Southeast university

Department of Computer Science & Engineering

Hostel Management System

Information System Design
&
Software Engineering lab
3036.1

Submitted By:

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Introduction: A hostel management system is a comprehensive software solution designed to simplify and automate the entire range of tasks involved in running a hostel. From reservations and check-ins to housekeeping, inventory management, and financial tracking, these systems integrate various modules seamlessly to ensure smooth operations and guest satisfaction.

By harnessing the power of technology, these systems enable efficient room inventory management, reservation handling, and online booking integration, ensuring a hassle-free experience for both hostel staff and guests.

Furthermore, the financial management capabilities of hostel management systems provide invaluable assistance in budgeting, revenue tracking, and expense management. These systems generate detailed financial reports, monitor payment transactions, and integrate seamlessly with accounting software, thus simplifying the financial aspects of hostel operations.

Goal of Entire Project: The objective of hostel management system design is to create a plan for a software or hardware system that meets the needs and requirements of a customer or user. This plan typically includes detailed specifications for the system, including its architecture, components, and interfaces.
System design is an important step in the development process of any system, as it serves as the foundation for the implementation and deployment of the system. A well-designed system can help ensure that the system is reliable, efficient, and user-friendly.

Case Study:

This website is very useful for various labels of people, mainly students, bachelors, single job holders and so on. It will also help to reduce the hassle of a user or customer for finding a suitable place to stay in. On the other hand it also saves extra expenses.

Problem Statement:

Generally, most people find a hostel physically and it's kind of door to door system and then learn about the facilities, cost and other expenses which is a long term process if the target doesn't meet the expectation. There is also a problem to manage the schedule of finding a suitable hostel.

Issues of entire system:

Software Development Issues : This section describes some of the issues associated with the software development process in the VLIS context. In each case we define the issue, identify the sources of its existence, and discuss the implications of what needs to be done. We see these issues as highly interdependent and regard the approach to an overall solution as necessarily dependent on concurrent development in each area.

System Evolution: In current practice, the process of maintenance is too often thought of as the patching of software bugs. Software maintainability is wrongly assumed to be a natural byproduct of good initial systems development. These perceptions are faulty and contribute to the maintenance crisis being experienced today. In order to support the full scope of maintenance, it must be recognized that software systems need to euroland that this evolution cannot be treated in the same manner as initial development.

Objective of entire system:

1. **Practicality**: We need to build a system that should be targeting the set of audiences(users) corresponding to which they are designing.
2. **Accuracy**: Above system design should be designed in such a way it fulfills nearly all requirements around which it is designed be it functional or non-functional requirements.
3. **Completeness**: System design should meet all user requirements

4. **Efficient**: The system design should be such that it should not overuse surpassing the cost of resources nor under use as it will by now we know will result in low throughput (output) and less response time(latency).
5. **Reliability**: The system designed should be in proximity to a failure-free environment for a certain period of time.
6. **Optimization**: Time and space are just likely what we do for code chunks for individual components to work in a system.
7. **Scalable(flexibility)**: System design should be adaptable with time as per different user needs of customers which we know will keep on changing on time.

Feasibility Analysis :

Technical Analysis:

- ➢ We are planning to do this project with available resources that can implement it properly.
- ➢ This reliable website helps their entire technology to exist.
- ➢ We build updating scoping for development so that website can update in future for users' requirements.

Economical Analysis :

- ➢ This android application is based on MySQL, HTML, CSS, Java-Script. This application is built at a low budget and its helpful companies cost and availability of any users.

- ➢ If we need anything to add, we will build it via application by taking funds from companies' policies.

Operation Analysis:

- ➢ User friendly interfaces so that travelers can find any information easily.
- ➢ This system is updated on a regular basis.

Cost Benefit Analysis:

Tangible Cost:

1. System analyst cost.
2. Resources cost.
3. Developer cost.

Intangible Cost:

1. Internet cost.
2. Users' satisfaction.

Tangible Benefit:

1. Saving time for users.
2. Manage tournament.

Intangible Benefit:

1. Users satisfaction.

2. User's services.
3. Security system.

Types of Stakeholder of Entire System:

1. Hostel Owner
2. Admin
3. User(Client)

Functionally Grouping according to Types of users:

1. Hostel Owner:

i. Hostel owner can register into the system.
ii. Hostel owner can create admin on his system.
iii. Hostel owner give the confirmation about employee registration.
iv. Hostel owner can view all details of the hostel.

2. Admin:

1. Admin can upload news.
2. Admin manage all data.
3. Admin can approve user and reservations.

3. **User:**
    - Can create profile.
    - Make or cancel reservations

Non-Functional Requirements (NFRs):

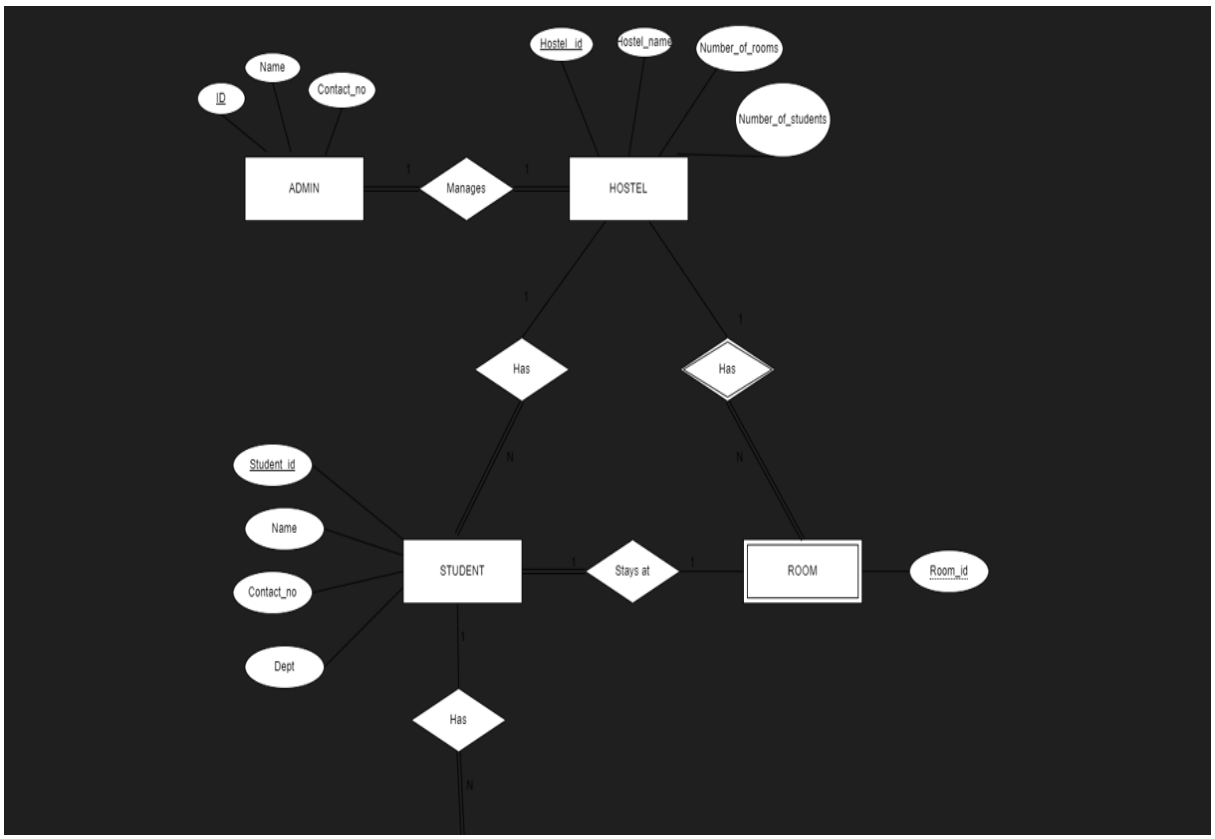
1. **Error handling**: - This product handle expected and no expected error in ways that prevent loss information and long downtime period.

2. **Authentication Requirements**: - System checks username and password every time when user log into the system and system hive different type of privilege to different users.
3. **Security Requirements**: - System will use secured database normal users can just read information but they cannot edit or modify anything. System will have different types of users and every user has access constraints.

Conclusion:

Designing system's objective is eccentric to create a plan for a system that meets the needs and requirements of the user or customer, while also ensuring that the system is reliable, efficient, and user-friendly. By following a systematic and comprehensive design process, developers can create systems that are well-suited to their intended purpose and users.

Entity Relationship Diagram



ERD DESCRIPTION: -

This project is initiated for to maintain the recording the information of the different students. This project will be quite affected in hostel management business.

This project will replace the old manual ways to record the information of the users and the owner don’t need the more people to maintain the

records. Hostel manager just needs the data base expert to maintain the records and information of the hostel as well as users.

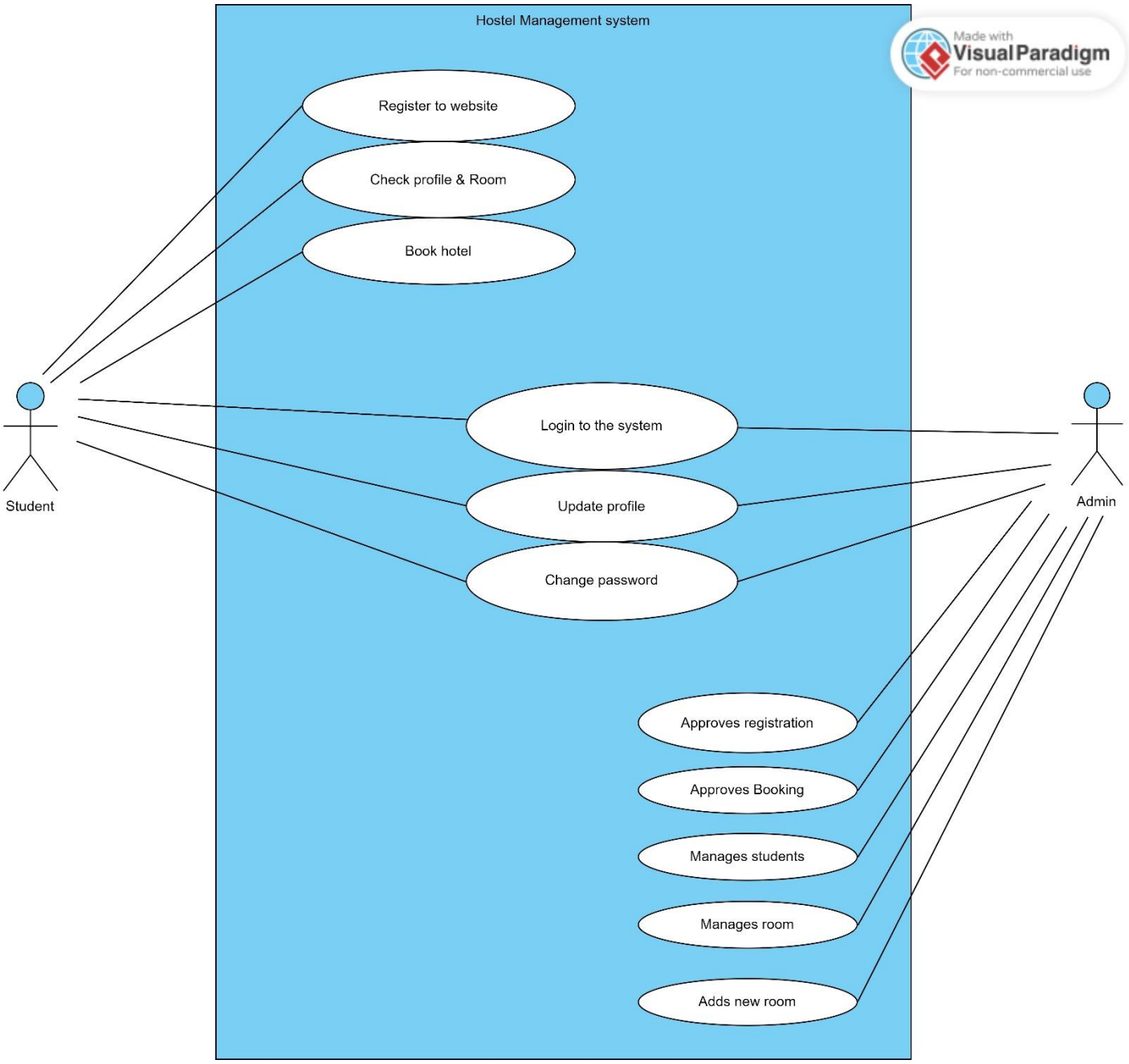
Project Specification: -

This database application is used to maintain the current and the previous information about the hostel. We can sort the data by customers, by reservations, by availability and so on so that is organized and arranged in database that is very faster than the user to organized and arrange the data. For example, we sort out the data by customer now there will be his current existence information, his name, id, from which room he is belong and his previous and his history.

Use Case Diagram Description:

This Use Case Diagram is a graphic depiction of the interactions among the elements of Hostel Management System. It represents the methodology used in system analysis to identify, clarify and organize system requirements of Hostel Management. The main actors of Hostel Management in this Use Case Diagram are: Owner, Admin, System User who perform the different type of use cases such as reservations, availability, revenue etc. Major elements of the UML use case diagram of Hostel Management are shown on the picture below.

Use Diagram:


Hostel Management system
Register to website
Check profile & Room
Book hotel
Login to the system
Update profile
Change password
Approves registration
Approves Booking
Manages students
Manages room
Adds new room
Student
Admin
Made with VisualParadigm
For non-commercial use

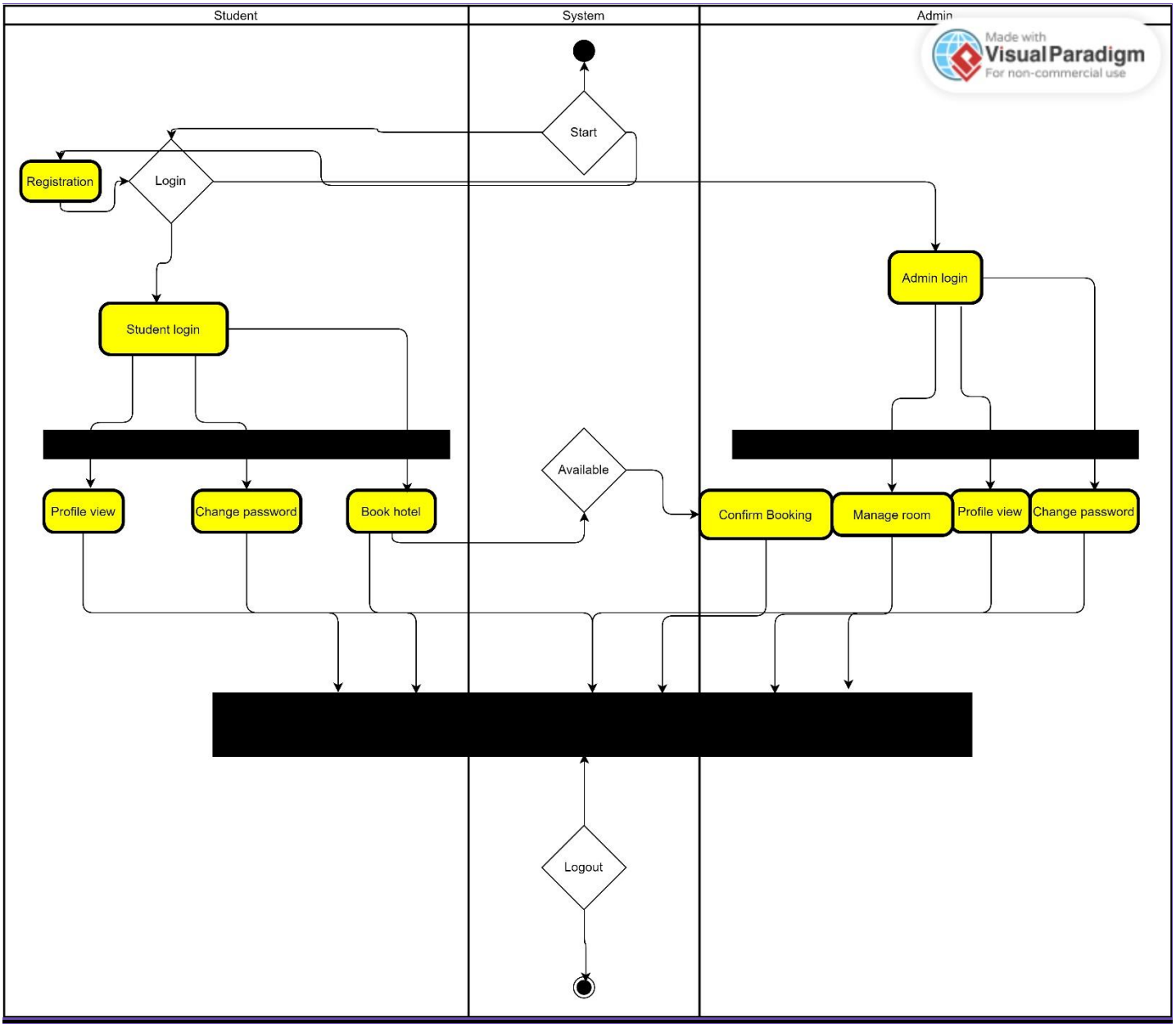
The relationship between and among the actors and the use cases of Hostel Management.

- Student Entity: Use cases of students are register to website. Login to the system & update personal information.
- Admin Entity: Use cases of admin is to approve registration . Update student info , assign room , add or remove student from room.

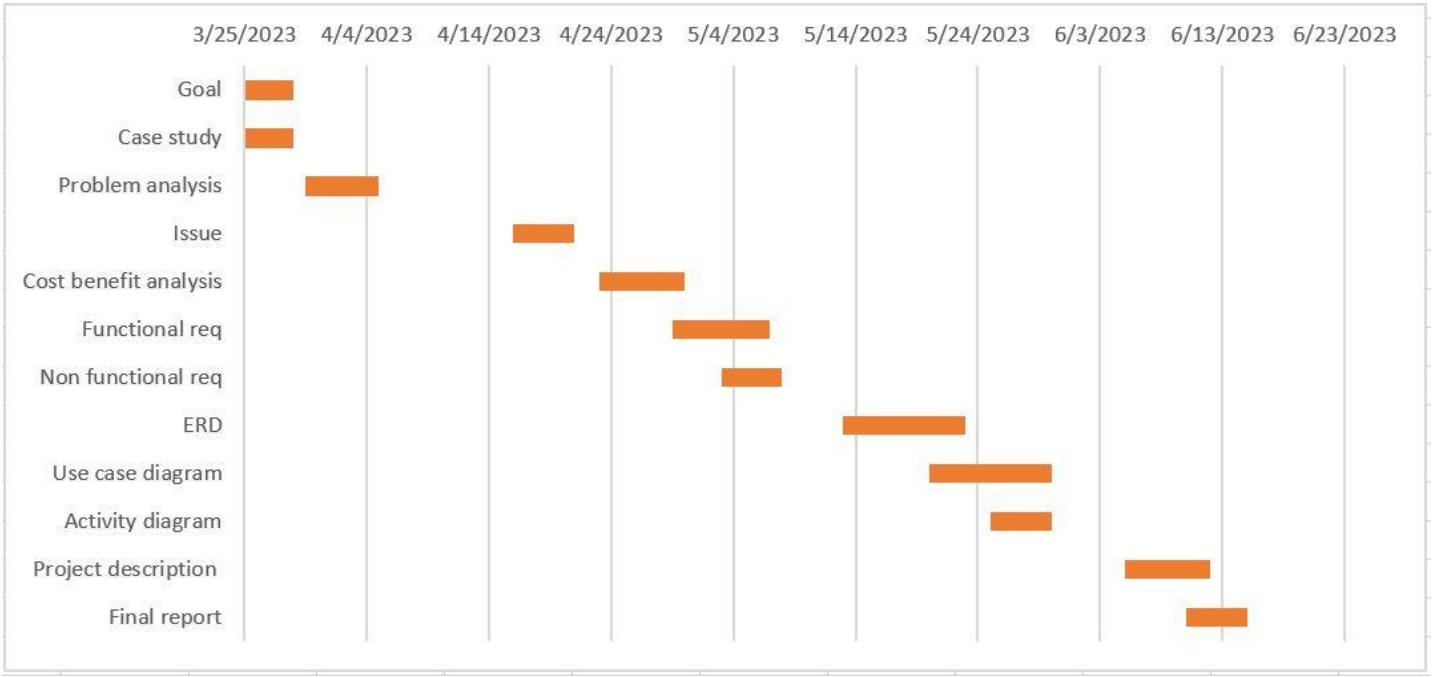
Activity Diagram:

Description for Create account Activity Diagram:

Here the activity that's perspective for user and login page. If any student is a first-time user, then they go to the registration page. And then provided first name, last name and phone number and reg ID number. Finally, user give password number and go through the home page of Application.



GANTT Chart



Total Project duration 77 days.