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# **Software Requirements Specification**

for

# **Auditorium Management System**

**Version 1.0**

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## **1. Introduction**

### **1.1 Purpose**

The main purpose of this system is to help auditorium owner as well as event organizer, auditorium manager and Customer in simplifying and automate the whole auditorium management and it's booking system. Use of our product for managing auditorium, book auditorium and buying event tickets is the smart way of auditorium management system. It is more convenient technique to manage auditorium more effectively.

### **1.2 Document Conventions**

When writing the SRS document for Faculty attendance system the following terminologies are used. To make the document more effective and readable I used better font style and font size and headings are bold and highlighted with attractive colors.

### **1.3 Intended Audience and Reading Suggestions**

This document is written for the project managers, programmers, designers, developers, testers, documentation writers, users involved in the model of smart entrance system. This document consists of the various steps and procedures for the model. Following section describes the rest of the product function. Scope and other overall description.

### **1.4 Project Scope**

The software product to be produced is an Auditorium Management System which will automate the major auditorium operations. The first subsystem is to add details and manage details of auditorium. The second subsystem is to track auditorium booking and event management. The third subsystem is to track event's tickets booking management. The last subsystem is to provide general management services and modification of subsystems information. The end users are the auditorium manager, event organizer and Customer. The manager can access the auditorium details

and booking, event organizer can access event details and booking timing, Customer can access their tickets booking for event.

## 1.5 References

1. Craig Larman, "Applying UML And Patterns", Ed. 2nd. India: Pearson Education (Singapore) Pte. Ltd, 2002
2. C.J. Date, "An Introduction to Database System", Ed. 7th. India: Pearson Education (Singapore).Pte. Ltd, 2002.

## 2. Overall Description

### 2.1 Product Perspective

The product auditorium management system, is an independent product and does not depend on any other product or system. The product will automate various tasks associated with handling auditorium, event, user , payments details and better organizing the stored information and optimum performance, thus helping the auditorium managers and users to ensure smooth working of these process.

### 2.2 Product Features

#### Auditorium Management

- Allows manager to add details
- Allows manager to edit existing details
- When a manager click on ADD, the auditorium details will be added in the database.

#### Auditorium Booking and Event Creation

- Allows event organizer to select timeslots for particular auditorium
- Gives price details for according to auditorium price and selected timeslots.
- Allows organizer to typing in event information.
- When organizer complete payment for booking, the selected timeslots for auditorium will be removed from the available slots.
- Ability to modify an event booking details.
- Records payment

#### Ticket booking for event

- Allows Customers to view all events
- Allows users to select number of tickets for a particular event.
- When user complete payment for booking, the number of tickets selected by user will be removed from the available tickets.

- Ability to cancel booked tickets.
- Records payment

#### General Management Services

- Allows addition, deletion and modification of information on auditorium details, event details, user profiles.

### 2.3 User Classes and Characteristics

The Website user is simply anyone that has access to the Internet and a web browser. It is assumed that the user is familiar enough with a computer to operate the browser, keyboard and mouse and is capable of browsing too, from and within simple websites. There are various kinds of classes for an Auditorium Management System, here are three types of classes:

#### 1. Administration:

The personal or product admin will have the access to verify auditorium/manager, add and delete manager and modify the information that is stored in the database.

#### 2. Verified Manager:

They are the end user of the system, that can add their auditorium details, manage event.

#### 3. Authorized Event Organizer:

They are the end user of the system, they can organized event in particular auditorium and can manage event.

#### 4. Customer :

They are the end user of the system, they can book tickets for particular event.

### 2.4 Operating Environment

#### 2.4.1. Software Environment – Server Side

- The 64-bit Windows Server 2008 Service Pack 2 or Windows Server 2008 R2
- MongoDB 4.0
- Nodejs 12.8.1

#### 2.4.2. Software Environment – Client Side

This system is intended to support Internet Explorer version 8 or higher, chrome, safari and Firefox latest version.

#### 2.4.3. Hardware Environment – Server Side

- CPU 1 GHz quad-core processor or higher
- At least 4 GB RAM or higher, preferably 8 GB RAM
- 50 MB free disk space on the hard disk

#### 2.4.4 Hardware Environment – Client Side

- CPU 1 GHz processor or higher
- At least 4 GB RAM or higher

#### (A) Hardware Interface

Hardware Environment	Dual Core 2 <sup>nd</sup> generation
System Configuration	RAM-2 GB HDD-256GB
Operating System	Windows 8/8.1/10/11, Ubuntu

#### (B) Communication Interface

The machine will have to be part of internet connection to access the central database and process to be execute.

### 2.5 Design and Implementation Constraints

- **UI Design:**

HTML5, CSS3, Bootstrap, Javascript

- **Development:**

**Front End:** ReactJs, Javascript, JSON

**Back End:** NodeJs, Mongodb, Mongoose, Express

**IDE:** Visual Studio 2022, Mongodb Compass

- **Fault Tolerance:**

Data shall not be corrupted in case of system crash or power failure.

- **Security Consideration:**

Used token-based authentication for user authentication with each request over http protocol.

## 2.6 Assumptions and Dependencies

- We assume that the admin does all the data entry based and the correct values obtained from forms and registers.
- We assume that the devices that will use the software will be part of the active internet connection.
- Users with admin access should be careful in deleting or modifying any information knowingly or unknowingly which will lead to inconsistency of the database.
- The end users of this system are assumed to have basic level of computer knowledge i.e., point and click.
- There is no any payment gateway as of now. Organizer and Customer will get confirmation message after booking auditorium and buying event tickets respective.



### 3. System Features

There are mainly five features in our software. They are divided in separates activities. The features are 1. Role Based Authentication, 2. Admin Dashboard, 3. Manager Dashboard, 4. Event Organizer Dashboard, 5. User Dashboard

#### 3.1 Role Based Authentication

##### 3.1.1 Description and Priority

This is basically the first and activity of the software. It comes with the verity of user roles, how much user are authorized to do something. It is authenticated user with their role to get access. Unauthorized user can't have resource access.

##### 3.1.2 Stimulus/Response Sequences

So basically, whichever role user will choose this feature will authenticate user for specific resource access.

- 1.If user will select admin role, then system first authenticate user and give all necessary resource access to user otherwise denied that user to access the resources.
- 2.If user will select manager role, then system first authenticate manager and give all necessary resource access to user otherwise denied that user to access the resources.
- 3.If user will select event organizer role, then system first authenticate organizer and give all necessary resource access to user otherwise denied that user to access the resources.
- 4.If user will select Customer role, then system first authenticate user and give all necessary resource access to user otherwise denied that user to access the resources.

##### 3.1.3 Functional Requirements

The main requirement of this features is to get resource access to user as per their authority.

1. If user want to access admin resource, then they must be authorized with admin role.
2. If user want to access manager resource, then they must be authorized with manager role.

3. If user want to access organizer resource, then they must be authorized with organizer role.
4. If user want to access Customer resource, then they must be authorized with user role.

## 3.2 Admin Dashboard

### 3.2.1 Description and Priority

If user enter credential and system identifies it is as an admin so the system will redirect user to this activity. This activity is for admin to interact with the system it has several options for that.

### 3.2.2 Stimulus/Response Sequences

As this feature is divided into below functionalities, we can discuss their response separately.

1. Admin can view all request of manager to register their auditorium, if admin verified it then he/she will set "Verification Status" as true.
- 2.If admin verified request of manager as malicious request, then he/she will set "Verification Status" as false.
- 3.If admin wants to see verified manager, then he/she have to click on "Verified Manager List" button. Then admin will redirect to that activity where he/she can see manager details along with their auditorium details. Like this admin can see pending list and unverified list of managers.
- 4.If admin wants to see user, then he/she have to click on "Users", to view users details.
- 5.If admin want to see booked auditorium with event details, then he/she have to click on "current booking".

### 3.2.3 Functional Requirements

There is mainly three requirements of this features.

#### 1.Manager verification

This function is use to verified new manager is the system. So, if admin detect manager request as malicious then he/she can reject it.

## **2.All Manager List**

This function is use to see manager list. The admin can view verified manager along with auditorium details, is admin wants to view particular manager list so there is two option 1. Pending manager list – in this admin can see all pending verification list. 2. Rejected manager list – in this admin can see all rejected verification list.

## **3.Auditorium Booking Report**

This function is use to see auditorium booking report. The admin can see auditorium booking details with their organizer and also see event details for which auditorium is booked.

### **3.3 Manager Dashboard**

#### **3.3.1 Description and Priority**

If user enter credential and system identifies it is as an manager so the system will redirect user to this activity. This activity is for manager to interact with the system to view/edit their auditorium details and booking details with event.

#### **3.3.2 Stimulus/Response Sequences**

So, there are some responses of the system in this activity that if system identifies user as manager, then this activity is gives all necessary resource access to user.

1. If manager wants to view their auditorium details, then he/she will click on “Auditorium” button then he/she will redirect to that activity, or if manger wants to edit their auditorium details, then he/she will have to click on “Edit auditorium” button then he/she will redirect to that activity where manager can edit their auditorium details.
2. If manager wants to see current booking in auditorium then he/she have to click on “Current booking”, then he/she will redirect to that activity where manager can see booked auditorium details along with event that will be hosted in auditorium.

3. Manager can also view event details with current tickets booking state.

### 3.3.3 Functional Requirements

There are mainly three requirements of this features.

1. **Edit Auditorium details**

This function is use to edit auditorium details in the database.

2. **View Auditorium Booking**

This function is use to see auditorium booking details. The manager can see current booking, previous booking and upcoming booking with their details, organizer that booked the auditorium along with event that will be hosted in auditorium.

3. **Events details**

This function is use to see events details for their auditorium. The manager can see events details along with their tickets booking state.

## 3.4 Event Organizer Dashboard

### 3.4.1 Description and Priority

If user enter credential and system identifies it is as an event organizer so the system will redirect user to this activity. This activity is for event organizer to interact with the system to view auditorium, book auditorium and create/edit event.

### 3.4.2 Stimulus/Response Sequences

So, there are some responses of the system in this activity that if system identifies user as event organizer, then this activity is give all necessary resource access to user.

1. If event organizer wants to view auditorium in their city, just view that in home page.
2. If event organizer wants to book auditorium, then he/she will click on "View more", then he/she will redirect to that activity. Here he/she can select time slot for booking and after that can event details and confirmed their booking by completing payment.

3. If event organizer wants to view their events, then he/she will have to click on “My events” then he/she will redirect to that activity, where organizer can view their events details.
4. If event organizer wants to view their transaction history, then he/she will have to click on “Purchase history”, then he/she will redirect to that purchase history.

### **3.4.3 Functional Requirements**

There are mainly two requirements of this features.

#### **1. Book Auditorium**

This function is use to book auditorium. The organizer can select particular time slot to book auditorium.

#### **2. Create Event**

This function is use to create event. The organizer has to book select time slots for event, and after that he/she can provide event details and confirmed their booking by complete payment.

## **3.5 Customer Dashboard**

### **3.5.1 Description and Priority**

If user enter credential and system identifies it is as a Customer so the system will redirect user to this activity. This activity is for user to interact with the system to view/edit their profile details, view transaction history and ticket booking details of event.

### **3.5.2 Stimulus/Response Sequences**

So, there are some responses of the system in this activity that if system identifies user as manager, then this activity is give all necessary resource access to user.

4. If user wants to view their profile details, then he/she will click on “profile” button then he/she will redirect to that activity, or if user wants to edit their profile

details, then he/she will have to click on “Edit profile” button then he/she will redirect to that activity where user can edit their profile details.

5. If user wants to book ticket for an event, then he/she will have to click on “View”, then he/she will redirect to activity where he/she can view more details about event and need to click on “book” to ticket and confirmed their booking by complete payment.
6. If user wants to view their transaction history, then he/she will have to click on “Transaction history”, then he/she will redirect to that activity.

### **3.5.3 Functional Requirements**

There are mainly three requirements of this features.

#### **1. Edit Profile details**

This function is use to edit Profile details in the database.

#### **2. Event Ticket Booking**

This function is used to book ticket for event. The user can select event and can book ticket for event by completing payment

#### **3. View Transaction History**

This function is use to view transaction details of user.

## **4. Other Nonfunctional Requirements**

### **4.1 Performance Requirements**

Easy tracking of records and updating can be done. All the requirements relating to performance characteristics of the system are specified in the section below. There are two types of requirements.

#### **A. Static Requirements**

These requirements do not impose any constraints on the execution characteristics of the system. They are,

**1) Number of Terminals**

The software makes use of an underlying database that will reside at the server, while the front end will be available online to the administrative and departmental computers as well as manager of the auditorium, event organizers and users.

**2) Number of Users**

The number of users may vary, as this software finds applications in almost all the region.

**B. Dynamic Requirements**

These specify constraints on the execution characteristics of the system. They typically include response time and throughout of the system. Since these factors are not applicable to the proposed software, it will suffice if the response time is high and the transactions are carried out precisely and quickly

**4.2 Safety Requirements**

This application as all the other application requires the Internet availability, and is also requires that the user should keep his private keys safe and secure and the same should not be shared with anyone.

**4.3 Security Requirements**

The security requirements deal with the primary security. The software should be handled by administration, authorized manager, authorized organizer, authorized user as per their role. Only administrator has to right to verified manager and their auditorium. Only authorized manager can onboard their auditorium to our system. Rest of the user with their specific authority can access the system with email and password.

**4.4 Software Quality Attributes**

**4.4.1 Responsive Web Design**

Auditorium Management System fully responsive so that user can access website in mobile as well as any size of desktop with same user interface experience.

**4.4.2 Usability**

E-commerce website shall have user friendly UI and that shall also follow all UI standard so that user can easily operate system.

**4.4.3 Performance**

Performance is a quality attribute that defines how fast the system response to a user query.

**5.4.2. Availability:**

The software will be available only to authorized users of the system like admin, manager, event organizer, user.

**5.4.3. Maintainability:**

Backups for database are available. Here we have used reusable components so in future maintenance will be easier.

**5.4.4. Portability:**

The software is web-based application so it is platform independent and is independent of operating system.



## Appendix A: Screen List

Root Menu	Pages	Functionality
<b>Home Page</b>	Home screen	Users will be redirected to the homepage when the application starts up.
<b>Login Page</b>	Login	Admin, Organizer, Events, Customer into the system using their credentials.
<b>Sign-up</b>	Registration	User, Organizer can register themselves by providing the required field in sign-up page.
<b>Manager Sign-up</b>	Manager Registration	Manager can register themselves by providing the required field in sign-up page.
<b>Admin Dashboard</b>	Admin Dashboard	After successful login, Admin will be redirected to dashboard with admin privileges.
	View/Edit profile	Admin can view/edit his/her profile fields.
	Manager verification	Admin can verify manager requested to add their auditorium onsite.
	Manage user	Admin can delete reported user.
	View events details	Admin can see all events details that created by organizer along with auditorium booking details.
<b>Manager Dashboard</b>	Manager dashboard	After successful login, Manager will be redirected to dashboard with admin privileges.
	View/edit profile	Manger can view/edit his/her profile fields.
	View/edit auditorium details	Manager can view/edit his/her auditorium details.
	Booked auditorium screen	It will show booked auditorium details along with event details.

	Event details screen	It will show event details with auditorium booking details, from this manager can also delete event.
	Transaction history screen	It will show all transaction history with auditorium booking.
<b>Event Organizer Dashboard</b>	Organizer dashboard	After successful login, Organizer will be redirected to dashboard with admin privileges. Where he/she can view all auditorium details.
	Edit/view profile	Organizer can view/edit his/her profile details.
	Auditorium booking screen	Organizer can book auditorium for their event.
	Event creation screen	Organizer can enter all details for event creation.
	Purchase History Screen	Organizer can view all his/her purchase history.
	All events screen	Organizer can view all his/her events details.
<b>Customer</b>	User dashboard	After successful login, Customer will be redirected to dashboard with Customer privileges.
	Edit/view profile	Customer can view/edit his/her profile details.
	Events screen	Event screen shows full description of events to user
	Event booking screen	Event booking screen allows user to book tickets for an event.
	Transaction screen	Transaction screen shows all transaction made by the user.