SOFTWARE ENGINEERING AND PROJECT MANAGEMENT

Assignment 2

Name: -Pratham R Pitty **Roll No: -** B77 **Teacher Name**: - Ms Nivedita kadam

Hotel Management System

Aim: Preparing Software Requirement Specification Document

Theory:

What Is a Software Requirements Specification (SRS) Document?

A software requirements specification (SRS) is a document that describes what the software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all stakeholders (business, users) needs.

My project **Hotel Management System** is a tool for booking the rooms of Hotel through online by the Customer. It provides the proper management tools and easy access to the customer information.

Purpose:

This Hotel Management System Software Requirement Specification (SRS) main objective is to provide a base for the foundation of the project. It gives a comprehensive view of how the system is supposed to work and what is to be expected by the end users. Client's expectation and requirements are analyzed to produce specific unambiguous functional and non-functional requirements, so they can be used by development team with clear understanding to build a system as per end user needs. This SRS for HMS can also be used for future as basis for detailed understanding on how project was started. It provides a blueprint to upcoming new developers and maintenance teams to assist in maintaining and modifying this project as per required changeability

Project Scope:

The HMS project is intended for the reservations for room that can be made through online. It will be able to automate the various operations of the Hotel. Our Hotel Management System will have three end users: Customer, Receptionist, and Hotel Manager. Hotel Management System will consists of Booking Management System, DBMS Server, and Report Generator. Customers will be able to check for room's availability, select the rooms, and pay for the room. Receptionist will have access to update or modify booking details. Manager will able to view the financial report and able to update room information such as cost and category. The main goal of this introduced automated HMS software is to simplify every day process of hotel. Day to day Hotels are increasing and they need to automate to provide customer ease of access. It will be able to take care of services to customer in a quick manner. This automation will be able to replace the drawbacks of large customer information physical files which were difficult to handle. Secure Transaction, quick retrieval of information, ease of use, quick recovery of errors, fault tolerance are some of the benefits that development team will be working on to achieve end user satisfaction.

Pratham.pitty.cs@ghrcem.raisoni.net

Additional Information:

Hospital Management System can be used by entering respective username and password. It is accessible either by an administrator or receptionist. Only the respective person can add data in the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected and data processing is very fast, accurate and relevant. A hospital management system is a software designed to manage all the areas of a hospital such as medical, financial, administrative and the corresponding processing of services.

Definitions, Acronyms and abbreviations

SRS	Software Requirement Specifications
HMS	Hotel Management System
DBMS	Database Management System
Blueprint	A design technical plan
JDBC	Java Database Connectivity
HTTP/HTTPS	Hyper Text Transfer Protocol/Secure
EJB	Enterprise Java Beans

API	Application Interface
OS	Operating System
JSP	Java Server Pages
RTM	Requirement Traceability Matrix
FR	Functional Requirement
NFR	Non Functional Requirement

Overall Description - **Product Perspective:**

The Hotel Management System is a new self-contained software product which will be produced by the project team in order to overcome the problems that have occurred due to the current manual system. The newly introduced system will provide an easy access to the system and it will contain user friendly functions with attractive interfaces. The system will give better options for the problem of handling large scale of physical file system, for the errors occurring in calculations and all the other required tasks that has been specified by the client. The final outcome of this project will increase the efficiency of almost all the tasks done at the Hotel in a much convenient manner.

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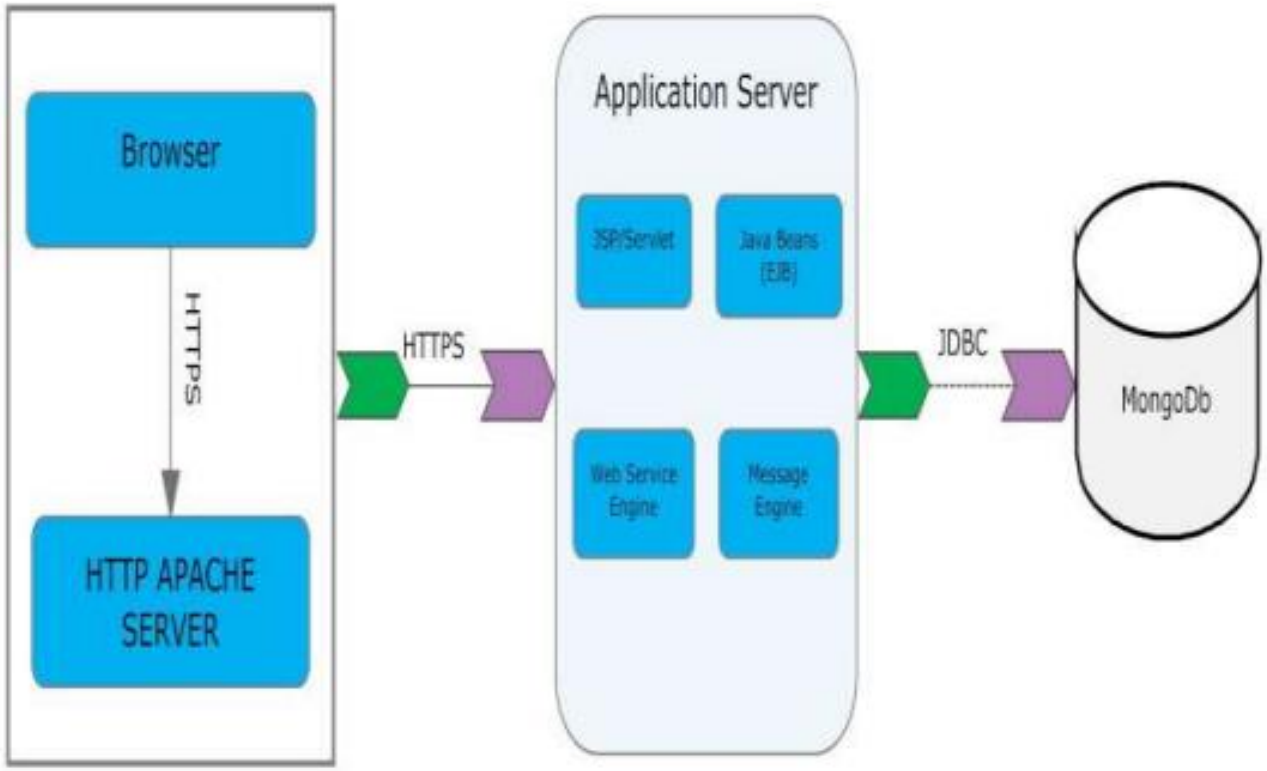
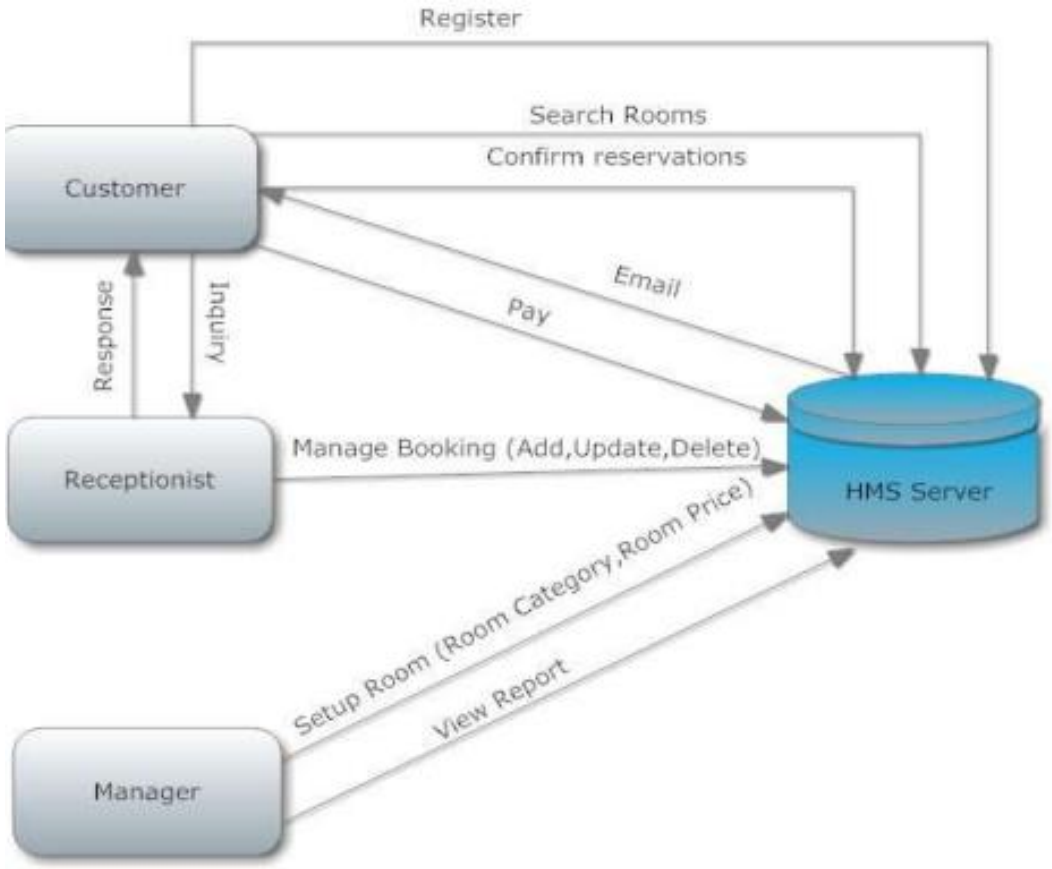


Figure 2.1 Product Perspective

Product Features:

- *Make Reservations*
- *Search Rooms*
- *Add Payment*
- *Issue Bills*
- *Manage Guest (Add, Update Guest)*
- *Manage Room Details (Add, Update, Delete)*
- *Manage Staff (Add, Update, Delete, View)*
- *Manage Inventory (Add, Edit, Delete)*
- *Set Rates*
- *Retrieve Reports (Staff payment, Income)*
- *Manage Users (Add, Update, Delete)*
- *Taking Backups*
- *E-mail notifications*



User Classes and Characteristics:

There are 3 user Levels in our Hotel Management System:

A. Hotel Manager

B. Receptionist

C. Customers

Hotel Manager

Manager have every access to the hotel system. Manager is solely responsible for managing hotel resources and staffs. Manager can view any report such as financial report, customer information, booking information, and room information, analyze them and take the decision accordingly. Manger is required to have experience on managing hotel previously, and have base knowledge of database and application server.

Receptionist

Hotel Receptionist sole purpose is to provide the quality customer service. She have least access than manager. She can manage the booking details. She can search for availability of rooms, add the customer, confirm the booking, and update the booking details. Manager of hotel would

probably want the receptionist who have good communication skills and command over English language. She should have basic IT Knowledge.

Customer

Customer are vital part of the system. Customer have access to view the vacant room information and price range. They should be able to confirm the booking and cancel it if necessary. Customers have access to customer service desk portal to forward their inquiry. Customer should at least be capable to use the web UI interface.

Operating Environment:

The system is also designed to be user-friendly. The software will operate, including the hardware platform, operating system and versions, and any other software components or applications with which it must peacefully coexist.

Design and Implementation Constraints:

1. Memory: System will have only 10GB space of data server.
2. Language Requirement: Software must be only in English.
3. Budget Constraint: Due to limited budget, HMS is intended to very simple and just for basic functionalities. UI is going to be very simple.
4. Implementation Constraint: Application should be based on Java only.
5. Reliability Requirements: System should sync frequently to backup server in order to avoid the data loss during failure, so it can be recovered.

Assumption and Dependencies

It is assumed that system developed will work perfectly that's going to be developed under the Windows OS, and Apache Server with Mongo DB database. If incase of any difficulties, SRS should be flexible enough to change accordingly.

SPECIFIC REQUIREMENTS

External Interface Requirements:

User Interfaces:

The user interface for system shall be compatible to any type of web browser such as Mozilla Firefox, Google Chrome, and Internet Explorer.

Software Interfaces:

Web Server

- Apache Tomcat Server , OS (Windows)

Database Server

- Mongo DB, OS (Windows)

Development End

Hardware Interfaces

Server Side			
Monitor	Processor	RAM	Disk Space
Resolution: 1024x768	Intel or AMD 2GHZ	4GB	10GB
Client Side			
Monitor	Processor	RAM	Disk Space
Resolution: 1024x768	Intel or AMD 1GHZ	512MB	2GB

Communication Interfaces

The System shall be using HTTP/HTTPS for communication over Internet and for intranet communications, it shall use TCP/IP protocol.

Functional Requirements

Registration

FR1. The Customer should be able to register with their details

FR2. The system should record following customer details into member database.

Name

Email

Password

Address

DOB

FR3. The system shall send verification message to email

Logging In

FR4. The system should verify the customer email & password against the member database when logging in

FR5. After login, member should be directed to Home screen

Reservation

FR6. The system should enable customer to check for availability of rooms

FR7. The system should display rate for all rooms

FR8. The system should allow customer to confirm or cancel the booking

FR9. The system should record booking details into database

Receptionist Access

FR10. The system should allow Receptionist to update, add or delete booking information

FR11.The system should provide customer desk portal access to receptionist for providing response to customer inquiry

Manager Access

FR12. The system should generate financial and customer report for manager

FR13. The system should enable manager full modification access to customer ,booking and room information

Payment Management System

FR14. The system should allow customer to pay bill via online using credit or debit card

Hotel Management System

Performance Requirements

NF1. Data in database should be updated within 2 seconds.

NF2. Query results must return results within 5 seconds

Pratham.pitty.cs@ghrcem.raisoni.net

NF3. Load time of UI Should not take more than 2 seconds

NF4. Login Validation should be done within 3 seconds

NF5. Response to customer inquiry must be done within 5 minutes.

Security Requirements

NF6. All external communications between the data's server and client must be encrypted

NF7. All data must be stored, protected or protectively marked.

NF8. Payment Process should use HTTP over Secure protocol to secure the payment transactions

Safety Requirements

NF9. Database should be backed up every hour.

NF10. Under failure, system should be able to come back at normal operation under an hour.

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Capacity Requirements

NF11. Not more than 10,000 members to be registered

NF12. System need to handle at least 20 transactions during peak hours.

Availability Requirements

NF13. Report should be generated automatically every day for manager and anytime upon request.

Software System Attributes

⍰ Correctness: This system should satisfy the normal regular Hotel Management operations precisely to fulfill the end user objectives

⍰ Efficiency: Enough resources to be implemented to achieve the particular task efficiently without any hassle.

⍰ Flexibility: System should be flexible enough to provide space to add new features and to handle them conveniently

⍰ Integrity: System should focus on securing the customer information and avoid data losses as much as possible

⍰ Portability: The system should run in any Microsoft windows environment.

⍰ Usability: The system should provide user manual to every level of users.

⍰ Testability: The system should be able to be tested to confirm the performance and clients specifications.

⍰ Maintainability: The system should be maintainable.

Requirement Traceability Matrix

Pratham.pitty.cs@ghrcem.raisoni.net

The Requirement Traceability Matrix (RTM) reflects the correlation between Non Functional Requirements (NFR) and Functional Requirements (FR). The RTM is a documentation that associates the requirements entirely throughout the validation process. Traceability is regarded to be one of the most important considerations for tracing the requirements.

In the table below we will be tracing the relation between Functional Requirements and Non Functional Requirements.

References

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Conclusion:

Hence this is the **S**oftware **R**equirements **S**pecification (SRS) document that describes what the software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all stakeholders (business, users) needs.for **Hostel Management System.**

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