Software Requirements Specification

for

Online Hotel Management System

Version 1.0 approved

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Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the Hotel Management System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do and the constraints under which it would operate. The clear understanding of the system and its functionality will allow for the correct software to be developed and will be used for the development of the future stage of the project. This documentation provides the foundation of the development of the Online Hotel Management System (OHMS). This project will be Hotel Management System for a hotel manager or a receptionist. This system will enable the hotel manager or the receptionist to maintain customer information, inventory information, billing information and accounts.

1.2 Document Conventions

The document is prepared using Microsoft Word 2007 and is been written according to the standard IEEE template. The font used for the body and headings is Times Roman New . The font size that has been used to type this document is 12 pts and headings sized 14 pts. The headings are made bold in order to distinguish.

1.3 Intended Audience and Reading Suggestions

This documentation is the foundation of the development of the project. It would enable the developers to identify the functional and non functional requirements in order to develop the project accordingly. It would be also be useful for the testers to check if the intended results are achieved by the project as specified in this documentation. The outline of this documentation is as follows:

- Overall Description
- System Features
- External Interface Requirements

- Non functional Requirements

1.4 Product Scope

The Online Hotel Management System is a website designed in order to automate the major operations of the hotel, Paradise. The website will allow the hotel manager or the receptionist to keep track of the various bookings or reservations made by the customers, the duration of the stay, billing information etc. The website will also enable the kitchen manager to take care of the meals preferred by the guests. The customers can make reservations for the rooms and either can pay and reserve the room or pay after making reservation. The customers are given choices to make for a meal which will be complimentary. The users will have an option to choose the type of room and review the room they choose through gallery of pictures. The objective of the automated online hotel management system is to simplify the day to day processes of the hotel. 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 hotel, this software will be used to overcome those drawbacks. The system should be user appropriate, easy to use, provide easy recovery of errors and have an overall end user high subjective satisfaction.

1.5 References

- IEEE, "*IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications*", IEEE Computer Society, 1998

- Michael J. O'Fallon, Denny G. Rutherford, *Hotel Management and illustrated edition*, John Wiley and Sons, 2001

2. Overall Description

2.1 Product Perspective

The Online Hotel Management System is a new self contained software product which will be produced by the developers in order to overcome the problems that have occurred due to the current manual system. The proposed system will provide an easy access to the system and it will allow user friendly functions with attractive interface. The system will give better options for the problem of handling large scale of physical file system, errors occurring in calculations and all the other required tasks that has been specified by the client. The final outcome of this project will increase the efficiency of almost all the task done at the hotel in a much convenient manner.

2.2 Product Functions

The following are the functions intended to be in the Online Hotel Management System website:

- View photos of the rooms
- Choose type of room
- Book a room
- View the facilities provided
- Choose complementary meal
- Pay the rent either at the time of booking or on check in
- Shows vacant rooms with prices
- Shows reviews of the guests

2.3 User Classes and Characteristics

There are three type of users of Online Hotel Management System:

- Hotel Manager
- Receptionist
- Customer

Hotel Manager

Hotel Manager has every access to the hotel management system. Manager is solely responsible for managing hotel resources and staffs. Manager can view and access database containing details such as financial report, customer information, booking information, and room information, analyze them and take the decision accordingly. Manger is required to have experience on managing hotel previously, and have base knowledge of database and application server.

Receptionist

A receptionist has privileges same as a hotel manager in this project. A receptionist can make reservations on the behalf of the customer and can access the database containing information of customer room reservation and customer's personal details.

Customer

A customer can view and choose the type of room i.e. either a single room or a suite etc., can see pictures of the chosen room and verify the booking. A customer can also view the reviews submitted by the previous guests and see the ratings which help them to build the trust on the hotel's rooms and services.

2.4 Operating Environment

The goal of this website is to provide an automated web application that allows a user to browse through the rooms and facilities provided by the hotel, and the reviews over the Internet at any point of time as well as on any type of device.

Hardware specification

Processor : Pentium-III and above

Software specification

Operating System : Linux, Windows, MacOSx

For accessing data from database : SQL

Client Side technologies : XHTML, CSS, Bootstrap

Server Side technologies : PHP

Database support : MySQL

Browser support : Firefox, Chrome, IE 7 and above.

2.5 Design and Implementation Constraints

- The website supports English language only.
- Due to budget constraints, hotel management system is going to fulfill the basic functionalities.
- Database to be used should be MySQL only.
- There should be constant Internet connection in order to access the website.
- The server side language used should be PHP.
- System should be sync frequently to backup server in order to avoid data loss at failure.

2.6 User Documentation

A well operating website must provide a proper user documentation which would allow the site to be
used by a person from any domain. Therefore, in order to help customers get acquainted with all the features of the website, the user documentation will be provided in the following ways:

- User manual
- On-line help via. emailing the concerned person like hotel manager etc.
- Video tutorial

2.7 Assumptions and Dependencies

The following are the assumptions made and various dependencies to be taken care of:

- There only few types of rooms as specified on the website for example suites, deluxe rooms etc .
- The system to be developed will work well for Windows OS, Linux under Apache server with MySQL database.
- The system is not required to make generated reports of the booking for the customers
- There is no need of email verification or confirmation for the booking made by the customer.
- There is no separate login for a receptionist or a manager.

3. External Interface Requirements

3.1 User Interfaces

The Online Hotel Management System is website with parallax scrolling home page. The home page will contain a full size button named 'Room Reservation' which will take the user to the

registration page which will contain two section, one for the customer's details and second one for the room reservation details. The registration page would also contain a confirm or submit button which will take to the billing page. The home page would also list out the facilities provided by the hotel and reviews by the customers in an appealing fashion. The home page would also contain options for choosing a type of room with pictures.

3.2 Hardware Interfaces

Section 2.4 specifies the hardware requirements which are necessary for this project. The software is a website which would need a constant Internet connection in order to operate the website. The hardware connection to the database server is managed by the underlying operating system on the web server.

3.3 Software Interfaces

Web development languages like HTML, CSS, JavaScript and PHP will be used in order to develop this website. Bootstrap has also been used for the responsive design of the front end so that it is customizable to the devices having different dimension. The backend runs on MySQL provided by XAMPP. Rest of the software specifications needed for this project has been listed in section 2.4.

3.4 Communications Interfaces

The system shall be using HTTP/HTTPS for communication over internet and for intranet communication, it shall use TCP/IP protocol. However, the way the communication is achieved is not important for the system and is therefore handled by the underlying operating system for the web portal.

4. System Features

The hotel management website has three actors, viz., a Customer, a Receptionist and a Manager. The entire room and customer details are stored in a SQL database. The Receptionist and Manager has the same privileges.

4.1 Room Registration

4.1.1 Description and Priority

This feature is a Customer use case or a Manager or a Receptionist can do for the customers at the time of their arrival. Through this feature, the user will go to the registration page in order to book the room.

4.1.2 Stimulus/Response Sequences

The user can either click on the 'Room Reservation' button or click on the 'Book Now' button which will be below the rooms' pictures.

4.1.3 Functional Requirements

REQ 1)   The Room Registration should contain two kinds of forms, one customer's details and second room details.

REQ 2)   The customer detail form should contain fields like First name, Last name, Email, Nationality and Phone number.

REQ 3)   The room type detail form should contain fields like room type, bedding type , number of rooms, meal plan, check in and check out.

REQ 4)   It is necessary to fill out all the fields mentioned on the page in order to book a room successfully.

4.2 Billing

4.2.1 Description and Priority

This feature is accessible to a customer, a manager or a receptionist. This feature contains the billing details regarding the room reservation.

4.2.2 Stimulus/Response Sequences

After clicking the confirm or submit button, at the end of the room register page, will take the user to the billing page where the user has to fill up the payment credentials in order to reserve the room.

4.2.3 Functional Requirements

REQ 1)   The billing page should contain a form.

REQ 2)   The billing page form should contain fields like bank name, credit card number, OTP and a 'reserve' button at the end of the page.

REQ 3)   All the fields must be filled in order to confirm the booking.

4.3 View Rooms

4.3.1 Description and Priority

This feature is accessible to any user. There should be a catalog which contains different types of rooms like deluxe rooms or suites etc. and clicking on one of the options will show different types of rooms available under the chosen category with a price specified.

4.3.2 Stimulus/Response Sequences

The home page contains various types of rooms, clicking on one category will list the rooms under that category and clicking on the room will take the user to the room reservation page.

4.3.3 Functional Requirements

REQ 1)   There should be more than one type of room.

REQ 2)   There should be more than one options for choosing room under each category.

REQ 3)   Every room should specify the price of booking and a book now button which takes the user to room reservation page.

4.4 View Feedbacks

4.4.1   Description and Priority

This feature is accessible to any user viewing this website. There should be a space on the home page dedicated to showcase various visitors' feedbacks in order to gain trust of the customers.

4.4.2   Stimulus/Response Sequences

Scrolling down the home page should take the user to the feedback section. There is no need of separate button to view the feedbacks.

4.4.3   Functional Requirements

REQ 1)   The feedbacks of the visitors are assumed to be static.

REQ 2)   The feedbacks should not be very long and must look appealing to users.

REQ 3)   There should be more than one feedback.

4.5 View Facilities

4.5.1   Description and Priority

This feature is not as high at priority as other features are mentioned above. This feature specifies the various facilities like wifi, parking, sea view balconies, swimming pool etc. in order to attract the customers.

4.5.2   Stimulus/Response Sequences

This feature will be a static feature on the home page and there is no stimulus required for this feature.

4.5.3   Functional Requirements

REQ 1)   The feature is assumed to be static.

REQ 2)   They should look appealing to users.

REQ 3)   There should be more than one facility specified.

5.   Other Nonfunctional Requirements

5.1 Performance Requirements

Following are performance requirements which define acceptable response times for system functionality.

- The load time for user interface screens shall take no longer than two seconds.
- Queries shall return results within five seconds
- Data in the database should be updated within 2 seconds.
- All the images should be loaded within 3-4 seconds.

5.2 Safety Requirements

The following requirements should be kept in mind in order to ensure security:

- Since as of now, Manager and Receptionist have the same privileges to view all the room reservation details and personal details of the customers, it is necessary to deny access to the database for any third user.

- All data must be stored, protected or protectively marked.

- Payment process must use HTTP over secure protocol in order to secure the payment transaction.

5.3 Security Requirements

Only authorized members of the hotel like manager and receptionist can access the database and nobody should else get the access to it. In order to ensure that, a password can be kept for the database, since all the information is stored in it, so that only authorized members can update or delete details from the database. Also, database should be backed up every hour in order to prevent loss of data under some mishap.

5.4 Software Quality Attributes

The Online Hotel Management Website will be available to all users with an internet connection, irrespective of the hardware of the machine they access the site from. It will be reusable as it considers any user's most recent ratings to suggest new ones. It will be easy to use and understand - the Graphical User Interface will be designed such that a new user of any age will be able to quickly grasp the various features of the website.

5.5 Business Rules

There are basically three kinds of users for this hotel management website: a viewer or customer, manager and a receptionist. As of now, Manager and Receptionist are given the same privileges because the receptionist should be able to make bookings on the behalf of customers spontaneously at the time of their arrival and a Manager should be able to view and verify the activities being carried out which can be useful in case of any request of inquiry by the customers. Anybody else can view the website but only a manager or a receptionist can perform functions on the database like updating, deleting and modification of the records or tables in the database.

6. Other Requirements

The Online Hotel Management Website should be easy no use and the user interface should be visually appealing to users. It should also give a variety of options to users to choose and book a room from. There should also be a menu bar which contains shortcuts to various features of the website.

Appendix A: Glossary

- **HTTP/HTTPS:** Hyper Text Transfer Protocol/ Secure

- **OS:** Operating System