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# **Software Requirements Specification**

**for**

## **Resort Management System**

**Version 1.0 approved**

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## Revision History

Name	Date	Reason For Changes	Version
Shubham Golwal, Vyom Doshi	05/09/22	N.A.	1

# **1. Introduction**

## **1.1 Purpose**

This SRS describes the software's functional and non-functional requirements for release 1.0 of the Resort Property Management System (RPMS) and provides the foundation for the project. The Resort Property Management System is designed to provide vacation rental managers with the ability to control their company's rental business. All aspects of short-term rental management are considered including reservations, accounting, maintenance, housekeeping, booking, and more. A clear understanding of the system and its functionality will allow for the correct software to be developed for the end user and will be used for the development of the future stages of the project. From this SRS, the Resort Property Management System can be designed, constructed, and finally tested.

## **1.2 Document Conventions**

The document is prepared using Google Documents and has used the font type 'Times New Roman'. The fixed font size that has been used to type this document is 12pt with 1 line spacing. The bold property has been used to set the headings of the document. Standard IEEE template is used to organize the appearance of the document and its flow.

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

The intended audience of this document would be the owner and specific employees like Manager and Receptionist of the Resort and project team with the objective to refer and analyze the information. The SRS document can be used in any case regarding the requirements of the project and the solutions that have been taken. This proposed system can be used by any naive users and it does not require any educational level, experience or technical expertise in the computer field but it will be of good use if the user has the good knowledge of how to operate a computer.

## **1.4 Product Scope**

The Resort Property Management System will permit employees to manage the daily administrative tasks of the resort and ensure smooth functioning of the resort. The system will be able to handle many services to take care of all customers in a quick manner. As a solution to the large amount of file handling happening at the resort, this software will be used to overcome those drawbacks.

The main objectives of the project are:

1. To build a resort management system that consists of all the features and functions required for effectively managing a chain of resorts.
2. To have an online presence that makes the reservation process easier and delivers outstanding customer service so that visitors returning to the area will choose that location again.
3. Managing daily operations and administrative tasks for achieving customer satisfaction that will help us to provide reliable and quality service time.

4. The Reservation System is to keep track of room and hall reservation and check availability. The Room Management System is for managing all room types room services. The Inventory Control System will keep track of all inventories of the hotel and guest details will be handled by guest management. Administration department will monitor all.
5. The three End Users are Owner, Manager and Receptionist. Owner can access all system functionalities without any restrictions. Managers can access all system functionalities with limited restrictions. Receptionists can only access the Reservation management section. To keep restrictions for each End User level Resort Property Management System can create different Login functions.

## **1.5 References**

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## **2. Overall Description**

### **2.1 Product Perspective**

The Resort Property Management System is a system with all the features and functions required for effectively and efficiently managing the chain of resorts. This system will have a user friendly and attractive interface and will be presented in a simple and easy way. This system will give better options for the problem of handling large scale physical file systems, for the manual errors occurring in calculations. This system will

ease the job of employees, make the transactions error-free and will be able to handle customers in a more convenient and quick manner.

## 2.2 Product Functions

1. Make Reservations
2. Search Rooms (available room details)
3. Manage Restaurant, Spa and other activities
4. Add Payment
5. Issue Bills
6. Registration, login and logout
7. Manage Guest (Add, Update Guest)
8. Manage Room Details (Add, Update, Delete)
9. Manage Staff (Add, Update, Delete, View)
10. Manage Inventory (Add, Edit, Delete)
11. Set Rates
12. Retrieve Reports (Staff payment, Income)
13. Manage Users (Add, Update, Delete)
14. Taking Backups
15. E-mail notifications
16. Guest Experience Management

## 2.3 User Classes and Characteristics

There are 3 user levels in the Resort Property Management System:-

**Owner:** They will have access to all the functionalities and is responsible for the overall working of the system. Owner has the privilege of monitoring and authorization of all the tasks handled by the system and only he has the right to add the property. Owner of the company as well as the system can access the administration panel which is considered the core of the system. As the main authorized person of the company, the owner gets the ability to manage the other users including their user levels and privileges. Taking backups of the system and restoring the system can also be done by the Owner. Meanwhile he/she will be able to take all the kinds of reports available in the system. As the owner of the system and the company he/she has the power to set room rates as well. Only the owner has the right to delete a staff member from the system database.

**Manager:** Manager also has most of the privileges mentioned above except the payment handling. The manager's role is to reduce the workload of the owner and handle important tasks which cannot be assigned to the receptionist. Manager has the authority to take all the reports available in the system except the reports related to financial stuff, hotel income. Manager has other abilities that the receptionist, user level has. Such as, adding new staff members to the system, modifying them but cannot remove them. He can add new guests to the system, modifying them and removing them from the system and the same is applicable for inventory and room management.

**Receptionist:** The role of the receptionist will be to attain the goals of bookings and to ensure that all guests are treated with a high standard of customer service. Receptionist has the least accessibility to the system functions. Receptionists can perform limited functions such as registering new guests to the system, making reservations, sending email reminders to clients for reservation confirmation.

## **2.4 Operating Environment**

1. Operating System: Windows 7+, Ubuntu, Mac
2. Front end: HTML, CSS, JAVASCRIPT, Bootstrap
3. Backend: MySQL
4. Server: XAMPP
5. Browser: Any Browser
6. Monitor with minimum resolution of 1024x768, keyboard, and mouse
7. A Laser printer will need to be used to print these reports and notes.

## **2.5 Design and Implementation Constraints**

1. Memory: Device should have 2GB internal hard drive. Software and databases cannot exceed this amount.
2. A stable internet connection is required to use the system.
3. Software does not require any specific Operating System.
4. Users should have the correct username and password to use their accounts for their respective tasks.
5. The database should be password protected and only the owner can access the whole system.

## **2.6 User Documentation**

1. For each type of user, the system shall provide a manual with a clear idea in interacting with the system according to their respective roles.
2. The system shall allow the new employees to practice making updates in the inventory and other functionalities without disturbing the actual database

## **2.7 Assumptions and Dependencies**

1. The resorts are open for bookings on all days of the year.
2. Since the application is a web based application there is a need for the internet browser and that the users shall possess stable internet connectivity.
3. The users should have some basic understanding of computers.
4. The users should be able to understand and comprehend the English language.
5. The system's response to database software should be quick.
6. Each user must have a valid user id and password.
7. The product does require a back-end database server MySQL for storing username and password for different users of the system.

# **3. External Interface Requirements**

## **3.1 User Interfaces**

This software needs the following user interfaces:

3.1.1. User-friendly Dashboard of the system

3.1.2. Login Page:

- I. User: Different types of the owner(Admin), manager, and receptionist
- II. Properties:

- a. This window has two fields of email and password, and a button for login.
- b. If he/she doesn't remember the password, there's the option of forgetting the password.

3.1.3. Adding new guests to the system Page:

- I. User: Receptionist
- II. Properties:
  - a. This window is used for registering as a new guest in the online Resort Property Management System.
  - b. This window has various text fields to take information about the guest:
    - 1. Guest information like Name, Address, Country.
    - 2. Contact information like Email, Mobile.
    - 3. Other information like ID, Number of Adults/children, Membership status.
    - 4. Stay information like Number of Rooms, Arrival date, Departure date, room type.

3.1.4. Make a New Reservation Page:

- a. User: Receptionist
- b. Properties:
  - i. This window is used for making or modifying a new reservation for the guests.
  - ii. This window has various text fields to take information about the:
    - 1. Common information (Status, Booking Time, User Name)
    - 2. Guest Information (Name, company, email, phone, address, country)
    - 3. Payment information
    - 4. Service information
    - 5. Billing information (Address, City, State, Country, Pincode)
    - 6. Room information (Check-in date, Check-out date, Number of Adults/Children, Room Number)

3.1.5: Views, modify or delete Reservations Page:

- a. User: Receptionist.
- b. Properties:
  - i. The window shows all the reservations in that particular property.
  - ii. The User can view, remove or update the reservations of guests.

3.1.6: Property Management Page:

- a. User: Owner
- b. Properties:
  - i. This window is used for adding/deleting a property.
  - ii. The user can also make changes to room availability and reservations of a particular property.

3.1.7: Stock management Page:

- a. User: Manager
- b. Properties:
  - i. This window is used for adding/modifying a stock.
  - ii. Making a new order (Item, Unit Price, Quantity, Amount)

3.1.8: Staff management Page:

- a. User: Manager, Owner
- b. Properties:
  - i. This window is used for viewing/ modifying details of a staff member.
  - ii. Only the Owner can delete a staff member from the database.



**3.1.9: Adding a new staff member Page:**

- a. User: Manager, Owner
- b. Properties: This window is used for registering a new staff member.
- c. This window has various text fields to take information about the staff:
  - i. Staff information (ID, Name, Address, City, Country, Gender)
  - ii. Contact information (Email, Mobile)
  - iii. Staff Type
  - iv. Days he/she Works On

**3.1.10: Admin Homepage:**

- a. User: The Owner
- b. Properties:
  - i. The Dashboard of the Admin consists of lists of reservations, restaurant, Spa and other activities, housekeeping details, staff details, property details.
  - ii. They can make changes in different properties and their reservations.
  - iii. They can view all the information about the guest, staff and the property.

**3.1.11: Customer Relations Management Page:**

- a. User: Receptionist.
- b. Properties:
  - i. The window shows all details about the customer experience.
  - ii. The user can view the membership status of guests and add the experience of guests.

## **3.2 Hardware Interfaces**

A specific computer must match the below-mentioned requirements in order to gain the maximum benefits from the system in an efficient manner.

3.2.1: Hardware Requirement: Dual Core 2nd generation

3.2.2: System Configuration: RAM > 512 MB

3.2.3: The System must run over the internet, all the hardware shall require to connect to the internet will be hardware interface for the system, like Modem, WAN – LAN, Ethernet Cross-Cable.

3.2.4: Reservation alerts will be sent to one of the members of the staff as an e-mail notification. So there is a need for broadband internet connection. Clients should be able to keep a stable internet connection. A laser printer will be needed when printing bills and several reports.

## **3.3 Software Interfaces**

3.3.1: The computer this software is going to be installed needs to have either a Windows Operating System equal or above, Windows 7, or a Linux system or a Mac Operating System.

3.3.2: There should be a virtual server i.e. XAMPP on the computer as we need Apache and MySQL in XAMPP for running the website on localhost.

- 3.3.3: MySQL is used to create a Database for storing all the contents.
- 3.3.4: The tables are formed for storing the information of admin, reservations, restaurant, spa and other activities, housekeeping, customers details, logs etc.

### 3.4 Communications Interfaces

- 3.4.1. When a reservation is reserved, an email notification will be sent to both the staff's email account and the guest's account.
- 3.4.2. Guests will be notified during the check-out date.
- 3.4.3. To achieve that functionality, it requires having a stable internet connection. A broadband connection with the client's computer shall provide an efficient service.

## 4. System Features

### 4.1 Use case 1

<b>Use case name</b>	<b>Making new Reservations</b>
<b>Trigger</b>	Any user presses the new reservation button
<b>Pre Condition</b>	the user has logged into the system already and has authenticated himself
<b>Input</b>	Code, Number of children, Number of adults, check-in date, check-out date, status, Number of nights
<b>Output</b>	Database Record, Database successfully updated message
<b>Processing</b>	Validate the given details and record the information into the database.
<b>Post condition</b>	The reservation has been approved and updated in the database.
<b>Exception</b>	the database somehow is not able to accept new entries, there is critical system failure

### 4.2 Use case 2

<b>Use Case Name</b>	<b>Add Guest</b>
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<b>Trigger</b>	when the users have clicked on the new reservation button and now they wish to add new guest OR else they have clicked on the modify guest option and now wish to add new guests
<b>Precondition</b>	the user has accessed the guest database
<b>Input</b>	Member code, Phone number, Company, Name, E-mail, Gender, Address
<b>Output</b>	Database Record, Database successfully updated message
<b>Processing</b>	Validate the given details and record the information into the database.
<b>Post condition</b>	the guest has successfully being added to the database or else in case of exception the input form is restored as it is and the user has to re enter the state of committing to the database
<b>Exception</b>	database crash, input unacceptable, form not accepting guest details

### 4.3 Use case 3

<b>Use Case Name</b>	<b>Add staff member</b>
<b>Trigger</b>	Manager and Owner could update the staff members
<b>Pre condition</b>	the user has authenticated himself to be the owner or manager, has established connection with the staff database, has clicked on the add staff member button
<b>Input</b>	Code, Employee Name, Employee Address, NIC, Salary, Name Age, Occupation, E-mail
<b>Output</b>	Database Record, Database successfully updated message
<b>Processing</b>	Validate the given details and record the information into the database.
<b>Post condition</b>	The new staff member data gets updated in the database.
<b>Exception</b>	the user abandons the system in between, power supply failure

### 4.4 Use case 4

<b>Use Case Name</b>	<b>Search Rooms</b>
<b>Trigger</b>	User searches for the vacant room or occupied room from the database.
<b>Pre condition</b>	the guest going to use the room has already been verified
<b>Input</b>	Period, Check-in, Check-out, Guest
<b>Output</b>	Display a message with available room details
<b>Processing</b>	Validate the given details and check for the available rooms in a given time period and return it's availability.
<b>Post condition</b>	the guest number and room number are associated and stored in the database
<b>Exception</b>	data alteration about the room status in the database.

#### 4.5 Use case 5

<b>Use Case Name</b>	<b>Add Payments</b>
<b>Trigger</b>	all the other steps get completed and final step before key allocation is adding the payment details
<b>Pre condition</b>	The client confirms the reservation and willing to use resort services and we have managed to connect to the government UPI authentication system
<b>Input</b>	Total, pay time, Credit card details
<b>Output</b>	Database Record, Database successfully updated message
<b>Processing</b>	Validate the given details and record the information into the database.
<b>Post condition</b>	The payment details gets stored in the database and a receipt is generated.
<b>Exception</b>	the UPI system denies the card, the card shows insufficient balance

#### 4.6 Use case 6

Use Case Name	Issue Bill
<b>Trigger</b>	The window for making/modifying the guest reservation is used
<b>Pre condition</b>	all the other steps for reservation is completed and payment is been completed by the guest.
<b>Input</b>	Billing no, Quantity, Price, Taxes, Date, Services, Unit
<b>Output</b>	Printed version of the bill
<b>Processing</b>	Validate the given details and calculate according to the services gained by the customer.
<b>Post condition</b>	The bill is issued to the customer and also stored in the database
<b>Exception</b>	The printer shuts down, the database does not show the bill although the process is completed

#### 4.7 Use case 7

Use Case Name	Set rates
<b>Trigger</b>	The user decides the cost for check-in, using extra facilities and first night price.
<b>Pre condition</b>	user had selected the things for which the rates has to be set
<b>Input</b>	Check-in, Check-out, Day, No.of guests, First night price, Extension price
<b>Output</b>	Database Record, Database successfully updated message
<b>Processing</b>	Validate the given details and record the information into the database.
<b>Post condition</b>	the rates in the database have been updated
<b>Exception</b>	the rates updation take time and in the meanwhile a customer books a room and gets it on the older price

#### 4.8 Use case 8

<b>Use Case Name</b>	<b>Taking Backups</b>
<b>Trigger</b>	the daily backup hour has arrived or the owner wishes to take a backup
<b>Pre condition</b>	all the current database updating processes are either completed or terminated
<b>Input</b>	Location to save the backup file
<b>Output</b>	Display a message showing backup successfully created
<b>Processing</b>	Validate the user given location to save the backup file. Save the backup file to the user-specified location.
<b>Post condition</b>	the backedup database is stored on a drive
<b>Exception</b>	some processes updating the database still remain on

## 5. Other Nonfunctional Requirements

### 5.1 Performance Requirements

- 5.1.1 The data in the database should be updated in less than 3 seconds.
- 5.1.2 The load time of UI should be within 3 seconds
- 5.1.3 The query results should return in less than 5 seconds.
- 5.1.4 The log in information shall be verified within 4 seconds.

### 5.2 Safety Requirements

- 5.2.1 The system shall maintain backups to maintain the system's database security.
- 5.2.2 Incase of system error, the system shall recover within an hour.

### 5.3 Security Requirements

- 5.3.1 The systems shall use encryption to avoid bots from booking
- 5.3.2 The system shall permit only the registered resort employees to update the inventory list
- 5.3.3 All data must be stored, protected and there should be no leakage of customers' private data.
- 5.3.4 All the payment transactions should be secure and customer should not experience any kind fraud
- 5.3.5 System will have different types of users and every user as access constraints

## 5.4 Software Quality Attributes

1. Availability: The system shall be functional during normal resort operating hours
2. Correctness: The system shall fulfill all the requirements of the resorts management system.
3. Efficiency: The system shall make use of enough resources to achieve the desired result
4. Flexibility: The system shall add new features to the system and handle them conveniently.
5. Integrity: The System should focus on securing all the customer information and avoid data losses
6. Maintainability: The shall be in ease with which the system is maintained and restored to its operational status after performing repairs within given time.
7. Portability: The Resort Property Management System shall run on any operating system.
8. Reliability: The system shall perform all the intended tasks and functions within the specified time
9. Reusability: The system shall use available components in other systems as well.
10. Usability: The system should be user friendly and the interface should be engaging to make the user experience pleasant and satisfying
11. Robustness: The system shall have the strength to handle system functions accurately and cope with unexpected errors.

## 5.5 Business Rules

Resort Property Management System has an **Owner, Manager, and Receptionist**. The role of the manager is needed to make the owner free from regular interference with the system. So, most of the privileges that the owner has been given to the manager, except the ones that are critical and important. Some features like that are, taking backup, restoring the system, and handling financial details, and hotel income reports of the system. The receptionist is given the most frequently used features of the system which has less responsibility than the other two users.

## 6. Other Requirements

Once the system is completely developed, a few sessions will be required to make the users understand about the functionality of the system and some time to adapt to the system. After those sessions, it's required that a member from the development team should spend some time in the system background. That time period will be used in identifying new bugs that could not be reached in the earlier phases of the development process. Clients should have a valid e-mail account in order to receive reservation email notifications

## Appendix A: Glossary

Check-out - settle one's hotel bill before leaving

Check-in - the process whereby a guest announces their arrival at the hotel

Activities - An entertainment organizer in a hotel, resort.

HTML - HyperText Markup Language, used in creating front-end

CSS - Cascading Style Sheets, used in designing front-end

Interface - The place at which independent and often unrelated systems meet and act

on or communicate with each other the man-machine interface

MySQL is an open-source relational database management system