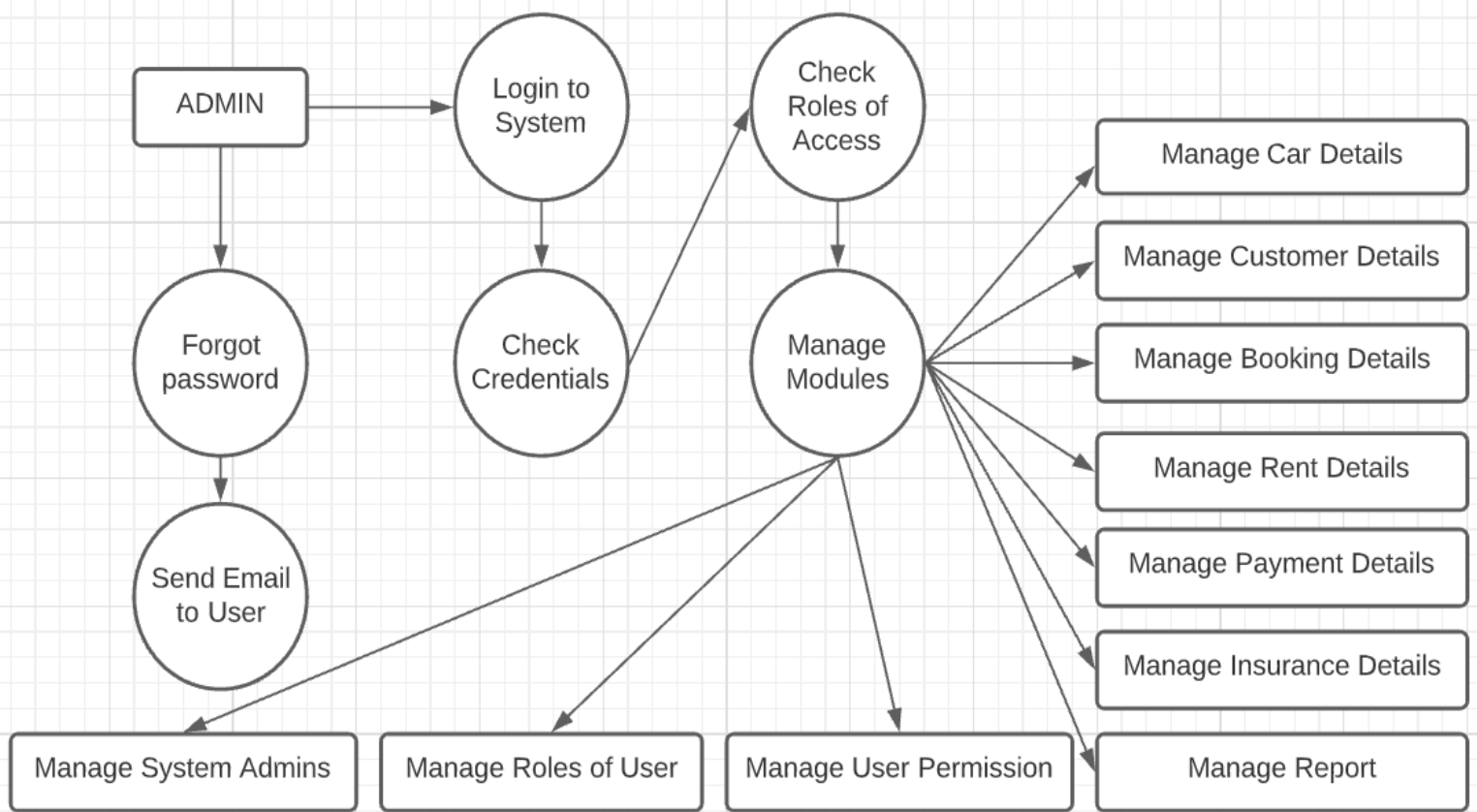
CHAPTER 3

SOFTWARE DESIGN

3.1 USE – CASE DIAGRAM
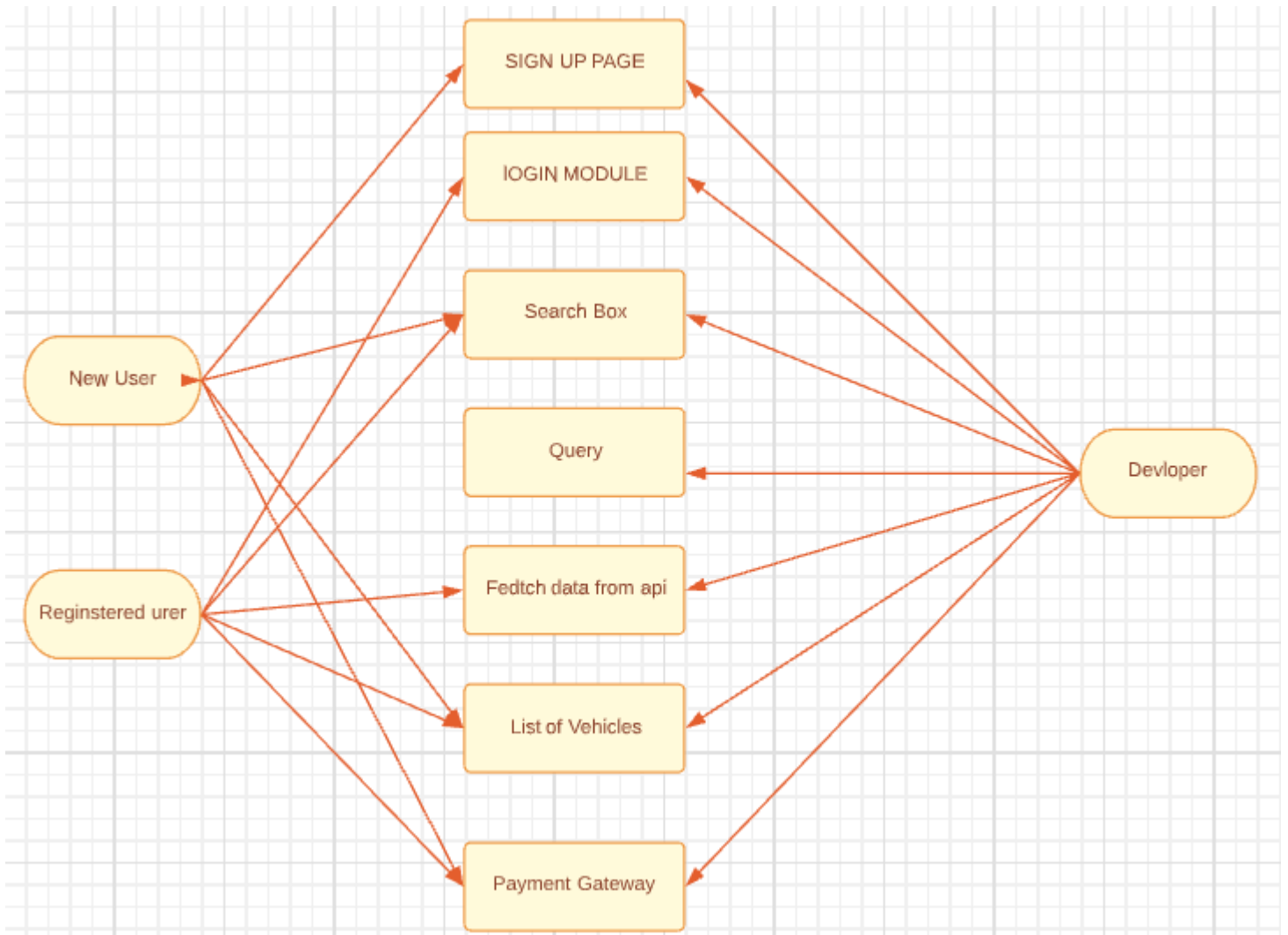
3.2 DATA FLOW DIAGRAM

CHAPTER 4

TECHNOLOGY USED

4.1ANDROID

Android is a linux-based operating system designed primarily for touch screen devices such as smart phone tablets and computers. Released in 2008, is now owned by Google. So android is a operating system like Windows, Ubuntu and Mac OS and a lot number of devices use Android these days like mobile phones, watches, laptop and television. So we also created an android application "Quick Rent App". Play Store is a market place for all the Android

Apps. So we need to know what basically an android app is. An Android app is software running on a Android Platform. So this can be concluded that like all the software it is a combination of Backend and Frontend. Backend to design the logical parts of the app, for the functionality whereas Front End to develop the User Interface. And to implement the various parts of the android app, we require a number of tools and technologies which will come into picture. But first it would be great to see the three different type of Android Apps:-

- **Native Apps:** An executable program coded in the machine language of the hardware platform it is running in. **Native applications** are compiled into the machine language of that CPU. For example, **Windows** and Mac executable **apps** are in x86 machine language, while **mobile apps** are ARM based. Native apps are the most common. They're coded in a specific language like Swift for **iOS** or Java for Android. A popular example is WhatsApp.

- **Web Apps:** are accessed via the internet browser and will adapt to whichever device you're viewing them on. They are not native to a particular system, and don't need to be downloaded or installed. Due to their responsive nature, they do indeed look and function a lot like mobile apps — and this is where the confusion arises.

- **Hybrid Apps:** Hybrid apps are deployed in a native container that uses a mobile Web View object. When the app is used, this object displays web content thanks to the use of web technologies (CSS, JavaScript, HTML, HTML5).It is in fact displaying web pages from a desktop website that are adapted to a Web View display. The web content can either be displayed as soon as the app is opened or for certain parts of the app only i.e. for the purchase funnel. In order to access a device's hardware features (accelerometer, camera, contacts…) for which the

interfaces (iOS, Android): native code will be used to access the specific features in order to create a seamless user experience. Hybrid apps can also rely on platforms that offer JavaScript APIs if those functionalities are called within a Web View

4.2 VERSION OF ANDROID

Each year Android releases a new version with better features, better security and better User Interface experience and a new symbol. Here is the table of list of versions

Figure-5: Android Kitkat

Code name	Version number	Initial release date
(No codename)	1.0	September 23, 2008
Petit Four	1.1	February 9, 2009
Cupcake	1.5	April 27, 2009
Donut	1.6	September 15, 2009
Eclair	2.0 - 2.1	October 26, 2009
Froyo	2.2 - 2.2.3	May 20, 2010
Gingerbread	2.3 - 2.3.7	December 6, 2010
Honeycomb	3.0 - 3.2.6	February 22, 2011
Ice Cream Sandwich	4.0 - 4.0.4	October 18, 2011
Jelly Bean	4.1 - 4.3.1	July 9, 2012
KitKat	4.4 - 4.4.4	October 31, 2013
Lollipop	5.0 - 5.1.1	November 12, 2014
Marshmallow	6.0 - 6.0.1	October 5, 2015
Nougat	7.0 - 7.1.2	August 22, 2016
Oreo	8.0 - 8.1	August 21, 2017
Pie	9.0	August 6, 2018

Table -1: Versions of Android

4.3 TOOLS AND LANGUAGES

Tools used to build the Android App are:-

- **Android Studio**: Android Studio is an environment that help us create and edit Android applications. It is the official IDE for Android App Development. It has intelliJ's powerful code editor and developer tools and various features that enhance productivity while developing apps.

- **Software Development Kit (SDK)**: Android Studio requires a collection of libraries and data therefore SDK is mandatory.

Languages used in building an Android Application are classified as per the Front End and Back End. For designing the Front End of an application we have used XML and for designing the Back End we have used Kotlin.

- **XML:** XML is the extensible Markup Language. It is the met language which allows users to define their own customized markup language especially in order to display documents on Internet. It is the language that contains tags that store information. And the tags can be used to present data on the screen.

- **Kotlin:** Kotlin is statically typed programming language based on Java Virtual Machine. Kotlin is the fundamental language of Android since 2017 as declared by Google.Devlopers of Android also prefer to use Java for the backend but Kotlin has a upper-hand due to many features like Java has a length syntax and hence sometimes the code is also redundant. To remove the boiler Plate code, Kotlin is preferred .Kotlin is cross platform, general purpose programming language with type inference. It can inter-operate fully with Java but type inference allow its syntax to be more concise.

4.4 BASIC TERMINOLOGY

- **Layout:** Layout is the parent of view. It arranges all the views in a proper manner on the screen.

- **Activity**: An activity can be referred as your device's screen which you see. User can place UI elements in any order in the created window of user's choice.

- **View**: A view is an UI which occupies rectangular area on the screen to draw and handle user events.

- **Emulator**: An emulator is an Android virtual device through which you can select the target Android version or platform to run and test your developed application.

- **Manifest file**: Manifest file acts as a metadata for every application. This file contains all the essential information about the application like app icon, app name, launcher activity, and required permissions etc.

- **API:** Short for Application Programming Interface. APIs are functions that developers can call on to access specific features by calling upon programs, code, and services that others have written. For example, if a developer wants to draw a button on the screen, she can insert a small bit of code that says "draw this kind of button, with this color and size and style, at this location" instead of dozens of lines of code that tells the graphics processor, in detail, exactly how to draw a button. If the application wants your location, it can use the location API to "get the device's location" and let Google's code handle the rest, instead of requiring the developer to build an entire location service from scratch just for her own app. There are thousands of APIs in Android, covering everything from drawing interface elements, to the cameras, to location access, to accessing storage, to 3D graphics (see: OpenGL ES) and much more.

- **Intent:** Intents are an essential part of the Android ecosystem. They are used to express an action to be performed. Intents allow you to interact with components from the same applications as well as with components contributed by other applications. It can be classified into implicit and explicit intents.

- **Implicit intent:** It does not name a specific component, but instead declare a general action to perform, which allows a component from another app to handle it.

- **Explicit Intent:** It specifies the component to start by name. You'll typically use an explicit intent to start a component in your own app, because you know the class name of the activity or service you want to start.

- **APK**: Short for "Android application package." The extension used in Android app installation files (e.g., app.apk). Similar in nature to an EXE file on Windows.

- **SDK:** Short for "Software Development Kit." As it pertains to Android, the SDK is a set of tools such as code libraries, a debugger, and a handset emulator that can be run on Windows, Mac, or Linux to facilitate the creation of Android apps by developers. While the SDK is generally intended for use by developers, end users can install the software on their home computer to execute ADB and Fast boot commands.

- **Action Bar**: The action bar is an important design element, usually at the top of each screen in an app that provides a consistent familiar look between Android apps. It is used to provide better user interaction and experience by supporting easy navigation through tabs and drop-down lists.

- **Navigation bar**: Android Navigation Drawer is a sliding left menu that is used to display the important links in the application. Navigation drawer makes it easy to navigate to and fro between those links. It's not visible by default and it needs to opened either by sliding from left or clicking its icon in the Action Bar.

- **Fragment**: A Fragment represents a behavior or a portion of user interface in a Fragment Activity. You can combine multiple fragments in a single activity to build a multi-pane UI and reuse a fragment in multiple activities.

- **Firebase** is a Backend-as-a-Service (Baas). It provides developers with a variety of tools and services to help them develop quality apps, grow their user base, and earn profit. It is built on Google's infrastructure. Firebase is categorized as a NoSQL database program,

which stores data in JSON-like documents. Firebase has three core services: a real-time database, user authentication and hosting. With the Firebase iOS SDK, you can use these services to create apps without writing any server code.

JSON stands for JavaScript Object Notation. It is an independent data exchange format and is the best alternative for XML. JSON is used for data interchange (posting and retrieving) from the server. Hence knowing the syntax and it's usability is important. JSON is the best alternative for XML and its more readable by human