Software Requirements Specification

for

Automated Lecture Hall Booking Portal

Version 1.0

Prepared by

Group 12: Group Name: Aviators

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Revisions

| Version | Primary Author(s) | Description of Version | Date Completed |
| --- | --- | --- | --- |
| Draft Type and Number | Full Name | Information about the revision. This table does not need to be filled in whenever a document is touched, only when the version is being upgraded. | 00/00/00 |

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# Introduction

## Product Scope

The Automated Lecture Hall Booking Portal aims to simplify and streamline the process of booking lecture halls for academic and non-academic activities across campus. By automating room availability checks and approvals, it minimizes administrative overhead and ensures real-time updates. Key benefits include enhanced transparency, optimized resource usage, and accessibility for students, faculty, and event organizers.

## Intended Audience and Document Overview

This document is intended for developers, project managers, testers, and stakeholders. It details the system’s requirements, design constraints, and functionalities. Readers are encouraged to begin with Section 1 for an overview and proceed sequentially.

## Definitions, Acronyms and Abbreviations

* **UI**: User Interface
* **RM Building**: Rajiv Mothwani Building
* **KD Building**: HR Kadim Deewan Building
* **D-JAB**: Diamond Jubilee Academic Building

## Document Conventions

This document uses Arial font size 12, single-spaced text, and follows IEEE formatting standards. Section titles are bolded.

## References and Acknowledgments

* Campus booking policies
* IEEE Software Engineering Standards

# Overall Description

## Product Overview

This system replaces the manual process of lecture hall allocation with an automated portal. It integrates with campus schedules and allows users to view and book rooms based on specific criteria. The system’s primary interfaces are web-based, ensuring accessibility across devices. The product will be scalable to include other campus spaces in future versions.

## Product Functionality

* Automated room availability checks
* Real-time updates on room statuses
* Advanced search filters for capacity and equipments
* Automated notifications for booking updates
* Utilization analytics and reports

## Design and Implementation Constraints

* Web-based system optimized for Chrome and Firefox
* Backend database supporting at least 500 concurrent users
* Compliance with campus IT security policies

## Assumptions and Dependencies

* Users will have internet access.
* Room schedules will be updated accurately in the central database.
* Integration with campus email servers for notifications.

# Specific Requirements

## External Interface Requirements

### User Interfaces

A responsive web portal with a dashboard for bookings, search filters, and booking history.

### Hardware Interfaces

Standard computing devices (PCs, tablets, smartphones).

### Software Interfaces

Integration with existing campus scheduling systems and email servers.

## Functional Requirements

* F1:The system shall allow users to search for available rooms by date, time, and capacity.
* F2: The system shall provide real-time booking status updates.
* F3: The system shall send automated email notifications for booking confirmations and approvals.
* F4: The system shall generate monthly utilization reports for administrators.

## Use Case Model

### Use Case #1

**Author –** Identify team member who wrote this use case

**Purpose** - Enable users to book available lecture halls efficiently.

**Requirements Traceability –** Linked to F1 and F3.

**Priority** – High

**Preconditions** - User must be logged in.

**Post conditions** - Booking is confirmed, and notifications are sent.

**Actors** – Users (students, faculty, organizers), Admins

**Exceptions** - Room already booked, invalid input

# Other Non-functional Requirements

## Performance Requirements

* The system shall handle 500 simultaneous users without performance degradation.
* Booking confirmation shall be processed within 2 seconds.

## Safety and Security Requirements

* All user data shall be encrypted.
* Login credentials shall follow campus authentication protocols.
* The system shall log all transactions for auditing purposes.

## Software Quality Attributes

* **Reliability**: Ensure 99.9% uptime.
* **Usability**: Provide an intuitive user interface with guided tooltips.

# Other Requirements

* The system shall support multilingual interfaces.
* Legal compliance with campus data privacy regulations.

Appendix A – Data Dictionary

<Data dictionary is used to track all the different variables, states and functional requirements that you described in your document. Make sure to include the complete list of all constants, state variables (and their possible states), inputs and outputs in a table. In the table, include the description of these items as well as all related operations and requirements.>

Appendix B - Group Log

<Please include here all the minutes from your group meetings, your group activities, and any other relevant information that will assist in determining the effort put forth to produce this document>