

Software Requirements Specification

For

Conference Room Booking System

Version 1.0 approved

**Prepared by Srushti S N, Vinti Agrawal, Vishwa Mehul Mehta and
Vismaya R**

PES University

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Introduction

Purpose

The aim is to provide an efficient, user-friendly and real time website that is required to reserve and manage a conference hall beforehand and make the information available to others to check the status of the hall before booking, as a part of release 1.0.

Intended Audience

The different types of readers that the document is intended for, are developers, project managers, marketing staff, users, testers, and documentation writers.

Product Scope

Helps users to efficiently book conference rooms to avoid clashes in schedules and ease of booking. It will help users save time without having to go to book in person via just a few easy to follow steps, flexible repetitive bookings based on a First-Come-First-Serve model and authentication with the existing user DB. Our goal is to make booking the hall of your choice a breeze.

References

[\(PDF\) CONFERENCE ROOM BOOKING SYSTEM ACROSS MULTIPLE MINISTRIES/DEPARTMENT IN DIFFERENT BUILDINGS \(researchgate.net\)](#)

Overall Description

Product Perspective

This product is a new, self-contained product, the first of many to be followed. A product family of booking systems such as convention hall booking system, hotel rooms booking system is planned to be implemented in the future.

Product Functions

The conference room web portal allows users to book conference rooms across multiple organizations and establishments. It is a Web based System, available from any workstation through a Browser. It is Simple to follow with flexible repetitive bookings, Authentication with the existing user database. Ensures that conflicting entries cannot be entered. Multiple authentication levels (user, admin).

User Classes and Characteristics

Various user classes are casual user, organizations , database admin , website administrator. The important user classes are the casual users who are our customers and the administrator who oversees the bookings and ensures the proper running and maintenance of the product. The customer can view the availability and book halls, cancel within due time,etc. Organizations also have a sign-up besides individuals, where they can book a hall for multiple purposes.

Operating Environment

The software will be able to operate on windows and linux operating systems. It must peacefully coexist with the calendar application on the user's system and provide a concurrent view of the bookings of the halls by connection to the bookings database.

Design and Implementation Constraints

There will be regulatory policies in place against spam bookings by the client. The Databases used are MongoDB and Firebase. For Server Side, programming Languages required are: php, java, php.net and for client side javascript is used. The server location will be India. The maintenance of the delivered software will be the client's responsibility. Protocols used - HTTPS, SMTP.

2.6 Assumptions and Dependencies

Let us assume that this is a distributed conference hall booking system and it is used in the following application:

- A request for booking/cancellation of a flight from any source to any destination, giving connected flights in case no direct flight between the specified Source-Destination pair exists.
- Calculation of high users (most frequent users) and calculating appropriate reward points for these users.

Assuming both the transactions are single transactions, we have designed a distributed database that is geographically dispersed at four cities such as Delhi, Mumbai, Chennai, and Kolkata.

External Interface Requirements

User Interfaces

The interface of our software will be:

- Attractive
- Simple to use
- Responsive in short time
- Clean to understand

The user will not be forced into performing unnecessary actions i.e They don't have to login at the start. They can look for a vacancy first and if the vacancy meets their requirements then they can login and book the room.

Hiding Technical Internals from casual users using three-view schema (External View, Logical View and Internal view) to make it friendly and preserve security.

Reducing User Memory Load - Our Customers will not have to re-enter their personal information every time they are Booking. Once their data is registered with us we will remember their details. We will also try to **prevent errors** as much as possible by regular testing .

Software Interfaces

Operating System - Windows and Linux

Database - MongoDB/fireBase

Tools and libraries - MERN STACK

Editor - VS Code

Server Side programming Language - php, java, php.net

Client Side Programming Language - javascript

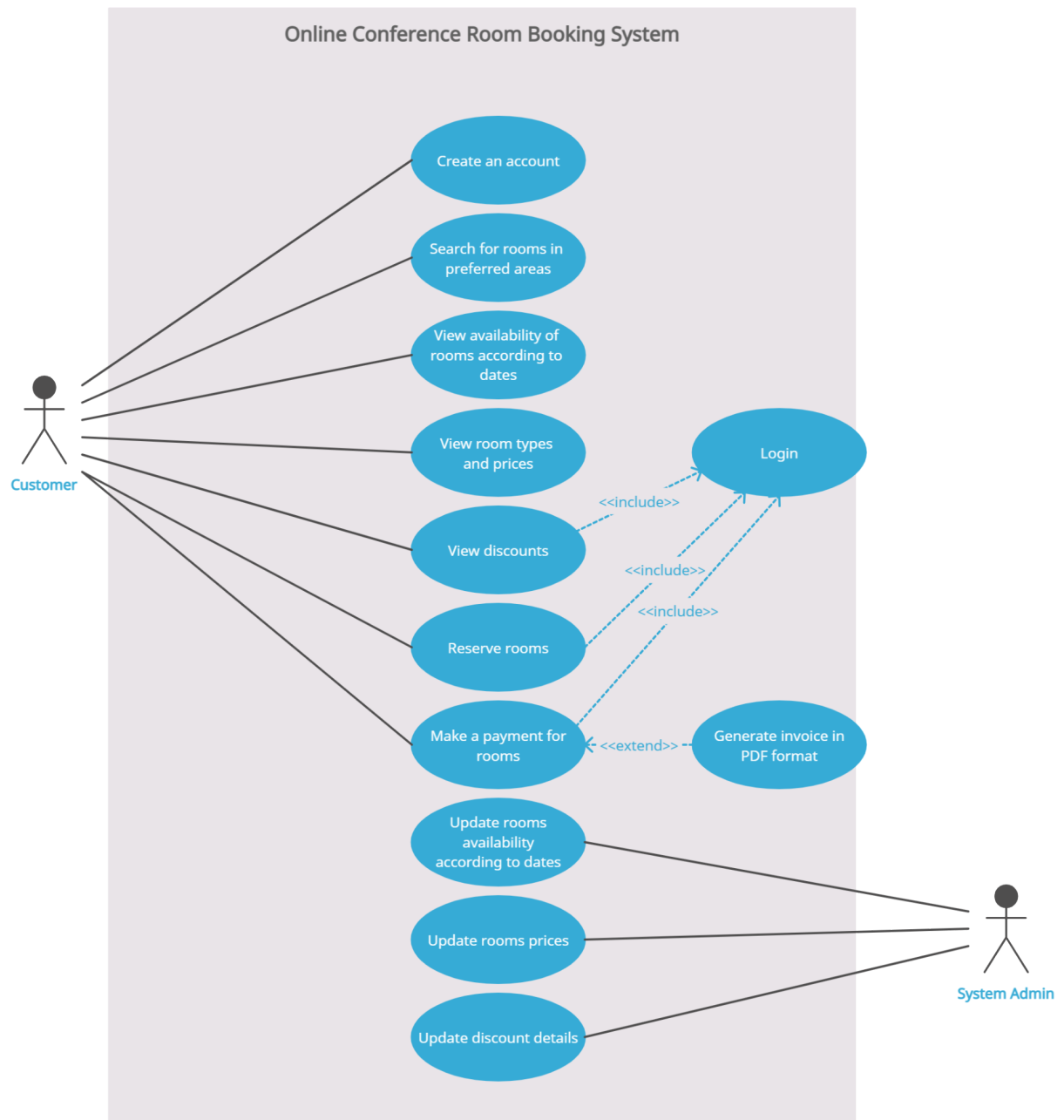
Server Location : India

Communications Interfaces

Server Protocol - HTTPS, SMTP

Browser - Chrome, Firefox, Brave, Edge

Analysis Models



System Features

5.1 Maintaining concurrency

5.1.1 Description and Priority

The conference reservation system maintains information on bookings, capacity, personal preferences, prices, cancellations. Of course, this project has a high priority because it is very difficult to access and use multiple conference rooms without proper management and updating of reservations.

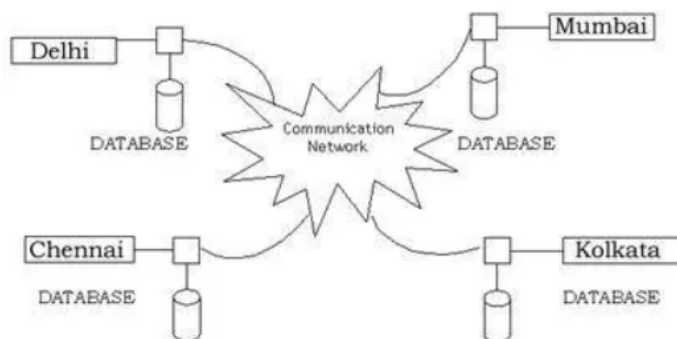
5.1.2 Stimulus/Response Sequences

- Search for conference halls for a particular area/location.
- Displays a detailed list of available halls.
- Make a “Reservation” or Book a particular hall.
- Cancel an existing Reservation

5.1.3 Functional Requirements

Distributed Database

Distributed database implies that a single application should be able to operate transparently on data that is spread across a variety of different databases and connected by a communication network as shown in below figure.



Distributed database located in four different cities

Client-Server system

The term client/server refers primarily to an architecture or logical division of responsibilities, the client is the application (also known as the front-end), and the server is the DBMS (also known as the back-end).

5.2 Recommendation system

5.1.1 Description and Priority

The conference reservation system maintains user information on previous bookings. This is a medium priority feature as it provides the user to repeat a previous booking or book a particular hall based on a fixed schedule.

5.1.2 Stimulus/Response Sequences

- Displays a detailed list of available halls based on the user's previous booking information.
- Make a "Reservation" or Book a particular hall.

5.1.3 Functional Requirements

Distributed Database

Recommendation algorithm

Client-Server system

Other Nonfunctional Requirements

Performance Requirements

The system would require that, everytime a booking is made, the changes should be reflected within 10-15 seconds. UI should be user friendly i.e, it must be easy for the user to interact with the system.

Once a transaction is made, mail must be sent every time to the user.

Safety Requirements

Confirmation email regarding a transaction must be sent to the user's mentioned email after confirmation page termination. User details like email, phone number, must be encrypted. In situations like system failure, backup must be available and the recovery process must be quick to ensure a smooth browsing experience for the users. Backups must take place often.

Security Requirements

Passwords must allow use of special characters to ensure minimal chances of hacking. All usernames must be unique. System must also verify payment details like credit card number so that the users aren't using any information that doesn't belong to them or that doesn't exist.

Transactions must be secured. If an existing user is making a transaction on a different device then, payment details must be asked from them again.

Software Quality Attributes

The system must have a fast login/signup process. The signup process should include email id verification.

Software must consist of a DB that runs at almost all times. It should also support multiple languages.

Business Rules

This system only provides booking services for small rooms and large rooms (for project team meetings or company conferences).

Users are not allowed to book any room without logging in i.e, they can access all features without logging in, except for booking rooms. Users are not allowed to book rooms unless their email id is verified.

Domain requirements

The system would require the user to use a stable browser for a smooth experience (like chrome, firefox etc). It should also be accessible on mobile devices.

Other Requirements

The DB in use must have dedicated space allocated to it. DB in the cloud must not have multiple availability zones. This is to reduce any network latency.

Majority of the components must be reused for any upcoming projects in the same product line (convention hall/ hotel room booking system)

Appendix A: Glossary

SRS - System Requirement Specification

CH - Conference Hall

DB - Database

Info - Information

Req - requirement