

## LAB 1: SRS for a Hotel Management System.

### 1. Introduction:

#### 1.1 Purpose of this document:

This SRS defines the functional and non-functional requirements for a hotel management system. It serves as a blueprint for the development team, outlining the expected capabilities and behaviour of the system.

#### 1.2 Scope of this document

The system will manage various aspects of a hotel's operations:

- Guest reservations and check-in/check-out process.
- Room management and assignment.
- Billing and payment system.
- Staff management.
- Reporting and analytics.

#### 1.3 Overview:

The hotel management system will be a web-based app accessible to hotel staff. It will provide a user-friendly interface for managing day-to-day operations efficiently and accurately.

### 2. General Description:

This application provides features for management among the staff, receptionist... and also provides the user for checking the availability of rooms, pricing, check-in/check-out. It also provides ~~online~~ online reservation and cancellation.

### 3. Functional Requirement:

#### Reservation Management:

- Allows user to reserve, modify or cancel reservation.
- Validate guest information.
- Confirmation mail and payment receipt generation.

#### Room Management:

- Track room status.
- Assign room to guest based on availability.

#### Billing and Payment:

- Calculate guest bill based on room rates & additional charges.
- Generate receipt and invoice.

#### Staff management:

- Create staff profiles with role.
- Schedule shifts and assign job.

### 4. ~~Interface requirement:~~

The lodging system must have interactive pictures of each room and it must show a grid of the hotel floor for customers to choose from.

### 5 Performance Requirement:

The response time shouldn't exceed 1.5 sec and should run on 16 GB RAM and 512 GB terminal. The error rate shouldn't exceed 1%.

### 6. Design Constraints:

The algorithm should have  $O(n!)$  time complexity.

the system should use only J2EE.

### 3. Non functional Requirements:

The system must have AES encryption standard and must be architecturally modular. The system must be able to handle 4000 users at a time and should be scalable.

### 8. Preliminary Schedule and Budget:

The project should be able to be completed by Q3 within 7 months and a budget of 900K is to be allocated.

## credit card processing System:

### 1) Introduction:

#### 1.1) Purpose of this Document

To provide insights on credit card processing system's requirements and attributes & budget.

#### 1.2) Scope of this Document.

The Document provides a comprehensive description of the CCP and it must be completed in 30 days.

#### 1.3) Overview

The System allows business to accept credit card payment from customers.

### 2) General Description:

Payment Authorization: The customer shows enter valid credentials.

Transaction Submission: The site must securely connect with the respective bank for notification. The business site must be able to send SMS to registered mobile.

### 3) Functional requirement

The credit card processing system must be implemented as shown and described in the general description.

4) Interface requirement:

The payment authorization must have that field for every detail of the credit card.

Transaction submission must have a simple buffering page.

Status notification must display a static page saying it has forwarded.

The interface must use React framework.

5) Performance Requirements:

The system should not exceed 4 seconds of response time and must be able to run on 8 GB and 256 GB Ram and Rom system.

6) Design Constraints:

The system must use only DES algorithm for detecting the valid users in the database and must only use Node JS 11.5 version.

7) Non functional attributes:

The system must only work on Mac OS, it must be compatible for all Mac OS versions and must use a DES encryption standard.

8) Preliminary Schedule and Budget.

The project must be completed in 1 month of time and a total of 500k dollars is to be allotted to it.

LAB - 02LIBRARY MANAGEMENT SYSTEM.

## 1) Introduction:

## 1.1) Purpose of this document

To provide insights on the library management system's requirements, with attributes and budget.

## 1.2) Scope of this document

The document provides a comprehensive description of the Library management system and it must be completed in 30 days.

## 1.3) Overview:

The System allows the library staff and students to check information of each book, enter a new book, issue books to students and allow students to borrow books.

## 2) General Description:

Book Borrowing: The students can borrow books from the library digitally.

Entry of new books of library: The staff should be able to create profiles for new books and issue a unique code for each book along with other details of the book taken by user input.

Lending books: The staff must be able to lend new books to each student and also keep a record of the total books borrowed by a student.

## 3) Functional Requirements:

The library management system must be implemented as shown and described in the general description. The system must have a user friendly

UI must work with different windows for both the students and library staff.

#### 4) Interface requirement:

The landing of the books page should consist of fields of all the basic necessary details of a book.

The entry of new books page should have user input of all basic details of a book with ~~just~~ determined unique bar code assigned for the book.

There must be a window displaying all books that are due and haven't been returned.

#### 5) Performance requirements:

The system must not exceed a response time of 1.5 secs and should run on 16GB Ram and 512GB Rom with a low error rate.

#### 6) Design constraints:

The algorithm should have ~~the~~ optimal time and space complexity. The system must use DES algorithm to detect the valid user off from the database.

#### 7) Non-functional attributes:

The system must be cross-platform functional and it must be compatible for both android os and iOS.

#### 8) Preliminary Schedule and Budget.

The project must be completed in 1 month of time and a total of 100K dollars is to be allocated to it.

## Stock Management System.

### 1) Introduction:

#### 1.1) Purpose of this document:

To provide insights on the stock maintenance system's requirements, attributes and budget.

#### 1.2) Scope of this document:

The document provides a comprehensive description of the stock maintenance system and it must be completed in 30 days.

#### 1.3) Overview:

The system allows a user to add / remove a stock specifying the quantity of stock. It displays the current value of the user's portfolio and update it in real time.

### 2) General Description:

Adding / Removing Stocks: The user can add / remove a particular stock to their portfolio and specify the quantity of stocks.

Displaying the value: The value of the portfolio will be displayed with real time tracking of the stock price.

### 3) Functional Requirements:

- Add Stocks

→ Allows user to add a particular stock with a specific quantity.

- Remove Stocks

→ Allows user to remove a particular stock with a specific quantity.

#### 1) Interface Requirements:

- The interface should be userfriendly and should have a '+' '-' icon to add / remove a stock respectively.
- On clicking any of these icons, ~~then~~ a pop window asking the quantity should be displayed.
- The portfolio screen should have a bottom bar displaying the current value of the stocks in portfolio.

#### 2) Performance Requirements:

- The system should not exceed 4 seconds of response time and must be able to run on 8 GB Ram & 256 GB Rom.

#### 3) Design Constraints:

- The system must use only DES algorithms for detecting valid users and to check the exchanges of stocks.

#### 4) Non-functional requirements:

- The system must be cross platform based and must be functional on all major OS.
- There should exist no real time delay.

#### 5) Preliminary Schedule and Budget:

- The project must be completed in 1 month of time and a total of 100K dollars is to be allotted to it.

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## PASSPORT AUTHENTICATION SYSTEM

### 1) Introduction:

#### 1.1) Purpose of this document:

To provide insights on passport automation system's requirements, attributes and budget.

#### 1.2) Scope of this document.

This document provides a comprehensive description of the passport automation system and it can be completed by in 30 days.

#### 1.3) Overview.

The system allows a user to apply for a passport and enable online KYC for verification to make the process seamless and hassle-free.

### 2) General Description:

Passport application: Enable all citizens to apply for the passport through an online portal and upload the necessary documents.

online KYC: Enable the online verification of the uploaded documents.

### 3) Functional Requirements:

→ Add documents

Allows user to add a document for passport verification.

→ User-friendly interface.

The interface must be easy to navigate for customers with minimal understanding of the software.

4) Interface requirements:

It must be able to upload & must be able to accept details of the users.

Trickle insurance state must be displayed in real time

5) Performance requirement.

There are no response time limits & it must store data in 200GB Ram.

6) Non-Design constraints:

The system must use only DES algorithms for detecting valid documents and to check their credibility.

7) Non-functional Requirements:

The system must be cross platform and functional on all the major O.S.

There should be no real time delay.

8) Preliminary schedule and budget:

The project must be completed in 1 month of time and a total of 100k dollars is to be allocated to it.