
SOFTWARE REQUIREMENTS SPECIFICATION

FOR

CSE OFFICE AUTOMATION -II

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1 Introduction

This SRS (Software Requirements Specification) provides a complete idea of how to design and implement the software as well as a basic idea of its usage and benefits. It provides a complete insight into the classes of users who will be using this software and how they will be benefited from it.

1.1 Purpose

Defining and describing the functions and specifications of the “CSE OFFICE AUTOMATION -II” website is the primary goal of this Software Requirements Specification (SRS). This SRS document provides a detailed overview of our software product, its parameters and goals. Any software developer can design and implement the software using this document. Also, regular users can get a basic understanding of its usage. The aim is to provide an efficient database system to store and access academic data, and to build a channel for streamlining activities involving faculty and management.

1.2 Intended Audience and Reading Suggestions

The document is meant for the Professors enrolled in an academic course provided by the university, the faculty, and the management of the institute. This document will serve as a reference document for the stakeholders in the project, the project manager, and the developer who will analyze, design, and implement the system.

1.3 Project Scope

There are two subparts to this project.

1) Room booking system:

IIT Indore has several classrooms and lecture halls accessible to its faculty and students. Booking of these rooms involves mailing the concerned authority and waiting for their response to confirm it. It is often time-consuming and is also difficult for the administrator to check the availability of rooms. In case the room is already booked a spontaneous change of plans has to be made. We thus need software that makes room booking simpler for its users as well as the administrator.

So the purpose of the room booking management system is to ease room booking and to create a convenient and user-friendly application for faculty to book rooms and cancel booked rooms online as well as manage the enormous database in an effective manner.

The system is based on a relational database with room management and booking functions. It is free, fast and reliable software. This project is a prototype of the website, and it is restricted to college premises. However, it can be further expanded to work on a larger scale.

- a) The website provides information on the availability of all the classrooms at a given time slot on a given date.
- b) Registered users can also make a booking as per their requirements.
- c) There is also a provision for cancelling a booking made by them (only for registered users).
- d) Admin has the exclusive privilege of registering new users and adding new rooms.
- e) Admin can also delete an existing user, View and cancel bookings, Create new bookings, View booking history, Add courses, classroom or departments, Approve and delete users.

2) Web page for a professor:

As mentioned above IIT Indore has many professors, PhD scholars and faculty/staff members. Even though there are web pages for departmental information there is no specific webpage for a particular professor.

So the main purpose of this web-based project is to create a separate webpage for a professor where they can see their course details, research interests, Work experience, Publications, E-mail and contact details.

2 Overall Description

The Second section of this document gives an outline of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification.

2.1 Product Perspective

Room Booking System: The current manual system of room booking is quite vexing. The problem that arises due to unawareness of this is the user is unaware of the availability status of the room; he wants to book. Contacting the admin to know the current status of his request for booking and altering plans as per it (i.e. changing time slots or room) is time-consuming both for the admin and user.

2.2 User Classes and Characteristics

1. User :-

The user should have basic knowledge of using a website.

2. Admin :-

The admin should have the necessary experience of using a website. The admin should be able to add, delete, and modify things in an existing database.

2.3 Product Functions

The application functions vary depending on whether the user is using it or the Admin.

1) Room Booking System:

On opening the website, It asks person either to sign in or sign up.

To continue further, one has to sign in. New users should sign up.

a. user: On clicking the user login button, a sign in form is displayed. Once the user has signed in, he can perform the following:

- Create Bookings : User should give valid details like username, Faculty ID, Class type, Course name .By clicking on a particular time slot of a room, the user can book it if it is vacant. The date of a booking can be selected from the given calendar.
- View bookings : User can see his booking log sort by month, his room timings and status of booking.
- Cancel a booking: By clicking on an already booked slot, the user finds an option to cancel the booking he has made.
- Add Department and courses: User can enter there department and courses and can see the list of departments enrolled too.
- Rooms: User can see type of rooms, there locations.
- Log out: The user can end his session using the log out button.

b. Admin: On clicking the user login button, a sign in form is displayed. Once the admin has signed in, he has the following options:

- Add a room: The admin can add a new class to the database.
- Add courses and departments: The admin can add a new course and department to the database.
- Add a new user: The admin can register a new user.
- Delete user: The admin can also delete an existing user.
- Profile: The admin can see the information of all signed in faculties names ,userID , department, Email, Phone number stored in database.
- Log out: The admin can end his session (log out of his account) using this button.

2) Web page for a professor:

It is an open-source web page anyone can have access to.

On opening the website, We can see the profile of the professor with the information about the department he is working on, achievements, education and at the right corners we can go through his research blog, Work experience, Publications, E-mail and contact details. Here we provided a feedback system where a student or any college person can give there feedback which reaches through mailer to the professor.

2.4 Operating Environment

The website will be operating in any Operating Environment - Mac, Windows, Linux etc.

2.5 General Constraints

- The website is expected to perform in a real-time environment and is developed, keeping that in mind.
- This website is designed in such a way that it provides the necessary information to book a classroom (Room booking) and to create a web page for professors.
- The website made does not include any payment or booking options.
- The website will function only when the system has a local area network.

2.6 Assumptions and Dependencies

Server-side dependencies: My SQL Server, Php interpreter

Client-side dependencies: A web browser

Client-side assumption: Active internet connection.

3 System Features

3.1 Description and Priority

Room Booking Management system should have various features. All the features are necessary for the software. Some of them are the main while some are secondary. The features with priority up to down are

1. User Registration : The user should be able to register for an account so that he/she can log in and use the software.
Acceptance Test : Creating an Account Given that a person is a lecturer is trying to book a room, he/she will be able to create a login ID based on their email address as well as a password that will eventually be entered into the login page so that users will be able to use the features of the software.
2. Log-In Page: The system allows only authenticated users and admin to login. To use more functionalities, the individual must login.
Acceptance Test : Logging In The user has supplied a valid email address and the corresponding password associated with that email address when they submit their login request then they should be presented with the protected features of the software.
3. Application Form: A logged-in user can book a room by selecting a suitable slot of a given room. A logged-in admin can fill out a simple form to add a new user, delete a new user or to add a new room.
Acceptance test : This form supply the details associated with the other rooms so that whenever a professor searches for the room they would be able to see all the options available and compare it accordingly.
4. Page to view previous records: Room booking system: Any person visiting the website can view the current status of all the classrooms of the various building on this page.
Acceptance test : Keeping Users records A different dashboard will be there for the admin so that he can access all the records and details of lecture rooms.
5. Filters: Room Booking System: Bookings can be filtered by the date of the event, which is by default the current date.
Cancellation: Room Booking System: A user can cancel his active bookings.
Acceptance Test : Providing access for edit/update Users have the power to edit/update details entered by them at any time.

3.2 Functional Requirements

1) Room Booking System:

Login page:

- A user or an admin needs to fill out a simple form in order to log in.
- User: A user has to enter his username and password in the form.
- Admin: An admin has to enter his admin id and password in the form.
- The system checks if the credentials are valid or not.
- If yes “successful message is shown or else incorrect credentials pop up and redirect to the login page.

Application Form:

User:

- A logged-in user can book a room by selecting a suitable slot for a given room. When a free slot is selected, the user is prompted to fill the purpose of the booking in a form.
- The system adds the booking into the database and emails the user at his email the details of the booking.
- The user receives an alert message saying the booking was confirmed, and the email was sent successfully.
- If a user selects a slot that’s already booked by someone else, then the form is deactivated, and the details of the booking are displayed.

Admin:

- An admin can do four tasks after logging in:
Add a room, add courses and departments, add a user, delete a user.
- To add a room: the admin has to fill out a form containing the room number, name of the building and capacity of the room.
- To add courses and departments : the admin has to fill out a form containing the department names and course lists.
- To add a user: the admin has to fill out a form containing the username, password and email of the new user.
- To delete a user: the admin has to fill in the username of that user in a form.
- During any of the following, corresponding changes are made in the database.
- After a successful change, the admin is sent a confirmation message in an alert box.

Page to view previous records:

User and Admin:

- A user or an admin can see the prior bookings of anyone in the table.
- When you click on a slot that has been booked, the details of his bookings can be viewed in a pop up that appears on the screen.

Filters:

User and Admin:

- One can filter the bookings of various rooms of different buildings by using the date filter. Once a date is selected, the table of bookings updates itself by retrieving data from the database.

Cancellation:

User:

- A user can cancel his active bookings. When the user clicks on a slot he has booked, he can view the details along with the cancel button.
- On clicking the cancel button, the active booking is transferred into the expired bookings along with the date of cancellation (current date).
- An alert message is displayed confirming the cancellation.

2) Web page for a professor:

Academic Database and Information System:

- This is the main objective of this software. To develop a simple and structured way to insert information about professors working in IIT Indore.
- It is an open-source web page anyone can have access to.
- It contains profiles of lecturers with their Research interests, Work experience, Publications, E-mail and contact details.
- It shows the departmental courses they are working on.
- It has a feedback system through a PHP mailer.

4 External Interface Requirements

4.1 User Interfaces

We will be making a highly responsive website that will be working on every device where you can access it via browser.

4.2 Hardware Interfaces

We are going to deploy our software on a system which has good storage, processor etc..device with a web browser.

4.3 Software Interfaces

We are going to make our software such that it works on every system irrespective of what their operating system is. We will be taking care of the software interface as long as it meets hardware interface requirements.

5 Other Non-Functional Requirements:

Nonfunctional Requirements define system attributes such as security, reliability, performance, maintainability, scalability, and usability.

5.1 Performance Requirements:

- The system is web-based, the server (at least 2GHz) should be capable enough to load pages faster.
- Search results should be displayed in less time.
- Internet bandwidth should be high as possible.

5.2 Security Requirements:

- The data held by the system is provided with a high level of security and integrity.
- In case of unauthorized access, an error page will be generated.
- The error message displayed is more descriptive and can be easily understood.
- The application should also have security features to protect it from basic vulnerabilities.

5.3 Maintainability:

- The database should be accessible to carry out maintenance.
- Back-up: The system offers the efficiency for data backup.

5.4 Reliability:

The system should be able to manage even after some years without errors.

5.5 Availability:

The system is available 24 by 7.

5.6 Portability:

The platforms on which the system runs should allow a substantial amount of portability.

5.7 Software Quality Attributes:

- In the development phase, testing and conferences of users are continued, so that the quality of the software is maintained and all the requirements are fulfilled.
- A simple but quality user interface is developed to make it easy to understand and required less training.

6 Other requirements:

“CSE OFFICE AUTOMATION -II” needs maintenance. It will need re-factoring and further, the requirements can be changed as the field is changing frequently. Based on feedback new features can be added and issues can be resolved.