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**SQE Assignment**

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# Chapter 1:

# INTRODUCTION

## 1.1 Purpose:

The aim of this application is to design an android app for managing the facilities provided by the hostel more excisable to those who are using the hostel. Android platform for this application was chosen due to its accessibility to students. Now a day almost everyone has an android device. This app provides a platform to keep up to-date about the Events related to the hostel. It also provides information about the mass schedule and contact information of the hostel management.

## 1.2 Features:

Our application provides following features:

* Student can register with this app.
* Mess Schedule and Menu information
* Events Information
* Contact of the Hostel employee, technical staff and management.
* Provide information about the facilities provided by the hostel.

## 1.3 Scope:

Hostel Management System help register the users to the hostel and get the information about the hostel mess schedule and update on the events related to the hostel. It also provides information about the facilities provided by the Hostel.

## 1.4 Advantages:

* Users can register them self.
* can contact the staff and management for the app.
* Can get all the information about the Mess and Event related to the hostel.

## 1.5 Requirements for Use

### **1.5.1 Hardware Requirements**:

The hardware requires to run the application successfully.

### 1.5.2 Android Device:

A user must have a mobile device with Android Operating System.

### 1.5.3 Internet Connection:

In order to register and get update about the schedule orevents, the user need a stable internet connection.

## 1.6 Tools used in Development Process

The mainstream tools used in the development of HMS (Hostel Management System) are Android Studio 3.4 Following is an introduction to these tools which contains programming languages that have their own programming constructs which work like tools.

### 1.6.1 Android Studio:

Android Studio is the official integrated development environment for Google's Android operating system, built on JetBrains' IntelliJ IDEA software and designed specifically for Android development. It is available for download on Windows, macOS and Linux based operating systems.

Android Studio provides the fastest tools for building apps on every type of Android device.

#### 1.6.1.2 Visual Layout Editor

The Visual Layout Editor in the android studio provide the preview of your layout on any screen size by selecting one of various device configurations or by simply resizing the preview window.

#### 1.6.1.2Fast Emulator

The Fast Emulator in the android studio provide with Install and run your apps faster than with a physical device and simulate different configurations and features.

#### 1.6.1.3APK Analyzer

APK Analyzer in visual studio let you find opportunities to reduce your Android app size by inspecting the contents of your app APK file, even if it wasn't built with Android Studio. Inspect the manifest file, resources, and DEX files. Compare two APKs to see how your app size changed between app versions.

#### 1.6.1.4Intelligent code editor

APK Analyzer in visual studio let you Write better code, work faster, and be more productive with an intelligent code editor that provides code completion for Kotlin, Java, and C/C++ languages.

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# Chapter 2:

# SYSTEM ANALYSIS

## 2.1 Requirement Gathering

Hostel Management System should be a system that can make it easy to register to the hostel so that can check the facilities of the hostel beforethey became part of the hostel. They should have clear understanding of what they will be getting for this particular hostel. The Hostel Management System should also be able to provide the hostel staff with a platform where they can inform the student (clients) with the information that can be relevant and of use to the clients.

Our hostel management app should be able to make it easy to get in content with the Hostel Management and employees so that if the student (client) need assistance or need to launch a compliant he should be able to do so.

Hostel Management should be able provide update to the users if there is any new event.

## 2.2 Feasibility Analysis

A mobile web or app project requires a comprehensive evaluation of its technical requirements; the implementation plans and roadmap; company and customer readiness; legal and cultural issues and timescale.

### 2.2.1 Technical Feasibility

The best platform to make the Hostel Management System is android because it the most popular mobile platform and is easy accessible to everyone as mobile devices has become the necessity of life. Android have a robust community and advance development tool like Android Studio.

### 2.2.2 Operational Assessment

The Hostel Management System will be a welcome addition because it will help the student (client) better assess the hostel they want to register at. Student will be updated about the mess schedule and event related to the hostel so they can be better prepared if the want to change something or looking forward to something.

## 2.3System Specification

System specification of the development environment are the:

* Laptop core i5 4 gen or higher with 4 GB or more ram
* Android Studio 3.4 or higher

Minimumrequirement for the user machine

* Mobile device
* Andriod SDK 16 or higher ( Android 4.0 or higher)

# Chapter 3:

# EXISTING SYSTEM

## 3.1 Problems in Existing System

* The user has to no information about the hostel within going there in person.
* The Schedule and mess information in not known until very end by then nothing can be done. This information can be helpful if menu is not up to teast the student has to go to the look for the other option.
* The student has to find the staff in person to complain if there is any problem and it might take longer to contact the staff.
* The student (client) go away for the hostel he will have no idea about the event and announcement about the hostel.

## 3.2 Proposed System

The Hotel Management System will let the student (client) register to the hostel and get updates about the hostel activities and events and will be able to know about the mess schedule and menu. They will also be provided with the contact of all the hostel employee and technical staff as well as the hostel management.

## 3.3 Convenience:

Our proposed hostel management system is convenient. You can register online and get updates about the events and schedule of the hostel.

## 3.4 Registration:

You can register online and became the part of the hostel community and get a room there by a follow up.

## 3.5 Community:

The application will provide all the contacts of the staff and management.

## 3.6 Mess Schedule:

The app will provide a schedule and the menu available in the mess. The will tell what will be available on what day and at which time.

Chapter 4:

# APPLICATION REQUIREMENT

This chapter provides the Basic and other requirements of the software.

## 4.1 Basic Requirements:

The basic requirements include the software requirement and hardware requirements without which it will be impossible for a user to use/manage/edit this application.

### 4.1.1Software Requirements:

The software requirements for a user to manage this application are as follows:

**Technologies**

* Java JDK
* Android Studio 3.4
* Android Emulator
* Griddle Build System

### 4.1.2 Hardware Requirements:

The hardware requirements for a user to manage this application are as follows:

* Laptop
* Intel core i5 4 gen or higher processor
* 4 GB Ram
* Android Device (in case Emulator is not available)

## 4.2 Other Requirements:

* Internet connection to download the Gradle latest build to make the software more effective.
* Android lint and other debugging tools
* Android SDK for instant run, so that the app can be run and tested more quickly.
* API to fetch data from the server.

# Chapter 5:

# SYSTEM DESIGN

After the requirement gathering and feasibility analysis it is time to build the android application for our hostel management system. The first step in the system design is to choose the development model. The model chosen for this application is the Iterative model.

## 5.1 Iterative Model:

An iterative life cycle model does not attempt to start with a full specification of requirements. Instead, development begins by specifying and implementing just part of the software, which can then be reviewed in order to identify further requirements. This process is then repeated, producing a new version of the software for each cycle of the model.

## 5.2 Data Flow Diagram:

A data flow diagram (DFD) is a graphical representation of the "flow" of data through an information system modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated.

A DFD shows what kind of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel.

## 5.3 Description:

The Student or the client will be able to register to the hostel by providing the information about himself and then he will be able to view.

* Mess Schedule
* Event Related to the hostel
* Contact information of the hostel Management