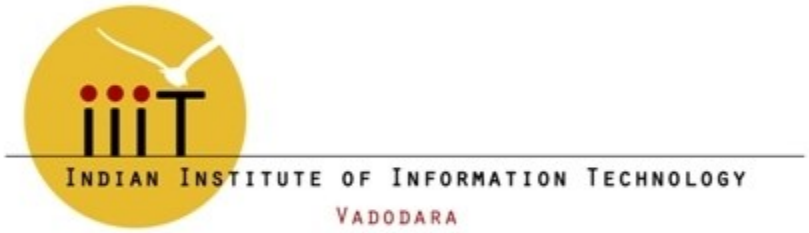
Web Technology



Course Instructor:

Prof. Santosh Bharti

HOSTEL MANAGEMENT SYSTEM

Team Member:

1) Shubham Singh(201652026)
2) Sankalp Gaur (201652024)

Table of Contents

Chapter 1

Project Plan

1.1) Introduction:

This document will propose all features and procedures to develop the system.

This document specially containing details about objectives, scope limitation, process model, primary requirements, team development, possible project risks, project schedule, and finally monitoring and reporting mechanisms.

As the name specifies “HOSTEL MANAGEMENT SYSTEM” is software developed for managing various activities in the hostel. For the past few years the number of educational institutions is increasing rapidly. Thereby the number of hostels is also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software’s are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried manually.

Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more users friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks the existing system.

1.1.1) Objectives and concentrations:

- To deal with Hostel Management System in an easy way and an efficient mannered.
- Create strong and secrete database that allow for any connection in a secret way, to prevent any outside or inside attacks.
- Allow each student to request for swap and change.

1.1.2) Scope and limitations:

- Hostel Managements System is designed for Hostel (IIITV).
- There will be pre-defined criteria's for the Reserve to the hostels.
- Hostel accountant allocate room for new student with valid data.
- If the students are found eligible then they are allotted to the hostel Room.

1.2) Project Organization (The team):

	Job Title	Description
1	Project Manager	To manage all processes in the project
2	Software Designer	To design the models and diagrams that helps the programmer in implementation phase.
3	Administrator	Administrator performs query
4	Software Analyst	To analyse the requirements of Hostel Management Systems
5	Tester	Team members test the project

1.3) Schedule:

	Hostel Management System	Assigned To	Start	End
1	Requirements Gather	Shubham & Sankalp	05/9/18	08/9/18
1.1	Hardware & Software Req.	Sankalp	05/9/18	06/9/18
1.2	Functional & Non Functional Req.	Shubham	05/9/18	08/9/18
2	Software Analyst	Sankalp	09/9/18	11/9/18
3	Data Flow Diagram	Sankalp	13/9/18	15/9/18
4	Software Design	Shubham	15/9/18	02/10/18
5	Testing	Sankalp	02/10/18	04/10/18
6	Deployment	Shubham & Sankalp	05/10/18	05/10/18

1.4) Hardware and software Cost and Requirements:

In our project, there is no paid software and hardware. We are using VS Code Editor.

1.5) Project management approach:

Software Process Model:

To solve an actual problems in an industry, software developer or a team of developers must integrate with a development strategy that include the process, methods and tools layer and generic phases. This strategy is often referred to a process model or a software developing paradigm.

Our project follows the **waterfall model.**

The steps of waterfall model are:

- Requirement Definition
- System and Software Design
- Implementation
- Integration and System Testing
- Operation and Maintenance

Chapter 2

Software Requirement Specification

(1) Preface:

This document has been written to apply a new version of SRS Software Requirements Specification depends on IEEE-STD-830-1998 standard. So, you must compare this document with this standard.

This is the first version for ***Hostel Managements system***.

This document is the basic intended for any individual user, developer, tester, project manager or documentation writer that needs to understand the basic system architecture and its specifications.

(2) Introduction:

The purpose of this SRS document is to write the functional and non-functional user or system requirements that represent the characteristics of ***Hostel Managements System***.

The scope and limitation of this system is:

- Hostel Managements System is designed for Hostel (like schools, universities).
- There will be pre-defined criteria's for the Reserve to the hostels.
- He checks the attested application forms of the students obtained from the internet and verify it with the student database.
- If the students are found eligible then they are allotted to the hostel Room.

(3) Glossary:

1	HMS	Hostel Managements System
2	Hostel Managements System	He checks the attested application forms of the students obtained from the internet and verify it with the student database.
3	Administrator	Who is responsible to create a new allotment of Room, delete Reserved Room. The person who control the system

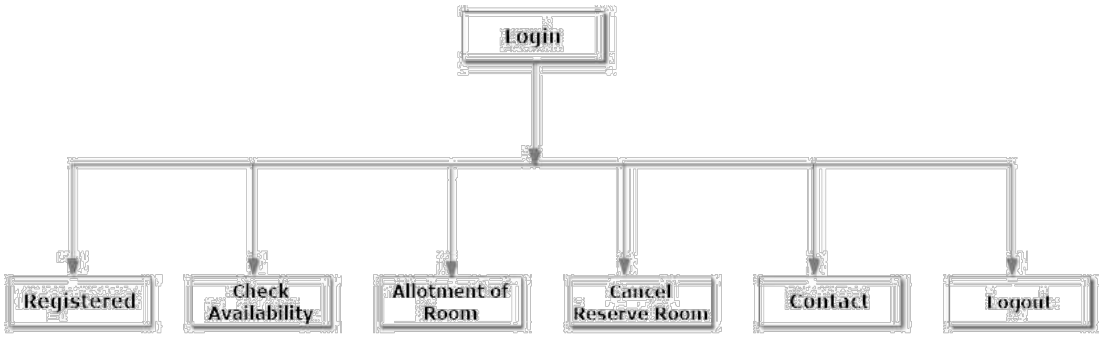
(4) User Requirements Definition:

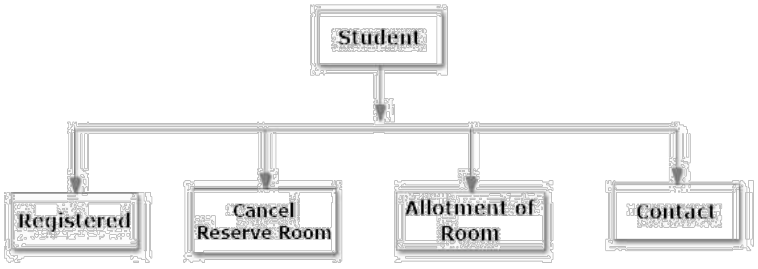
The user requirement for this system is to make the system fast, flexible, less prone to error, reduce expenses and save the time.

- Less human error ·
- Strength and strain of manual labor can be reduced ·
- High security

- Ø Data redundancy can be avoided to some extent ·
- Ø Data consistency ·
- Ø Easy to handle ·
- Ø Easy data updating ·
- Ø Easy record keeping ·
- Ø Backup data can be easily generated.

(5) System Architecture:





(6) System Requirement Specification:

(6.1) Functional System Requirement:

This section gives a functional requirement that applicable to the HMS.

These are sub modules in this phase.

- Administrator module.
- User Module
- Hostel Module
- Registration Module

The functionality of each module is as follows:

- **Administrator module:**

The Administrator can:

1. Allot different students to the different hostels.
2. Vacate the students for the hostels.
3. Control the status of the fee payment.
4. Edit the details of the students & modify the student records.

- **User Module:**

1. It allows the different users to access the registration forms.
2. He can view the Student administration division of the different hostels and also view the notice boards.

- **Hostel Module:**

As the student's course is over they will vacate their rooms. So it is required for the administrator to remove their records from the database tables. This section includes the option for the room vacation and the deletion of the particular record from the database.

- **Registration Module:**

This section provides a form to the students which can be filled by them, and a copy of the filled page can be taken in the printed form. This is later submitted to the Hostel authorities can be verified by them before allotting them to the respective hostels Rooms.

(6.2) Non-Functional System Requirements:

(6.2.1) Performance Requirements

Some Performance requirements identified is listed below:

- The database shall be able to accommodate a thousand record to store.
- The software shall support use of multiple users at a time.

(6.2.2) Safety Requirements

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup.

(6.2.3) Security Requirements

Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below. Keep specific log or history data sets

- Assign certain functions to different modules
- Restrict communications between some areas of the program
- Check data integrity for critical variables
- Later version of the software will incorporate encryption techniques in the user/license authentication process.

(6.3) System Requirement Specification:

(6.3.1)Hardware Requirements

- ü Processor: Pentium or Greater
- ü RAM: 512MB
- ü Hard Disk:1GB
- ü Keyboard
- ü Monitor or LCD

(6.3.2)Software Requirements

- ü Tool : Command Prompt
- ü Database: db.sqlite3
- ü Operating System: any

(7) System Models:

In this system we are use waterfall model to apply these ideas. Which is help us to separate each step and when we finish a one phase the output of it is the input to the next phase. Also, we can backwards if there is a new requirement or to apply any update.

Chapter 3

System Design

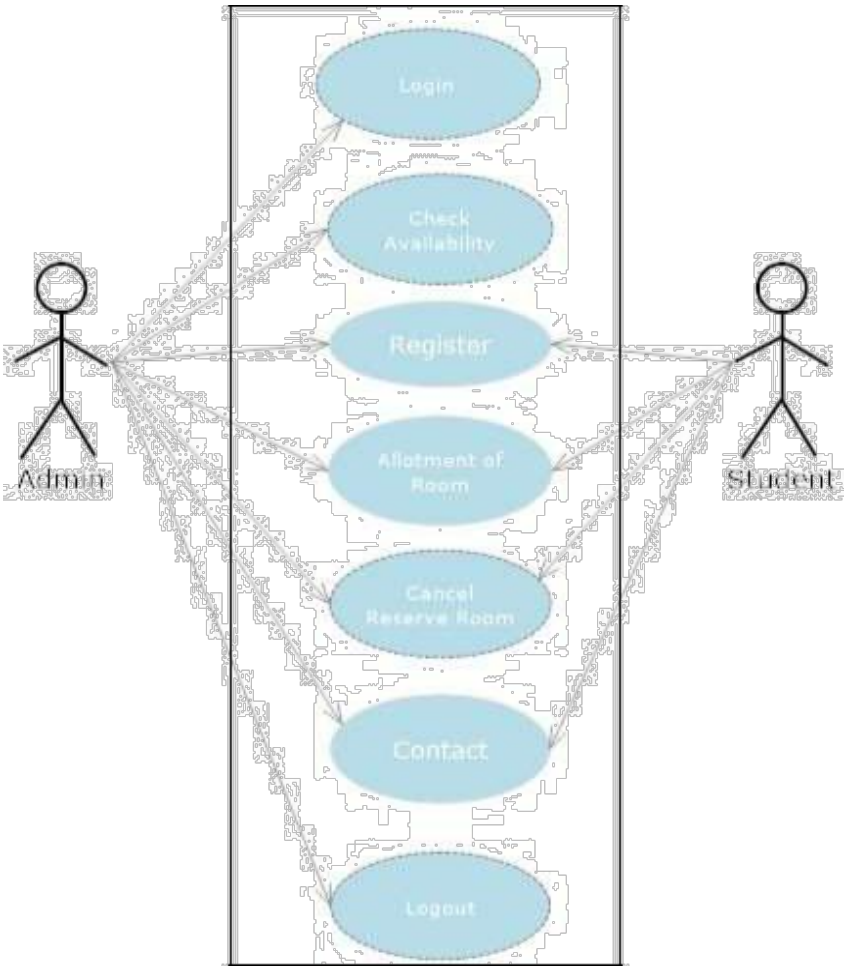
3.1) Introduction:

In this chapter we are introduce Use Case diagram, HMS system architecture, principal system object, design model and object interface.

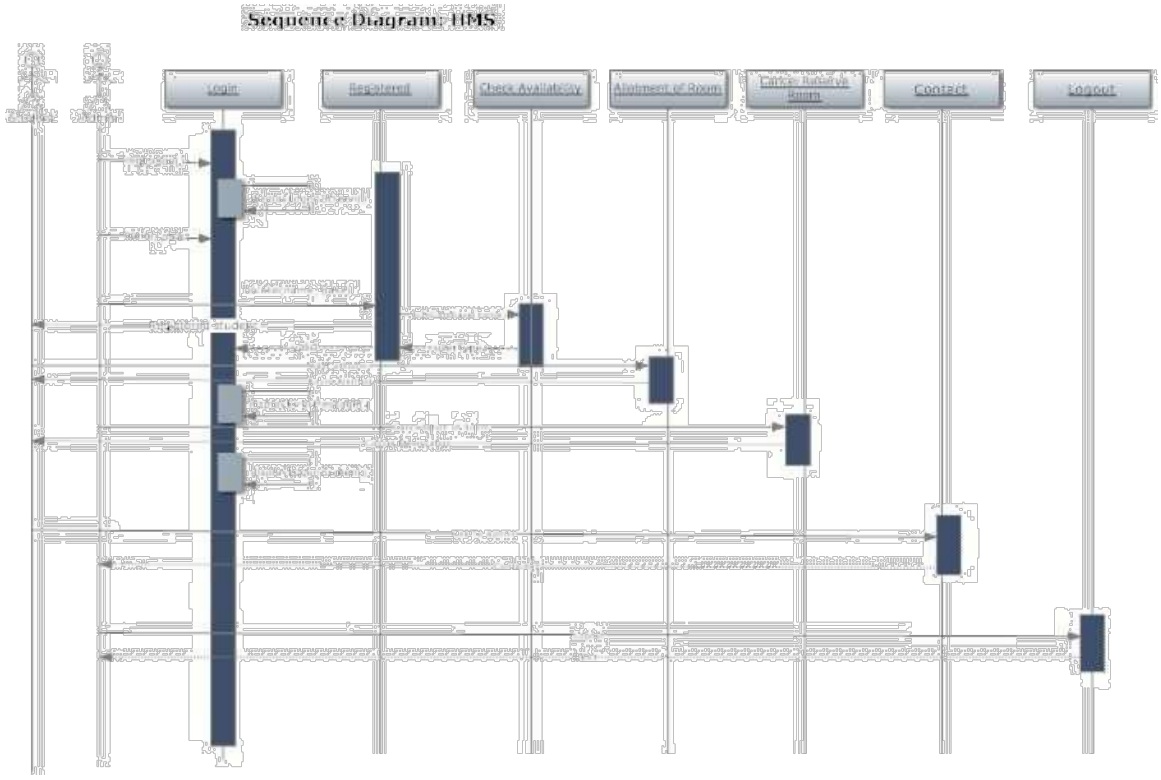
3.2) Context Diagram:

This diagram represents what are the bounders and scope of **Hostel managements System** project. It describes the main objective of the system and its entities involved.

3.1.1) Use Case:


Login
Check Availability
Register
Allotment of Room
Cancel Reserve Room
Contact
Logout
Admin
Student

3.1.2) Sequence Diagram:



Chapter 4

Testing

4.1) Introduction of Testing

Software testing is a process of executing a program or application with the intent of finding the software bugs. It can also be stated as the process of validating and verifying that a software program or application or product: Meets the business and technical requirements that guided its design and development.

4.1.1) White box testing:

Ø White Box Testing is applied in HMS system Design.

- It is also called as STRUCTURAL TESTING or GLASS BOX TESTING.
- Testers use the knowledge of internal logic of the system.
- Mostly verification techniques are used.
- It does not ensure that the user requirement had been met.
- Cost is very high since expert testers are required.
- Example: feasibility review, designer review.

4.1.2) Black box testing:

Ø Black Box Testing applied on HMS Requirements (Functional).

- It is also called as FUNCTIONAL TESTING. These tests are conducted at interface.
- Testers do not have information about the internal functionality of the system.
- Mostly validation techniques are used.
- It stimulates the actual system usage.
- They have potential of not detecting the logical errors.
- Example: unit testing, integration testing, system testing, and acceptance testing.

4.1.3) Unit testing:

Testing of individual software components or modules. Typically done by the programmer and not by testers as it requires detailed knowledge of the internal program design and code. May requires developing test driver modules or test harnesses.

- In which check the every unit or part of HM

4.1.4) System testing:

Entire system is tested as per the requirements. Black-box type testing that is based on overall requirements specifications, covers all combined parts of a system.

- In which Testing check the Whole HMS System beginning to the end of

HMS SRS.

4.1.4) Security testing:

- Security testing verifies that system protection mechanism prevent improper penetration of data alteration.
- It also verifies that protection mechanism built into the system prevent intrusion such as unauthorized internal or external access or willful damage.
- System design goal is to make the penetration attempt more cost-ly than the value of information that will be obtained in it.

4.1.4) Performance testing:

- Performance testing evaluates the run time performance of the software especially real time software

Reference:

https://www.scribd.com/doc/48405156/Hostel-Management-System

http://creately.com/diagram/example/idb0x6892/Hostel%20Management%20System

http://codeeveryworld.blogspot.com/2013/05/class-diagram-use-case-diagram-activity.html

http://www.slideshare.net/MiniGupta2/hostel-management https://www.-google.com.pk/search?q=hostel+management+system+use+

case+diagram&espv=2&biw=1280&bih=699&source=lnms&sa=X&sqi=2&pjf=1&ved=0ahUKEwjymJ2wyO7OAhWGuhoKHeZWAGQQ_AUICygA&dpr=1

- Software Requirement Specifications, Hostel Managements System.

http://www.slideshare.net/MiniGupta2/hostel-management https://www.-google.com.pk/search?q=hostel+management+system+use+

case+diagram&espv=2&biw=1280&bih=699&source=lnms&sa=X&sqi=2&pjf=1&ved=0ahUKEwjymJ2wyO7OAhWGuhoKHeZWAGQQ_AUICygA&dpr=1

- Software Requirement Specifications, Hostel Managements Systems.