



PES University, Bengaluru

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Department of Computer Science & Engineering
Session: Jan - May 2022

UE19CS353 – Object Oriented Analysis and Design with Java
Theory ISA (Mini Project)

Report on
Hotel Management System
Using SpringBoot, Thymeleaf,& MongoDB

By:

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6th Semester D

1. Project Description

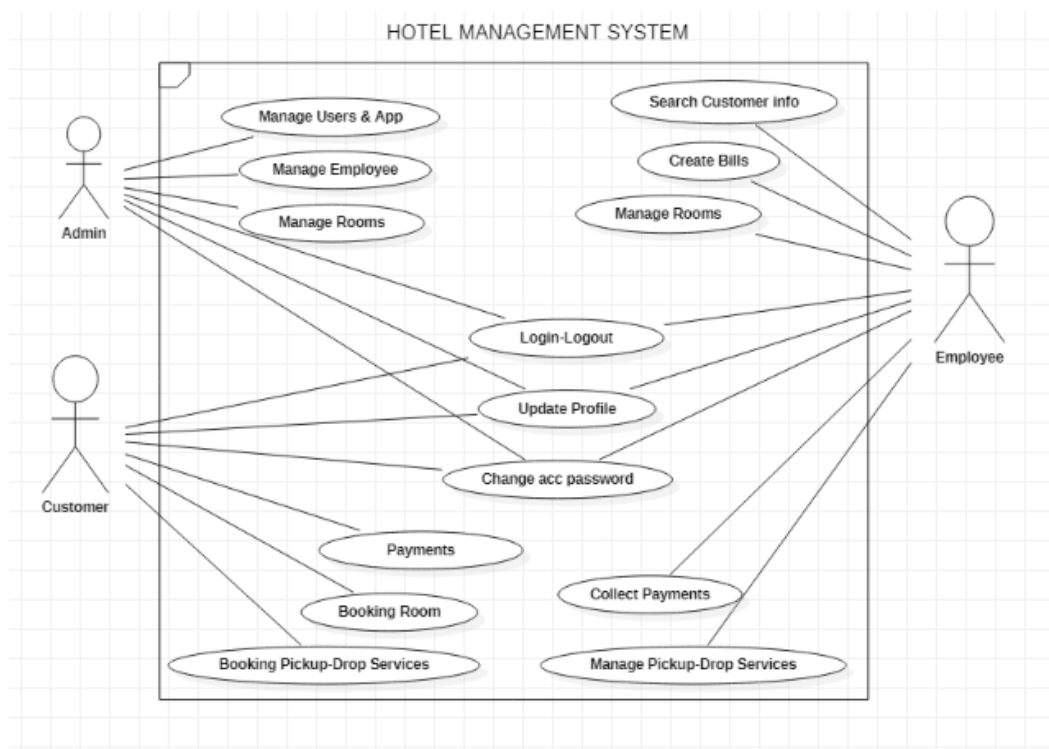
Link to Github Repository

<https://github.com/NidhxGupta/Hotel-Management-System>

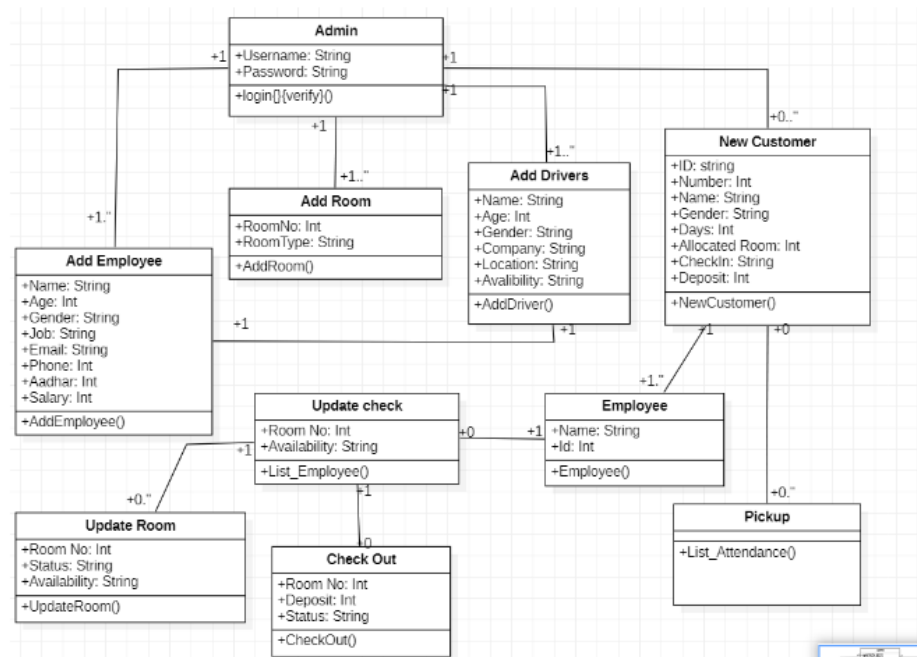
Hotel Management System is a project that manages a typical hotel environment which includes room availability operations, customer friendly service, and maintains employee status. To make it more user friendly, we provide a simple UI which has features like allocation of rooms as per the customer need and interest, records such as checkout time and details, releasing or empty of room and to record the process in a computer system for future.

2. Analysis and Design Models

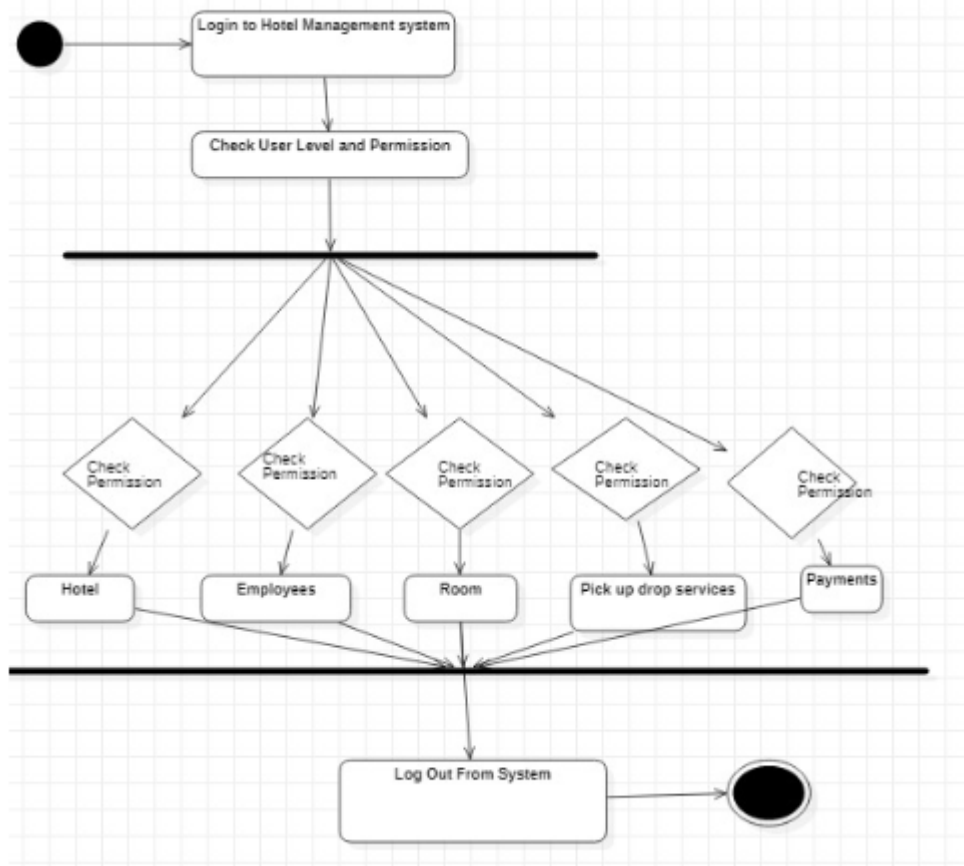
> Use Case Diagram



> Class Diagram

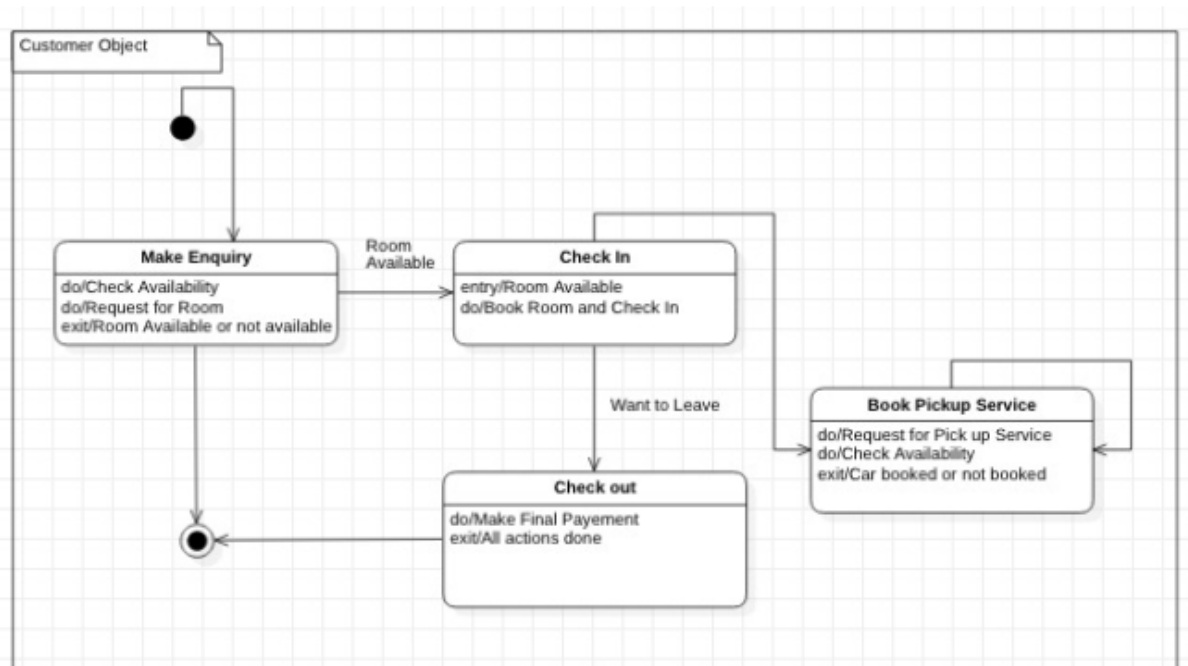


> Activity Diagram

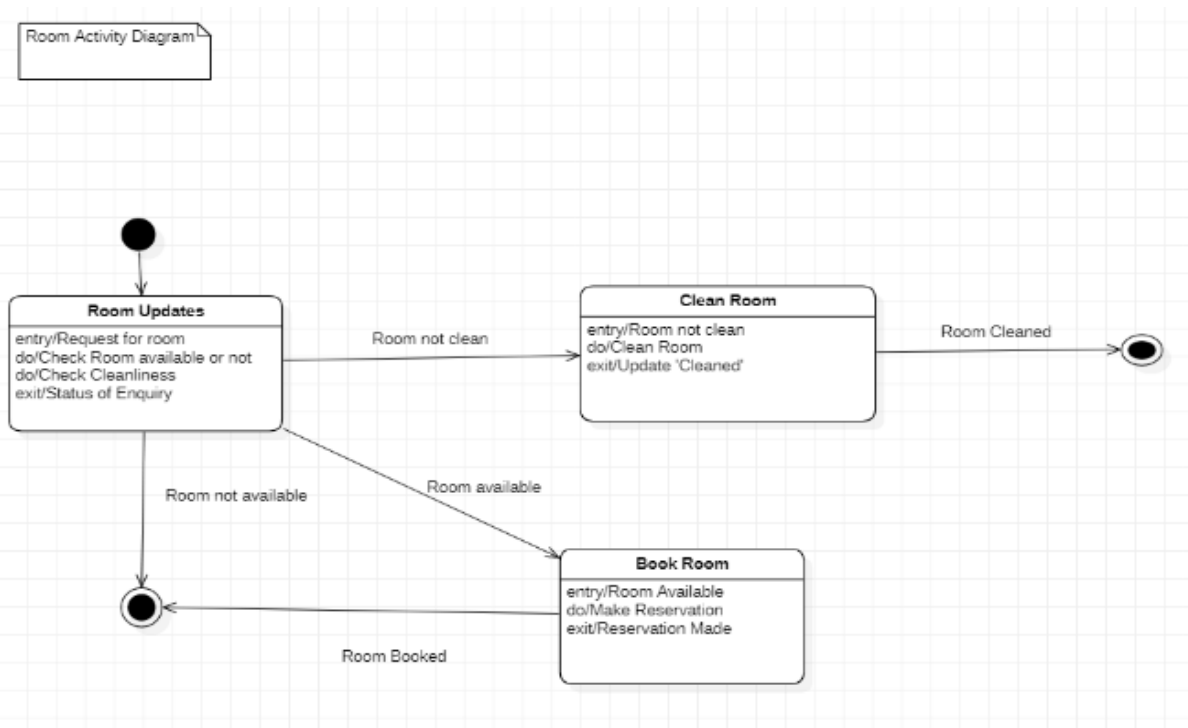


> State Diagrams

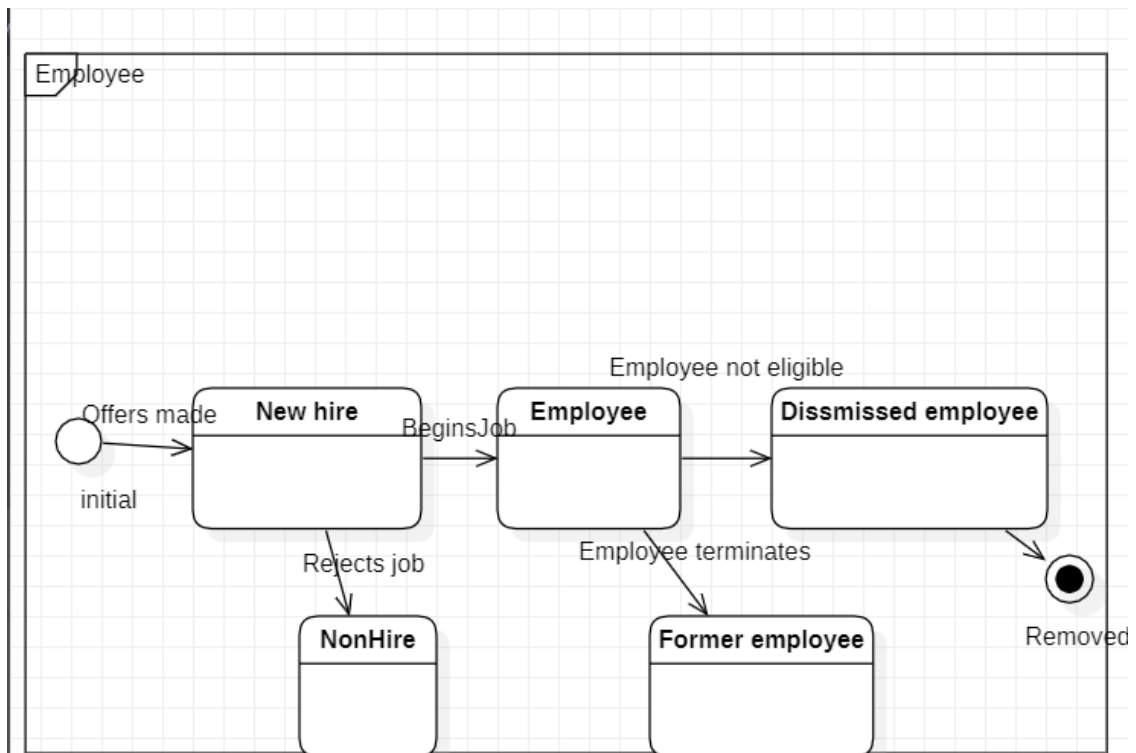
Customer



Room



Employee



3. Tools and Frameworks Used

- MongoDB for DataBase
MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas.
- SpringBoot Framework
Spring Boot helps you to create stand-alone, production-grade Spring-based applications.
Using this we were able to apply MVC Architecture to our project.
- Thymeleaf
Thymeleaf is a modern server-side Java template engine for both web and standalone environments.
Thymeleaf is ideal for modern-day HTML5 JVM web development as it helps to replace JPA with simple html
- Bootstrap framework
Bootstrap is a free front-end framework for faster and easier web development. It helps in creating responsive websites.
- Eclipse IDE
Eclipse is an integrated development environment used in computer programming. It contains a base workspace and an extensible plug-in system

for customizing the environment.

- Github

GitHub, Inc. is a provider of Internet hosting for software development and version control using Git. It offers the distributed version control and source code management functionality of Git, plus its own features

4. Design Principles and Design Patterns Applied

Observer Pattern

Model-View-Controller (MVC) frameworks also use Observer pattern where Model is the Subject and Views are observers that can register to get notified of any change to the model.

Everytime a value is added or updated, the admin is notified through the terminal regarding the update by default. This can be extended to apply to different users as well to topics they subscribe to.

The below implementation is shown for any update done to the customers, to which customer it is done for. The customer having the number 06362313916

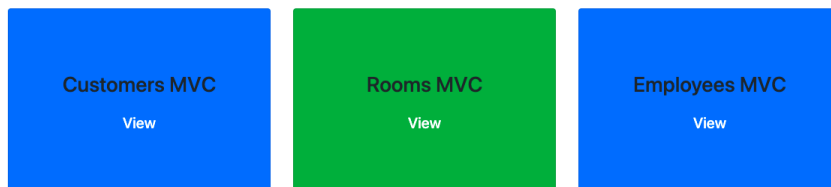
```
2022-04-26 09:21:39.308 INFO 80814 [ main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 8082 (http) with context path ''
2022-04-26 09:21:39.321 INFO 80814 [ main] c.e.h.HotelManagementApplication : Started HotelManagementApplication in 9.888 seconds (JVM running for 11.39)
2022-04-26 09:21:46.682 INFO 80814 [nio-8082-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : Initializing Spring DispatcherServlet 'dispatcherServlet'
2022-04-26 09:21:46.683 INFO 80814 [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2022-04-26 09:21:46.684 INFO 80814 [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Completed initialization in 1 ms
06362313916
2022-04-26 09:22:06.953 INFO 80814 [nio-8082-exec-2] org.mongodb.driver.connection : Opened connection [connectionId{localValue:3, serverValue:118}] to localhos
ttz7017
06362313916
06362313916
```

5. Application Screenshots (3-4 important pages)

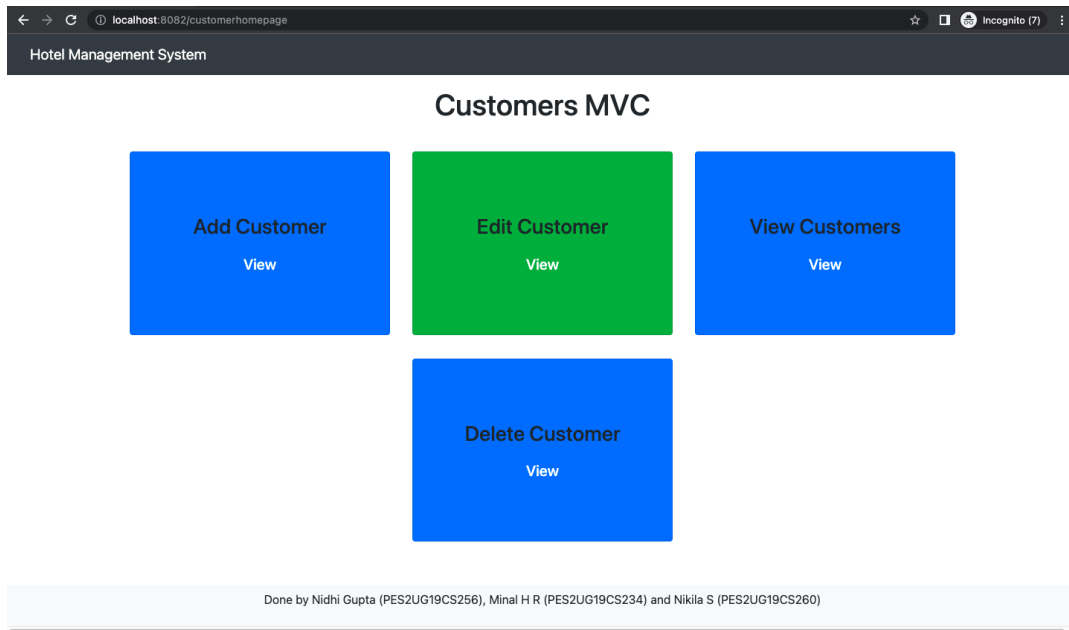
Main Application Page



Welcome to Hotel Management System



Customer MVC



Room MVC

Home Page

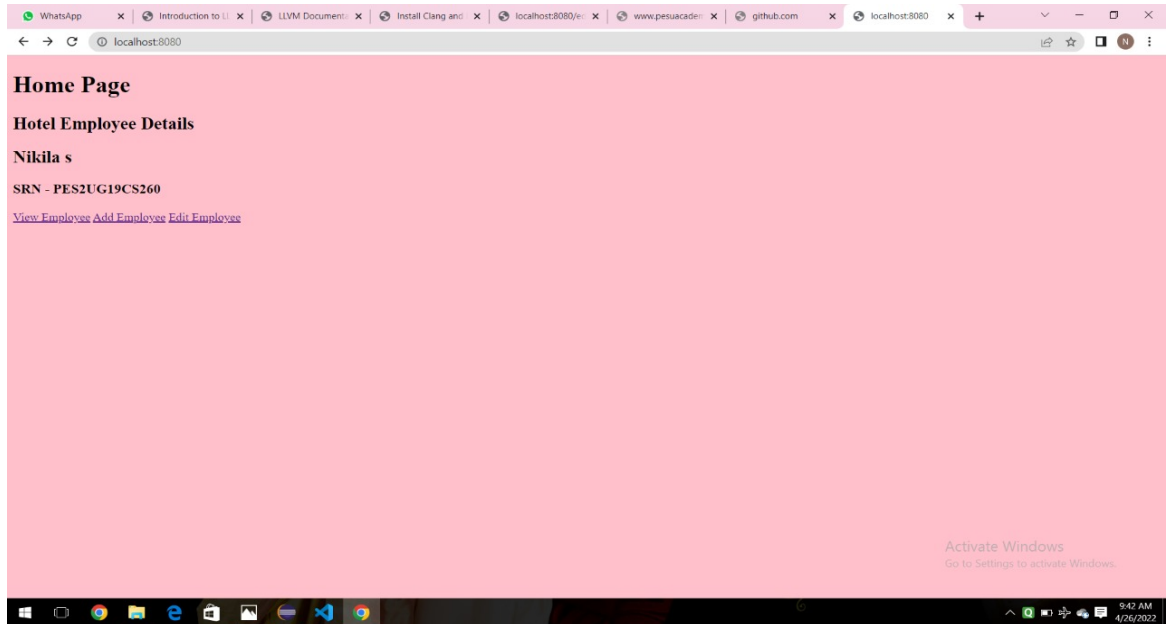
Hotel Rooms Details

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[View Room](#) [Add Room](#) [Edit Room](#)

Employee MVC



6. Team member contributions

NAME	CONTRIBUTIONS
Minal H R	Room MVC
Nidhi Gupta	Customer MVC
Nikila S	Employee MVC