Software Requirements Specification

For

Hotel Management

Version 1.0

Prepared by

Harichandana B S S

15IT118

B.tech 3rd Year

Information Technology

National Institute of Technology, Karnataka

9th January 2018

Table of Contents

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The Software Requirements Specification (SRS) will provide a detailed description of the requirements for the Hotel Management System (HMS). This SRS will ensure a complete understanding of what is to be expected from the system which is to be built. The clear understanding of the system and its' functionality will be helpful 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. This SRS will provide the foundation for the project. From this SRS, the Hotel Management System can be designed, constructed, and finally tested.
This SRS will be used during the development phase for constructing the HMS and the hotel end users. This SRS will enable to understand the expectations of this HMS to construct the appropriate software. The end users will be able to use this SRS as a "test" to see if the construction of the system is to their expectations. If it is not to their expectations the end users can specify how it is not to their liking and there will be a change in the SRS to fit the end users' needs.

1.2 Document Conventions

The document is prepared using Microsoft Word 2013 and has used the font type 'Times New Roman'. The fixed font size that has been used to type this document is 12pt with single line spacing. It has used the bold property to set the headings of the document. Standard IEEE template is the template 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 specific employees like Manager and Receptionist of Hotel Olive, and project development members with the objective to refer and analyse the information. The SRS document can be used in any case regarding the requirements of the project and the solutions that have been taken. The document would final provide a clear idea about the system that is building.
Brief outline of the document is,

1. Overall Description
2. System Features
3. External Interface Requirements
4. Non Functional Requirements

1.4 Product Scope

The software which is going to be implemented for Hotel Olive will automate the major operations of the hotel. The Reservation System is to keep track in room and hall reservation and check availability. The Room Management System is for manage all room types room services. The

Inventory Control System will keep track in all inventories of the hotel and guest details will handled by guest management. There are three End Users for HMS. The Manager, Receptionist and Customer. Manager can access to all system functionalities with limited restrictions. Receptionist can only access to the Reservation management section. The Customer can make reservations and payment and view the hotel information. To keep restrictions for each End User levels HMS can create different Login functions.
The objectives of the automated 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. Safety, easiness of using and most importantly the efficiency of information retrieval are some benefits the development team going to present with this system. 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

[1]Lauesen, S, (2003), Task Descriptions as Functional Requirements, IEEE Computer Society, Retrieved from http://www.itu.dk/~slauesen/Papers/IEEEtasks.pdf

[2]"High-Level-Software Features", [Online].Available: http://www.high-level-software.com/features/, [Accessed: June.25, 2014]

[3]Fernandez & Yuan, X,(1999). An analysis Pattern for Reservation and Use of Reusable Entities. PloP 1999 conference, Retrieved from http://hillside.net/plop/plop99/proceedings/Fernandez2/reservanalysisPattern3.PDf

[4]"Hotel Management Case Study", March.6, 2010. [Online].Available: http://www.scribd.com/doc/27927992/Hotel-Management-Case-Study, [Accessed: June.28, 2014]

[5]" Hotel Receptionist Resume Sample" [Online].Available: http://coverlettersandresume.com/receptionist/resume-sample-of-hotel-receptionist/, [Accessed: July.23.2014]

[6]" Hotel Receptionist Duties"[Online].Available: http://www.buzzle.com/articles/hotel-receptionist-duties.html, [Accessed: July.23.2014]

2. Overall Description

2.1 Product Perspective

The Hotel Management System is a new self-contained software product which will be produced in order to overcome the problems that have occurred due to the current manual system. The newly introduced system will provide an easy access to the system and it will contain user friendly functions with attractive interfaces. The system will give better options for the problem of handling large scale of physical file system, for the 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 tasks done at the Hotel in a much convenient manner.

2.2 Product Functions

- Make Reservations
- Search Rooms
- Make Payment (Fig 1.)
- Manage Guest (Add, Update Guest)
- Manage Room Details (Add, Update, Delete)
- Manage Staff (Add, Update, Delete, View)
- Set Rates
- Manage Users (Add, Update, Delete)
- Feedback
- View Reviews

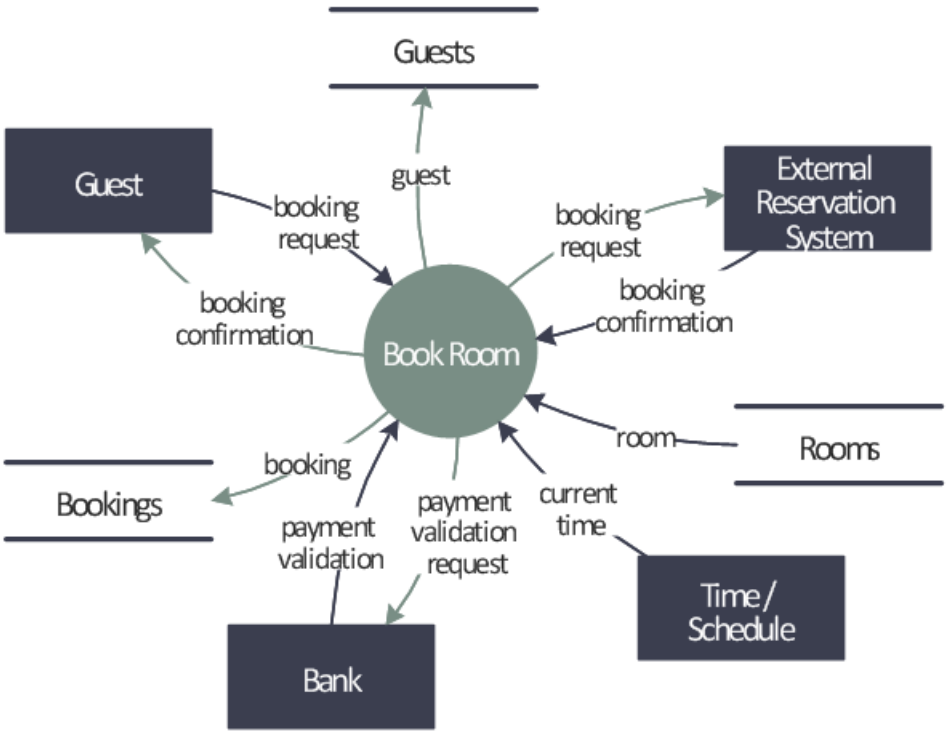

Fig 1. Guest Functions

2.3 User Classes and Characteristics

2.3.1 Operating End User Classes

There are three user levels in Hotel Management System of Hotel Olive.

I. Manager
II. Receptionist
III. Customer

2.3.2 Characteristics of User Classes

Manager:

Manager is responsible for managing resources available in hotel management system. Manager also has all the privileges. The user level, Manager has the authority to take all the reports available in the system. Manager has other abilities that receptionist, user level has. Such as, adding new staff member to the system, Modifying them or removing them, Adding new guests to the system,

Modifying them and removing them from the system, Adding new inventory to the system, Modifying them and removing them. Adding new room types to the system, modifying them and removing them

Receptionist:

As a hotel receptionist, he or her role will be to attain the goals of bookings and to ensure that all guests are treated with a high standard of customer service. Hierarchically receptionist role has the least accessibility to the system functions. Receptionist plays the boundary role of the system .He or she can perform limited functions such as registering new guest to the system, make reservations.

Customer:

The customer will be able to login, book rooms and pay online. The hotel information including reviews, images of rooms, dining options, menu and other information will be visible to the customer. Feedback option will also be available to the customer.

2.4 Operating Environment

Hardware and software requirements

Hardware**:-**

1. **Operating System** Supports all known operating systems, such as Windows, Linux
2. **Computer** 512MB+ RAM, monitor with minimum resolution of 1024x768, keyboard, and mouse
3. **Hard Drive** should be in NTFS file-system formatted with minimum 10 GB of free space

Software**:-**

1. Software is designed to run on any platform above Microsoft Windows 7 (32bit).
2. PHP and Apache
3. Microsoft SQL Server Management Studio Express 2010.

2.5 Design and Implementation Constraints

In order to maintain the reliability and durability of system, some design and implementation constraints are applied. Availability of an android app for hotel management system could make the system portable but due to time constraint it is not possible. System will need a minimum memory of 512MB. But it is recommended to have a memory of 1GB. When designing interfaces of system, we had the capability of work with new tools such as Dev Express. Considering the client's budget we decided to create those interfaces in a simple realistic manner using affordable technology.

2.6 User Documentation

User manual provide to the client will give a clear idea in interacting with the system. It will be written in a simple understandable language concealing the inner complexity of the system. A hard copy of the user manual will be delivered to the client with the delivery of system.

2.7 Assumptions and Dependencies

Some software used in implementing the system is with high cost and the client has agreed to afford the amount of money needed to purchase them. It's assumed that client won't change that decision on the next phases of the software development. Although we assume that client is using windows 7 or windows 8. Otherwise if client use an open source operating system, there is a need of changing the SRS accordingly.

3. External Interface Requirements

3.1 User Interfaces

The User Interface will consist of all the options like login for manager and receptionist and a book rooms option for the customer. In the reservation page, Customer login and sing up options will be present. All the necessary and important information regarding the hotel will be available in the home page itself.

3.2 Hardware Interfaces

Section 2.4 includes the requirements of the desktop computer where the system going to be installed. A specific computer must match with the above mentioned requirements in order to gain the maximum benefits from the system in an efficient manner.
Reservation alerts will be sent to the one of the member of hotel staff as an e-mail notification. So there is a need of broadband internet connection. Client should able to keep a stable internet connection.

3.3 Software Interfaces

The computer this software going to be install need to have Windows Operating System equal or above, Windows 7. On that Windows platform PHP and Apache will be installed and that will be the platform the particular software will be run. There will be a need for MySQL as well.

3.4 Communications Interfaces

Guest will be notified in the check-out date. To achieve that functionality, it requires having a stable internet connection. Mostly a broadband connection with the client's computer will provide the efficient service.

4. System Features

4.1 Yield Management

4.1.1 Description and Priority

Hotels use this system in largely the same way, to calculate the rates, rooms and restrictions on sales in order to best maximize their return. These systems measure constrained and unconstrained demand along with pace to gauge which restrictions to implement, e.g. length of stay, non-refundable rate, or close to arrival. It has High priority.

4.1.2 Stimulus/Response Sequences

The Reviews and feedback of customers can be analysed and effect the rates.

4.1.3 Functional Requirements

REQ-1: Special pricing for Adults & Children
REQ-2: Multiple rates & rate types support in a single stay
REQ-3: Daily & Long-stay rates with promotional Discounts

4.2 Guest Experience Management

4.2.1 Description and Priority

Guest experience management is a broad catch-all for hotel management software that has a component meant to enhance your guests' stay at your hotel. This has a very high priority.

4.2.2 Stimulus/Response Sequences

Guest profiles also come in handy when it comes to guest history, enabling you to keep track of your returning guest's preferences.

4.2.3 Functional Requirements

REQ-1: Room status updating
REQ-2: Multiple room type options

4.3 Payment Processing

4.3.1 Description and Priority

Hotels are now one of the most vulnerable industries to hackers. Whether it be an unsecure internet connection or payment processor, private guest information is put at risk, including credit and debit cards, comprising bank accounts around the world. Even guest profiles can be vulnerable, supplying hackers with sensitive personal data. Payment processing can be a great way to facilitate your checkout process and give you the power over your revenue. For hotels, having a secure payment processor should be one of your top priorities, considering the potential for reputation fallout that a data breach can bring

4.3.2 Stimulus/Response Sequences

When a customer books a room, then the payment processing should be enabled.

4.3.3 Functional Requirements

REQ-1: Secure Transaction
REQ-2: Different modes of payment availability

4.4 Review Management

4.4.1 Description and Priority

Many hotels opt for reviews on third-party platforms (or even Facebook), but it’s still important to include them on your homepage to reaffirm your quality of service. This has medium priority.

4.4.2 Stimulus/Response Sequences

The customer’s feedback will be taken as reviews for other customers. Thus after their experience, feedback which they give comprises the reviews.

4.4.3 Functional Requirements

REQ-1: Rating option must be available
REQ-2: Average rating calculation
REQ-3: Display all reviews

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Performance requirements define acceptable response times for system functionality. Although the system is developed suiting for the least system performances, the performance of the system will highly depend on the performance of the hardware and software components of the installing computer. When consider about the timing relationships of the system the load time for user interface screens shall take no longer than two seconds. It makes fast access to system functions. The log in information shall be verified within five seconds causes' efficiency of the system. Returning query results within five seconds makes search function more accurate.

5.2 Safety Requirements

There are several user levels in hotel management system, Access to the various subsystems will be protected by a user log in screen that requires a user name and password. This gives different views and accessible functions of user levels through the system. Maintaining backups ensure the system database security. System can be restoring in any case of emergency.

5.3 Security Requirements

Customer Service Representatives and Managers will be able to log in to the Hotel Management System. Customer Service Representatives will have access to the Reservation/Booking and subsystems. Managers will have access to the Management subsystem as well as the Reservation/Booking subsystems. Manager has the maximum privilege to all subsystems. Access to the various subsystems will be protected by a user log in screen that requires a user name and password.

5.4 Software Quality Attributes

- Availability: - The system shall be available during normal hotel operating hours
- Correctness: - extent to which program satisfies specifications, fulfills user's mission objectives
- Efficiency: - How much less number of resources and time are required to achieve a particular task through the system.
- Flexibility: - Ability to add new features to the system and handle them conveniently.
- Integrity: - How the system would insecure the information in the system and how it avoids the data losses. Referential integrity in database tables and interfaces

- Maintainability: - How easy is to keep the system as it is and correct defects with making changes.
- Portability: - The Hotel Management System shall run in any Microsoft Windows environment
- Reliability: - Specify the factors required to establish the required reliability of the software system at time of delivery. Mean time between failures and mean time to recovery
- Reusability: - What is the ability to use the available components of the system in other systems as well.
- Testability: - Effort needed to test to ensure performs as intended
- Usability: - How easily a person can be taken the benefits of the system and the user friendliness.
- Robustness: – Strength of the system to handle system functions accurately and maintain the database without facing to unexpected failures
- Maintainability: – What design, coding standards must be adhered to exclusions created

5.5 Business Rules

Olive HMS will perform under three users which are Manager, Receptionist, Customer. The system is designed in a way where responsibility and privileges are decreased in the order of manager receptionist and customer. So, most of the privileges that owner has are given to manager, except the ones are critical and important. Some features like that are, taking backup, restoring of the system and handling financial details, hotel income reports of the system. Receptionist is given with the most frequently used features of the system which has less responsibility than the other two users.

6. Other Requirements

When the system is completely developed and submitted to the client, few sessions will be required to make the users of the system understand about the functionality of it and some time to adapt to the system. After those sessions, it's required that a member should spend sometime in the system background for an agreed time period. That time period will be used in identifying new bugs that could not be reached in the earlier phases of the development process.

Appendix A: Glossary

HMS- Hotel Management System

Appendix B: Analysis Models

Initial Stage of Development Thus, Not Applicable.

Appendix C: To Be Determined List

Use Case Diagrams and Data Flow Diagrams.