Software Requirements Specification

for

Hotel Spa Reservation System

Version 1.1

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January 7, 2017

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Revision History

Name	Date	Reason For Changes	Version
Software Requirements Specifications for Hotel Spa Reservation System	October 5, 2017		1.0
Software Requirements Specifications for Hotel Spa Reservation System	January 7, 2018	Updates on the framework used Updates about the system requirements Eliminated “to be determined” appendix	1.1

1. Introduction

1.1 Purpose

This is the first version of the Software Requirement Specification for the “Hotel Spa Reservation System”. It will discuss the major requirements of the system and its specific features.

The system is for the Asmara Spa located at the hotel “Taal Vista”. It is a system that aims to automate the process of booking a reservation of the spa’s services. This system includes obtaining the information of the customer who wishes to book a reservation and saving it to a database server which will also store the bookings sent by the system’s users. The system will be run and operated in real-time, which means that the information kept by the system is always up-to-date based on the data from the database server. The system also generates reports for the marketing department of the spa to inform them of the sales per day.

1.2 Document Conventions

The project methodology used by the team is the agile methodology, a method that makes the project undergo several iterations, also known as “sprints”, that ensures that the project progresses in increments, until it is fully developed. Data that is unused/replaced by more accurate data is not deleted, but archived instead.

1.3 Intended Audience and Reading Suggestions

This document is intended for the system developer, as well as the system administrator, to check whether all of the specified features in this document have been implemented in the creation of the system. Before reading further, the author suggests reading and understanding first and foremost, the introduction and the project’s Vision and Scope document for an easier understanding of the system’s features and specifications.

1.4 Product Scope

Refer to the project’s Vision and Scope document for the system’s scope.

1.5 References

- Vision and Scope Document: https://docs.google.com/document/d/1Mpp-abk3l-vsvqplAYr_7uZNMYkgfYbnMfy2lykSlUI/edit?usp=sharing

2. Overall Description

2.1 Product Perspective

The system is for the team’s client, the Asmara Spa at the Taal Vista Hotel in Tagaytay, wherein, it aims to solve the spa’s problem of the manual process of their reservation process. It is a new implementation for the Asmara Spa because before, reservations were taken manually, and customers had to go to the Spa beforehand to book a reservation.

2.2 Product Functions

- Storage of customer’s information to a database for future usage
- Auto-assignment of reservations to the spa’s treatment rooms
- Generate reports for the spa’s marketing department
    - Revenue per day
    - Most booked time-slot each day
    - Most booked service each day

2.3 User Classes and Characteristics

This system can be used by potential customers that may or may not be booked at the Taal Vista hotel where the Asmara Spa is situated. For Taal Vista booked customers, they can simply proceed to the front desk of the Asmara Spa and book a reservation, or access the system through the internet and book a reservation from there onwards. For customers that aren't booked at the hotel and are just looking to get serviced at the spa, they can use the reservation system online through the internet and book a reservation. The system aims to satisfy users who are new to the Asmara Spa because if it creates a good impression on their minds, they will come back to the Asmara Spa more often, which means more revenue for the spa.

2.4 Operating Environment

- System Requirements - Hardware (Minimum Requirements)
    - CPU Processor: Intel Pentium Dual Core
    - Storage: 1 GB available space
    - RAM: 4 GB

- System Requirements - Software
    - Web service: Nginx Server or Apache Web Server
    - Database server: MySQL
    - Web Browser: Internet Explorer, Microsoft Edge, Mozilla Firefox, Google Chrome, or Safari
    - Operating System: Windows, Linux, or MAC OSX

2.5 Design and Implementation Constraints

As previously stated, the payment transaction will not be covered by this system, as the transaction is to be performed at the hotel's financial department instead. Monitoring of the employees is not covered by the system, as it is assumed that they are well-rounded and the HR is in charge of the current employees' schedules.

2.6 User Documentation

Before the system is functional and ready to be used, the database server has to be set up first. The codes for creating the database will be supplied along with the system itself, so the database administrator won't have to do it manually. After creating the database tables, the needed data for each table must be added. The data needed will be dependent on what the spa's current services are.

After setting up the database server, the system is now up and functional. People connected to the internet can now access the system and book their reservations online, and the front desk of the spa should have access to the system as well, for walk-in customers.

2.7 Assumptions and Dependencies

For this project, the team hadn't had any clear picture on how the reservation process works because in order to do so, the team would have to go into the hotel spa themselves. The easiest way to progress in this project is to assume the reservation process.

3. External Interface Requirements

3.1 User Interfaces

<Describe the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on. Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.>

3.2 Hardware Interfaces

This system can be run in any computer running Windows, MAC OSX or Linux with at least an Intel Pentium Core2Duo, 4GB of Ram, 1GB Storage available on the computer's hard disk and a web browser installed. All operations of the system will be performed on the web browser and will be connected to a local or remote database server for the Spa. The system can be accessed by the customers by using a device with a web browser and is connected to the internet.

3.3 Software Interfaces

The system uses Apache as the web server and it was developed by using Wordpress, and coded using HTML, and PHP. The database server can be accessed by using PHPMyAdmin and uses MySQL for the database. Once the system user has created a booking, all of the data sent by that user is sent to its respective database tables and can now be viewed by the front desk of the spa by using the system to connect to the database server and view the reservations.

3.4 Communications Interfaces

The system can be accessed remotely by using a web browser and the device has to be connected to the internet. It is run by Apache, the web server, and MySQL, the database used. Reservations submitted either through the internet or by the front desk of the spa, are all saved into the spa's database server.

4. System Features

4.1 Customer database

4.1.1 Description and Priority

Having the customer database is of medium priority, for its purpose is to speed up the reservation process for customers who've used the system before and had their data stored in the system's database by not requiring the customer to fill out the data fields again.

4.1.2 Stimulus/Response Sequences

This feature comes into play once the customer using the system has successfully chosen the service they want and their preferred schedule. They are sent to a form that they have to enter their name and a contact number for validation purposes and to inform them.

4.1.3 Functional Requirements

1. Fun-DB: Functioning database server
2. Run-WS: Running web server

4.2 Automated reservation

4.2.1 Description and Priority

This is the main function of the system, so this has to be the highest of priority of all the features. With each reservation having different time slots and having multiple treatment rooms at the Asmara Spa, our system will have to be able to automatically assign an appointment to a different room if the first one is already booked.

4.2.2 Stimulus/Response Sequences

At the very start of the reservation process, the customer sees the different services that are available at the Asmara spa, and sees what is the available time schedule for that service. If there is no available schedule for a certain service, it should automatically say that the service is fully booked, and the customer will have to choose a different service or select a different date, otherwise, the customer can't make a reservation.

4.2.3 Functional Requirements

1. Fun-DB: Functioning database server
2. Run-WS: Running web server

4.3 Report Generation

4.2.1 Description and Priority

The ability of our system to be able to generate reports is of medium priority. The reports generated by the system is for the spa's marketing department usage, as this will determine what the said department can change in terms of advertising, price changes, etc.

4.2.2 Stimulus/Response Sequences

At the end of each working day, the system generates a report from the database server (specifically the service_details and the services tables). The report should show how much revenue the spa has made for that day, what was the most booked service and time slot. All of these information are placed on a pre-formatted template and emailed to the marketing department.

4.2.3 Functional Requirements

1. Fun-DB: Functioning database server

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Reservations coming from the internet have to be processed immediately due to the possibility of two reservations coming from the internet that have the same time slot reserved. This would cause conflicts and the customers may not be informed immediately of the conflict made.

5.2 Safety Requirements

The database and web server should be protected against floods, electrical outage, electromagnetic fields, power surges and unauthorized access which can cause data loss, data corruption and unwanted data manipulation. Furthermore, the servers mentioned should always have a backup locally and on the cloud.

5.3 Security Requirements

The database server for the system must be secured properly in order to avoid tampering or even loss of data. Only the front desk and the system administrator can view the data of each database table by logging in as an admin in the system.

5.4 Software Quality Attributes

Since the system was made using the Yii2 web framework, navigation is very easy for the customers. For the form the system user has to fill out, there are error catchers to ensure that the correct format of the data is submitted to the database, avoiding confusion in the reservation process.

5.5 Business Rules

Users accessing the system via the internet are only allowed to view the services and schedules available for booking a reservation, and booking a reservation. They cannot update or delete any reservations made by other customers since they cannot log-in as an administrator of the system. For the system in the front desk of the spa, the handler will have to log in to the system using their credentials to be able to delete/modify any data in the database tables. Each reservation has a grace period of 15 minutes in case the customer who made the reservation wasn't able to come for the service he reserved.

6. Other Requirements

Here is the Data Dictionary for the system's database server:

CUSTOMER							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	PK OR FK
ID	INTEGER	99999	Y	Customer ID Number, Auto Incriment	10000-99999	PK	
cus_fname	VARCHAR(45)	Xxxxxxx		Customer's First Name			
cus_lname	VARCHAR(45)	Xxxxxxx		Customer's Last Name			
cus_contactnum	VARCHAR(15)	Xxxxxxx		Customer's Contact Number			

ROOMS							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PF OR FK	PF OR FK
ID	INTEGER	99999	Y	Room ID Number, Auto Increment	10000-99999	PK	
room_num	INTEGER	99999		Room number			
time	TIME	hh:mm		Time of appointment			
date	DATE	99999		Date of appointment			

EMPLOYEE							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	PK OR FK
ID	INTEGER	99999	Y	Employee ID Number, Auto Increment	10000-99999	PK	
emp_fname	VARCHAR(45)	Xxxxxxx		Employee's First Name			
emp_lname	VARCHAR(45)	Xxxxxxx		Employee's Last Name			
emp_position	VARCHAR(45)	Xxxxxxx		Empoyee's position			

SERVICES							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	PK OR FK
ID	INTEGER	99999	Y	Service ID Number, Auto Increment	10000-99999	PK	
srvc_name	VARCHAR(45)	Xxxxxxx	Y	Service Name			
srvc_duration	TIME	hh:mm	Y	Service Duration			
srvc_price	DECIMAL	9999.99		Service price			
srvc_desc	VARCHAR(45)	Xxxxxxx		Service Description			

SERVICE_BOOKING							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	PK OR FK
ID	INTEGER	99999	Y	Booking ID Number	10000-99999	PK	
bookingtype	VARCHAR(45)	Xxxxxxx		Booking Type			
date_time_received	DATETIME	dd-mm-yyyy-hh-mm		Date and Time Received			
CUSTOMER_ID	INTEGER	99999	Y	Customer ID Number	10000-99999	FK	CUSTOMER
EMPLOYEE_ID	INTEGER	99999	Y	Employee ID Number	10000-99999	FK	EMPLOYEE

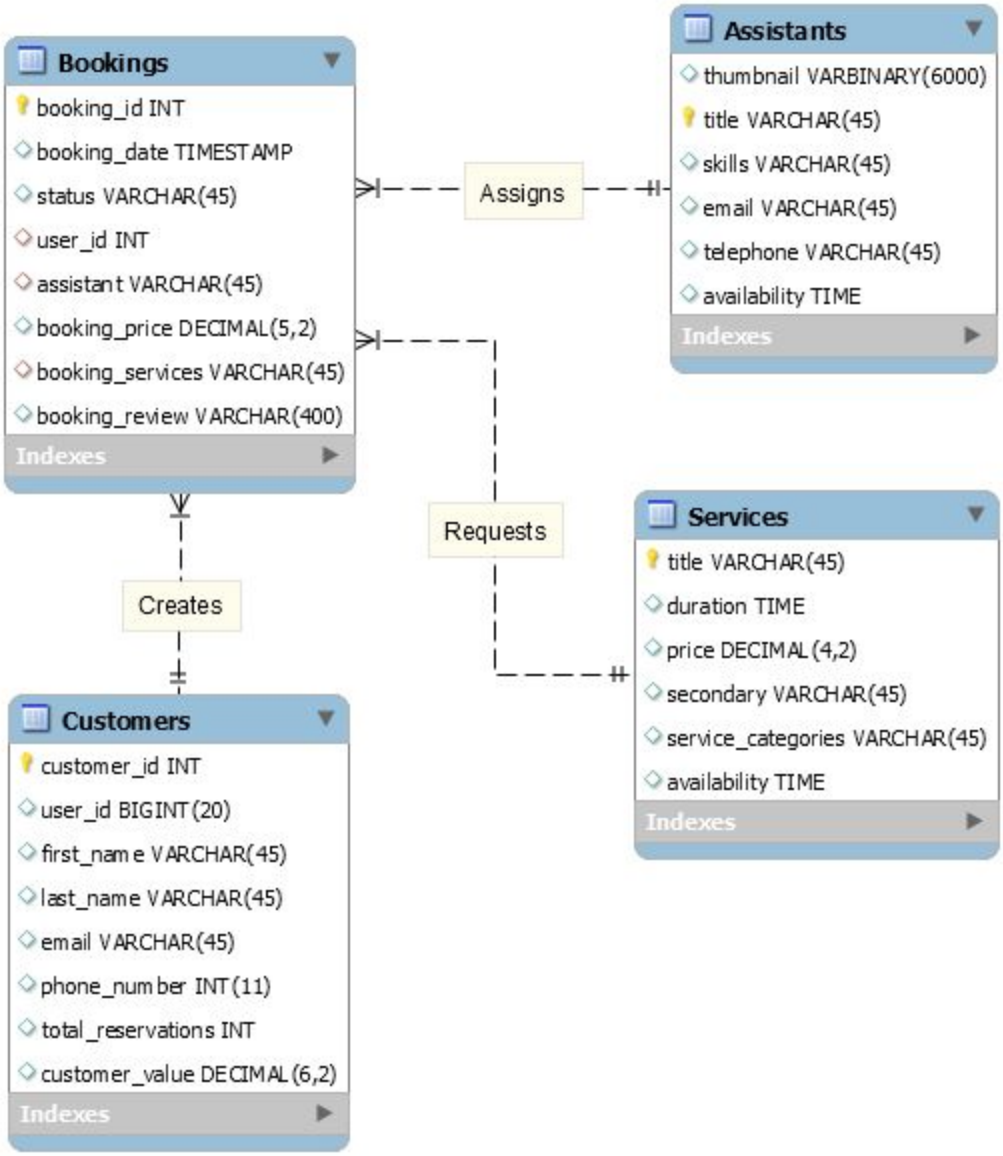
SERVICE_DETAILS							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	PK OR FK
ID	INTEGER	99999	Y	Service Details ID Number	10000-99999	PK	
EMPLOYEE_ID	INTEGER	99999	Y	Employee ID Number	10000-99999	FK	EMPLOYEE
SERVICES_ID	INTEGER	99999	Y	Service ID Number	10000-99999	FK	SERVICES
ROOMS_ID	INTEGER	99999	Y	Rooms ID Number	10000-99999	FK	ROOMS
SERVICE_BOOKING_ID	INTEGER	99999	Y	Booking ID Number	10000-99999	FK	SERVICE_BOOKING

Appendix A: Glossary

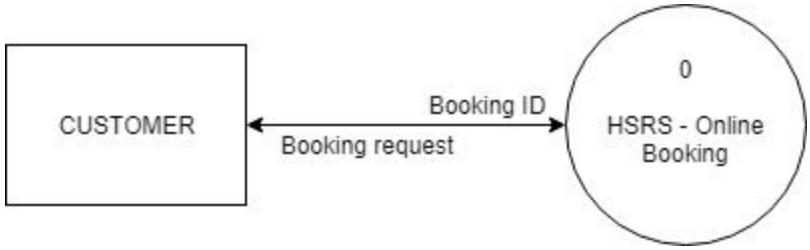
- **Booking** - the reservation of the spa's services with the corresponding time slot
- **Database server** - the back-end component of the system, where data is stored and processed for the system's features.
- **Web server** - the component that processes HTTP requests
- **Package** - this refers to the bundle the spa offers that includes more than one service
- **Web framework** - a software template that aids in the process of making a web application/service.

Appendix B: Analysis Models

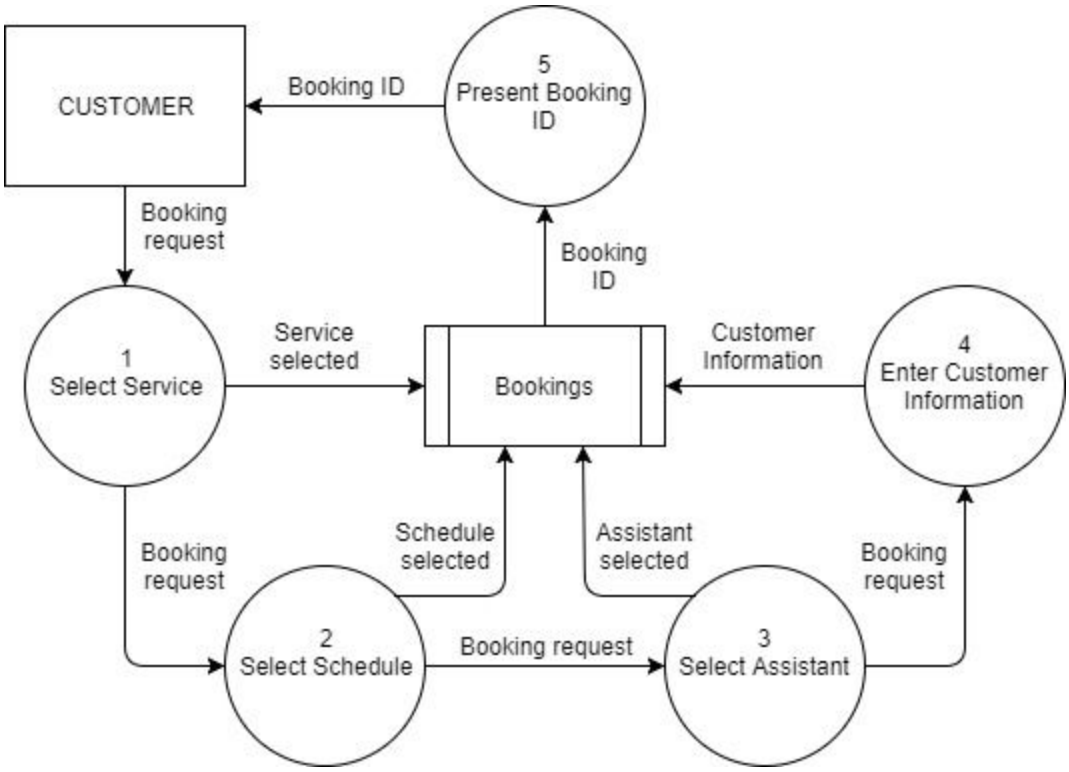
ERD for the system:



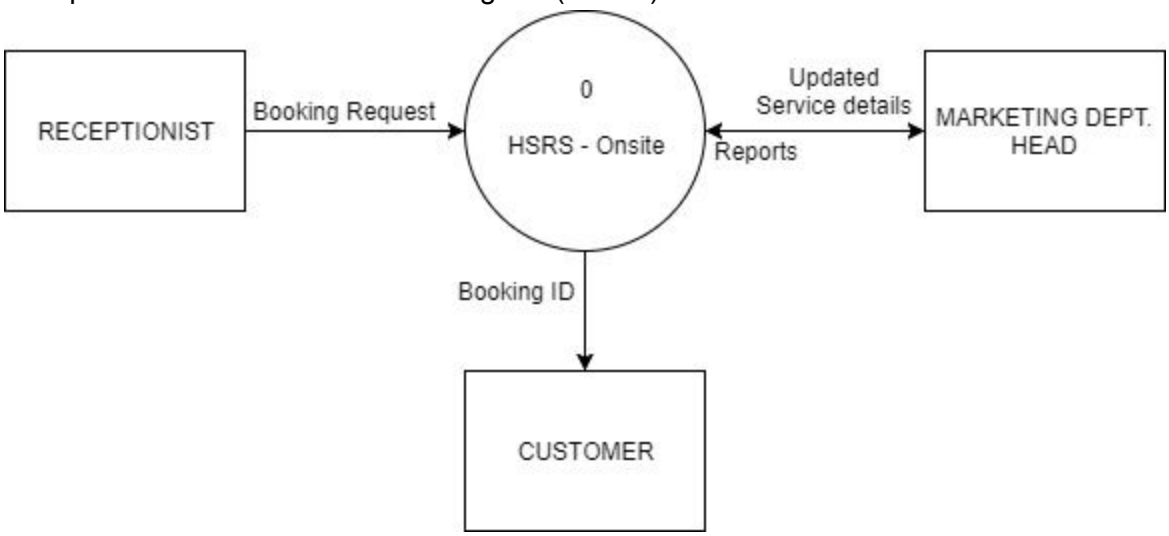
Top-level view of the Data Flow Diagram (Online)



Level 0 of the Data flow Diagram (Online)



Top level view of the Data flow diagram (Onsite)



Level 0 of the Data flow diagram (Onsite)