



Asia Pacific College`

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Hotel Spa Reservation System

Final Project in MCSPROJ

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MI – 153

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INTRODUCTION

Project Context

The client for this project is the Asmara Spa, an affiliate of Taal Vista Hotels, Tagaytay City, Philippines. Currently, the Asmara Spa's booking process, is manually performed. The researcher's task is to create a reservation system for the spa that will automate the process of creating a booking and include an online booking system for potential customers who are looking to avail the different services offered at the Asmara Spa via the internet.

To create a booking in the Asmara Spa, each customer will have to inquire first about what services are available, and what are the available time slot/s on a certain date. A treatment room has its own timetable which determines its availability for a booking. Since the Asmara Spa has multiple treatment rooms, each time slot can be booked as long as there is still an available treatment room. All these data that the Spa was previously handling manually, will be handled by the system in an automated manner as to prevent conflicts in the booking process and provide accurate data in each report.

Purpose and Description

The purpose of this project is to mainly provide the client, Asmara Spa of Taal Vista Hotel, a reservation system for their spa that will automate most of the processes in their working environment. Specifically, this project is intended to prevent the errors that result from performing work processes manually. With manual work processes, many errors can occur that will waste time, lose efficiency, and possibly drop customer satisfaction rates which will, in return, reduce the amount of customers of the spa.

The reservation system shows the availability of the spa's services and the available schedules of their treatment rooms by using the data stored within the system. These include previously scheduled bookings to produce accurate information about schedule and service availability. The system also utilizes a web interface for customers who want to make a booking but are not checked-in at the hotel. After the system has processed the

booking, the spa assistant assigned to that booking is informed of the details of the booking such as the time and date, the room that will be used, and what service is required.

General Objective:

To create and implement an efficient reservation system for the client that automates their work processes. The system's efficiency is measured through the reports generated as it shows the number of bookings made daily.

Specific Objectives:

1. To address/prevent the mistakes that occur from doing manual processes. For instance, a wrong date is written on paper or one of the services requested isn't indicated.
2. To make the booking process more accessible via online booking.
3. To reduce the amount of time it takes to make a booking by 30% - 40%.
4. To convert the spa's work environment into a paperless office.
5. To generate a report that would show spa trends such as the number of bookings made per day, the most requested service, and the peak hours and days.

Scope and Limitations of the Study

1. The proposed system will be handling booking requests from walk-in customers and online submissions, whether they may be checked-in at the Taal Vista Hotel or not.
2. The proposed system automatically assigns each customers' reservation to the spa's treatment rooms based on the reservation's time slot chosen.
3. The system will handle the automation of assigning the spa assistant/s for each booking. Informing the spa assistants of the reservation they were assigned to, along with its details such as the date and time, the treatment

room to be used, and the service required by the customer is not included in the features of the system. This will have to be done manually.

4. The system will inform each customer of how much their reservation costs and keeps track of the status of their balance. Transactions will have to be made at the spa itself, not at the hotel whether they are checked in or not.
5. For the payment option to be fully functional, the client may have to pay a certain fee to enable it.
6. An SMS feature is supposed to be added to the system to notify users when their booking time is near. Unfortunately, this feature also requires a certain fee for it to be enabled.
7. Monitoring of the spa assistants' attendance is not included in the features of this system.

Assumptions of the Study

1. The pricing for the services offered by the spa is dependent on the service's duration itself.
2. The spa's attendants are well-rounded and has their fixed schedule to provide any requested services by the customers.
3. The spa's receptionist and the marketing department head are the administrators of the system. Both of them will have access to the bookings.

REVIEW OF RELATED LITERATURE/SYSTEMS

Local Systems

- **ZenSoft Spa & Salon Management System**

ZenSoft is an IT company here in the Philippines which is specialized in developing software for the service industry. ZenSoft is an all-in-one online software specially built for salons and spas. Whether users have a small spa or multi-branch salon, they can use this software. It's easy to use, cloud-based, intuitive, and robust.

(<http://zensoft.ph/>)

Features: customer database, employee management, appointment management

Foreign Systems/Literature

- **Agilysys**

Spa Management is the nearly effortless software solution that simplifies the appointment process, enhances the guest experience and helps maximize the value of the user's spa as a revenue center. Spa staff are provided with a detailed list of appointments scheduled, checked in, completed, or on hold. It provides real-time updates for error-free scheduling, tracks guest preferences for up-sell opportunities, creates staff profiles, and delivers increased efficiencies in inventory control. Beautifully simple.

(<http://www.agilysys.com/solutions/by-products/activity-scheduling/spa-management>)

Features: real-time updates, employee management, appointment management

- **Envision Spa System**

Envision contains three features mainly, Smart Management Tools, Marketing and Online Booking that make it easier and a lot more convenient for both the customer and staff from management to marketing, retailing and reporting. Envision provides all the

necessary tools to grow a business. Envision keeps transactions easier, convenient and smooth while still providing enough man power for other task.

(<http://www.envisionsalon.com/>)

Features: online booking (either through website or through Facebook)

- **MindBody Spa System**

The MindBody Spa system has eight features in it that benefits both business owners and clients. It can be used in a computer and can also be downloaded in Play Store (for Android users) and App Store (for iOS users). The features are marketing, online booking, automation, point of sale, client tools, staff resources, and lastly, reports.

(<https://www.mindbodyonline.com/spa>)

Features: online booking, customer database, employee management, real-time updates.

- **SalonLite**

SalonLite is a fully optimized cloud solution built with the latest technologies that provides a robust and secure scheduling solution for salons and spas around the world. SalonLite is a quick and easy solution that can be set up and fully functional within a few minutes.

(<https://www.salonlite.com/>)

Features: appointment management, online booking.

- **Springer-Miller Systems: SpaSoft**

SpaSoft Spa Management Software is a user-friendly system that facilitates total spa and activity management. As a result, the user's staff is empowered to provide impeccable service laser-focused on each and every client. SpaSoft interfaces with various systems – including hotel property management systems, credit card and gift card processors, back office systems, membership billing, and other technologies – to create a seamless flow of guest-centric information.

[\(http://www.springermiller.com/solutions/hotel-resort-spa/\)](http://www.springermiller.com/solutions/hotel-resort-spa/)

Features: integration into hotel systems, online booking, customer database

Features to be Adapted from Related Systems

	Online Booking	Customer Database	Generates Reports and Analytics
Zensoft Spa & Salon Management System		✓	✓
Agilysys			✓
Envision Spa System	✓		✓
Mindbody Spa System	✓	✓	✓
SalonLite	✓	✓	✓
Springer-Miller Systems: SpaSoft	✓	✓	✓

Features of the Proposed System

- **Customer Database**
 - Storing of guest profiles, identifying new and returning customers.
- **Online Booking**
 - The system is constantly running 24/7 for it to be able to still accept reservations during off-hours. In case of power interruptions, the back-up plan is for the spa to revert to the manual process.
- **Reports**
 - Daily reports which shows the trends on that certain day.

TECHNICAL BACKGROUND

Programming Language

The program is built purely in the platform Wordpress, a free and open-source content management system (CMS), based on PHP and MySQL.

- **PHP** - is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language.

Resource Requirements

Hardware Requirements

- **CPU** – Intel Pentium Core 2 Duo
- **Disk Space** – 1 GB
- **RAM** – 1 GB

Software Requirements

- **Web Service** – Nginx Server or Apache Server
- **Database Server** - MySQL
- **Browser** – Internet Explorer, Microsoft Edge, Mozilla Firefox, Google Chrome or Safari
- **Operating System** – Windows, Linux or MAC OSX

Human Resource Requirements

- **Receptionist** - will be the one to use the system in the front desk.

THE EXISTING SYSTEM

Company Background

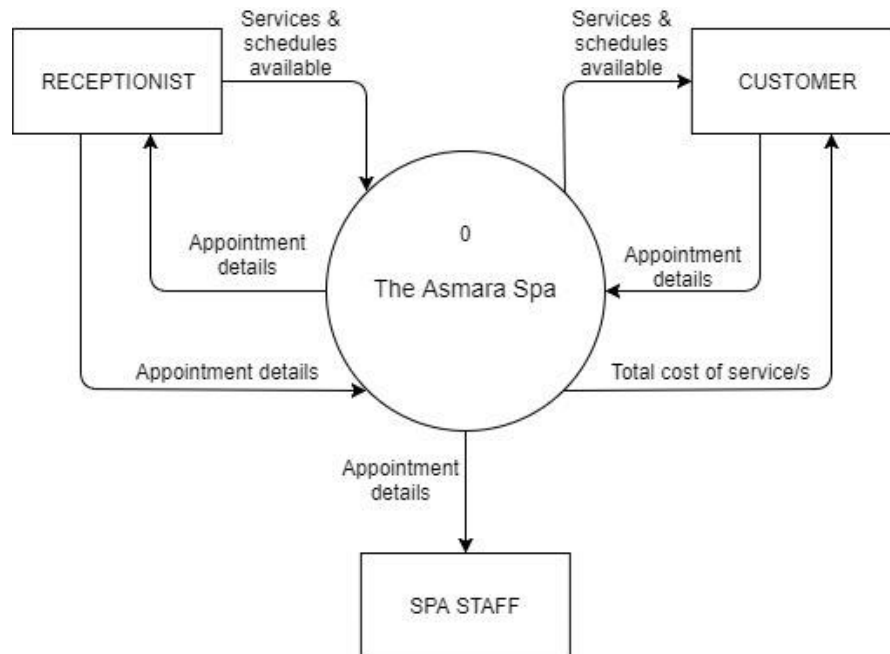
In early 1935, then Commonwealth President Manuel L. Quezon expressed interest in developing Tagaytay as a tourist destination. In 1939, the Zamoras of Manila Hotel built Taal Vista Lodge along “Ilong Kastila”—a stretch of flatland perched atop an incline which people said resembled a nose.

During the Second World War from 1942 to 1944, Taal Vista Lodge was converted to an officers’ quarters for the Japanese. In February 1945, the 11th Airborne Division of the US Army assist the liberation of Manila. Between 1956 and 1964 Tagaytay began to be promoted as a major tourist destination in the Philippines with Taal Vista Lodge. One of the many regular visitors of the hotel was a young man who often chose one spot on the grounds from which to gaze out and dream. He is Henry Sy of SM Investments Corporation—the company that would later acquire Taal Vista Hotel.

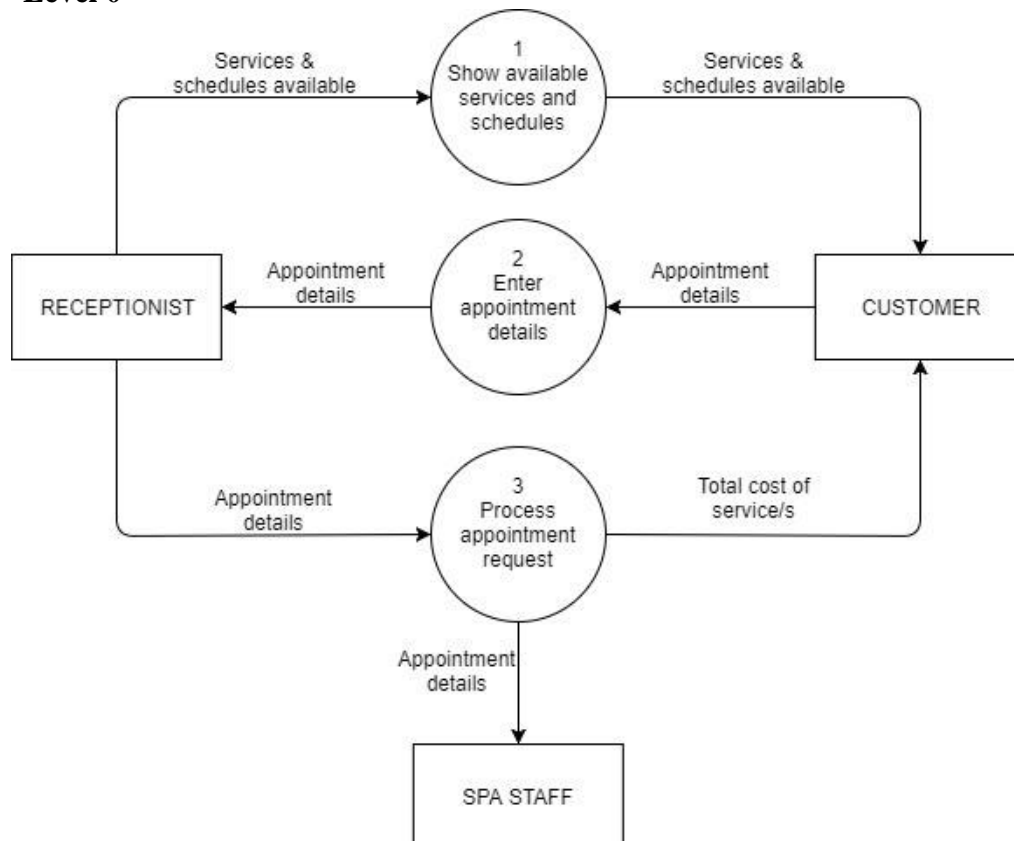
In 2002, Taal Vista Hotel was reconstructed in the style of the original lodge. Facilities and amenities were added for business and leisure activities. In 2004, after its renovation, the Hotel welcomed back its guests. Today, Taal Vista Hotel remains a landmark deeply entrenched in the history and heritage of Tagaytay City.

Data Flow Diagram

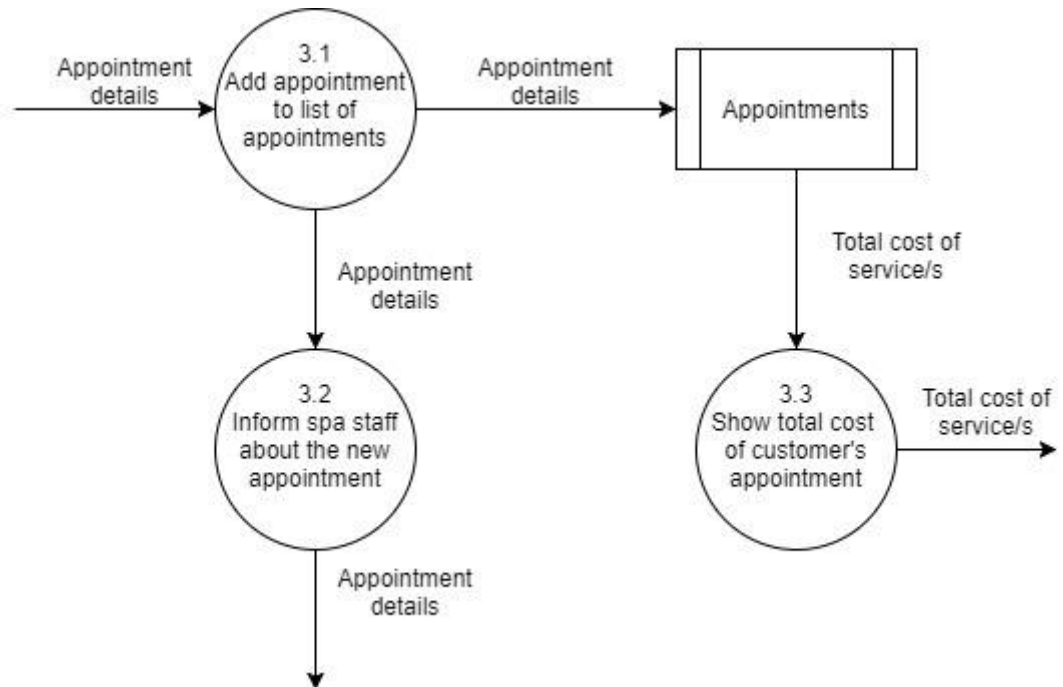
Context Diagram



Level 0



Level 1 DFD for Process #3



Problem Areas

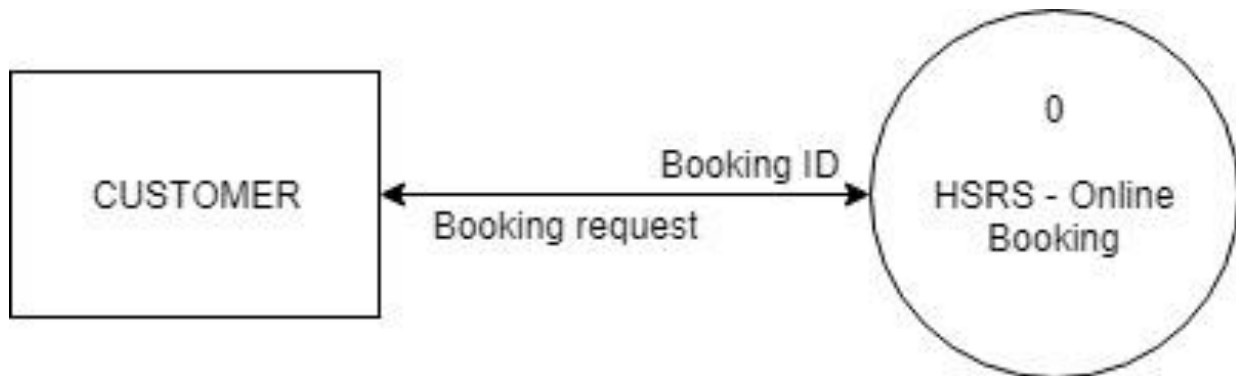
The problem of the existing system includes manual work processes, and overlapping of reservations. Manual work may take more time to process the services that the customer wants which leads to inefficiency. Reservation requests from the existing system may overlap and cause errors.

THE PROPOSED SYSTEM

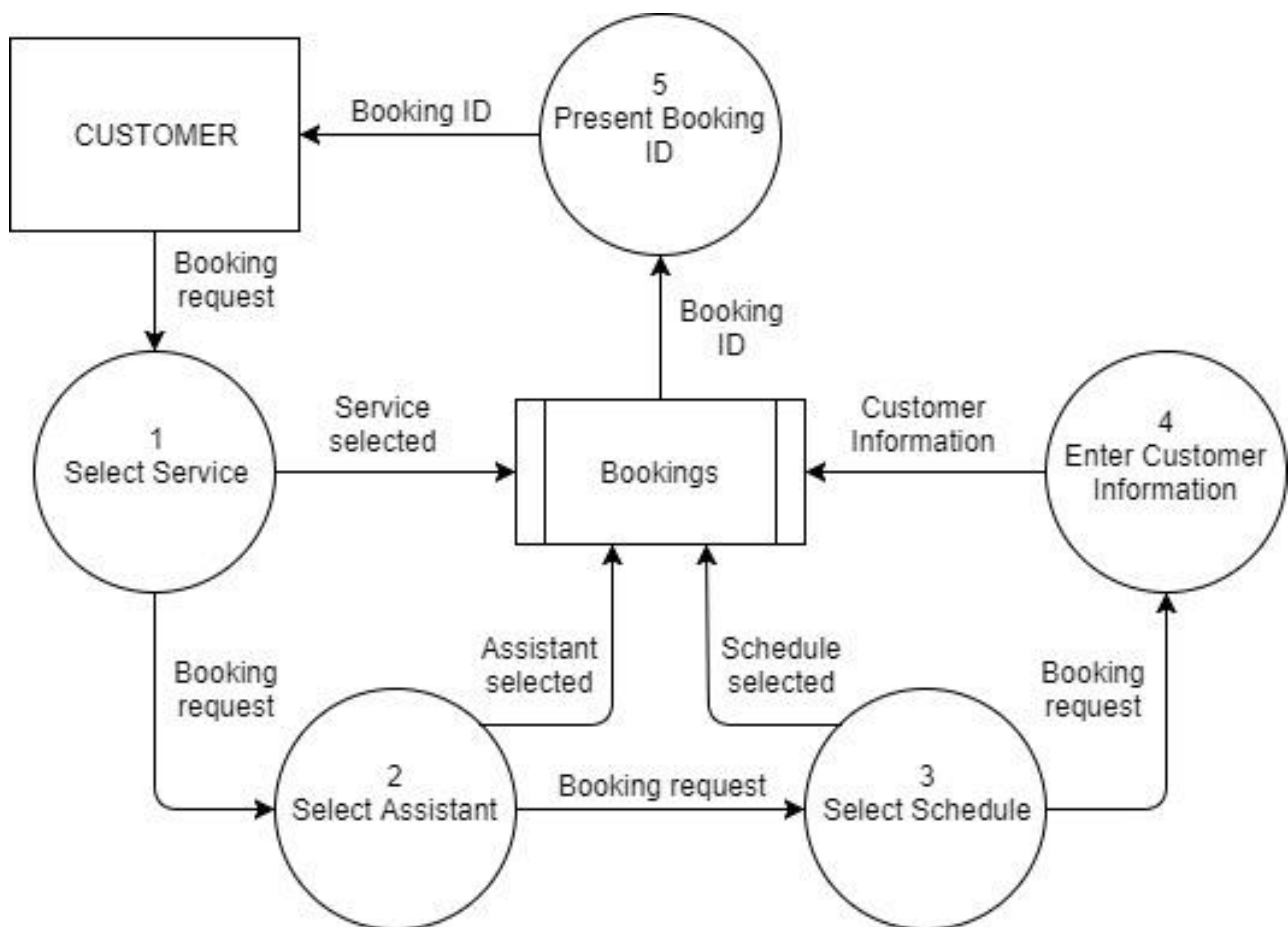
Process Specification

Data Flow Diagram

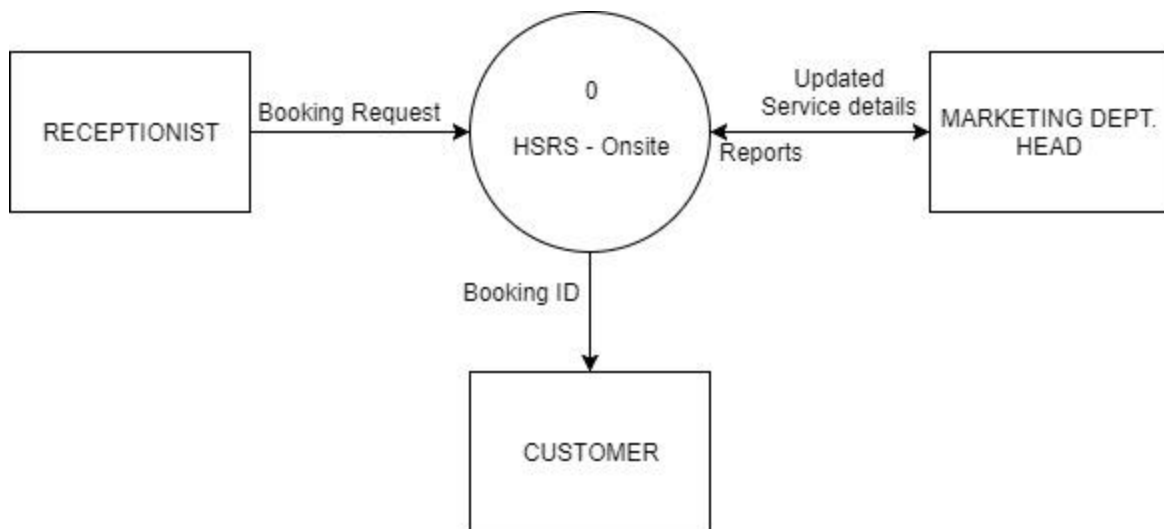
Context Diagram (Online booking)



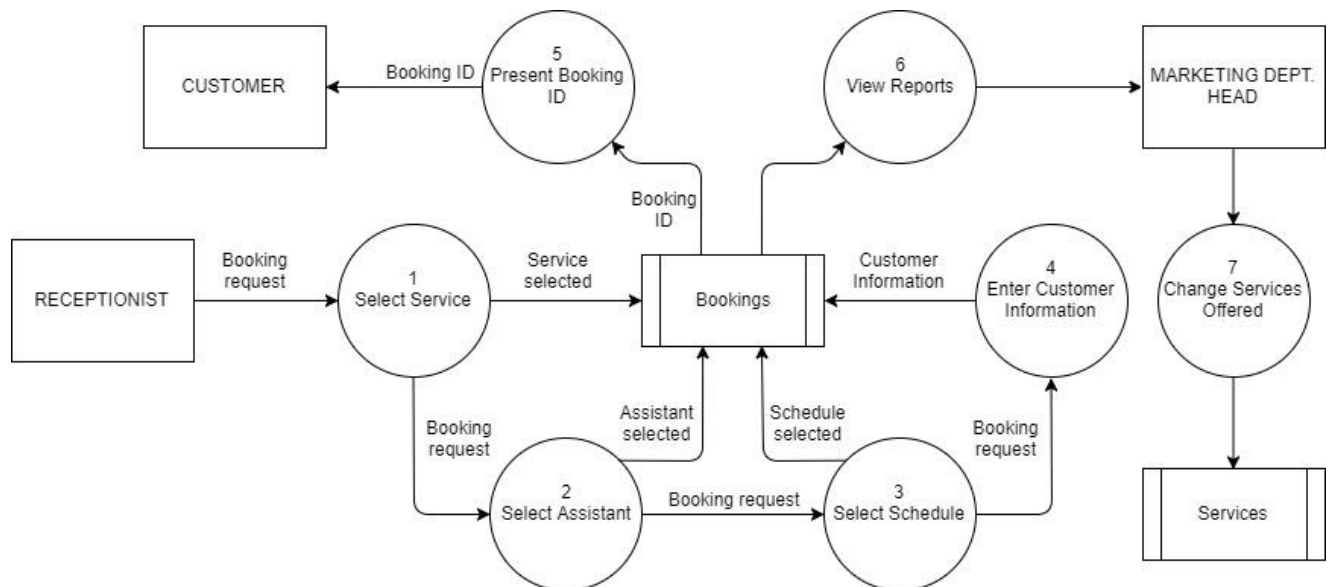
Level 1 DFD (Online booking)



Context Diagram (Onsite system)

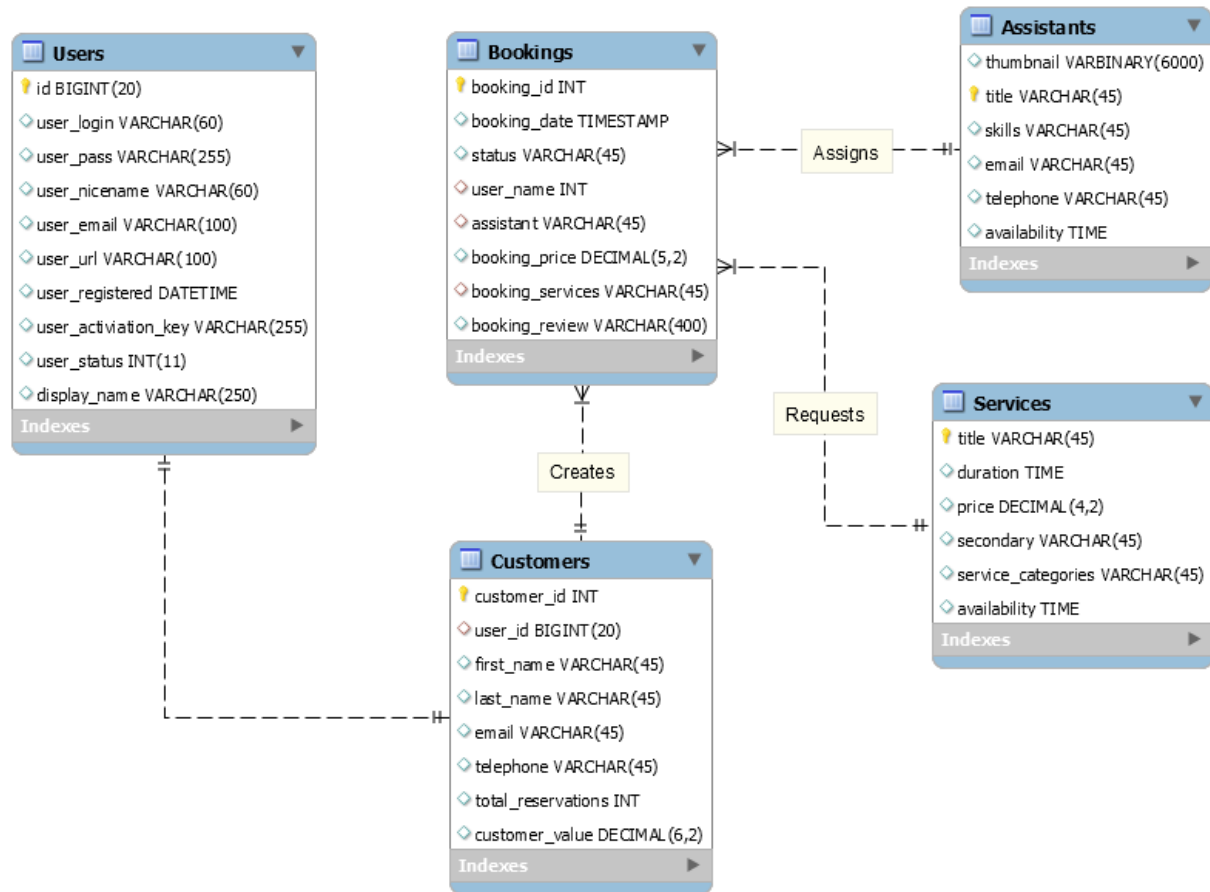


Level 1 DFD (Onsite system)

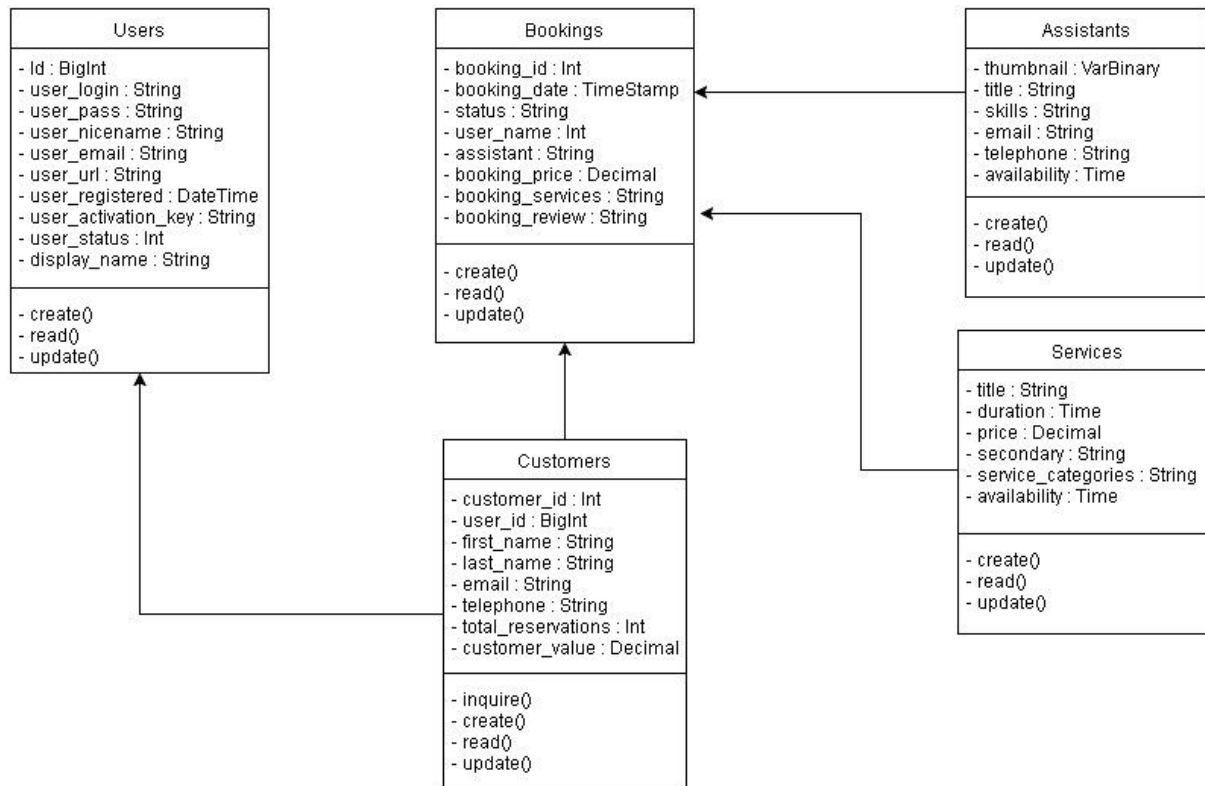


Data Specification

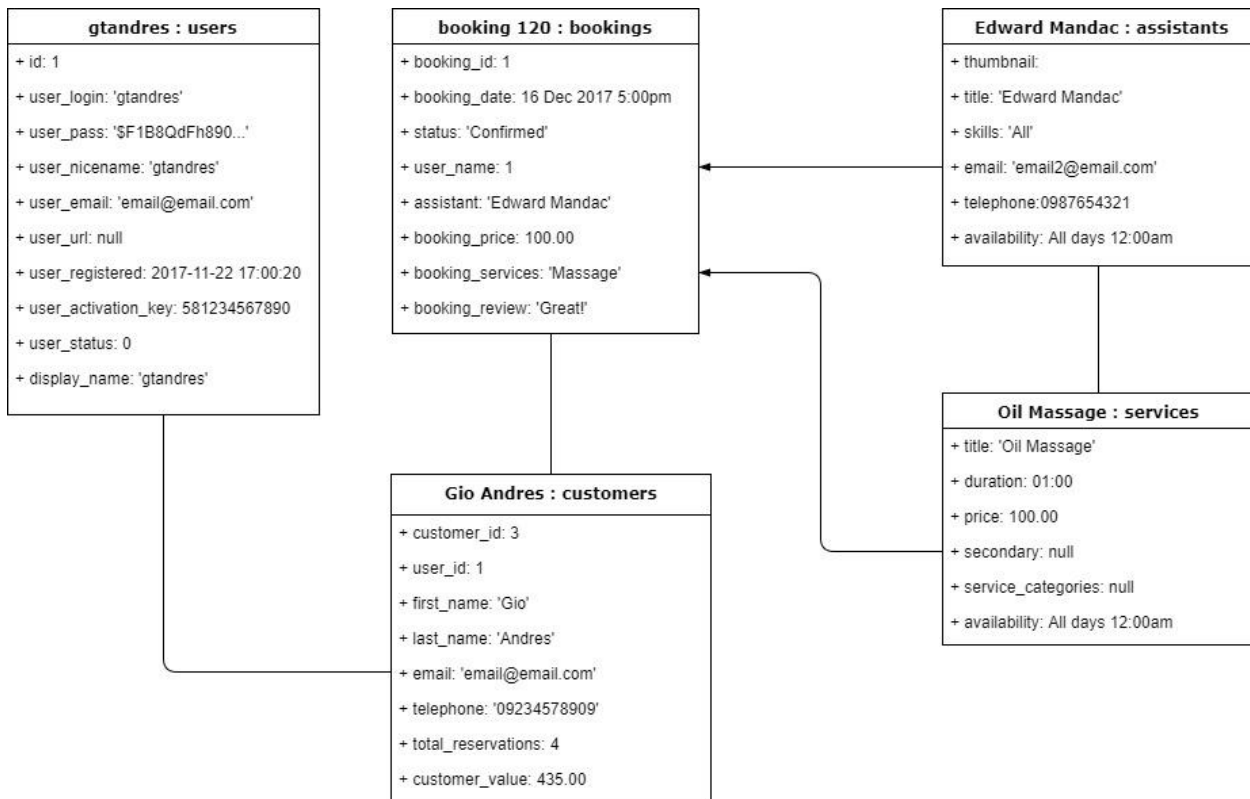
Entity-Relationship Diagram



Class Diagram



Object Diagram



Data Dictionary

CUSTOMERS							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	REFERENCE TABLE
customer_id	INTEGER	99999	Y	Customer ID Number, Auto Increment	10000-99999	PK	
user_id	BIGINT(20)	99999		User ID	10000-99999	FK	USERS TABLE
first_name	VARCHAR(45)	Xxxxxxx		Customer's First Name			
last_name	VARCHAR(15)	Xxxxxxx		Customer's Last Name			
email	VARCHAR(45)	Xxxxxxx		Customer's Email Address			
telephone	VARCHAR(45)	Xxxxxxx		Customer's Telephone number			
total_reservations	INTEGER	99999		The total reservations			
customer_value	DECIMAL(6,2)	99999.99		the customer value			
USERS							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	REFERENCE TABLE
ID	BIGINT(20)	99999	Y	User's ID	10000-99999	PK	
user_login	VARCHAR(60)	99999		user's login			
user_pass	VARCHAR(255)	Xxxxxxx		user's password			
user_nickname	VARCHAR(60)	Xxxxxxx		user's nickname			
user_email	VARCHAR(100)	Xxxxxxx		user's email address			
user_url	VARCHAR(100)	Xxxxxxx		user's url			
user_registered	DATETIME	yyyy-mm-dd hh:mm:ss		user's registered			
user_activation_key	VARCHAR(60)	Xxxxxxx		user's activation key			
user_status	INTEGER(11)	99999		user's status			
display_name	VARCHAR(250)	Xxxxxxx		user's display name			
ASSISTANTS							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	REFERENCE TABLE
thumbnail	VARBINARY(6000)	Xxxxxxx	Y	Assistant's thumbnail	10000-99999		
title	VARCHAR(45)	Xxxxxxx		Assistant's title		PK	
skills	VARCHAR(45)	Xxxxxxx		Assistant's skills			
email	VARCHAR(45)	Xxxxxxx		Assistant's email address			
telephone	VARCHAR(45)	Xxxxxxx		Assistant's telephone number			
availability	TIME	hh:mm:ss		Assistant's availability			
SERVICES							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	REFERENCE TABLE
title	VARCHAR(45)	Xxxxxxx	Y	Service's title	10000-99999	PK	
duration	TIME	hh:mm:ss		Service Duration			
price	DECIMAL(4,2)	9999.99		Service price			
secondary	VARCHAR(45)	Xxxxxxx		Secondary of service			
service_categories	VARCHAR(45)	Xxxxxxx		Service categories			
availability	TIME	hh:mm:ss		Availability of services			
BOOKINGS							
ATTRIBUTE NAME	TYPE	FORMAT	REQUIRED	CONTENTS	RANGE	PK OR FK	REFERENCE TABLE
booking_id	INTEGER	99999	Y	Booking ID	10000-99999	PK	
booking_date	TIMESTAMP	hh:mm:ss		Booking date			
status	VARCHAR(45)	Xxxxxxx		Booking status			
user_name	INTEGER	99999	Y	User name	10000-99999	FK	CUSTOMER TABLE
assistant	VARCHAR(45)	Xxxxxxx	Y	Assistant	10000-99999	FK	ASSISTANTS TABLE
booking_price	DECIMAL(5,2)	99999.99		Booking price			
booking_services	VARCHAR(45)	Xxxxxxx	Y	Booking services	10000-99999	FK	SERVICES TABLE
booking_review	VARCHAR(400)	Xxxxxxx		Booking review			

Tables/Files Layout

Customers Add Customer						
Bulk Actions ▼	Apply	Search customers		4 items		
<input type="checkbox"/>	Customer ID	First Name	Last Name	E-mail	Telephone	Customer Value
<input type="checkbox"/>	3	Gio	Andrez	guzor22@yahoo.com	09163117007	435.00P
<input type="checkbox"/>	4	Carlo	Bongat	bongy@gmail.com	1	125.00P
<input type="checkbox"/>	Customer ID	First Name	Last Name	E-mail	Telephone	Customer Value
Bulk Actions ▼	Apply			4 items		

Bookings Add Booking							
<div> All (21) Mine (14) Paid (3) Confirmed (18) <div> <div></div> <div>Search Bookings</div> </div> <div> <div>Bulk Actions</div> <div>Apply</div> <div>All dates</div> <div>All statuses</div> <div>All users name</div> <div>All attendants</div> <div>Filter</div> </div> <div>21 items << < 1 of 2 > >></div> </div>							
<input type="checkbox"/>	Booking ID	Booking Date	Status	User name	Attendant	Booking Price	Booking Services
<input type="checkbox"/>	120	16 Dec 2017 5:00pm	Confirmed	Gabby Ngceen		10.00P	Head Massage
<input type="checkbox"/>	118	16 Dec 2017 3:00pm	Confirmed	Gabby Ngceen		100.00P	Massage
<input type="checkbox"/>	112	16 Dec 2017 2:00pm	Confirmed	Gabby Ngceen		100.00P	Massage
<input type="checkbox"/>	110	16 Dec 2017 6:00am	Confirmed	Gabby Ngceen		110.00P	Head Massage, Massage
<input type="checkbox"/>	106	15 Dec 2017 7:00pm	Confirmed	Gio Andrez		125.00P	Oil Massage, Head Massage, Massage
<input type="checkbox"/>	104	15 Dec 2017 5:00pm	Confirmed	Edward Mandac		115.00P	Oil Massage, Massage




Users Table

Options										
<input type="checkbox"/>	ID	user_login	user_pass	user_nicename	user_email	user_url	user_registered	user_activation_key	user_status	display_name
<input type="checkbox"/>	1	Spaadmin1	\$P\$BQ0sd3.Z9bUJ.Mcm3GU0e2tNOlykmlu1	spaadmin1	cloudaco@gmail.com		2017-11-22 17:09:28		0	Spaadmin1
<input type="checkbox"/>	2	Spaadmin2	\$P\$BZovzr28mgee2m4cCoYZ9w8fzKMgf	spaadmin2	guzor24@yahoo.com		2017-11-22 17:44:28	1511372870:\$P\$BCqODIG8Bhk/bvqBvLj0u5kEpKpc0	0	Spaadmin2
<input type="checkbox"/>	3	Glandres	\$P\$BG8GdEfU1ILBG6r8g1UDrBinjT2Q1	gtandres	guzor22@yahoo.com		2017-11-23 00:56:02	1511368864:\$P\$BscCsChqsS3GFN21DgR6M9jKhDv7yK0	0	Glandres
<input type="checkbox"/>	4	bonggy	\$P\$BRc33yoA8vBfWRzeMO1MjFp45Rn1	bonggy	bonggy@gmail.com		2017-12-04 00:47:19	1512348440:\$P\$BjZGPemqQmtrAC408NHx0U5BreePP1	0	bonggy
<input type="checkbox"/>	5	edmandac@gmail.com	\$P\$B.P9Wch20lvhrUZpMyOPnTJdqYVvmG1	edmandac@gmail.com	edmandac@gmail.com		2017-12-14 16:24:48	1513288801:\$P\$BNoYRKHpNrojeWuzB.nUtdin1eDVH1	0	edmandac@gmail.com
<input type="checkbox"/>	6	finnandgumball	\$P\$BK/bi2Q0W4QLzH3ZHUOuohMQwOYcL0	finnandgumball	antonio.garinga@gmail.com		2017-12-17 07:45:02	1513496704:\$P\$BwvZaErVdF29Yy571EwGYW5foxxTO1	0	finnandgumball

Services Table

All (3) Published (3)					
<div> <div>Bulk Actions</div> <div>Apply</div> <div>All dates</div> <div>Filter</div> </div> <div>3 items</div>					
<input type="checkbox"/>	Title	Duration	Price	Secondary	Service Categories
<input type="checkbox"/>	Oil Massage	01:00	15.00P		—
<input type="checkbox"/>	Head Massage	01:00	10.00P		—
<input type="checkbox"/>	Massage	01:00	100.00P		—
<input type="checkbox"/>	Title	Duration	Price	Secondary	Service Categories
					Availability

Assistants Table

Assistants Add Assistant						
<div> All (3) Published (3) <div> <div></div> <div>Search Assistants</div> </div> <div> <div>Bulk Actions</div> <div>Apply</div> <div>All dates</div> <div>Filter</div> </div> <div>3 items</div> </div>						
<input type="checkbox"/>	Thumbnail	Title	Skills	Email	Telephone	Availability
<input type="checkbox"/>		Mario	All	guzor24@yahoo.com	121523515	Monday-Tuesday-Wednesday-Thursday-Friday 12:00am/12:00am 12:00am/12:00am
<input type="checkbox"/>		Pablo	All	grijjiw@gmail.com	909801	All days 12:00am/12:00am 12:00am/12:00am
<input type="checkbox"/>		JACOB	All	guzor24@yahoo.com	0214825	All days 12:00am/12:00am 12:00am/12:00am
<input type="checkbox"/>	Thumbnail	Title	Skills	Email	Telephone	Availability

Screen Layout/Specifications

ASMARA SPA

Taal Vista Hotel, Kilometer 60, Aguinaldo Highway, Tagaytay, 4120

[Home](#) [About](#) [Contact](#) [Booking](#) [Login](#) [Booking My Account](#)

LOG IN

Username or E-mail

Password

☐ Remember Me

Log In

[Register](#) [Lost Password](#)

asmara spa

Howdy, Glandres

[Home](#) [About](#) [Contact](#) [Booking](#) [Login](#) [Booking My Account](#)

BOOKING

Book an appointment

Available Services

☐ Thai Massage

600P

NEXT STEP

the goal of Thai massage is to align the energies of the body. It is one of the most invigorating types of massages as the therapist rigorously works your entire body, compressing and stretching your joints and also applying pressure on your muscles.

asmara spa

Howdy, Glandres

[Home](#) [About](#) [Contact](#) [Booking](#) [Login](#) [Booking My Account](#)

Select your assistant


☒

Choose an assistant for me

BACK


NEXT

☐




Jacob Baldovitch

☐



Mario Roy

☐



Pablo Escobar

pablo

Please set an appointment schedule

select a day

18 Dec 2017

11:00pm

⌚

← BACK

NEXT STEP

←

December 2017

→

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

Today

Booking summary

Dear **Gio Andrez**
Here are the details of your booking:

Date and time booked

18 Dec 2017 / 11:00pm

← BACK

FINALISE

Asistants

Mario Roy

Services booked

Thai Massage (600P)

Hot stone massage (1,000P)

Total amount

1,600P

Do you have any message for us?

Leave a message

Booking Confirmation

✓

Your booking is completed

Booking number 202

!

If you need to change your reservation
 please call **8231063** or send an e-mail to
cloudaxx@gmail.com

COMPLETE

Welcome back
Gio!

Next appointments

Reservations history

Here you have your next
reservations with us, pay attention to
the 'pending' reservations

ID:	157
WHEN:	18 Dec 2017 10:00pm
SERVICES:	Thai Massage
ASSISTANTS:	Pablo Escobar
PRICE:	100P
STATUS:	CONFIRMED
ACTION:	
ID:	202
WHEN:	18 Dec 2017

asmara spa

Howdy, Spadmin1

Dashboard

Posts

Media

Pages

Comments

Appearance

Plugins

Users

Profile Builder

Tools

Settings

Salon

Calendar

Bookings

Services

Assistants

Customers

Reports

Settings

Tools

TML

Collapse menu

Allow your users to have paid accounts with Profile Builder. Find out how >

Calendar - December 2017

Day Week Month Year

December 2017

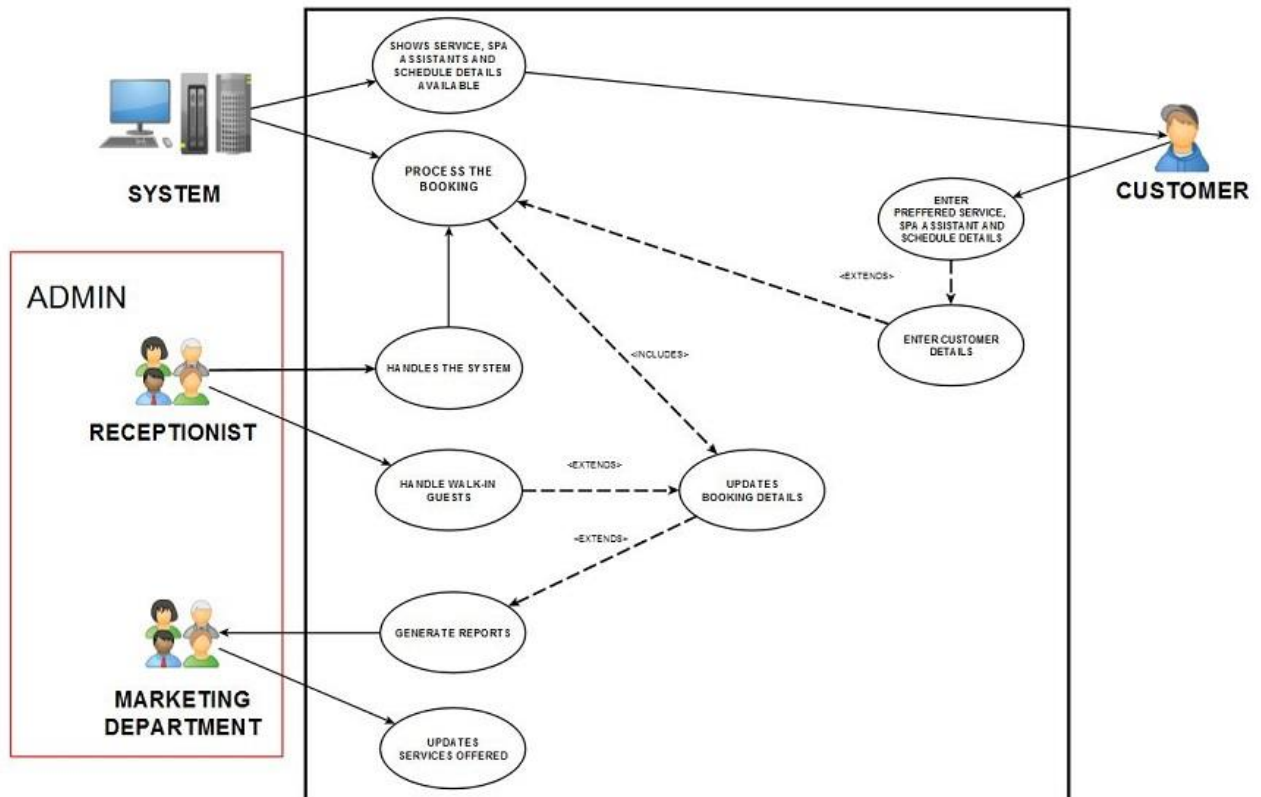
Previous Today Next

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

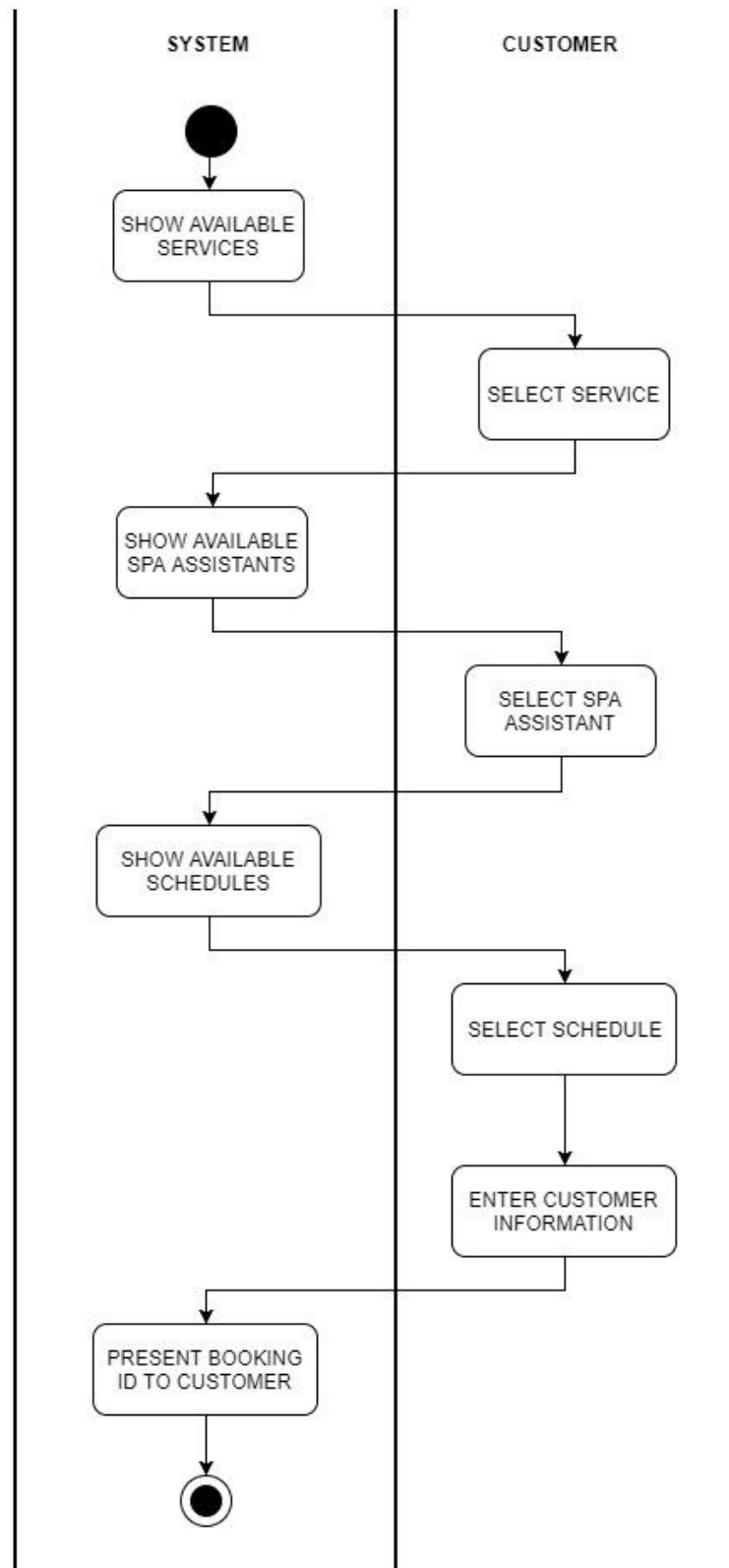
METHODOLOGY, RESULTS AND DISCUSSION

Requirement Documentation

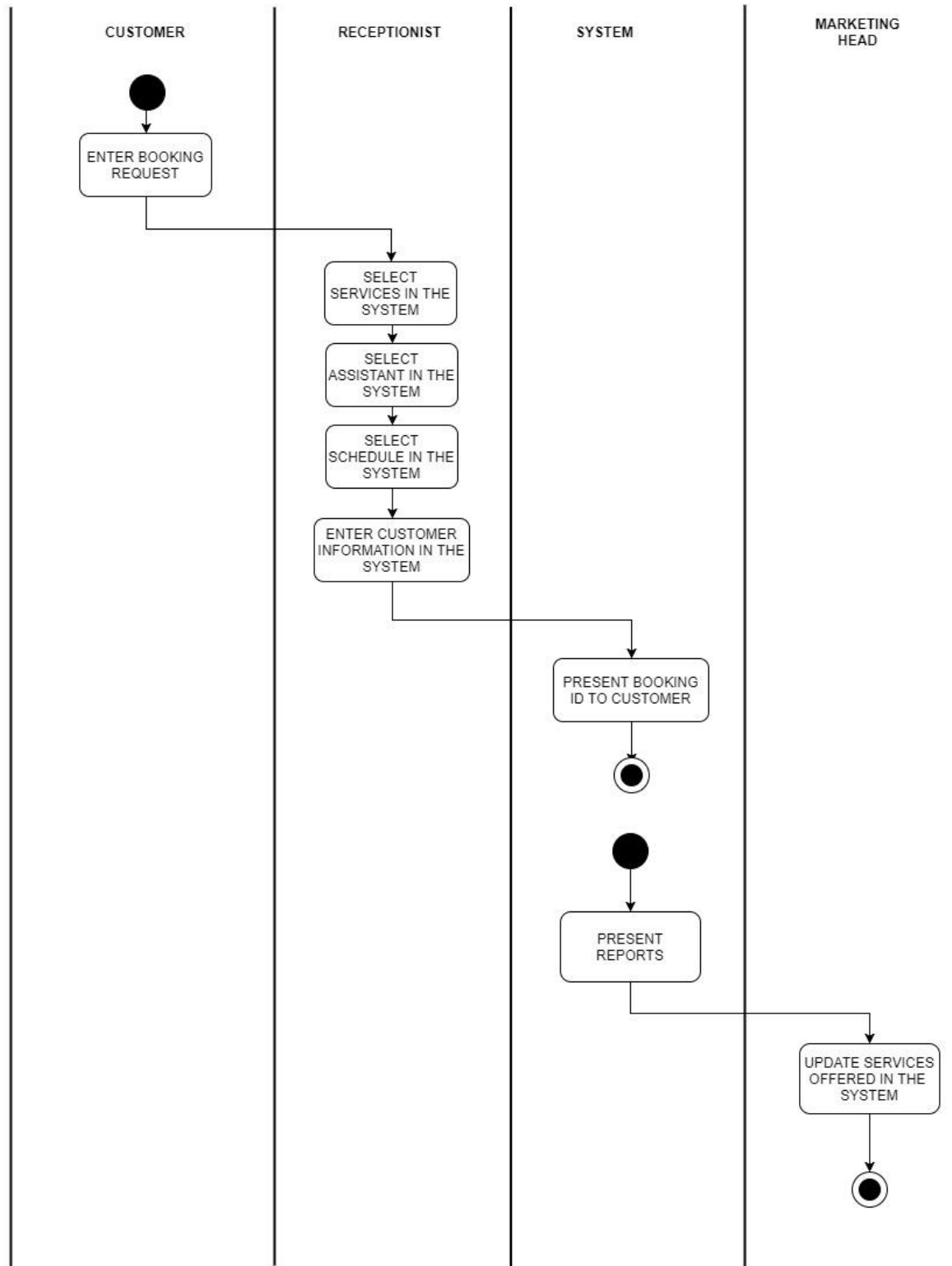
Use Case Diagram



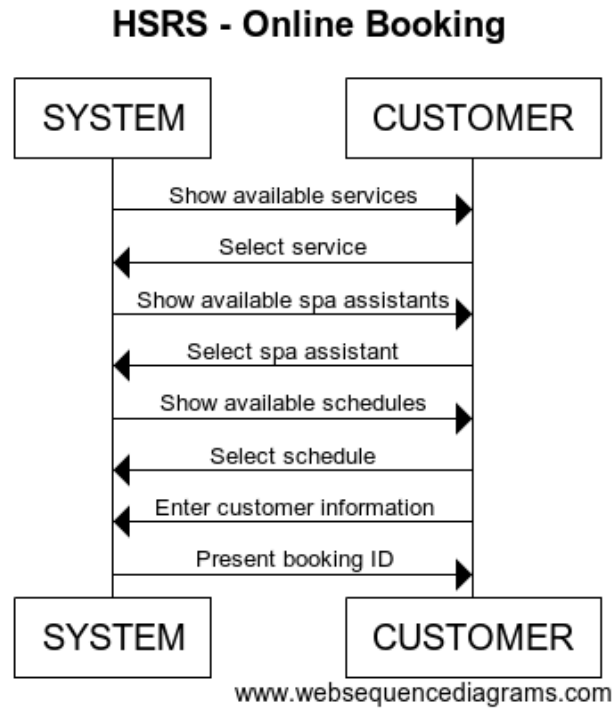
Activity Diagram (Online booking)



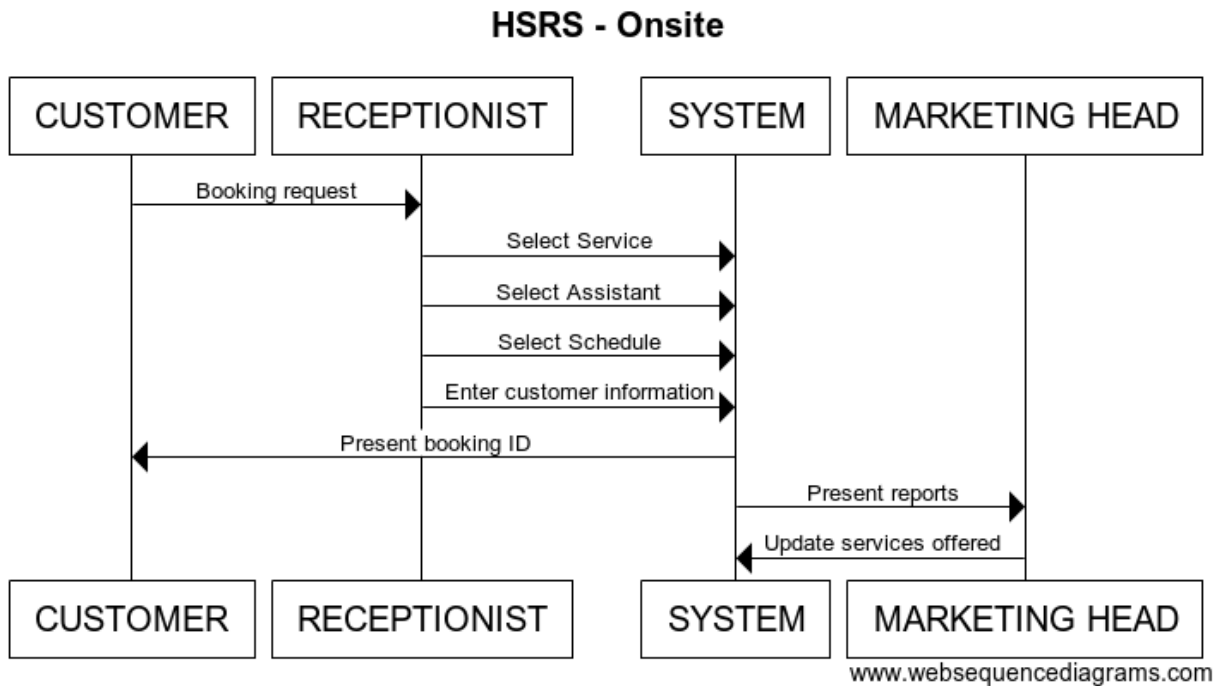
Activity Diagram (Onsite System)



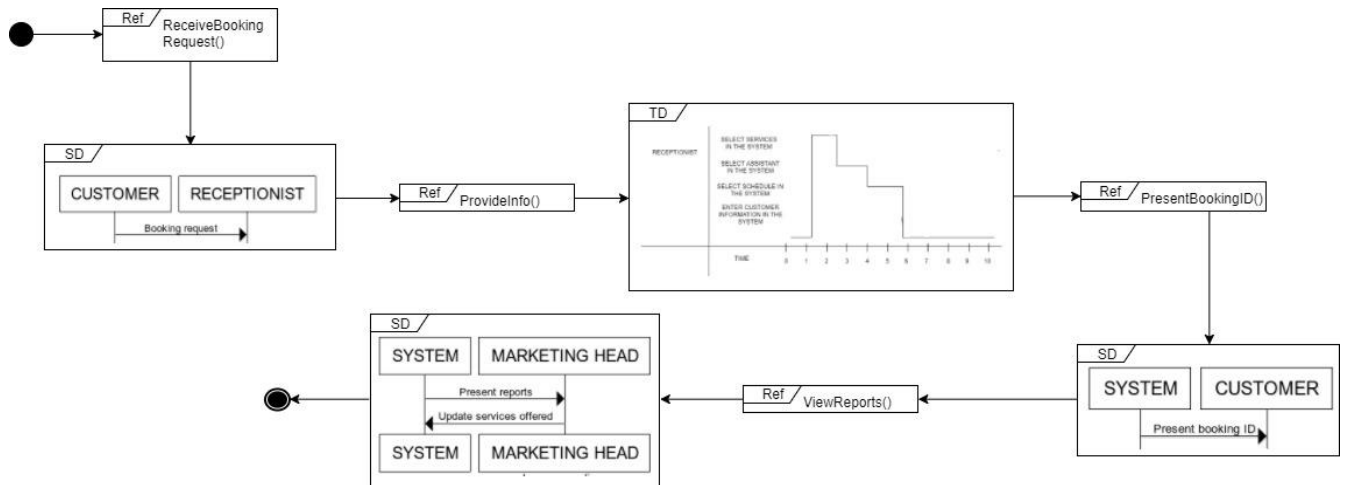
Sequence Diagram (Online booking)



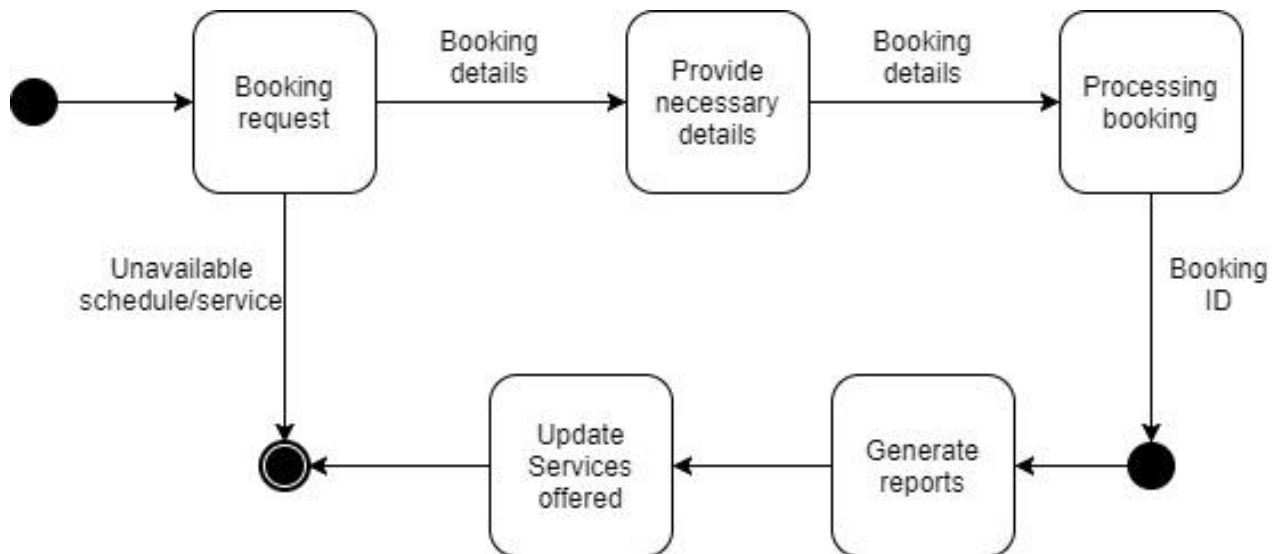
Sequence Diagram (Onsite System)



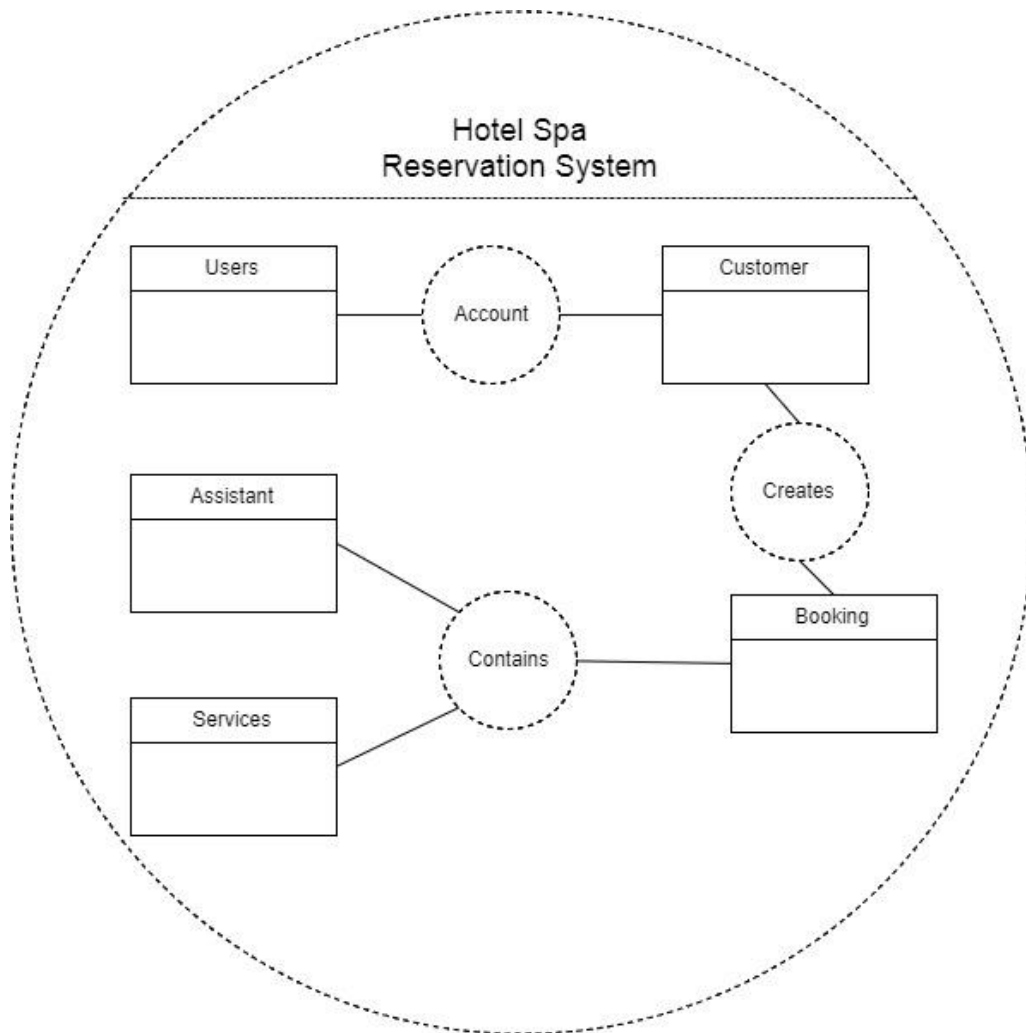
Interaction Overview Diagram



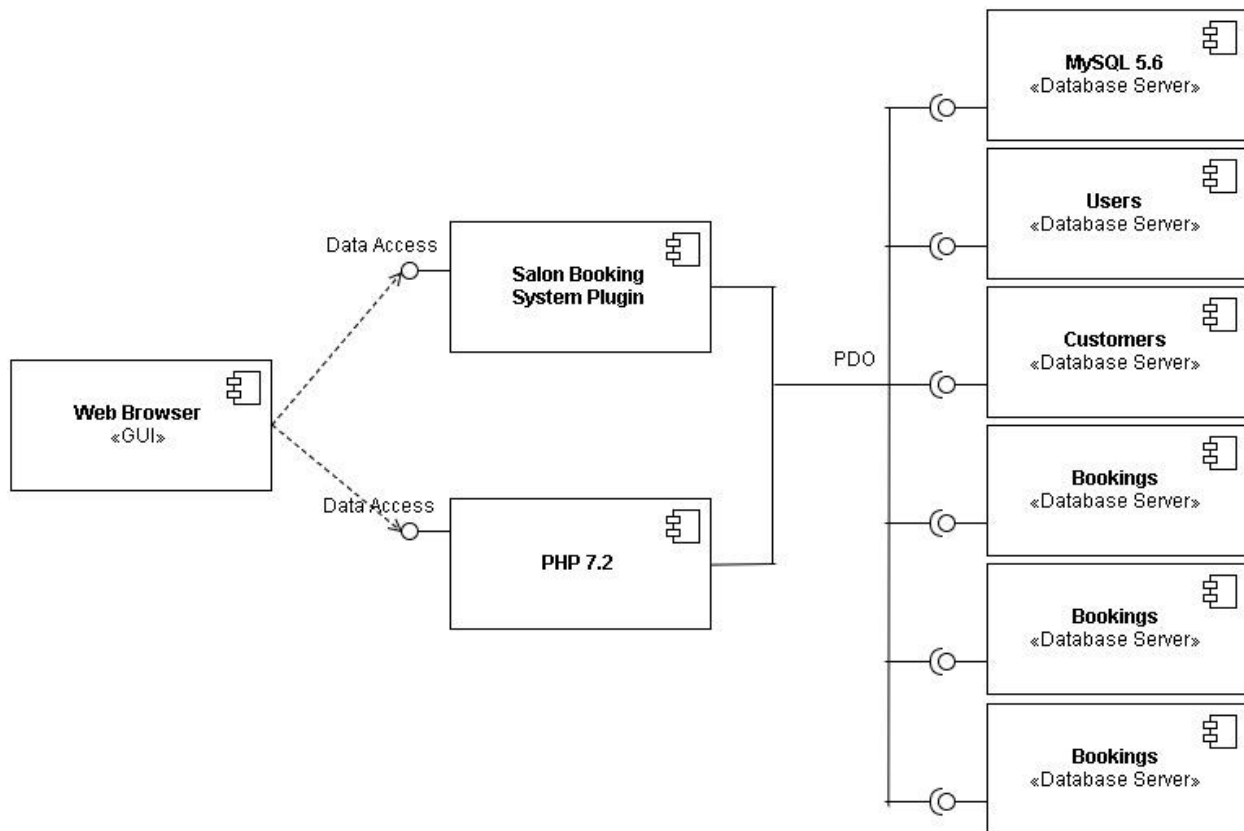
State Machine Diagram



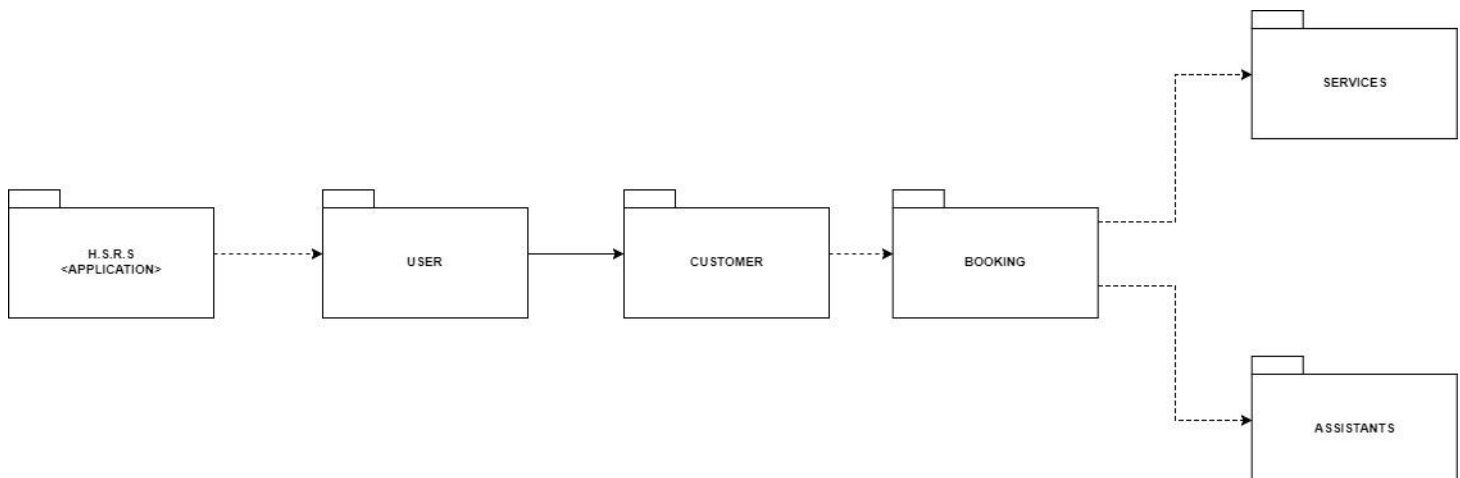
Composite Structure Diagram



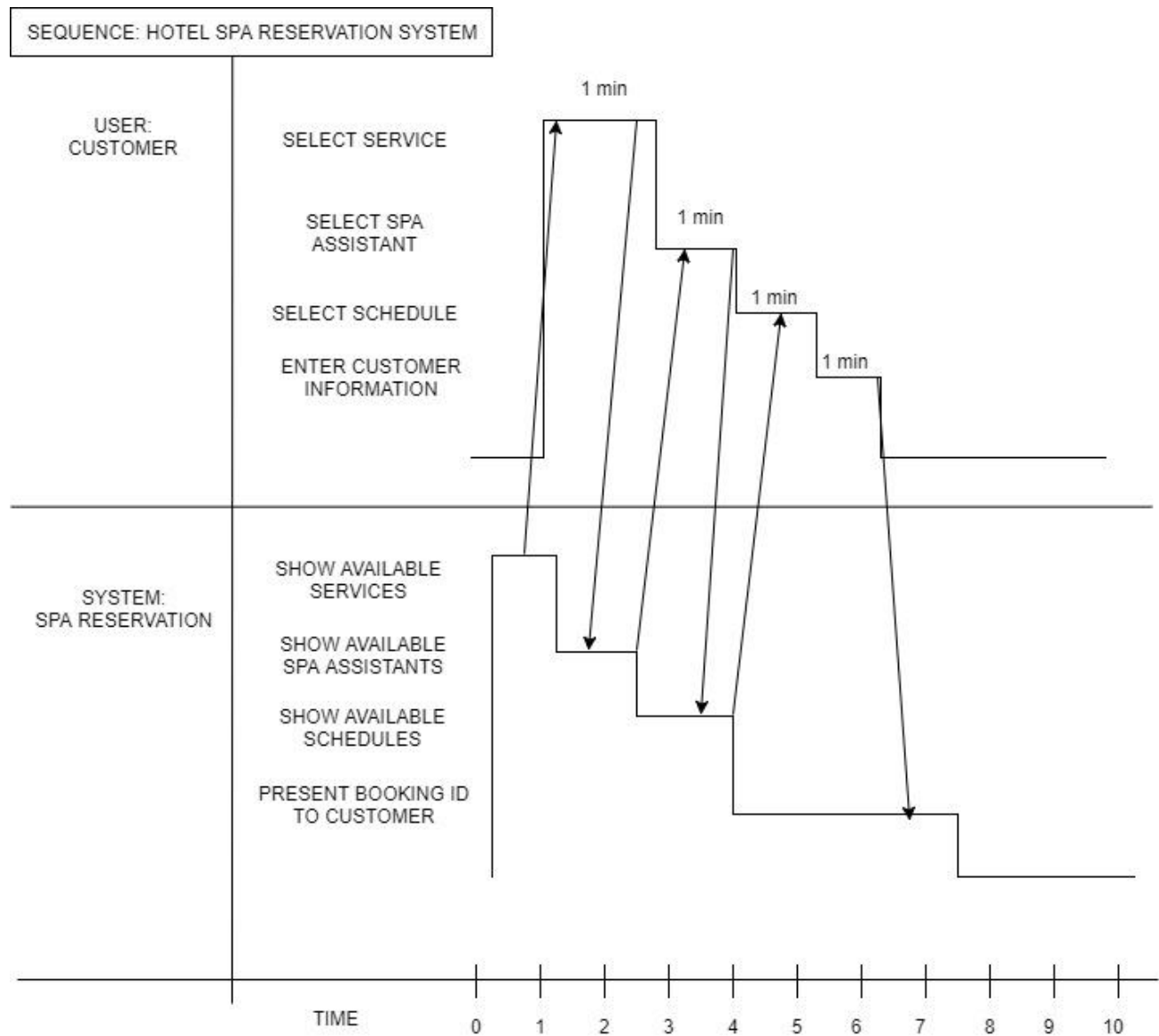
Component Diagram



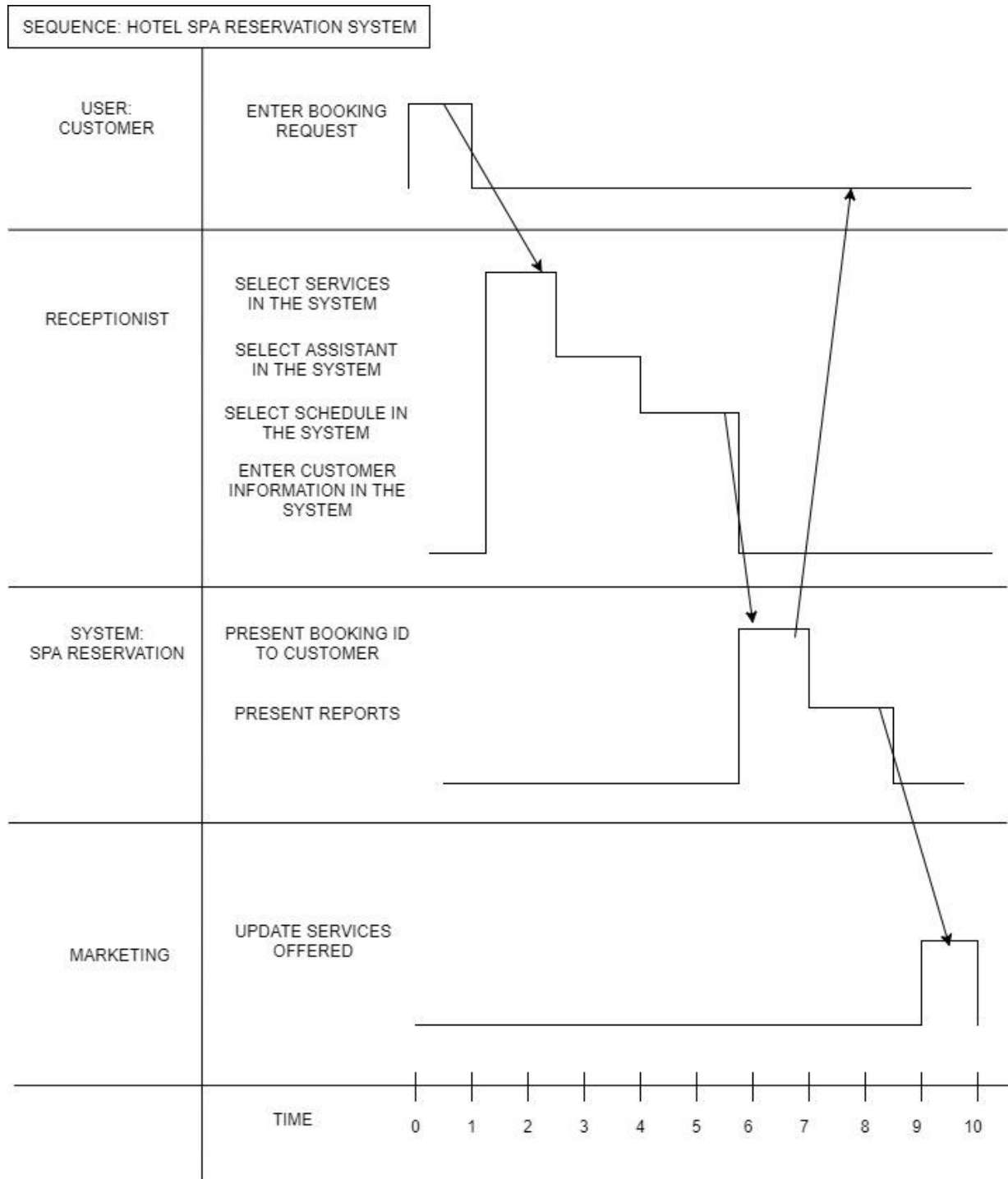
Package Diagram



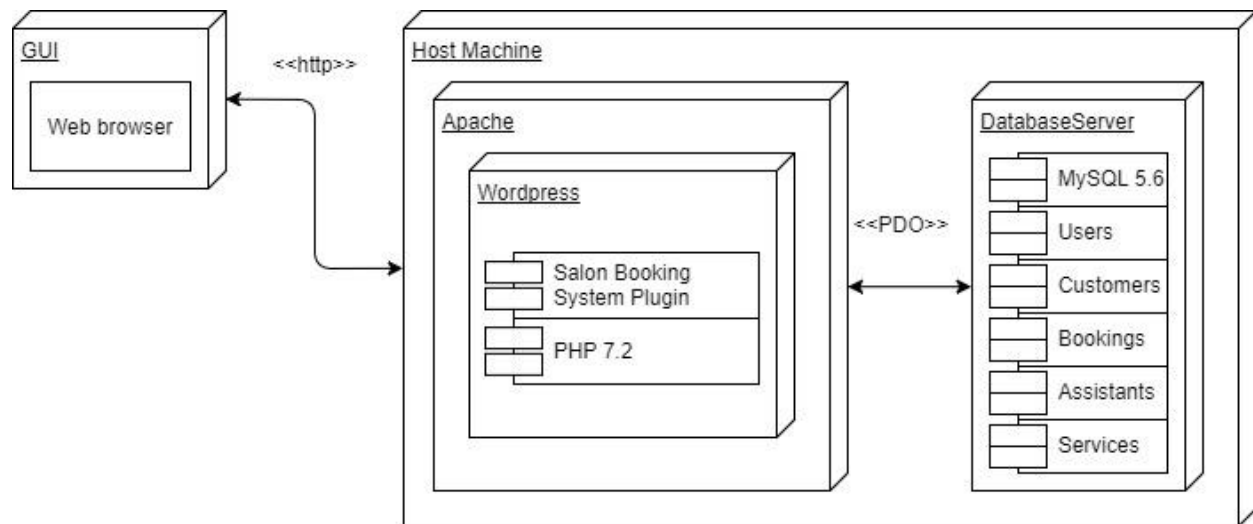
Timing Diagram (Online booking)



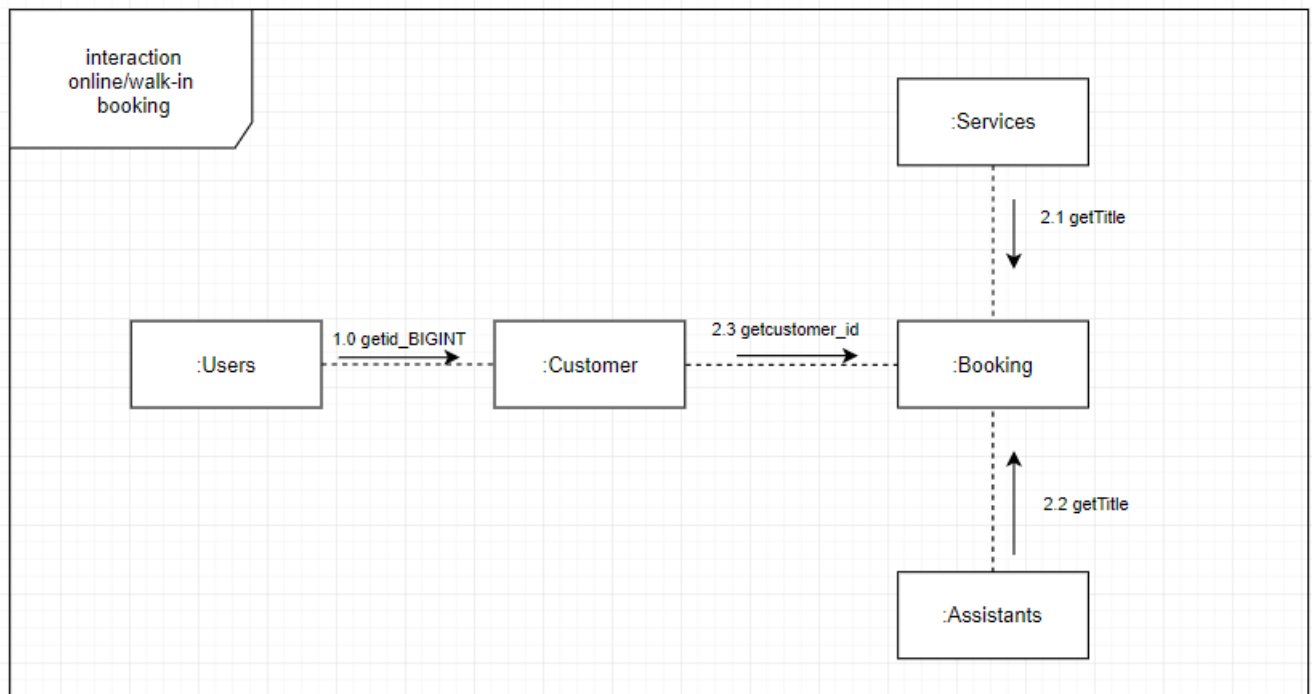
Timing Diagram (Onsite System)



Deployment Diagram



Communication Diagram



Gap Analysis

User Requirements	Current Process	Proposed Changes
The system addresses/prevents the mistakes that occur from doing manual work processes.	All processes in the Asmara Spa is manual. In line with this, a lot of errors could occur. (e.g. lost appointments, wrong dates written on appointments)	The system will automate the process of making a booking and include an online reservation system for potential customers who are looking to make a booking to the Asmara Spa via the internet.
To make the booking process more accessible	The booking process is a bit inconvenient because one way to make an appointment is through a third party website and none on their hotel website.	A web based system for customers who'd want to book a reservation but isn't a guest checked-in at the hotel that will serve as an alternative.
To reduce the amount of time and resources needed in the booking process	In a manual work process, with errors occurring , a lot of time could be wasted fixing mistakes and it would require several people to do a certain task	The system aims to automate work processes so that less time and people are needed to complete a task.
To convert the spa's work environment into a paperless office	Since every booking is manually done, it is assumed that they are currently logged into a log book or slips are compiled into a folder.	With the use of the system, the use of paper will gradually lessen.
To generate a report that would show spa trends	To see what trends, the spa has to review their list of reservations/bookings and manually tally the data enlisted in it.	The system will generate a report based from the data collected in the system's database server, which will show how many reservations they had for the day, what is the most popular service, and what are the peak hours and days.

Bibliography

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