Salon Management System for Salon Chami

A dissertation submitted for the Degree of Master of Information Technology

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DECLARATION

The thesis is my original work and has not been submitted previously for a degree at this or any other university/institute.

To the best of my knowledge it does not contain any material published or written by another person, except as acknowledged in the text.

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ABSTRACT

‘Salon Chami’ is a developing and well-known salon in Panadura area, where customers can fulfill themselves look beautiful and other needs. As the sudden increment of the industry, for this salon, it was a huge task to keep the efficiency with the existing manual documenting operations. Because of this, most of the time they were unable to build up a long-term relationship between customers. Managing appointment details, managing details of transactions and reminding the details of received appointments, lack of decision making support and resource wastage were the main problems faced by the staff who work for the salon when dealing with the daily activities of customers.

The intention of this project was to overcome those problems by providing a computerized web based system that will handle most of the related tasks efficiently and automatically with the capability of online management of appointments.

The system designed based on Object Oriented Analysis and developed based on the iterative waterfall model. Hypertext Preprocessor is chosen as the main programming language with other supportive languages and technologies. Apache has been used as the web server and MySQL was used to handle database. Model-View-Controller used to build the system architecture.

Overall system functionalities mainly focused on the requirements of the client. The site is focus to convince visitors to value proportion of the business, background, offering promotions and direct communication. Apart from the site, the system mainly facilitates the appointment management, transaction management, promotion management, customer management and user management etc. This software solution will mainly handle the problems of their day today routine and will focus to capture the different audiences.

ACKNOWLEDGEMENT

First of all I am grateful to Mrs.C.Priyanwadha the client of this project and without whom this project wouldn't have been a success. The support she had given during the project and the time spent in requirement gathering were the main factors for the success of this project. I also express my gratitude to members of the staff who gave me immense support and guidance towards the success of this project.

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LIST OF ABBRIVIATION

AJAX – Asynchronous JavaScript and XML

CSS - Cascading Style Sheets

ERD - Entity Relationship Diagram

HTML - Hyper Text Mark-up Language

IDE - Integrated Development Environment

IT - Information Technology

JS - JavaScript

PDF - Portable Document Format

RAM - Random Access Memory

UML - Unified Modeling Language

CHAPTER 1 - INTRODUCTION

1.1. INTRODUCTION

The country's beauty culture industry has moved forward to be part of the global trends. Many ventures have emerged as representatives of the trade. The beauty industry employs a huge number of workers nationwide, by revealing it is one of the most lucrative industries in the country. The process of making ourselves look beautiful is an essential part of a human. There's a lot more to the concept of beauty than facial perfection. It is vital for keeping healthy, clean and hygienic as well as playing a key role in social bonding by competent, likable and trustworthy. The paradigm of beauty has been changed to the modern world and the needs and wants of the customer have also been changed to making a specific market rapidly.

1.2. PROBLEM DOMAIN AND THE MOTIVATION

The salons provide men and women both with the variety of services. The customers would share their favourable time with the salons. The hospitality and teamwork are key features of the success of the business. Most of the customers are facing difficulties with improper management.

Presently, salon Chami is using a manual system for salon management. The manual system causes numerous problems and it is time consuming inefficient process. Most of the customers are facing difficulties when their appointments are not properly managed by the salon. Mostly they failed to assign the earlier proposed beautician with the time. It will cause to make customer dissatisfaction and moving for another salon. On the other hand, it will major impact to the goodwill of the business. The owner tends to suffer financially because the payment details, customer cancellations are not managed properly. Further, there is no proper process for announcing new services, offers and discounts.

1.3. GOALS AND OBJECTIVES

Due to growing development of technology this client organization had been looking for an economically feasible and time saving software solution to facilitate to handle their activities in most efficient manner. The customer satisfaction and reduction of manual documentation are the major objectives of this project. This software solution will provide secure, user friendly, reliable

and effective web based system for manage appointments, user management, announce offers/promotions, maintain customer reviews and manage financial transactions.

1.4. PROJECT SCOPE

The scope of the project listed according to the website and the system. The system requirements are listed with the user types.

Website

The Site should be displayed with the ‘Home’, ‘About us’, ‘Services’, ‘Specials’, ‘Contact us' and Registration pages.

1. The ‘Home’ page should be displayed with value proportion of the business.
2. The ‘About us’ page should be displayed with the background of the business and milestones which are offering to focus on customer value.
3. The ‘Services’ page should be revealed the services with the standard of the business.
4. The ‘Specials’ page should be displayed the offering deals or promotions to increase the customer acquisition.
5. The ‘Contact us’ page should be able to provide the direct communication between audiences.
6. The customer should be able to register to the system by using the site.

Appointment Management

User Type – Customer

1. The customer should be able make appointments.
2. The system should be able to facilitate with selecting staff, selecting services, viewing assigned calendar details (availability), selecting date and time.
3. The customer should be able to receive the message for the confirmation of an appointment.
4. The system should be able to facilitate the cancellation process of appointments.

User Type – Admin / Staff

1. The user should be able to manage the appointments.

Finance Management

User Type – Customer

1. The customer should be able to process their payments by the system.
2. The customer should be able to manage the transaction by paying and cancelling.
3. The system should be able to display the transaction details

User Type – Admin

1. The user should be able to manage the transactions.

Customer Management

User Type – Admin

1. The user should be able to manage details of offers/discounts.
2. The user should be able to request reviews for the appointment.
3. The user should be able to receive reviews.
4. The user should be able to manage reviews.
5. The user should be able to manage customers.

User Type – Customer

1. The customer should be able to receive the information about seasonal promotions.
2. The customer should be able to facilitate with the rating facility.

User Management

User Type – Admin

1. The user should be able to manage system users by add/edit/delete.
2. The user should be able to manage the daily availability of the user.
3. The staff members should be able to login to the system by the created account.

Administration

User Type – Admin

1. The user should be able to generate the reports.
2. The user should be able to manage the site ‘Specials’

1.5. STRUCTURE OF THE THESIS

This thesis organization will provide the overall knowledge about the implemented system as follows,

Chapter 2 – Background

This chapter explains the background of the client and business, alternative solutions and selected technologies.

Chapter 3 – Analysis and Design

This chapter explains the requirement gathering techniques, manual business process, functional, non-functional requirements, system methodology, design strategy and alternative solutions.

Chapter 4 – Implementation

This chapter explains selected languages and technologies, supported software, hardware environment, development tools and system architecture.

Chapter 5 – Evaluation and Testing

This chapter explains techniques of testing, types of testing, test plan and test cases , details of manual and automation testing and user evaluation.

Chapter 6 – Conclusion and future work

This chapter explains the future enhancement of the system and lesson learnt of the overall project work.

Appendixes

These contains details about supplementary of the thesis chapters which were not included in the chapters.

CHAPTER 2 - BACKGROUND

2.1. THE CLIENT AND BUSINESS BACKGROUND

The salon Chami has become a well-known venture in highly competitive beauty culture industry. The guarantee of quality services for the patron's money worth is the vision of the business. The proud owner of the salon has been able to improve her business within last few years. She started her journey as a small bridal salon and expanded it with several staff members. It leads to create them to a huge customer base. They are using a manual system for salon management. They maintain manual documentation for their each and every business activities like making appointments, cancel appointments, managing customer payments, tracking customers, managing complaints, managing personal documentation of staff etc. The social media marketing is a highly valued element of an advertising strategy. The business not taken the opportunity of it and total profit depends on the consumer recommendations.

2.2. SIMILAR SYSTEMS

By studying similar solutions there were identified other approaches to meet the client requirements. It was an opportunity to build the software solution in better way.

Case Study 1: Clientrack

The 'Clientrack' is a spa and salon software which is only for manage clients and business salon processes built from the ground up exclusively for spas, salons. As well as this is support for the medical practices. The Client management, Employee Management, Caller ID, Payroll and Inventory Management are key features of the system. The cash drawers, hand-held scanners and high speed receipt printers should be able to use as hardware requirements [1].

Figure 2-1:The Clientrack system screen

Pros

i. Users will be able make appointments 24/7 with fast, well-functioning.
ii. All the information and reports are stored in the computer.

Cons

i. Free trial version is not available to the clients.
ii. The most extensive features are wrapped only with the full-package.
iii. Complex and complicated user interfaces are designed for major screens like dashboard (Figure 2-1), client worksheets, schedule overview etc.

Case Study 2: Leprechaun

The Leprechaun is spa and salon management software which is facilitates daily spa and salon management functions. It was developed in 1980 and continuous by improving hardware, technology and network developments [3].Track Sales, Track Clients, Manage Marketing and Calculate Payroll are the key functions of the system [4]. Users will be able to operate it in Windows 2000 to Windows 10.The bar code scanner, cash drawer, back-up devices, 256MB RAM used as hardware requirements of the system [4].

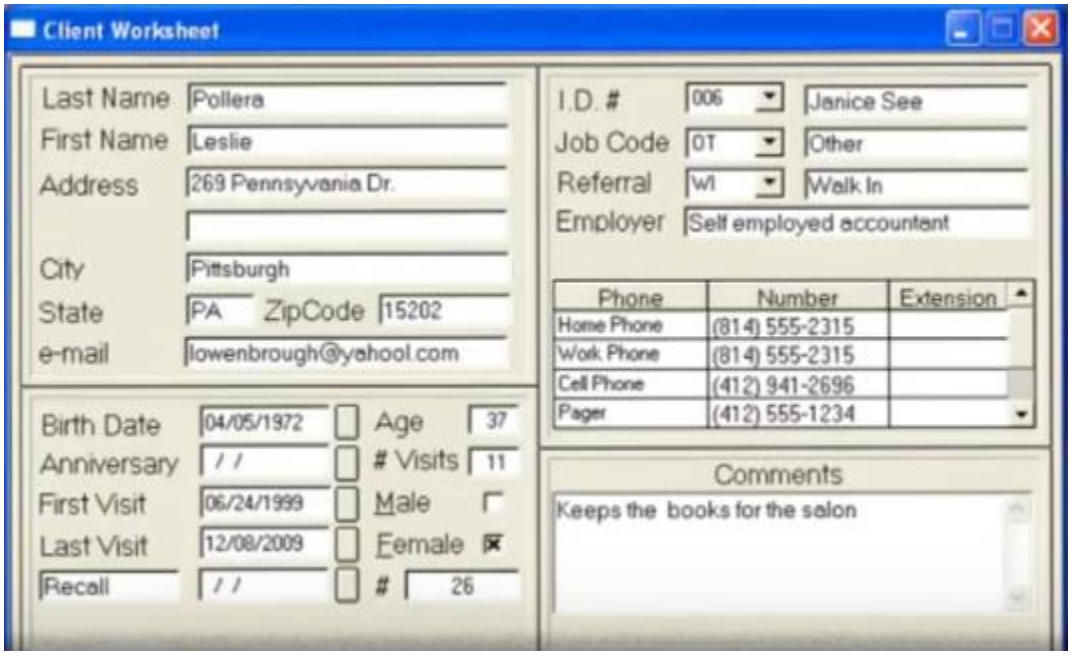


Figure 2-2 : Client Worksheet of the Leprechaun

Pros

i. Providing comprehensive training and ongoing phone-based technical support
ii. No internet access required

Cons

i. Monthly subscription fee will be added to every system update.
ii. Live telephone support available only on working hours.

Case study 3: eLite salon and spa management

The eLite salon and spa management is designed to handle client files, inventory, cash register, appointment and payroll. This is function independently as stand-alone product. Pentium class CPU (133MHz) and 128MB RAM are used as requirements of the program. [6]

Pros

i. Elite salon and spa management included with a payroll system. It can be purchased separately.
ii. User-friendly interfaces allow users to interact with the system.

Cons

i. Newly updated version only supports for windows 7 Professional or 64 edition of windows.

ii. The 24hour tech support available only for Monday to Friday from 9am to 5pm.

iii. Refuse to give tech support or cording without charging user.

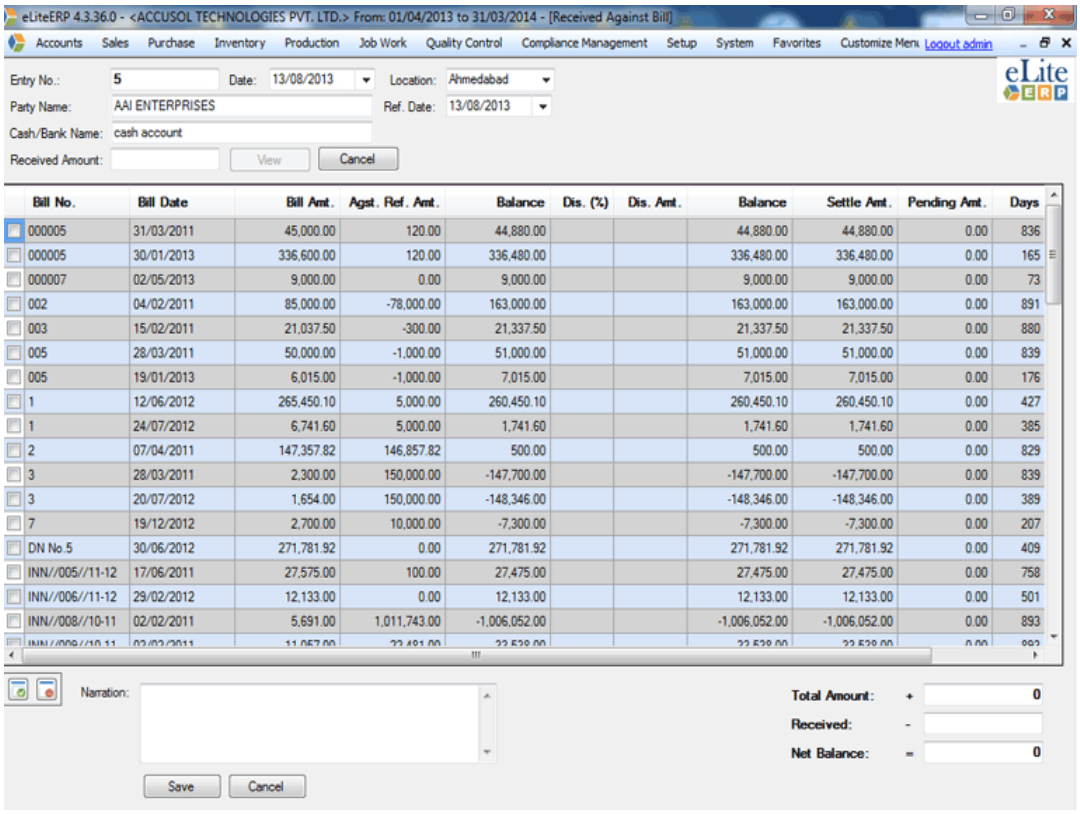


Figure 2-3 : The eLite system screen

2.3. SUMMERY

There are many salon management software created by many companies around worldwide. Mostly the low budget salon management software was built for primary requirements. To change it to customizable manner will be highly cost task. There were some downloadable systems available on the internet for short period. Most of them are not provide all the same features of regular copy. The high budget products also have bulk of additional features that will not be related to the client organization. Some system have the least friendliness interfaces.

This system will be low cost, simple, custom software solution for the client organization with all necessary requirements in the domain of salon management.

2.4. SYSTEM DESIGN STRATERGY

The design phase translates requirements into representation of the software. There are two approaches to the design phase, Object oriented and structured [7]. The structured method is a conceptualization of problems into several well organized elements of solutions such as modules, stages, steps and tasks. Additionally well-structured design follows specific rules, cohesion and coupling involve to communicate among modules. Object oriented method is selected for this project, because object oriented design method is a widely-used standard computer application development method. OOD has many advantages against structured approach. This is used to collaborate objects and attributes and methods of their objects [8].Improve project management and control, Make more effective use of development and develop better quality systems are major objectives of this method. Unified Modeling Language (UML) is the widely used designing tool to depict the model of the objects with collection of graphical symbols. This design approach is very efficient way to implement designing phase.

2.5. TECHNICAL FINDINGS

The Hypertext Pre-Processor (PHP 5.6.25) is chosen as the main programming language with other supportive languages and technologies [4.2.1]. Apache(Version : 2.4.23) is used as the web server and MySQL(Version : 5.7.14) is used to handle the database[4.2.2].A proprietary cross-platform source code editor (Sublime) is chosen as IDE [4.4].When building an enterprise application it is necessary to use proper hardware configurations.3GM RAM, Intel(R) Core(TM)i5 CPU 2.66GHz processor,64-bit operating system, Hard disk, keyboard and mouse are using as hardware requirements[4.3].

CHAPTER 3 - ANALYSIS AND DESIGN

3.1. INTRODUCTION

The analysis is provided information about existing manual system as well as the fact gathering techniques and collected functional requirements, non-functional requirements. This is very important procedure for success of the project, but most critical activity of software development process is designing the system according to identified requirements of analysis phase. This will be the key factor to complete the software system successfully. The system design provides the detail and description of the system including components, interface, modules, architecture and data. A best system design makes the software solution more efficient.

3.2. REQUIREMENT GATHERING AND FACT FINDING

Gathering client's requirements by using the fact finding techniques are the most critical part in the analysis phase. There should be a proper way to handle these techniques to avoid conflict client requirements. Various techniques were used to gather the requirements to identify the project scope clearly.

- Interviews

Interviews are most commonly used technique in requirements gathering. This is a fact finding technique whereby collects information from individuals through face to face interaction. This interviews can follow both structured and unstructured way. It was great aid to clarify the facts avoid ambiguities. It becomes greater advantage to the project.

- Observation

Mostly the target audience were express requirements in their own terms and also there were conflict requirements. This method can be very reliable in those situations. The existing manual system was observed to identify the tasks that have been missed or inaccurately described by customers.

- Sample documentation

This method would help to get a clear idea about the system by studying the relevant documents and reports. Sample documents such as daily appointments book, account book used in order to clarify gathered requirements.

3.3. CURRENT BUSINESS PROCESS

The client currently uses a manual appointment management system for their day to day activities. The client should have to maintain paper works for each and every reservation their customer made. The customer will be able to interact with the system in two ways such as contact staff member by phone or reaches to the place. The services of the saloon categorized into several sub-categories. All these details should have to notify when they record reservation information. And also the client receives about fifteen cash payments on average every day. The authorized employee who maintains these cash payments have to refer the reservation book for more details. It is time consuming inefficient process. The client also should have to maintain the personal details of their customers. These records using for their loyalty programs, rewards and promotion campaigns. The client doesn't has any mechanism to maintain customer complaints, suggestions to their future improvements. The personal details of staff members also have to maintain by the client using separate file for each employee.

This manual system is not managed properly, most of their customers are not satisfy about their service. The regular customers have their own beautician who can support with their maximum capacity to fulfill their need. Most of the time the client will not be able to present the relevant assigned staff member to the customer. Therefore the client is missing their huge customer base from recently. And also there are no proper mechanism to retrieve information. It makes uncomfortable as well as so much of time consuming when the client need a particular information in some situation. And also confidential data recorded in insecure manner. All payments are maintained manually in books and files. If any information needed in relevant time frame it is hard to handle it with this manual system. And also it is difficult to make timely reports through the system.

3.4. FUNCTIONAL REQUIREMENTS

A functional requirement, in software and system engineering, is a declaration of the intended function of a system and its components. Following are the functional requirements that have been identified through the system analysis.

3.4.1. Appointment Management

The appointments which are received from the customers will be managed by the system administrator. The admin will be able to access all the relevant information of appointments for the selected customer.

3.4.2. Finance Management

The payments of the customers will be managed by the system administrator. Administrator should be able to view all the finance details. And also this will be helpful to the customers when processing cancellation of appointments.

3.4.3. Customer Management

Customer management is the one of the most important operations in the salon. Because customer satisfaction will be the key for the success of the business. The system should be able to maintain personal details , complaints/suggestions, ratings, behaviors of the customer. They also should be able to log in to the system using valid username and password.

3.4.4. User Management

All the identified users, in the staff, should be able to log into the system securely by validating username and password. Identified user types should have certain authorization to access data from the system. Administrator should be able to add, modify, view details of the users.

3.4.5. User Availability

The administrator should be able to maintain the availability of staff, when customer requesting the salon services. It will be great opportunity to avoid dissatisfaction of customers and make value of their schedule.

3.4.6. Maintain Reference Data

When using software system, there are many reference data to be maintained. Such as user type, appointment type, service type, rating type etc. Users have to use these reference data in several situations.

3.5. NON-FUNCTIONAL REQUIREMENTS

These are the constraints on the services or functions offered by the system.

3.5.1. Maintainability

Maintainability is the capacity of a system that can be maintained. Mostly this can be made to satisfy new requirements or to correct deficiencies within effort and time.

3.5.2. Accuracy and Consistency

These are very important requirements for the system when storing the personal details of system users, payment details of customers, complain managing, rating managing etc.

3.5.3. Usability

Mostly we can categorize system users as non-technical. Therefore system operations should easily be understood by the user. Interfaces must not be complicated and flexible in proper way. The system also should be able to respond at a considerable short period of time according to requests made by users.

3.5.4. Platform Independency

The system will be capable of working irrespectively of the operating system used in the user computer. Since this is a web solution only need a web browser to run the system.

3.6. ALTERNATIVE SOLUTIONS AND JUSTIFICATION

Several alternative solutions were gathered and compared to find out the most suitable method to develop the system.

- Standalone Application

Standalone software is a computer program that can work offline. It does not necessarily require network connection to function the requirement. According to the given requirements by the client, system should not be running on a single computer because there are several members in the staff and also the business running with timely receive requests. Standalone applications are platform independent. Standalone applications also have high maintenance cost.

- Mobile Solution

When using mobile program as a solution, system will be available to access from anywhere. It is incorporated with some problems. Main reason is there was not a requirement from client to build up this kind of a solution. Users of the system required to have web accessible phones such as smart phones, tabs to access the system.

- Web Based Solution

A web based system is any application software that runs in a web browser and is created in a browser-supported programming language. It can be easily accessible by many users connected to a network. These kinds of systems have central application server and database. It can be easily maintained and will be system independent.

Justification

According to the above pros and cons the best solution would be a web based solution. There are many supportive languages such as HTML, CSS, Java Script, PHP, .NET and java. Some organizations offers development IDE's such as Microsoft Visual Studio is relatively so high. PHP is chosen as programming language and Sublime is chosen as development IDE.

3.7. SYSTEM DESIGN METHODOLOGY

The system development life cycle (SDLC) is a process that describes the activities performed at each stages of an implemented project. It consists of six stages, Planning, Analysis, Design, Implementation and Deployment, System testing and Integration and Maintenance. The objective of the SDLC is producing the high quality software. There are various SDLC methodologies such as Waterfall, Rapid application development, Extreme programming, Scrum etc.

3.8. METHODOLOGY FOR THE PROPOSED SYSTEM

Among many software development process models iterative waterfall model is selected for this project. Derived from the classic Waterfall Model, Iterative Waterfall Model has many advantages. Parallel and iterative development can be considered as the major advantage of this methodology. In the classic Waterfall Model assumes that no defects are introduces during any development activity. But in real development of a system, defects are occurred in every phase of the life cycle. Thus we need feedback paths which included in the Iterative Waterfall Model (See Figure 3-1).

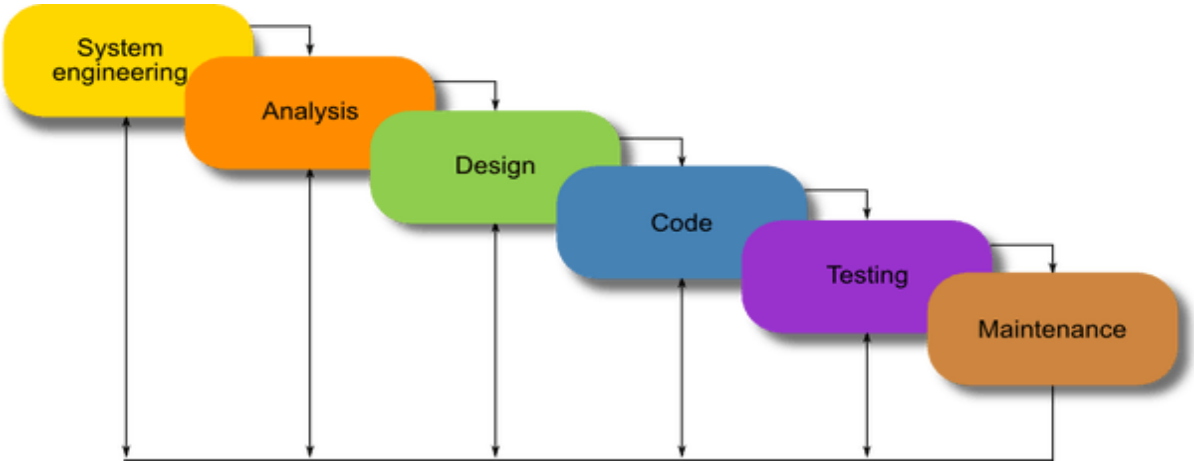


Figure 3-1: Iterative Waterfall Model

3.9. THE DELIVERABLES

The process modeling and data modeling are two modeling methods which will provide the information about the deliverables of the proposed system. The data model is an abstract model which shows physical and logical representation of the system entities and their relationships. This modeling method used to design the Entity Relationship diagram and Class diagram to the system. By using UML, Use Case Diagrams, Activity Diagrams, Sequence Diagrams will be able to design for the proposed system under process modeling method.

3.9.1. Entity Relationship Diagram for the System

This Diagram illustrates the interrelationships between entities of the project and also helps to understand the entire model. The following Figure 3-2 is presented the ERD for the proposed system.

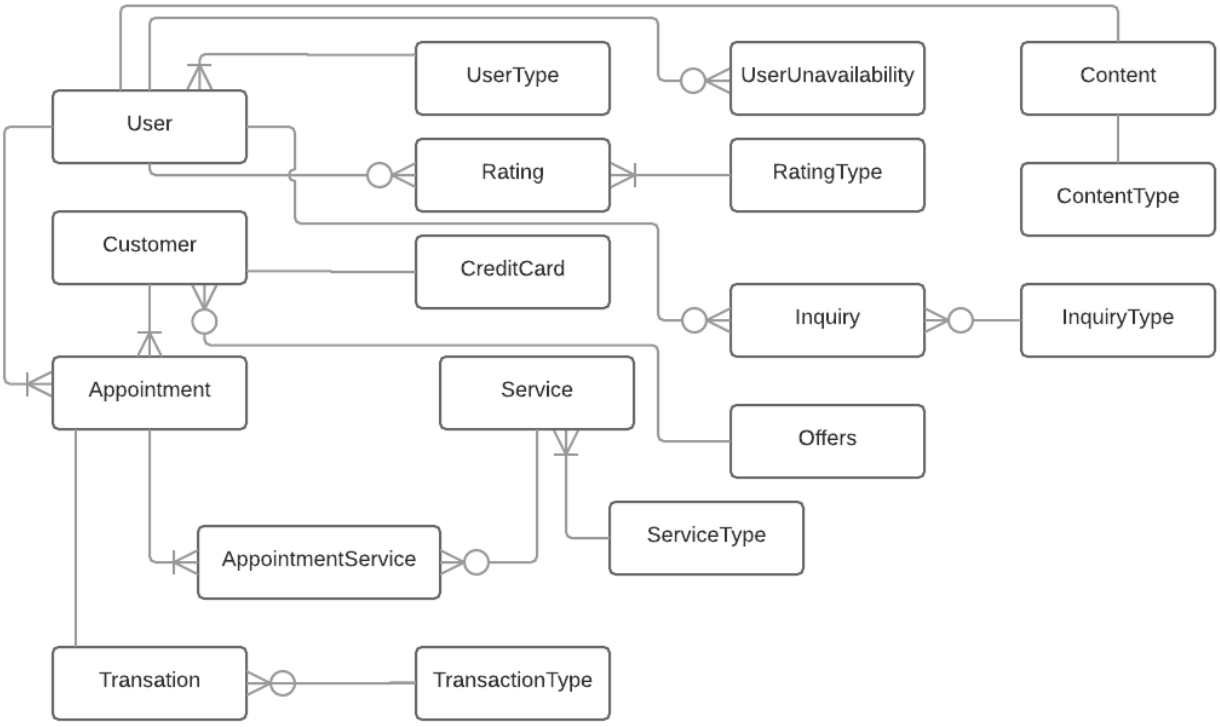


Figure 3-2 : Entity Relationship Diagram

3.9.2. Class diagram

The class diagram depicts the static structure of the system. A class is a representation of an object. The classes in a class diagram (Figure 3-3) represents the main attributes and their interactions.

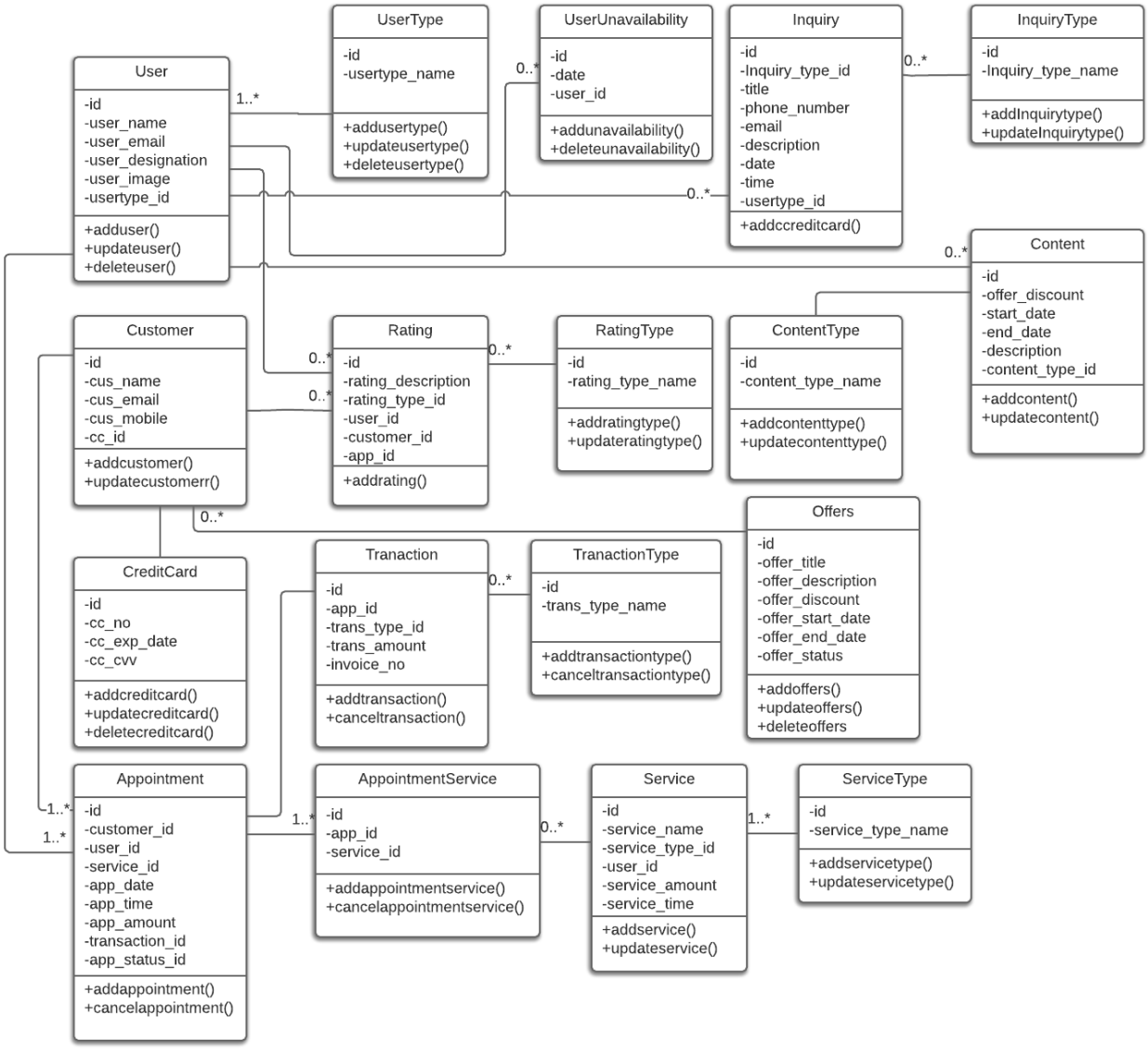


Figure 3-3 : Class Diagram for the System

3.9.3. Use case diagram

Use case diagram is a graphical representation of user's interaction with the system. It depicts different types of system users and various ways they interact with the system. (See below Figure 3-4)

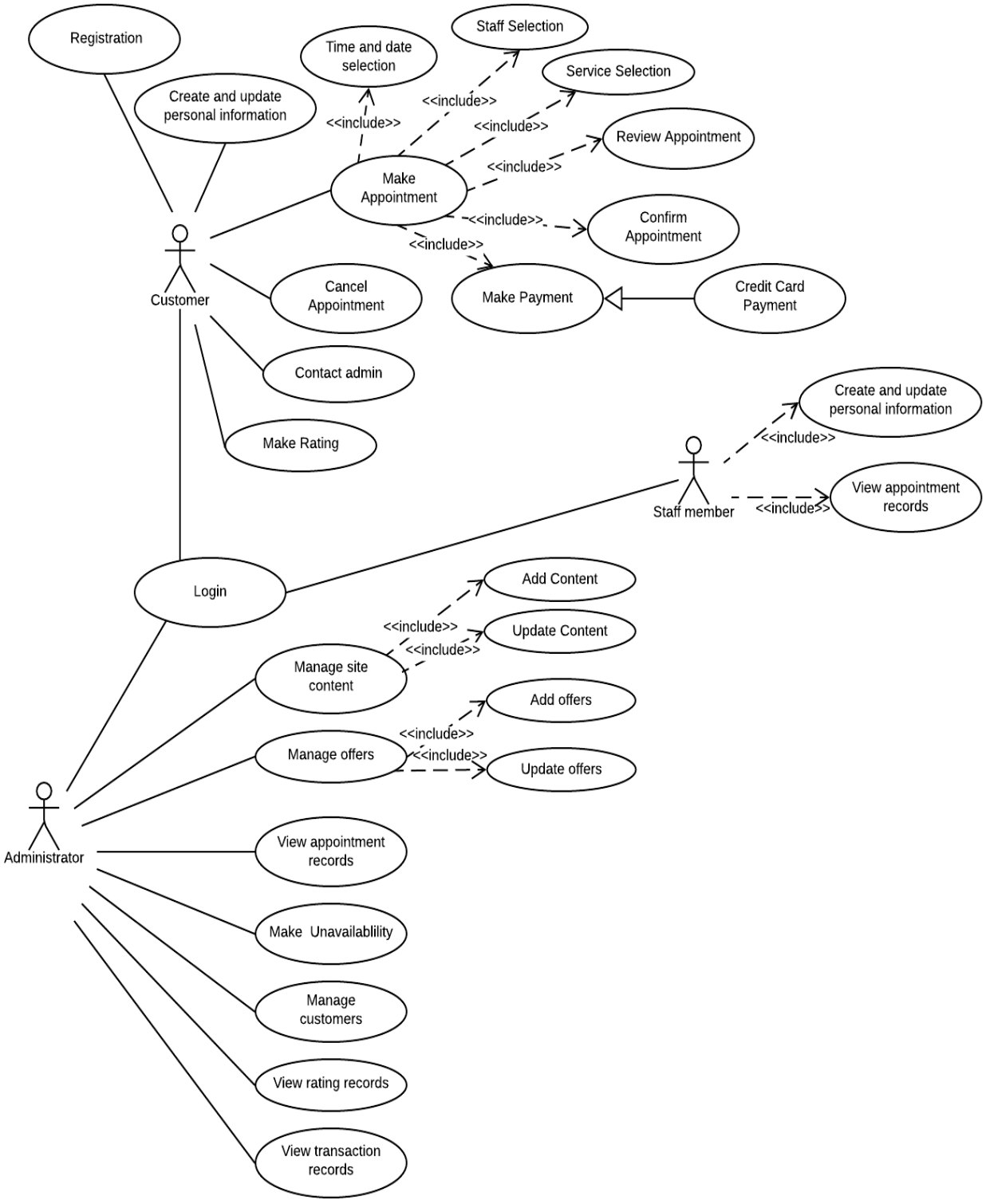


Figure 3-4 : High-level Use Case Diagram for System

Figure B-1-Usecase diagram for the appointment module, Figure B-2-Usecase diagram for the user management, Figure B-3-Usecase diagram for generate system reports which were designed for the system included in Appendix B

3.9.4. Database Design

Database design is the process of producing a detailed data model of a database. The main purpose of this process is to understand data and relationship among the data. Figure 3-5 represent the table structure of the database for proposed system is given below.

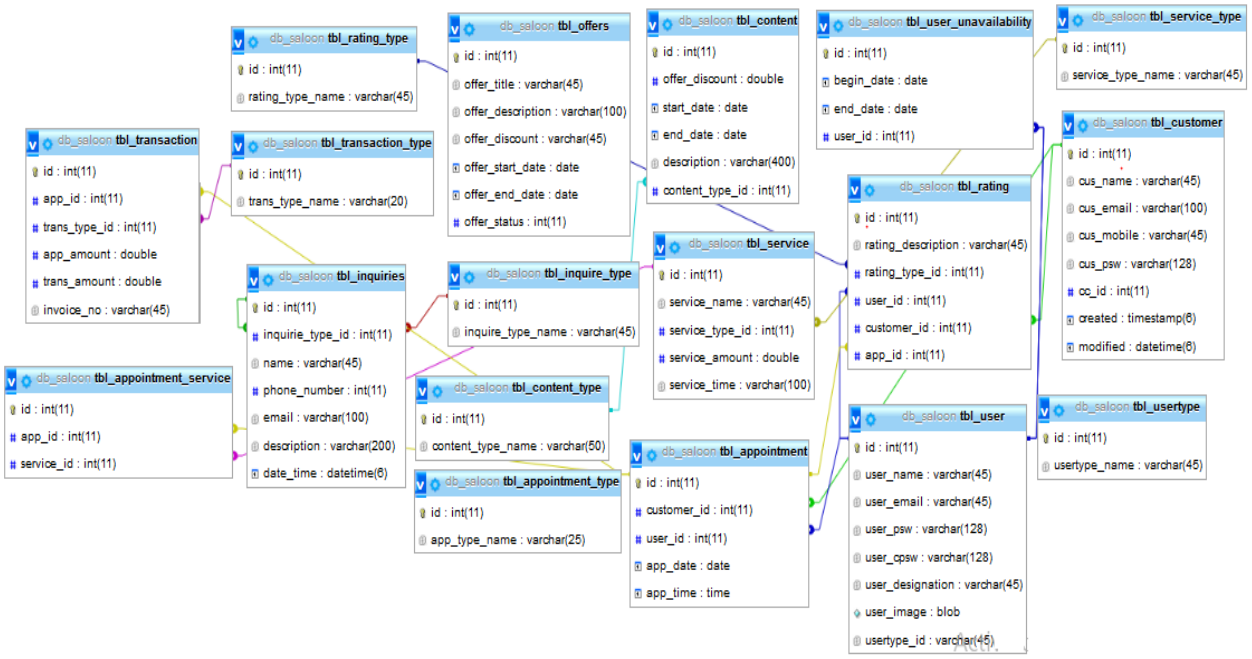


Figure 3-5 : Database Structure for System

3.10. Interface Design

Interface designing part is a critical part of the overall software designing process. Because many user errors can be occurred, if the interface designing is poor. Users would not be bothered about business logics or data accessing when they interact with the system.

Wireframe is a simplified version of the interface layout whose aim to represent the layout of the designed website or application. These are applied the early stage of product design. Following section will display the wireframes of login page (Figure 3-6) of the system and home page (Figure 3-7).

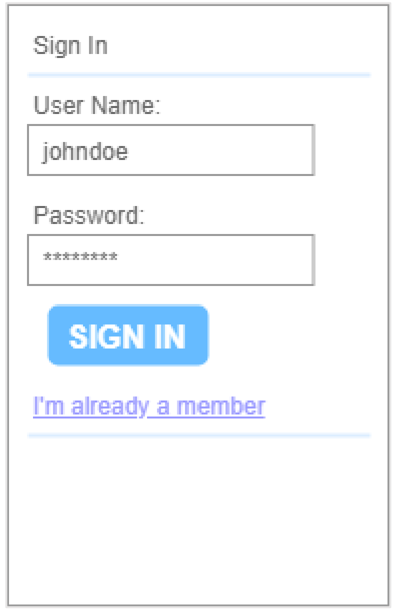


Figure 3-6 : Wireframe of the login page

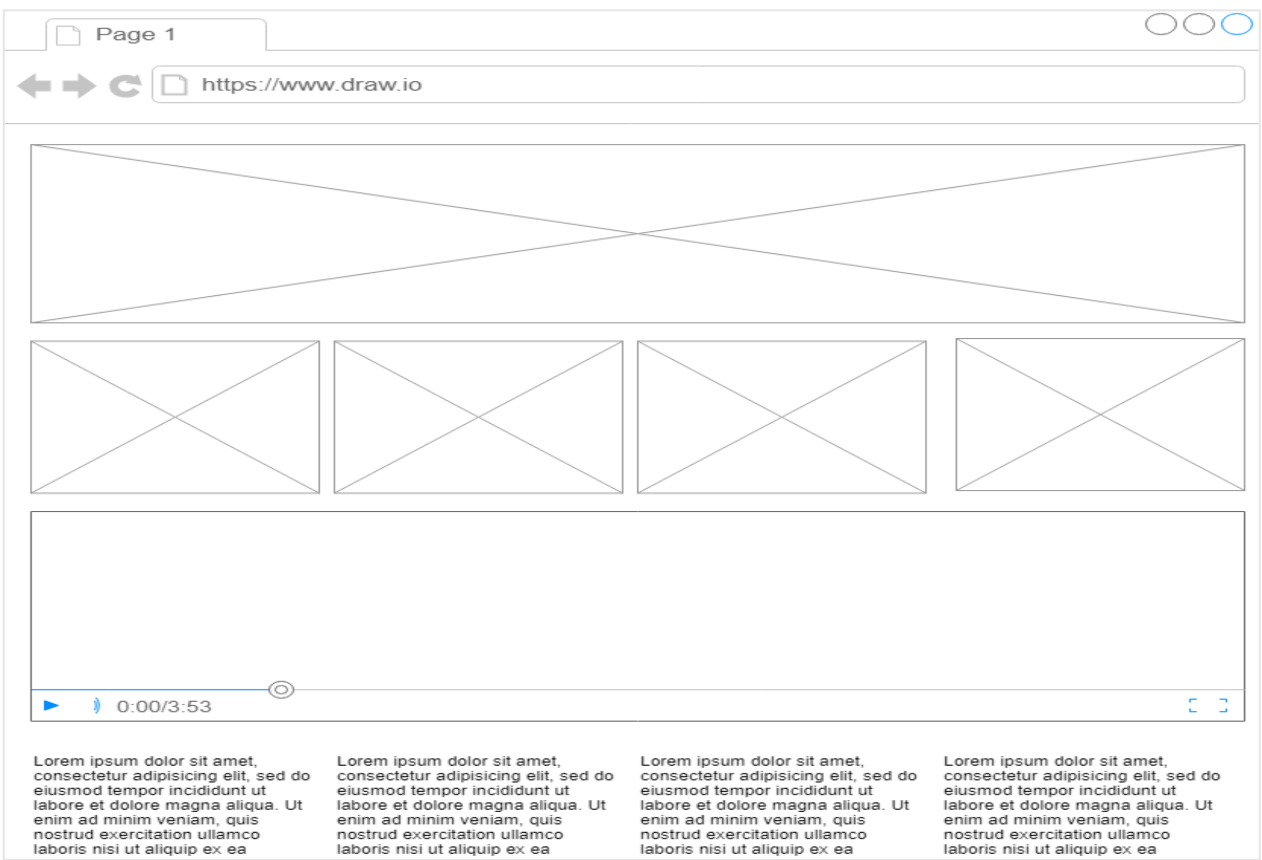


Figure 3-7 : Wireframe of the site home page

CHAPTER 4 – IMPLEMENTATION

4.1. INTRODUCTION

This is the phase that software becomes executable. The goal of this phase is to implement the design using selected programming language in the best possible manner. Implementation affects both testing and maintenance phases and also it would be the most time consuming stage. This phase was started with installing system environments and tools which were identified.

4.2. SOFTWARE ENVIRONMENT

The following software requirements were identified as the minimum software requirements for the environment.

4.2.1. Supported Languages and Technologies

- PHP(Hypertext Preprocessor)
- HTML(Hyper Text Markup Languages)
- Javascript
- Ajax(Asynchronous JavaScript Technology and XML)

4.2.2. Supported Browsers and Software

Following browsers, software and development tools are also supported for the system.

- Windows 10 operating system
- WAMP server
- MySQL Workbench
- Google chrome
- Lucid chart
- Sublime Text
- Adobe Photoshop CS5
- Microsoft Office package

4.3. HARDWARE ENVIRONMENT

The system has developed using a computer with the following configurations,

- 4GB RAM
- Intel(R) Core(TM)i5-5200U CPU 2.20GHz
- 64-bit Operating System
- Hard disk
- Keyboard and Mouse
- Internet Connection

4.4. DEVELOPMENT TOOLS

When building an enterprise application, it is necessary to use development tools to minimize the time and effort of the developer.

- Sublime Text

Sublime Text is a proprietary cross-platform source code editor with a Python application programming interface (API). It natively supports many programming languages and markup languages, and functions can be added by users with plugins, typically community-built and maintained under free-software licenses [8].

- MySQL Workbench

It is a visual database design tool that integrates SQL development, administration, database design, creation and maintenance into a single integrated development environment for the MySQL database system.

- Adobe Photoshop CS5

Adobe Photoshop is a raster graphics editor developed and published by Adobe Systems for Windows and OS X. Throughout the project development Adobe Photoshop CS5 is used as the image processing software; to create images, edit pictures which required for the project.

4.5. MODEL-VIEW-CONTROLLER (MVC) ARCHITECTURE

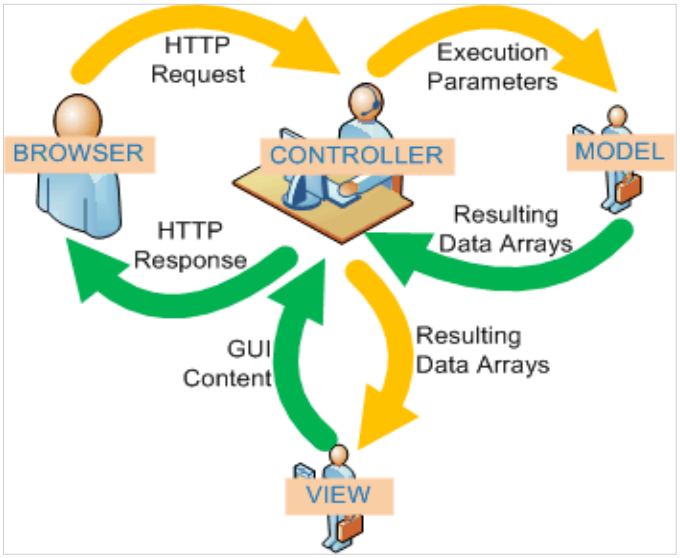


Figure 4-1: MVC(Model-View-Controller) Architecture

The MVC is a software architecture which is used in software engineering, the fundamental principle is based on the logic of an application separated from the presentation (See above Figure 4-1). The MVC proposes three types of objects in an application, the Model, Views and Controller. The Model objects hold data and define the logic for manipulate the data. The View objects represent the elements in the interface. The Controller objects acts as mediator between the Model and View objects.

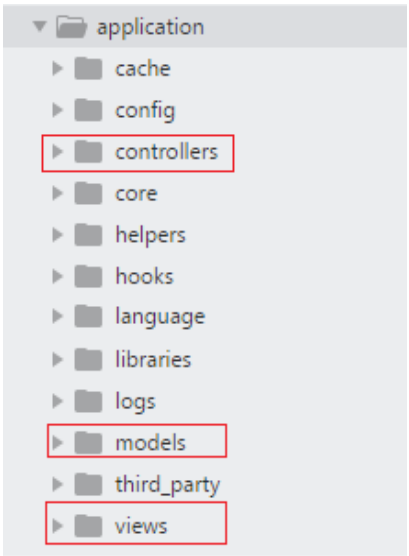


Figure 4-2: MVC Structure: Sublime Text

4.5.1. Pseudo code for Algorithm to Save system users

Following pseudo code shows (See below Figure 4-5) how insertion is happened when click on save button on the screen. This is not an actual programming language code, pseudo code has similar structural conversations of a programming language. The pseudo code does not run as a real program, there is no standard way of writing a pseudo code.

```
ALGORITHM SaveSystemUser:
  Add user_name;
  Add user_email;
  Add user_psw;
  Add user_cpsw; //Confirm Password
  Add user_designation;
  Add user_image;
  Add usertype_id; //hidden value
  IF (user_cpsw is not same) //first check
      THEN add same user_cpsw;
      ELSE do nothing;
  ENDIF;
  WHILE (Validations not succeed)
    Do keep add valid values;
  ENDWHILE;
  IF list of values (LS) = 0
  return NULL;
  ELSE for each values in LS,
  DO save;
END.
```

Figure 4-3: Pseudo code for save system users

Below Figure 4-4 is presented the system screen of user save

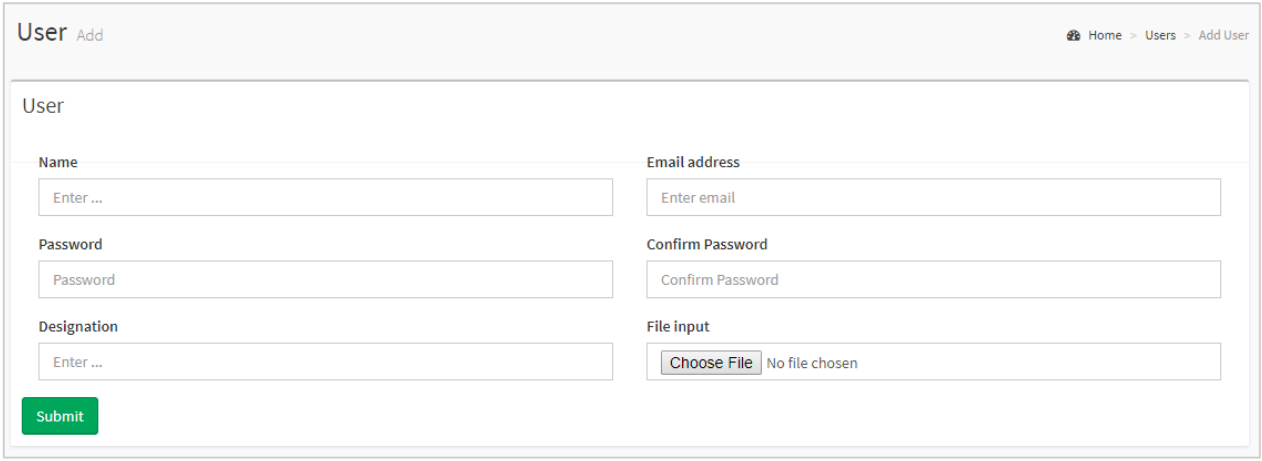


Figure 4-4: Screen for Add User

4.5.2. Pseudo code for Algorithm to retrieve all system users

Following pseudo code shows (Figure 4-5) how all users retrieve from the database.

```
ALGORITHM RetrieveAllUsers:
  SELECT all in users table;
  Add all to List of users(LU);
    IF LU.size = 0 ,
    return null;
    ELSE
      FOR EACH id in LU, DO
        Order id descending,
          Print user_name ;
          Print user_email ;
          Print user_designation ,
          Print usertype_id ,
          Print user_image
    ENDIF;
END.
```

Figure 4-5: Pseudo code for retrieve all system users

Below Figure 4-6 is presented the system screen of user list

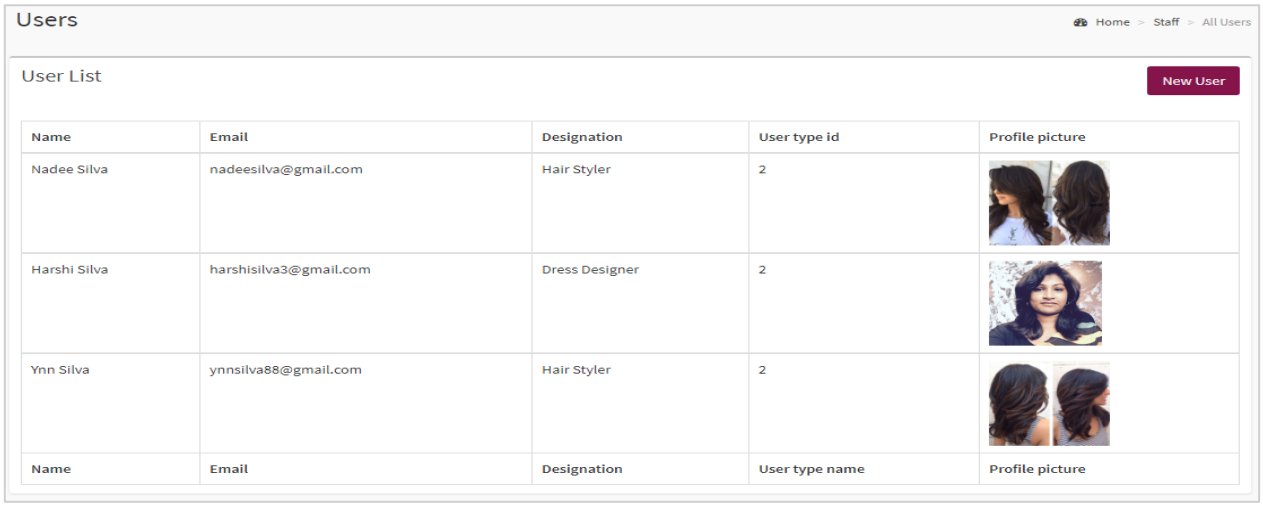


Figure 4-6:Screen for retrieved all users

4.5.3. Data Validation

Data validation is a most important and critical part of the implementation process. Because users can enter unwanted values to the system, so that accuracy of the data can be loosed. The main objective of the data validation is ensuring the input values in the correct format. Following code shows the text field validations for the promotion adding page.

```
<script>
$(document).ready(function() {
   $('#defaultForm').bootstrapValidator({
//        live: 'disabled',
        message: 'This value is not valid',
        feedbackIcons: {
            valid: 'glyphicon glyphicon-ok',
            invalid: 'glyphicon glyphicon-remove',
            validating: 'glyphicon glyphicon-refresh'
        },
        fields: {
            offer_title: {
                validators: {
                    notEmpty: {
                        message: 'The title is required and cannot be empty'
                    }
                }
            },
            offer_description: {
                validators: {
                    notEmpty: {
                        message: 'The description is required and cannot be empty'
                    }
                }
            },
            offer_discount: {
                validators: {
                    digits: {
                        message: 'The value can contain only digits'
                    },
                stringLength: {
                        min: 0,
                        max: 100,
                        message: 'The discount must not be more than 100'
                    },
                integer: {
                        message: 'The value is not an integer'
                    },
                }
            },
            offer_start_date: {
                validators: {
                    date: {
                        format: 'YYYY/MM/DD',
                        message: 'The start date is not valid'
```

```
                }
            }
        },
        offer_end_date: {
            validators: {
                date: {
                    format: 'YYYY/MM/DD',
                    message: 'The end date is not valid'
                }
            }
        },
        offer_status: {
            validators: {
                notEmpty: {
                    message: 'The status is required and cannot be empty'
                }
            }
        }
    }
  });
});
</script>
```

CHAPTER 5 - EVALUTION AND TESTING

5.1. INTRODUCTION

Software testing is a critical process involves executing an implementation of the software with test data and examining outputs of the software to verify whether it satisfies the specified requirements or not. Testing is a dynamic technique of validation and verification. Validation refers whether the system satisfies the requirements and verification refers whether the system implements the specified functions properly.

5.2. TECHNIQUES OF SOFTWARE TESTING

There are two techniques of software testing.

- Black box Testing

Black box testing is a testing technique that ignores the internal mechanism of the system and focuses on the output generated against any input and execution of the system. It is also called functional testing.

- White box testing

White box testing is a testing technique that takes into account the internal mechanism of a system. It is also called structural testing and glass box testing.

Black box testing is often used for validation and white box testing is often used for verification.

5.3. TYPES OF TESTING

5.3.1. Unit Testing

Unit Testing is carried out as a part of the coding task. This phase is based on the design of the software for a piece of code. Unit testing should prove the following about the code,

- Robust – the code should not fail under any circumstances.
- Functionally correct – the code should carry out the circumstances.

- Correct interface – the inputs and outputs from the code should be as defined in the design.

5.3.2. Integration Testing

Integration Testing is carried out after the separated software modules have been tested. Integration testing is based on the functional specification of the software. Bottom-up integration testing approach was used in this level, low-level components are integrated and tested before the high level components have been developed.

5.3.3. System Testing

System testing is carried out at the completion of the integration testing. This was used to test the non-functional requirements of the system. The purpose of system testing is to prove that the software meets the agreed user requirements and works in target environment. System testing covers both functional and non-functional requirements.

5.3.4. Acceptance Testing

Acceptance testing is often done by the customer to ensure that the delivered product meets the requirements and works as the customer expected. It falls under the class of black box testing.

5.4. TEST PLAN AND TEST CASE

Test plan is a detailed document about the scope, schedule of the testing and test deliverables. It gives how the testing will proceed, who will do the testing, what will be tested, in how much time the test will take place, and to what quality level the test will be performed. For this project, testing will proceed with above mentioned test types. Following section will briefly discuss the test plan for the main module functions of the system.

Module Name	Function name	Test Priority
Customer Module	Registration/Login	High
	Password reset	High
	Insert customer personal details	High

	update personal details	High
	Insert customer credit card data	High
	update credit card details	High
	make appointment	High
	make payments	High
	Make rate and review	High
Appointment Module	Insert appointment details	High
	Maintain appointment status	High
	View appointment details	Medium
	Cancel appointment	High
	Search appointment details	High
	Receive payment	High
Administrative Model	Add system users	High
	update system users	High
	view user details	High
	delete users	High
	receive rate and reviews	High
	View rate and reviews	High
	Maintain transaction details	High
	Perform transaction actions	High
	maintain customer details	High
	view customer details	Medium
	Add promotions	High
	Edit promotions	High
	Send promotions	High
	Delete promotions	Low
Reports Module	Generate monthly income report	High
	Generate appointment report	High
	Generate regular customer report	High
	Generate monthly services report	High

Table 5-1:High-level test plan of the System

Creating test case is the most important part in the testing procedure. After creating the test plan, test creation is done. The test case consists with description of the test case, test data (optional), expected result, actual result and status. In order to reduce the complexity of the system, system has divided into modules. Test cases were written for each module.

Test Case for System Login/Logout				
No	Description	Expected Result	Actual Result	Pass/ Fail
1	Check whether the users are able to login without email(Empty) and password(Empty)	Please fill out this field.	Please fill out this field.	Pass

2	Check whether the users are able to login without password(Empty) and correct username(ynnsilva@gmail.com)	Please fill out this field.	Please fill out this field.	Pass
3	Check whether the users are able to login without password(Empty) and incorrect username(a@gmail.com)	Please fill out this field.	Please fill out this field.	Pass
4	Check whether the users are able to login without username(Empty) and correct password(12345678)	Please fill out this field	Please fill out this field	Pass
5	Check whether the users are able to login without username(Empty) and incorrect password(fhsjkdfh)	Please fill out this field	Please fill out this field	Pass
6	Check whether the users are able to login with incorrect username(!#@gmail.com) and correct password(12345678)	Wrong email or password, Please try again.	Wrong email or password, Please try again.	Pass
7	Check whether the users are able to login with correct username(ynnsilva@gmail.com) and incorrect password(sdhfkjsdhf)	Wrong email or password, Please try again.	Wrong email or password, Please try again.	Pass
8	Check whether the users are able to login with incorrect username (!@!%@gmail.com)and incorrect password(sdhfks)	Wrong email or password, Please try again.	Wrong email or password, Please try again.	Pass
9	Check whether the users are able to login with correct username(ynnsilva@gmail.com) and correct password(12345678)	Open the system, login screen change into dashboard screen	Open the system, login screen change into dashboard screen	Pass
10	Logged and opened system, click logout(Username – ynnsilva@gmail.com, Password - 12345678)	Close opened system and dashboard screen change into login screen	Close opened system and dashboard screen change into login screen	Pass

Table 5-2 : Test Case for System Login/Logout

5.5. MANUAL TESTING

Manual testing is the process of using the functions and features of an application as end-user to verify whether the requirements are achieved as required. With the manual testing, tester will manually conducts tests on the software by pre-defined test cases. Above mentioned all test types manually performed during the test cycle(Appendix B). It can be more tedious and time consuming,

but it gives visual feedback like look and feel, opinion of user interface which scripts can't provide, a tester is getting exact kind of a person who would use the system and less investment will require for the tools/software. Tarantula, Testopia, qaManager etc. are freely available software for test case management.

5.6. TEST AUTOMATION

Test Automation is a technique in software testing that makes use of special software tools to control the execution of tests and then compares actual test results with expected results. It is basically an automation process of a manual process. Test automation can automate some repetitive tasks in formalized manner. There is a huge number of open source and paid tools in the market. The Selenium, Watir, Windmill, SoapUI are the most popular open source tools and Ranorex , Tellurium are commercially available tools in the market.

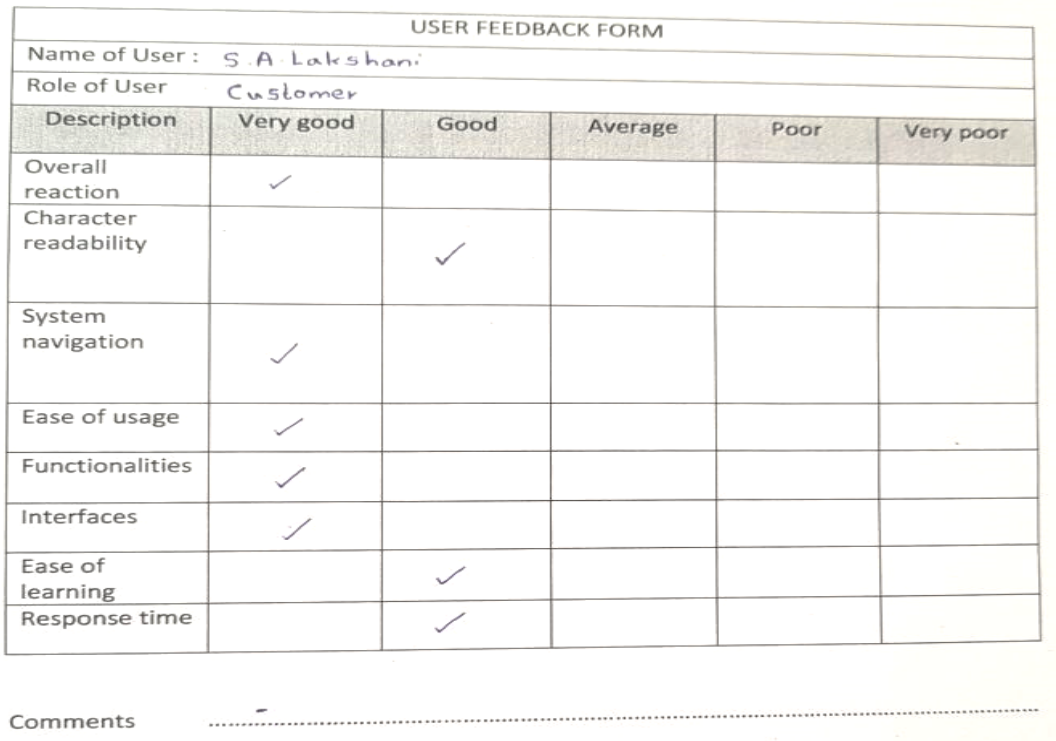
The implemented system is tested by using manual testing process. It is a time consuming process. The major benefit of manual testing is that it allows a human to capture the insights from a test that might be missed by an automation testing program [2].

5.7. USER EVALUATION

The purpose of an evaluation is to inspect the effectiveness, efficiency, user friendliness of the system and confirm whether the user requirement are achieved. Therefore the outcome of the system evaluation is considered as the key factor of the success of the project. It is indicated as a systematic achievement of the system. Normally user evaluation is done by selecting different users of the system. In this system, owner has selected as an administrator of the system and other users has taken as normal users with different privileges.

5.8. TECHNIQUES USED FOR THE EVALUATION

There are different types of techniques that can be used to evaluate the success of the project. The customer evaluation need to be done under each identified user type. At the end of the final test round a feedback form distributed to evaluate the success of the project. The user evaluation form shown in below (Figure 5-3) was distributed among the various types of users.



USER FEEDBACK FORM

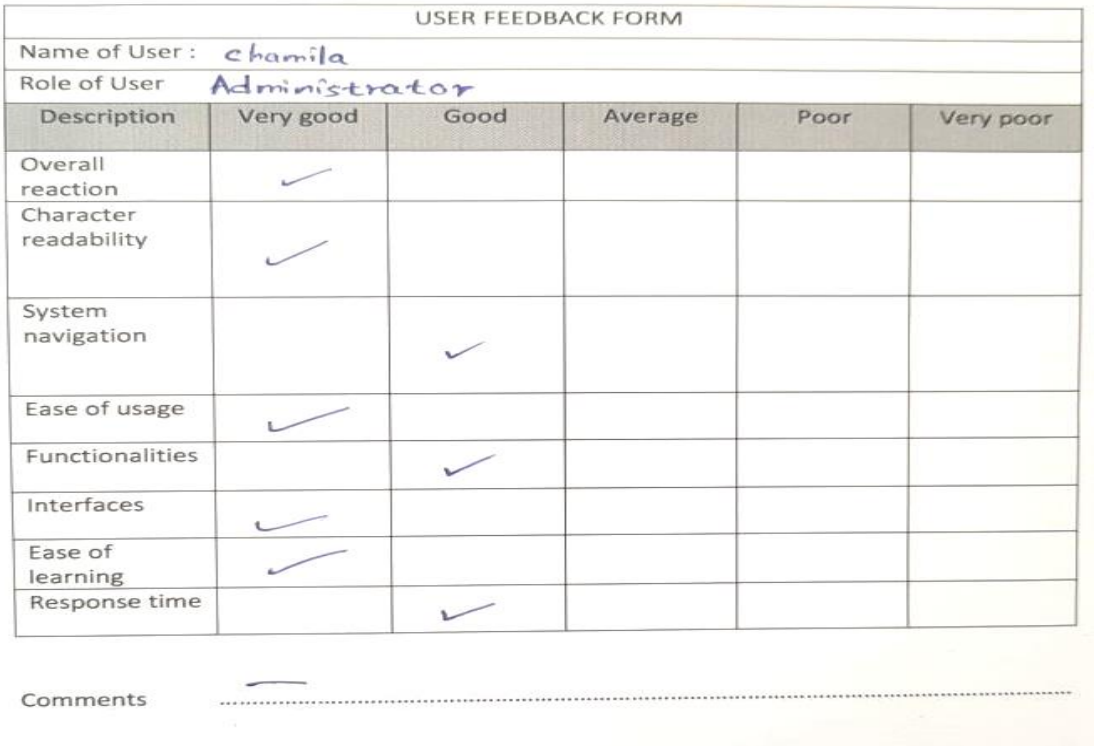
Name of User : S.A Lakshani

Role of User Customer

Description	Very good	Good	Average	Poor	Very poor
Overall reaction	✓				
Character readability		✓			
System navigation	✓				
Ease of usage	✓				
Functionalities	✓				
Interfaces	✓				
Ease of learning		✓			
Response time		✓			

Comments .....-.....

Figure 5-3 : User Feedback Form – Customer



USER FEEDBACK FORM

Name of User : chamila

Role of User Administrator

Description	Very good	Good	Average	Poor	Very poor
Overall reaction	✓				
Character readability	✓				
System navigation		✓			
Ease of usage	✓				
Functionalities		✓			
Interfaces	✓				
Ease of learning	✓				
Response time		✓			

Comments .....—.....

Figure 5-4 : User Feedback Form – Administrator

And also the evaluated user feedbacks that were taken among six members at the acceptance testing as described in the above 5.7 can represent graphically as follows (Figure 5-5),

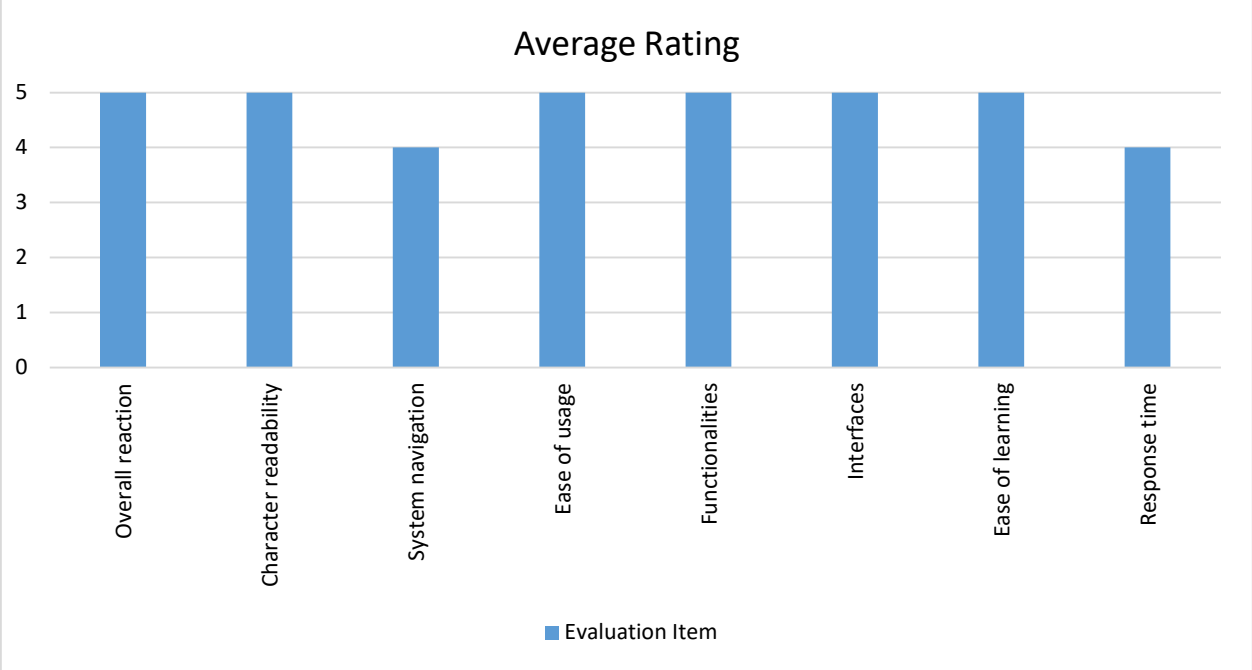


Figure 5-5 : Average Rating of User feedback

CHAPTER 6 – CONCLUSION AND FUTURE WORK

6.1. INTRODUCTION

Salon Chami is a well-known salon in Panadura area. They need to enhance their business with new technology. Earlier they faced many problems with manual system and heavy paper works. But currently they are performing out their day to day activities effectively. Earlier they faced many difficulties of transactions of payments and management of appointments. They have to spend lot of time to handle this processes. Currently because of this management system, they can carry out their processes effectively. Since including report generation process of the system, they can analyze their business status, quality of services and forecasting about future business. Further decision making ability is increased. The requirements which we identified during the analysis phase under non-functional and functional were successfully covered. The additional functionalities and features were proposed to the current system.

6.2. PROBLEM ENCOUNTERED

There were several problems encountered during this project design and implementation. Technical knowledge had to be gathered heavily by online tutorials, forums and books and also there were written sample programs to get experience. Unfamiliarity of using charting and mail function took an average time early stage of development.

6.3. LESSON LEARNT

The project gave a vast amount of practical knowledge in software engineering disciplines. Opportunity has gained working with client in their environment and gathered requirements in effective way. Because users of the system, mostly are non-technical and they expressed requirements in their terms. The implementation phase is most interesting phase of the project, it allowed to try out practically gathered academic knowledge of programming languages such as PHP, javaScript, MySQL and many development techniques. That wonderful experience cause to decide to future enhancement of the system. And also gathered new knowledge in a different domain area which will be helpful for further development of my carrier.

6.4. CRITICAL ASSESMENT OF THE PROJECT

There were many international and local alternative software solutions available for salon management process. Most of them are highly customized for the client requirements and also they are not easy to maintain with the price of it. So the system is developed as a web based software solution with aim of easy maintenance. Almost all the objectives of the project will be completed according to the user expectation. The system is facilitated for day today appointment management and other main activities with highly secure accessible manner compared with other available competitive systems. And also the system has highly customizable, user friendly interfaces. The simple and easily understandable user interfaces causes to satisfactory of users.

This system also have a SMS notification engine which other systems not possess. It generates notification SMS for confirmation of the appointment. The systems has many other interesting facilities such as interactive dashboards, managerial reports to make it better than the other existing software solutions. Up-to-date and accurate reports with different graphical views were generated automatically to the authorized users in order to improve decision making.

Final output of this project is highly user friendly, reliable web based salon management system for salon Chami. The system was developed according to the requirements of the client. The all requirements of the salon are carefully analyzed and transformed in to a design phase and implemented into executable source code using PHP language. The website is created to convince the visitors that they should become customers of the business and portal is facilitated with the all activities related to the management of appointments. Further, the system is properly tested according to test cases to confirm functional and non-functional requirements. After that, system will be developed at the client site to begin its operations.

6.5. FUTURE WORK

This system was developed in an open source environment to support mainly for platform independency of the system. And also used comments line, meaningful variable names, table names, fields are important facts for future enhancements. So it is hoped to establish following improvements for the betterment of the system. Following are the some of the future enhancement of the system.

- Introducing online appointment management through the mobile.
- Improving reports and showing graphs by using analytical tool.
- Improve the system with virtual hairstyling tool

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APPENDIX A – SYSTEM DOCUMENTATION

Following list of software should be able to installed and running on the machine successfully, before implementing the system,

- WAMP server
- MySQL Workbench

Installing WAMP server

WAMP Server can be downloaded from http://www.wampserver.com/en/download.php for free. Before starting the download process, following screen will display to the users.

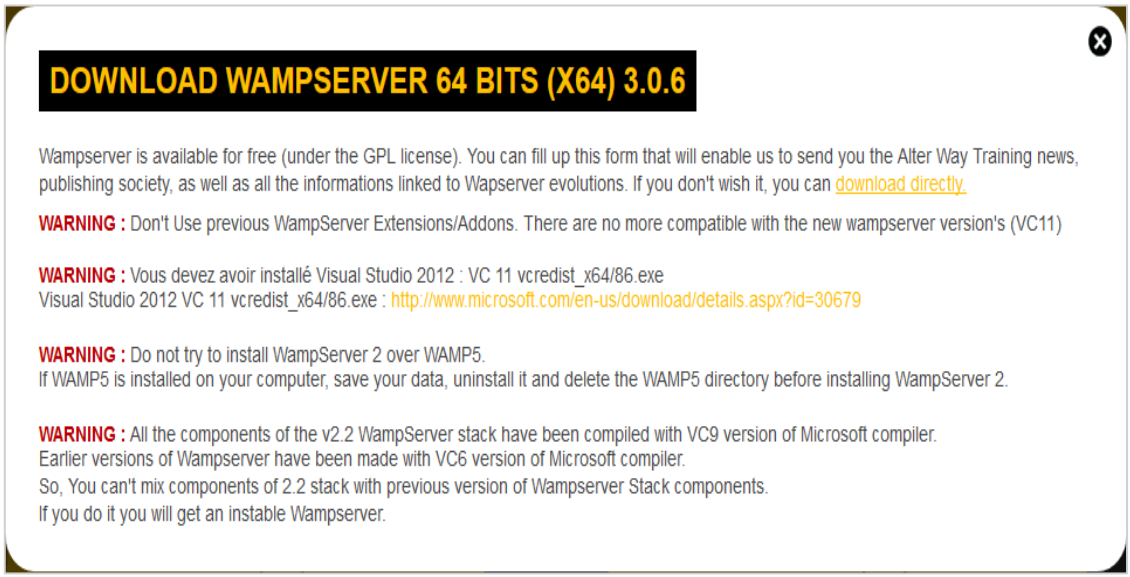


Figure A-1-Version description of the WAMP server

Once the download has completed, it will launch the following figure to start the installation process.

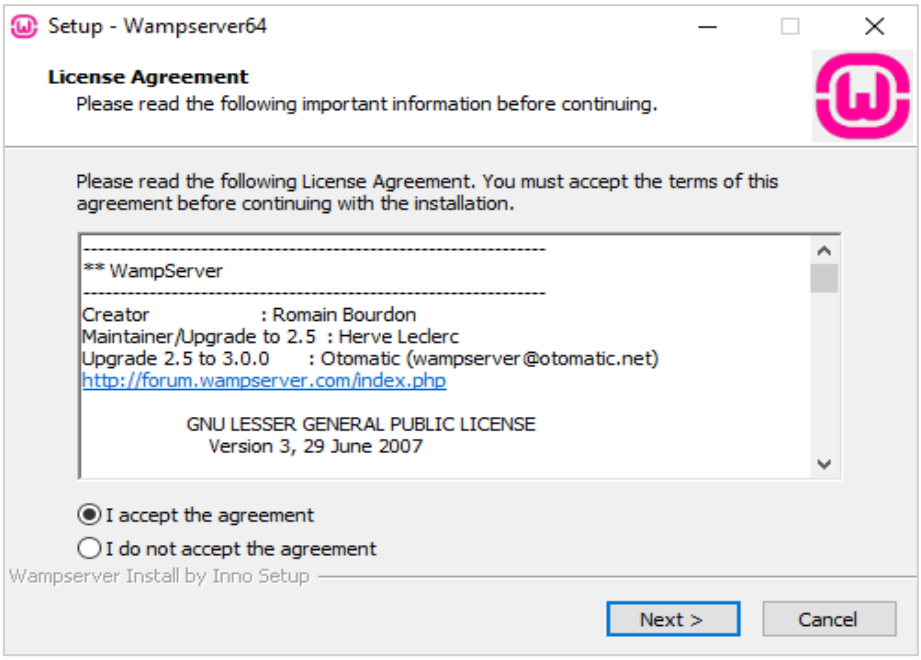


Figure A-2-License Agreement of the WAMP server

It will be asked to accept the license agreement. Basically it's a GPL license, by using it free to do just about anything with it.

The next step is to select where we would like to install WAMP. The default will be **c:wamp** however it can change to which ever directory or partition.

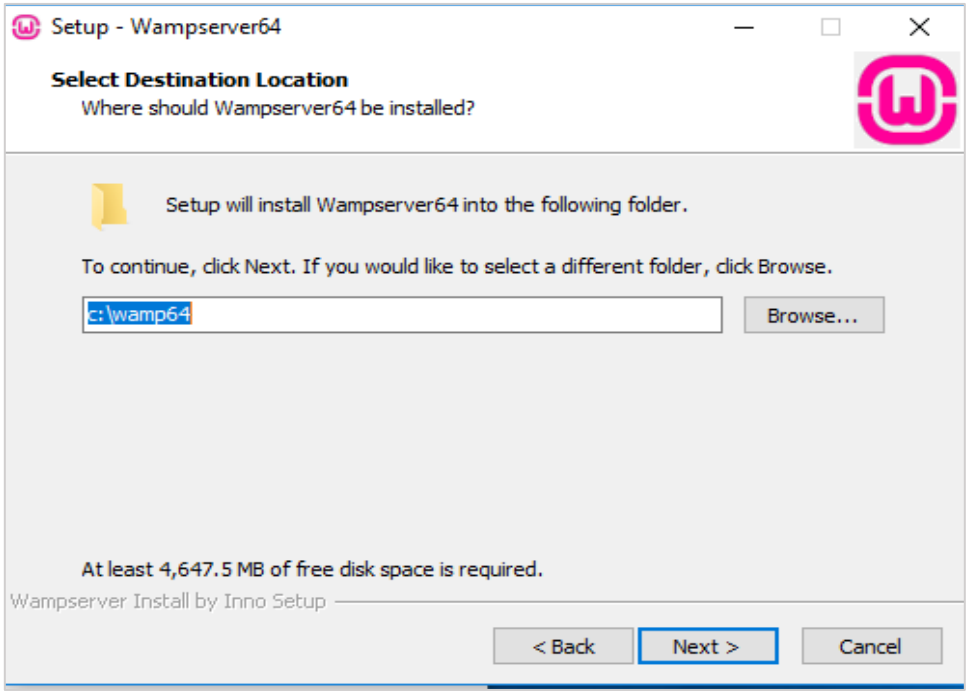


Figure A-3-Destination selection of the WAMP server

Click next and then confirm the installation settings again by clicking Install.

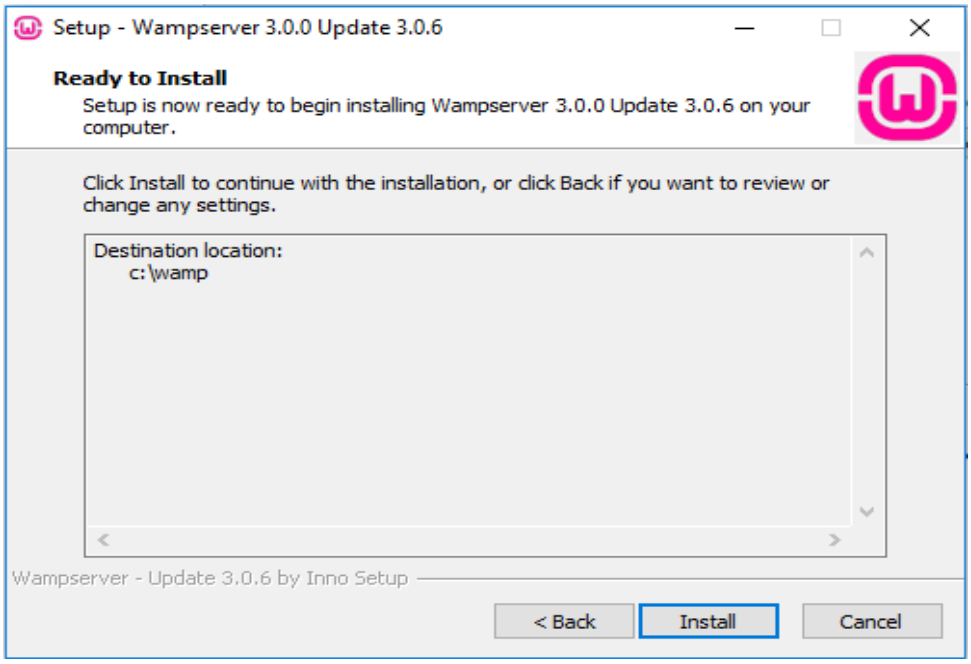


Figure A-4 - Installation confirmation

Once the installation finish, installed files on WAMP will displayed on default browser. But the default browser will be able to change your way of navigation.

The next decision will have to make is to set the PHP mail parameters. Most people leave this set to the defaults when setting up a testing server on their local computer. Now we can click **next**.

Using one of the icons you created or Start –> start WampServer, you can launch the management console. Once opened, it will appear in the lower right hand corner of your screen.

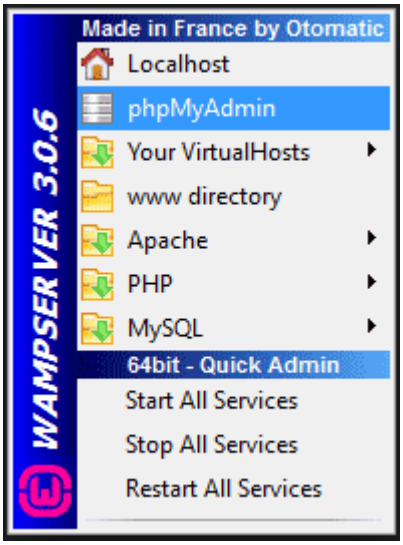


Figure A-5-Launch WAMP Server

Installing MySQL Workbench 6.3 CE

Download MYSQL Workbench appropriate for your platform from https://dev.mysql.com/downloads/file/?id=474210Fdgdfg

Open installation file for MySQL Workbench and press “Next”.

Figure A-6-Starting process of workbench installation

The destination folder default path displayed for the users and it will be able to change to any desired location.

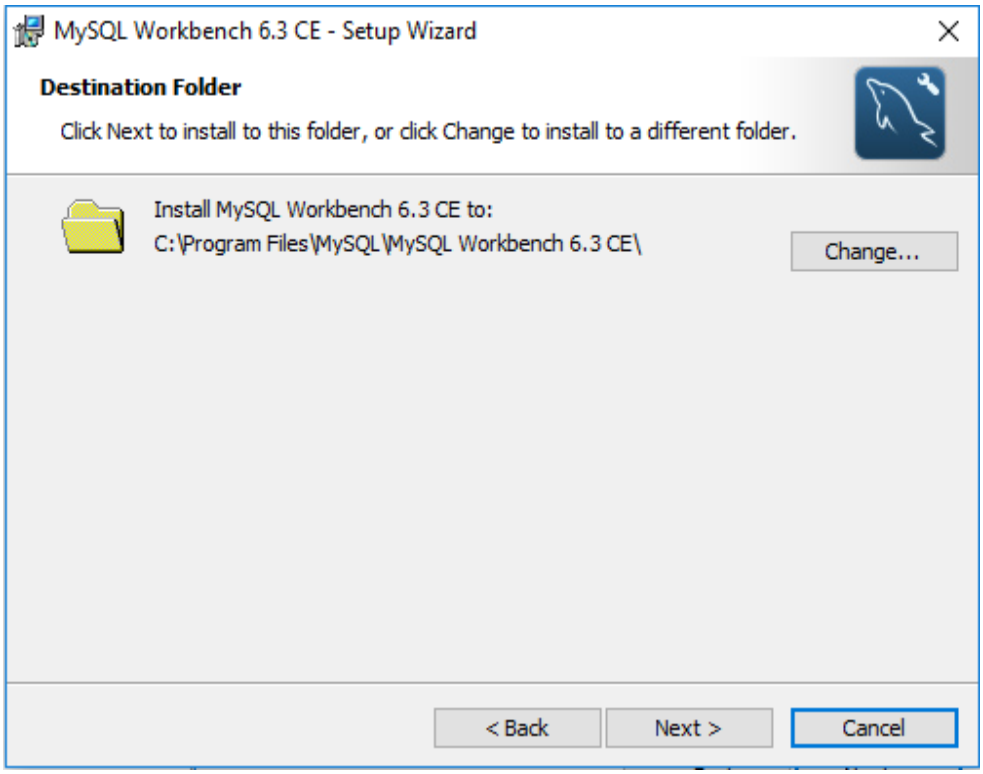


Figure A-7-Destination selection of the wizard

Choose ‘Complete’ setup and click ‘Next’ and ‘Install’

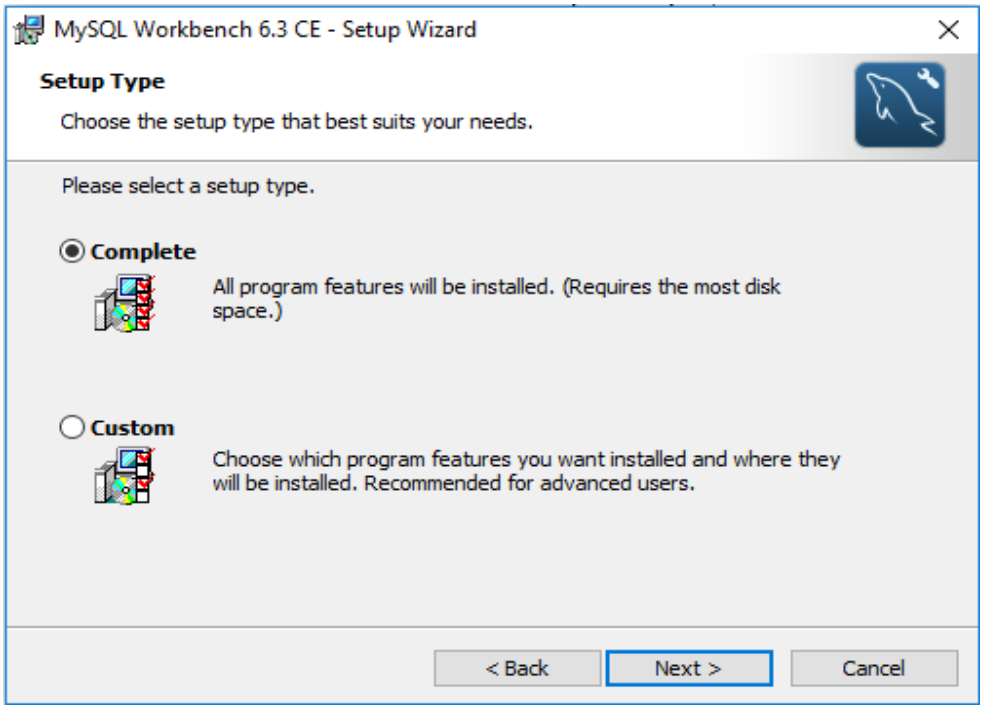


Figure A-8-Setup selection of the wizard

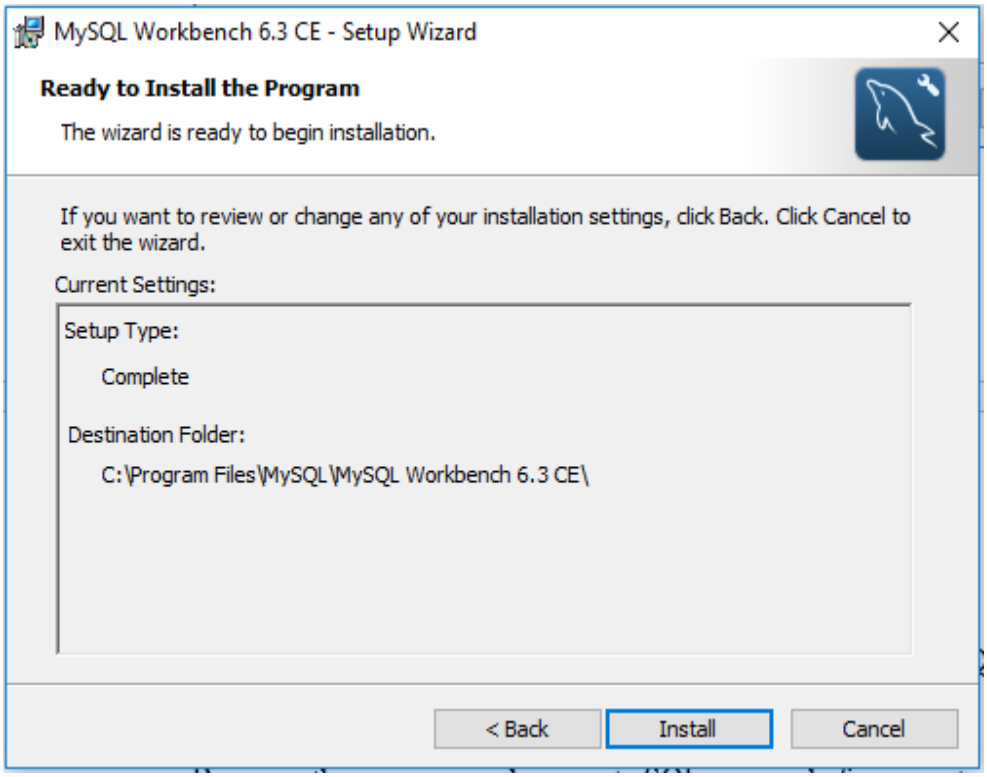


Figure A-9-Installation Confirmation

After completing the installation process ,click ‘Finish’

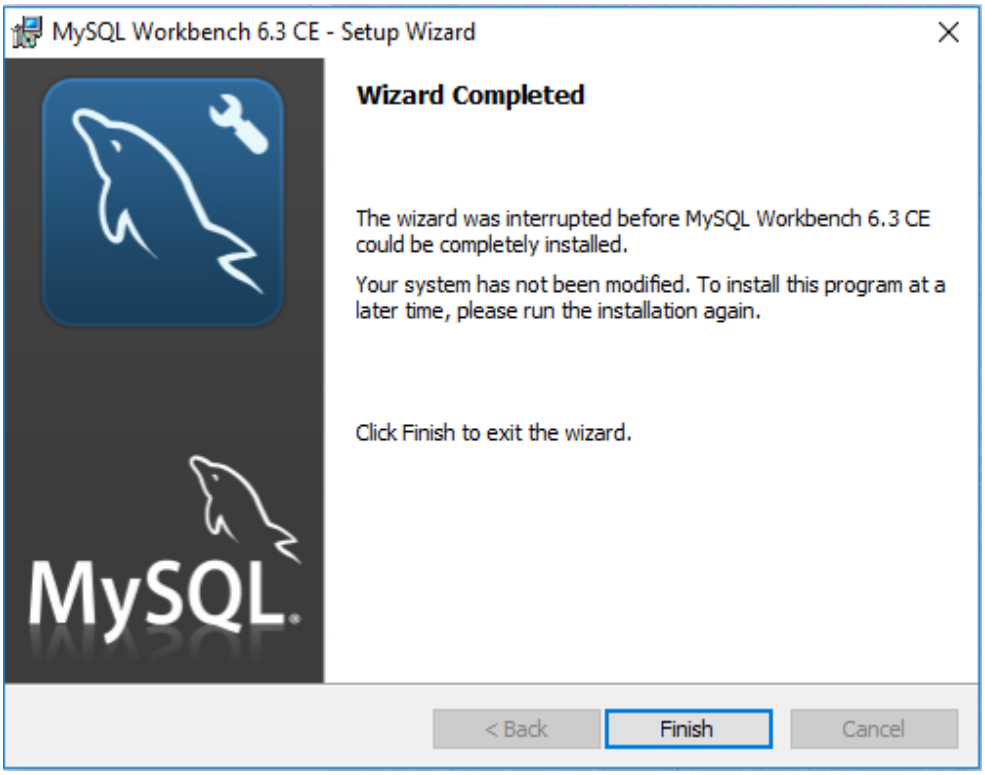


Figure A-10-Launch Workbench

Launch MySQL Workbench (in your start menu, choose MySQL from your installed programs, and choose Workbench).By using this we can easily execute SQL queries before insert it to the PHP page.

APPENDIX B – DESIGN DOCUMENTATION

Table Structure

Table Structure used to design for the appointment table and rating table displayed below as a sample. All the other table structure were followed the following format.

Entity Appointment

Table Name tbl_appointment

Desription Appointments Details

Attribute Name	Description	Type	Length	Key
id	Appointment Id	INT	11	PK
customer_id	Customer who made the appointment	INT	11	FK
user_id	Assigned staff id	INT	11	FK
service_id	Selected services list	VARCHAR	100	FK
app_date	Appointment date	DATE		
app_time	Appointment time	DATETIME		
transaction_id	Transaction id	INT	11	FK
app_status_id	Status of the appointment	INT	11	FK

Table B-1-Table structure for Appointment

Entity Rating

Table Name tbl_rating

Desription Rating Details

Attribute Name	Description	Type	Length	Key
id	Rating id	INT	11	PK
rating_description	Description of the rated value	VARCHAR	200	
rating_type_id	Rating value id	INT	11	FK
user_id	Assigned staff member id	INT	11	FK
customer_id	Customer id	INT	11	FK
app_id	Appointment id	INT	11	FK

Table B-2-Table structure for Rating

Use case Diagrams

- Use case diagram for the appointment module

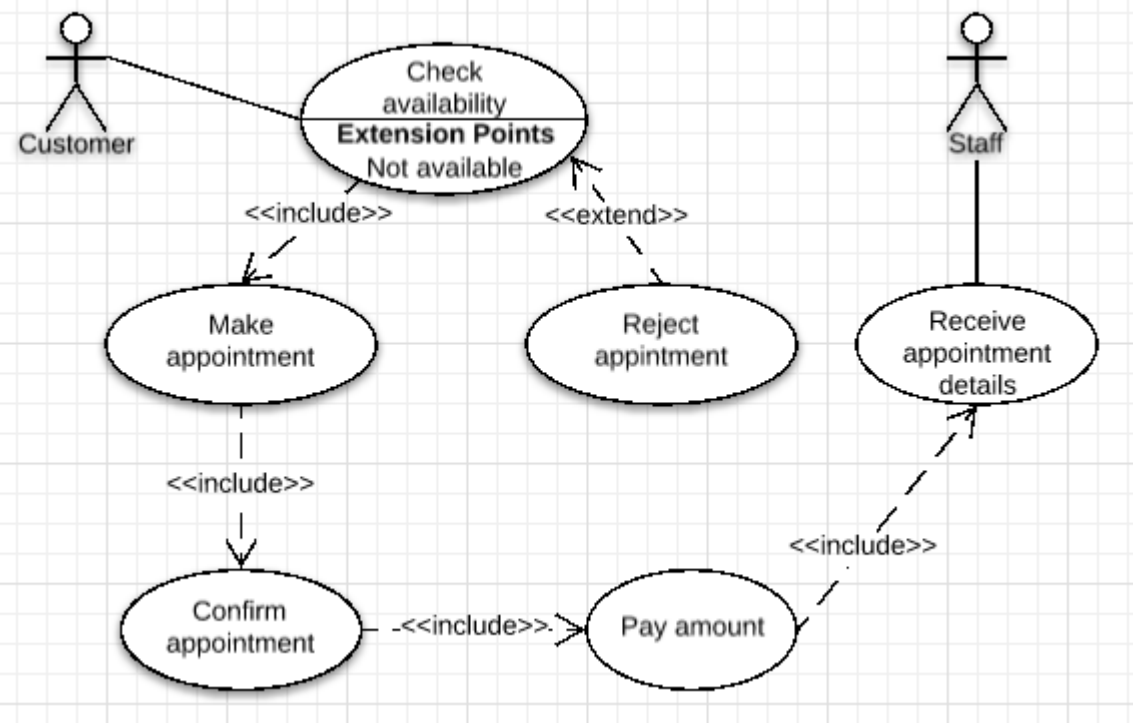


Figure B-1-Usecase diagram for the appointment module

Use case name	Check availability	
Actors	Customer	
Description	Customer check the availability of the session when make appointment	
Pre-conditions	Customers should be logged into the system	
Typical course of events	**Actor action**	**System response**
	1.Click on new appointment	
	2.Select date	
	3.Check availability	
		4.System displays fixed times of the sessions
Alternative courses	4.If there is not any available fixed appointments, system displays the message	
Post conditions	All available fixed time sessions displayed on the screen	

Table B-3 : Usecase narrative for Check availability

Use case name	Make appointment	
Actors	Customer	
Description	Customer make appointment based on the time ,date and services	
Pre-conditions	Customers should be logged into the system	
Typical course of events	**Actor action**	**System response**
	1.Click on new appointment	
	2.Select date	
	3.Check availability	
		4.System displays fixed times of the sessions
	5.Add services	
	6.Click to add appointment	
Alternative courses	4.If there is not any available fixed appointments, system displays the message 7.System displays error messages	
Post conditions	Appointment data displayed for the confirmation	

Table B-4 : Usecase narrative for Make appointment

Use case name	Pay amount	
Actors	Customer	
Description	Customer submit the payment after checking the confirmation screen	
Pre-conditions	Customers should be logged into the system	
Typical course of events	**Actor action**	**System response**
		1.System displays the added appointment details
	2.Click to submit the payment	
		3.System displays the payment details panel
	4.Confirm the payment	
		5.System displays the success message
Alternative courses	5.System displays error messages	
Post conditions	Appointment table updated	

Table B-5 : Usecase narrative for Pay amount

Use case name	Receive appointment details	
Actors	Staff	
Description	Staff	
Pre-conditions	User should be logged into the system	
Typical course of events	**Actor action**	**System response**
	1.Click on all appointments	
		2.System displays the added appointment details
	3.Refresh the page	
		4.System displays the newly received appointments
Alternative courses	4.System displays already added appointments	
Post conditions	Appointment table updated on admin panel or relevant staff member	

Table B-6 : Usecase narrative for Receive appointment details

- Use case diagram for the manage system users

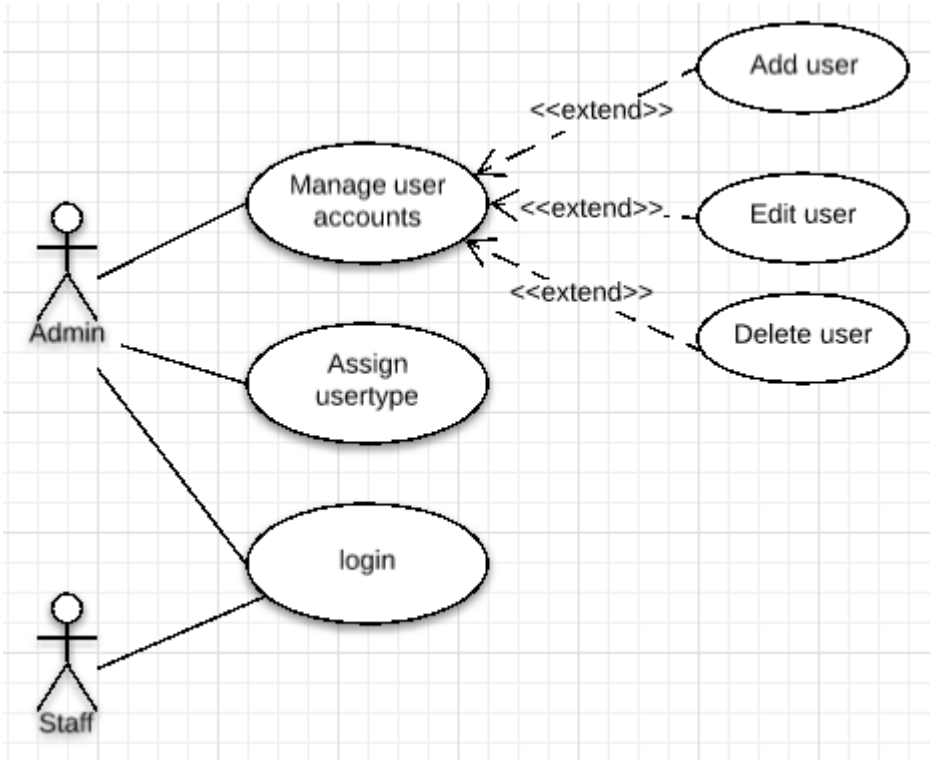


Figure B-2-Usecase diagram for the user management

Use case name	Add new user	
Actors	Admin	
Description	Admin create a new user	
Pre-conditions	Admin should be logged into the system	
Typical course of events	**Actor action**	**System response**
	1.Enter the name, designation, email address and password	
	2.Assing user type	
	3.Click on save button	
		4.System displays successful message
Alternative courses	3.System displays error messages	
Post conditions	The data saved in the database	

Table B-7 : Usecase narrative for Add new user

Use case name	Edit user	
Actors	Admin	
Description	Admin edit the existing user	
Pre-conditions	Admin should be logged into the system	
Typical course of events	**Actor action**	**System response**
	1.Update the name, designation, email address and password	
	2.Assing user type	
	3.Click on save button	
		4.System displays successful message
Alternative courses	3.System displays error messages	
Post conditions	The data updated in the database	

Table B-8 : Usecase narrative for Edit user

Use case name	Delete user	
Actors	Admin	
Description	Admin edit the existing user	
Pre-conditions	Admin should be logged into the system	
Typical course of events	**Actor action**	**System response**
	1.Delete the selected user	
		2.System displays delete confirmation message
	3.Click for delete	
		4.System displays successful message
Alternative courses	3.System displays error messages	
Post conditions	The data updated in the database	

Table B-9 : Usecase narrative for Delete user

- Use case diagram for generate system reports

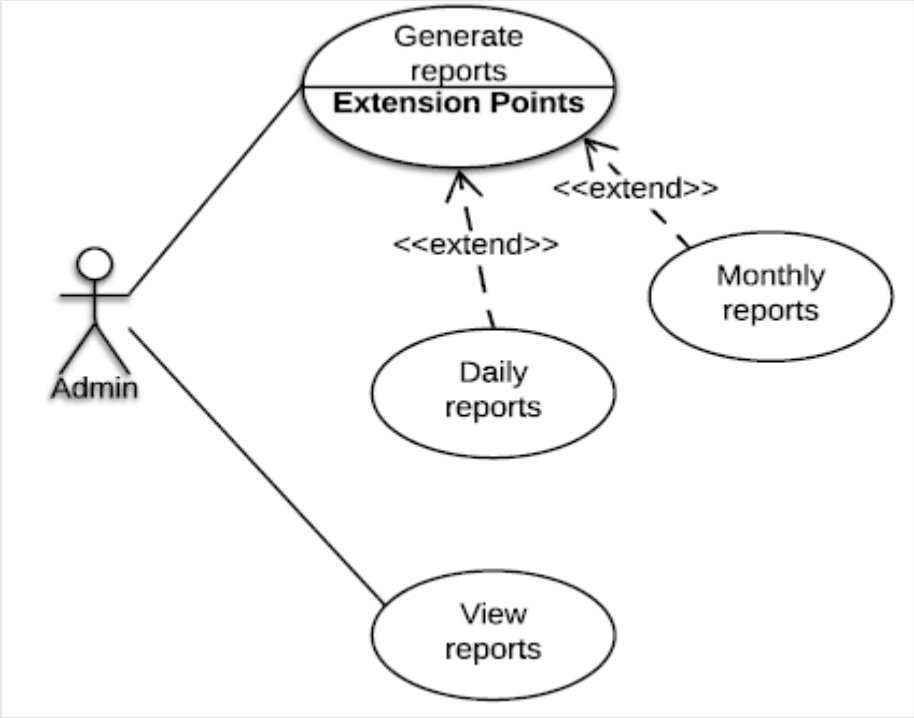


Figure B-3-Usecase diagram for generate system reports

Use case name	Generate reports	
Actors	Admin	
Description	Generate the reports of the system	
Pre-conditions	Admin should be logged into the system	
Typical course of events	**Actor action**	**System response**
	1.Select the relevant report	
		2.System displays the report generation form
	3.Select date range	
	4.Click on search icon	
		5.Generate the report
Alternative courses	Descriptive message displays when no data available to display	
Post conditions	View report	

Table B-10 : Usecase narrative for Generate reports

Activity Diagrams

- Activity diagram for appointment module

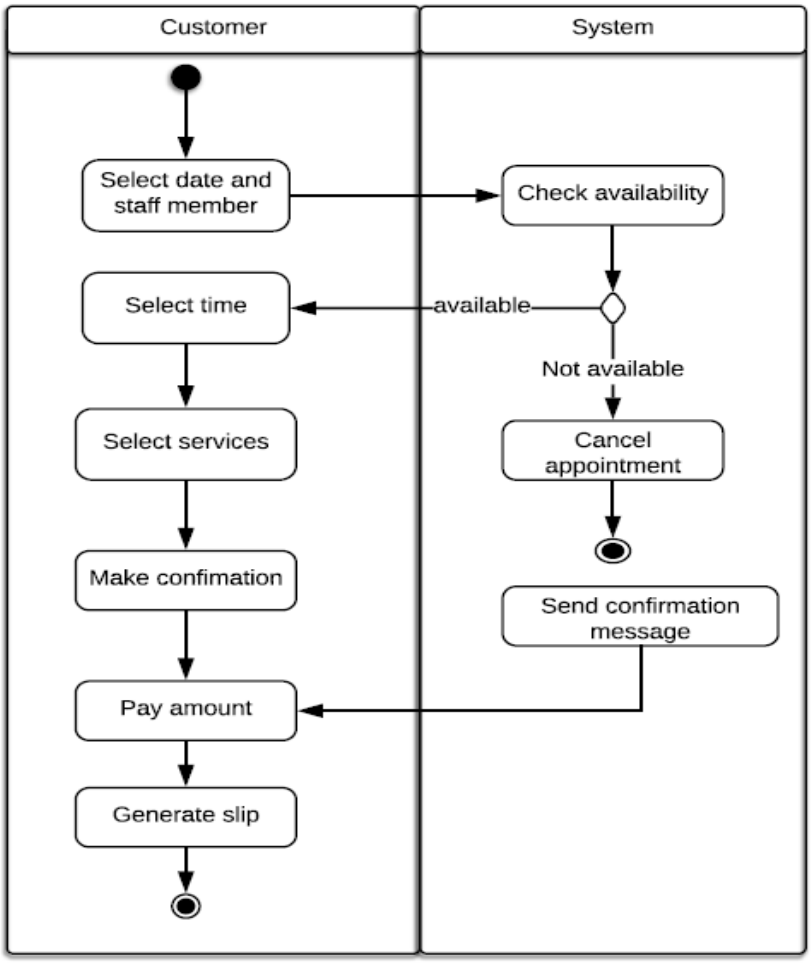


Figure B-4-Activity diagram for appointment module

- Activity diagram for add promotion

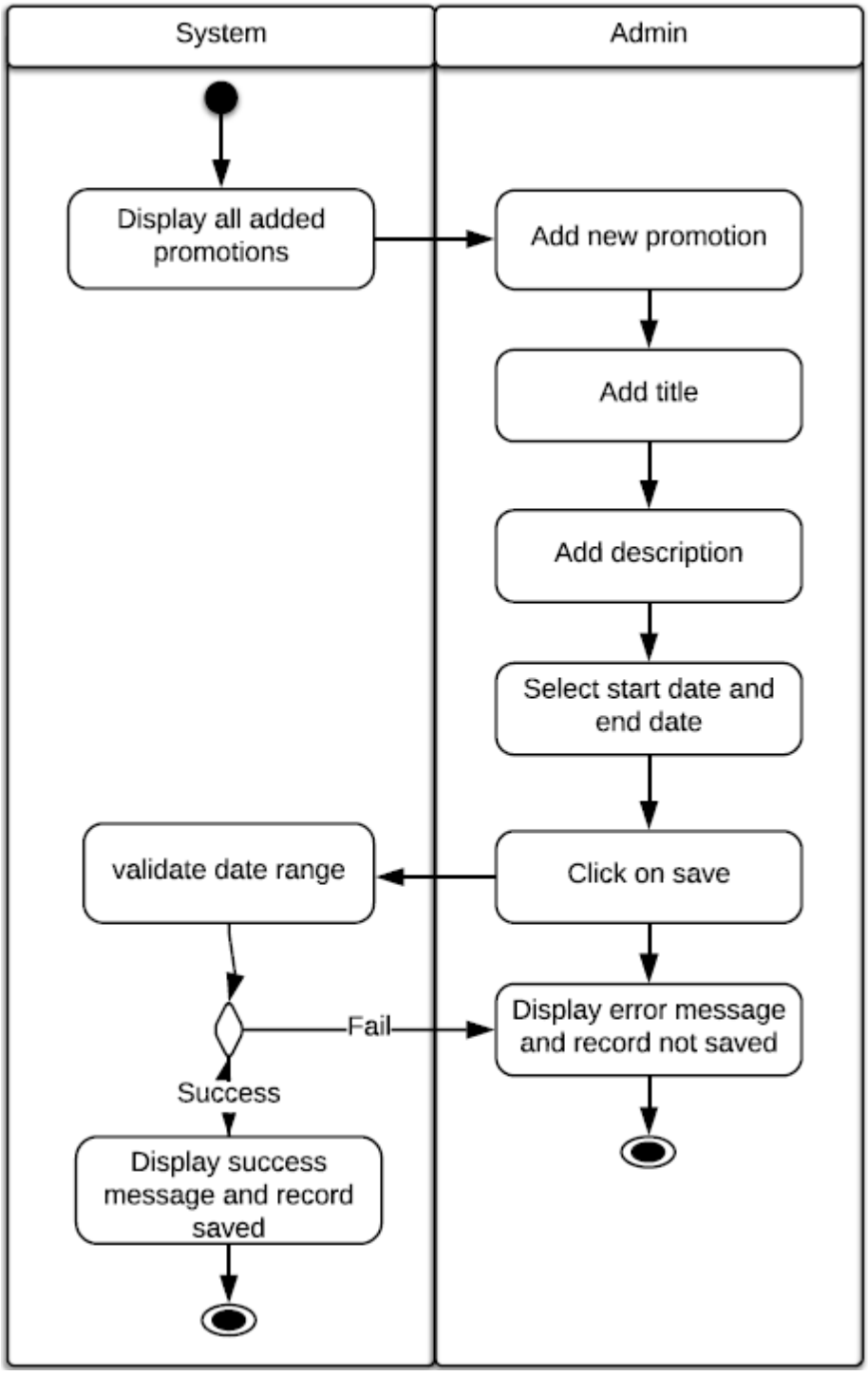


Figure B-5-Activity diagram for add promotion

Sequence Diagram

- Sequence diagram

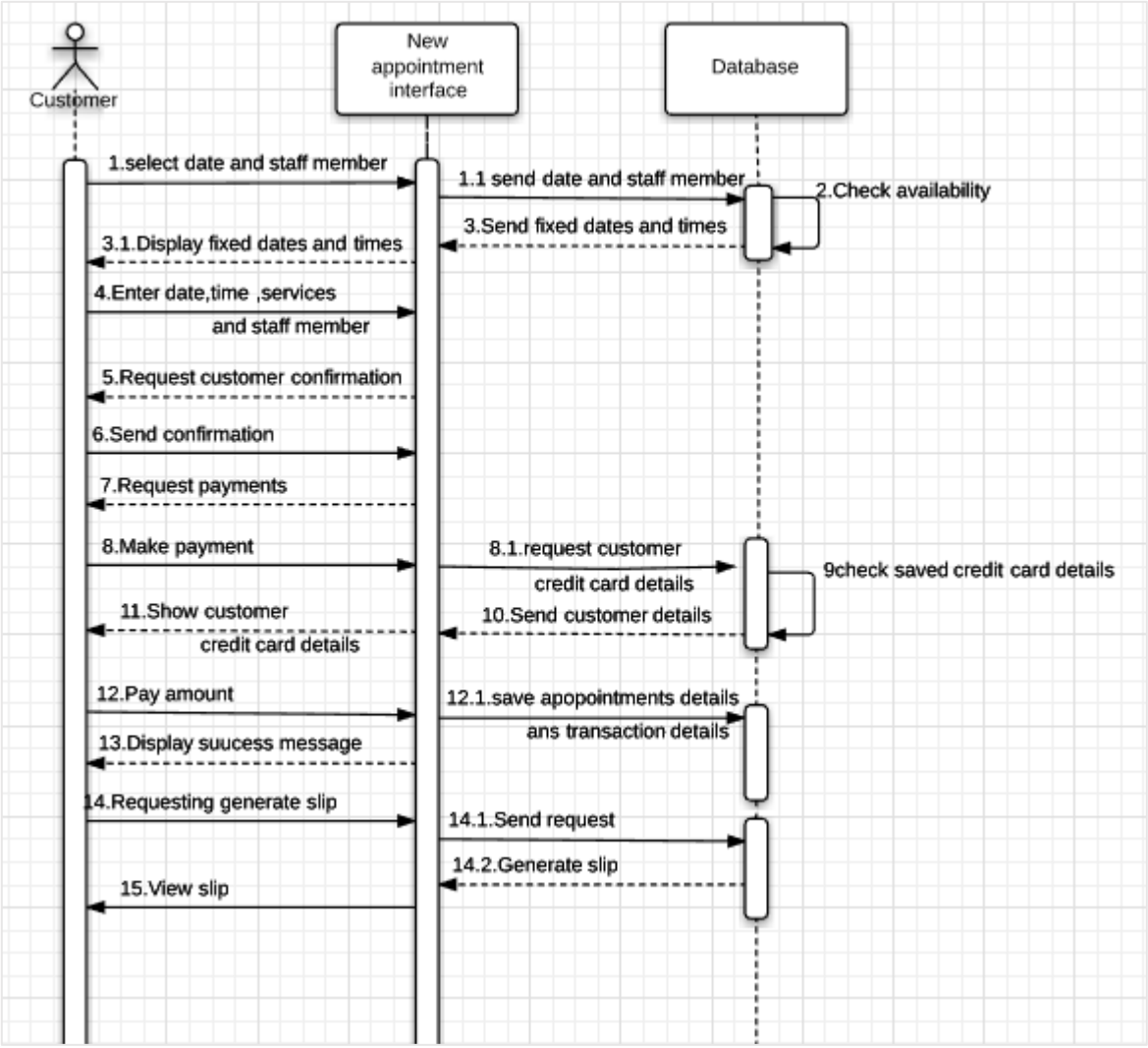


Figure B-6-Sequence diagram for appointment module

APPENDIX C - USER DOCUMENTATION

This appointment management system is developed with lots of functionalities and feature in order to carry out their day today processes smoothly. The scope of the project is consists with the site and the system. The system will be able to available for the three types of users. The customers are considered as external user and staff member, admin are considered as internal users of the system.

The site of salon consist with five main tabs with login page. The 'Home' page should be displayed with basic introduction of the business. The 'About Us' page will display the starting and growth of the business and owner details. The list of services should display in the 'Services' page. The customers will be able communicate directly via contact us page.

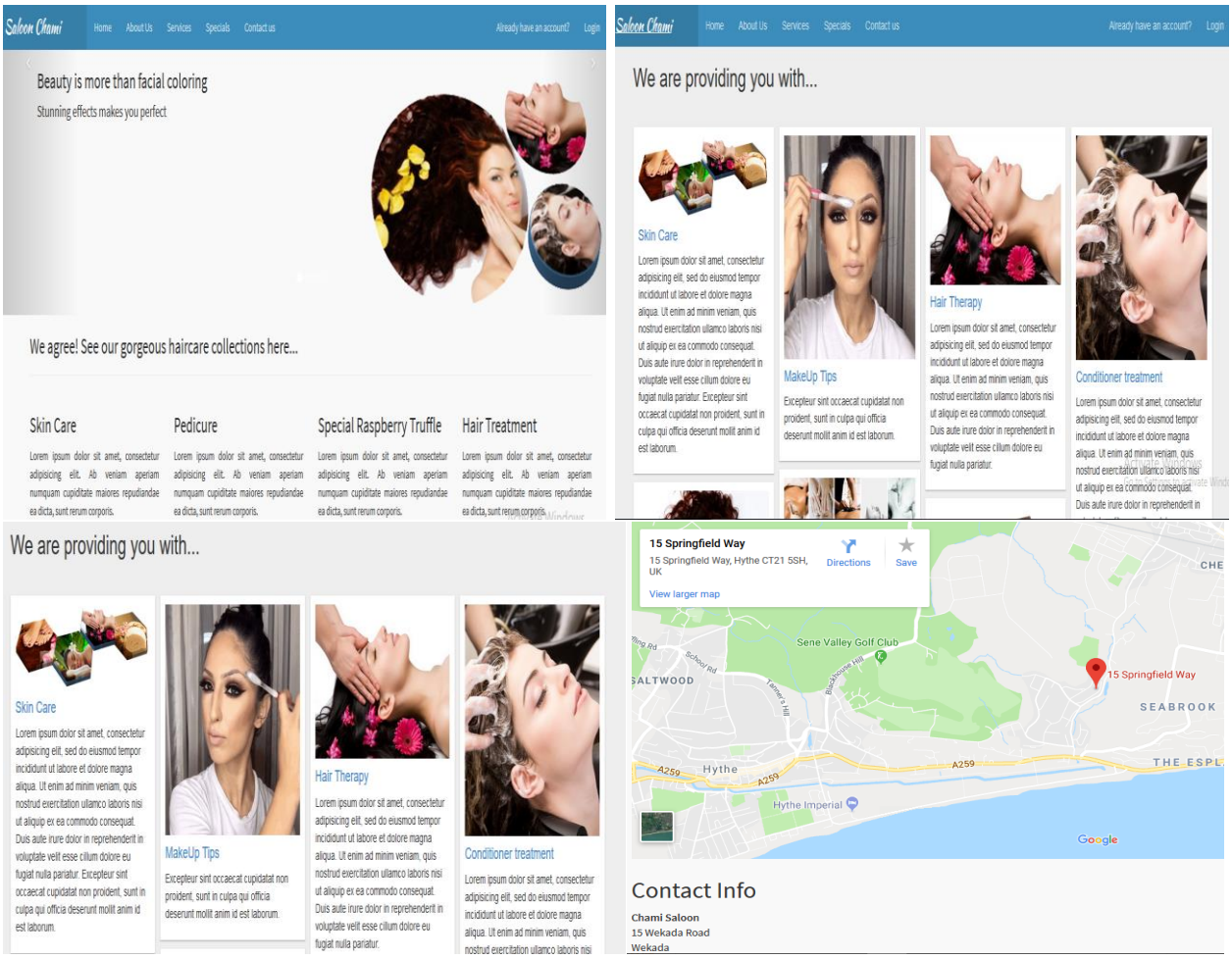


Figure C-1-Site pages (Home, About us, Services, Contact us)

After reviewing the site information, customers will be able to register to the system by providing their name, email address, mobile number and password. The error messages will be received

according to the invalid insertions and valid credentials redirect them to the system. Following figure shows how page login and customer registration looks like

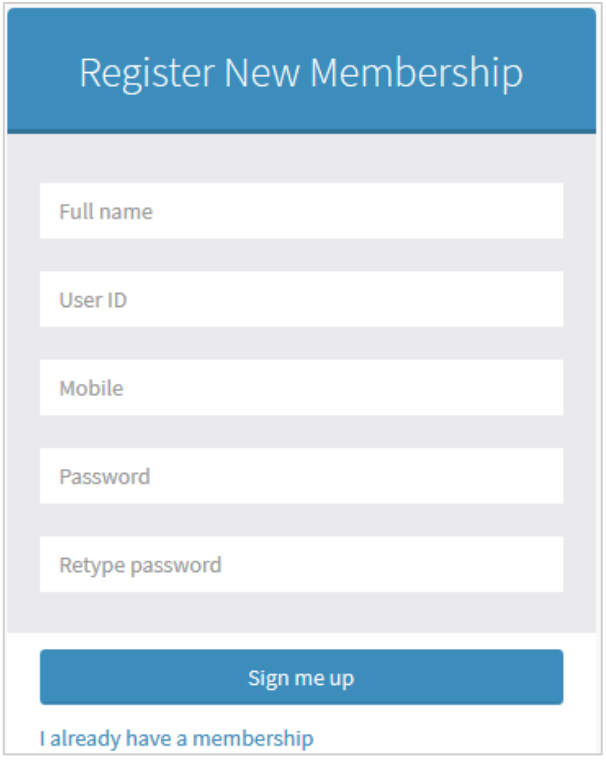


Figure C-2-Customer registration

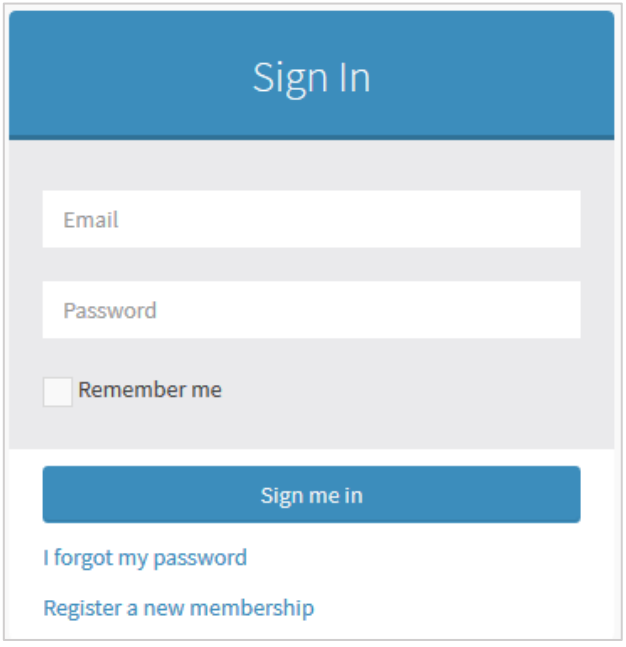


Figure C-3-Login page

After login to the system, they will be able to change their personal details and add credit card information. It is mandatory to manage those details, when making an appointment.

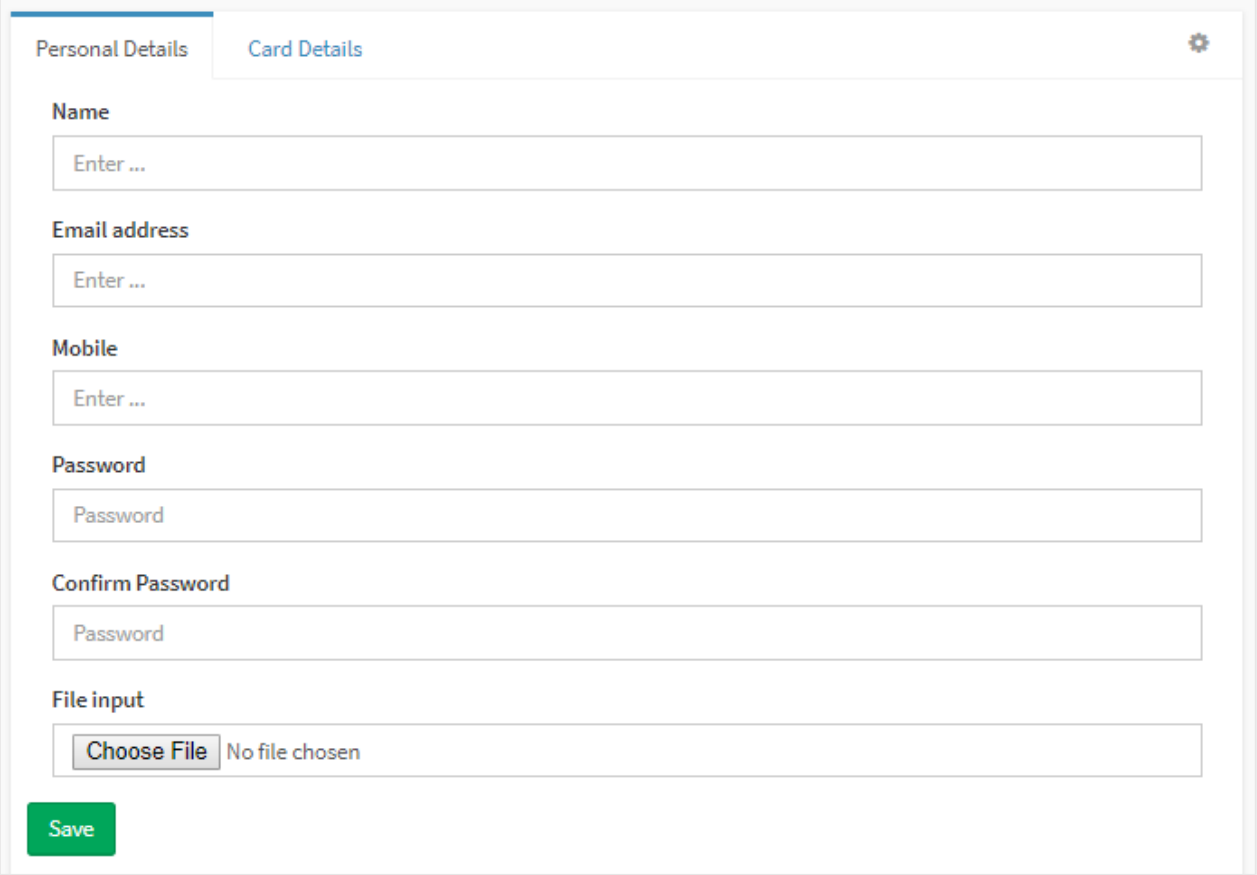


Figure C-4-Customer profile screens

There is a side bar, which differs according to the user authorization. It will be defined according to the user type. As a customer, making an appointment is consider as the main process of the system.

Appointment management

The customers will be able to make an appointment by selecting date, time, staff member and services. The system will display the already reserved time slots for the selected date. After making the confirmation of the appointment, they will be able to make the payment. The 2checkout payment gateway is used for the transactions. The customers will be able to cancel the appointment within announced time period.

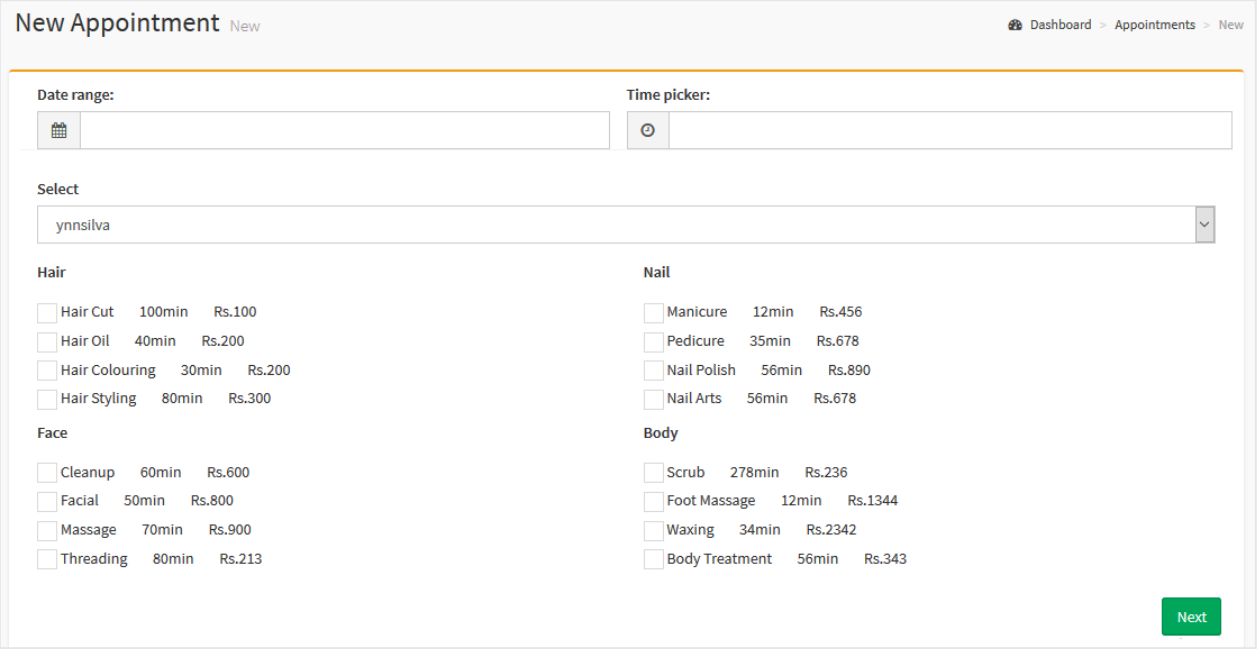


Figure C-5-New appointment adding screen

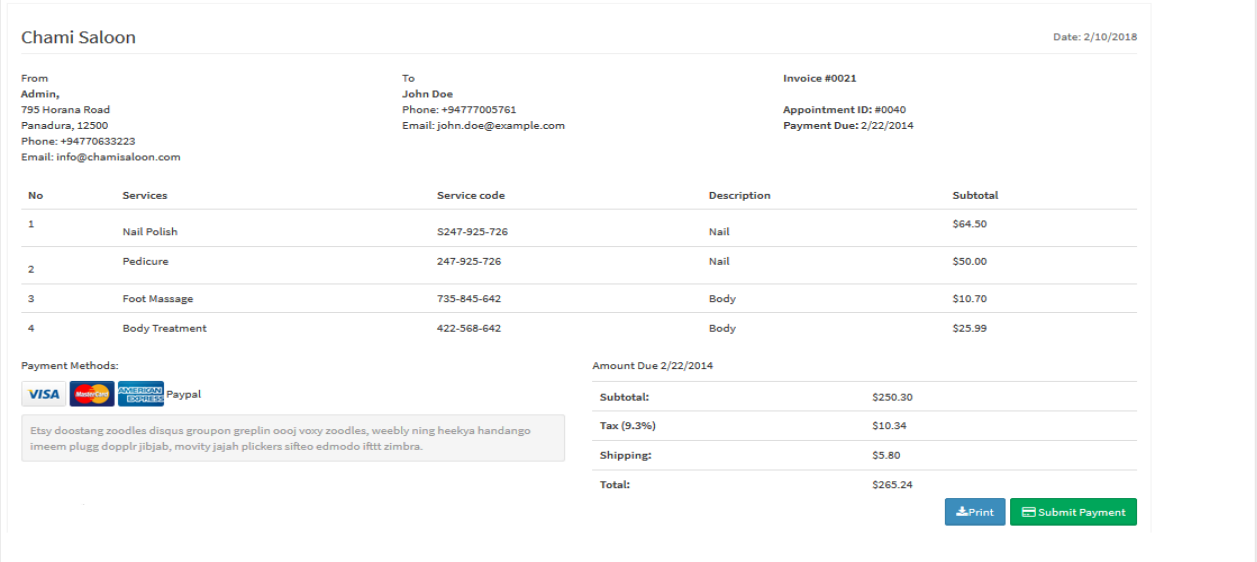


Figure C-6-Appointment invoice

The admin of the system authorized to all the functionalities as an external user. All added appointments are displayed in the table. The transaction records will maintain with status of the payment. Following selection will discuss the information related to the system functionalities

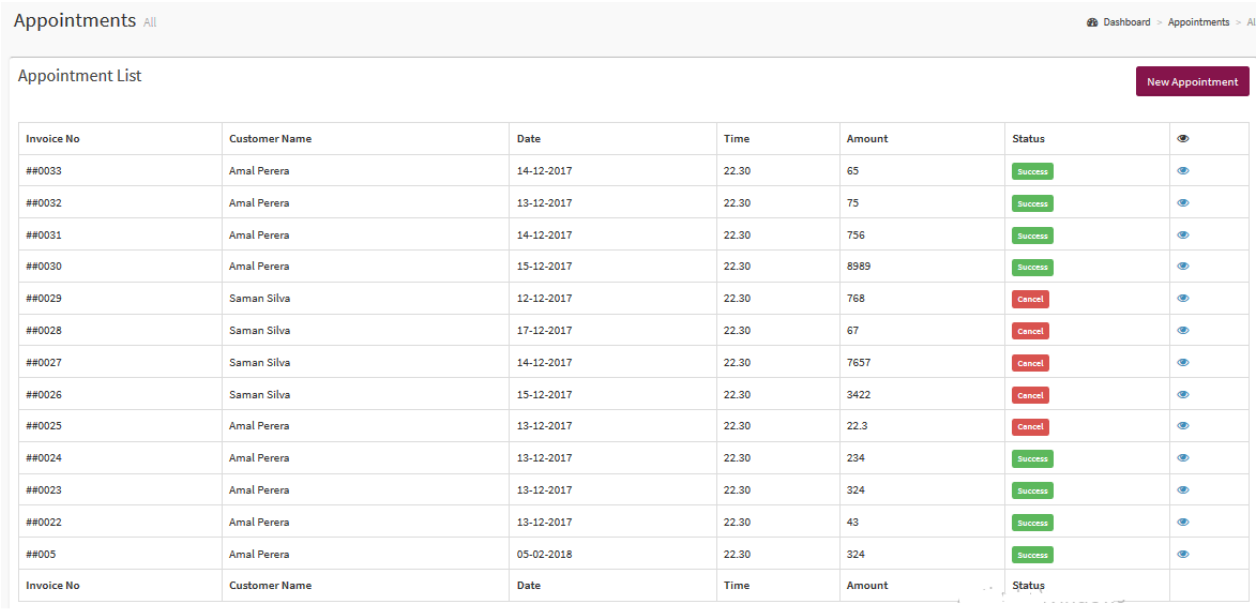


Figure C-7-All added appointments

Rating management

The admin will receive all the ratings which customers assign to the appointments. These records are displayed according to the specific appointment. These rating will receive with a description. Then the admin will be able make decisions about staff of the salon and the quality of their services. The total rating of the specific user will displayed with backend calculation.

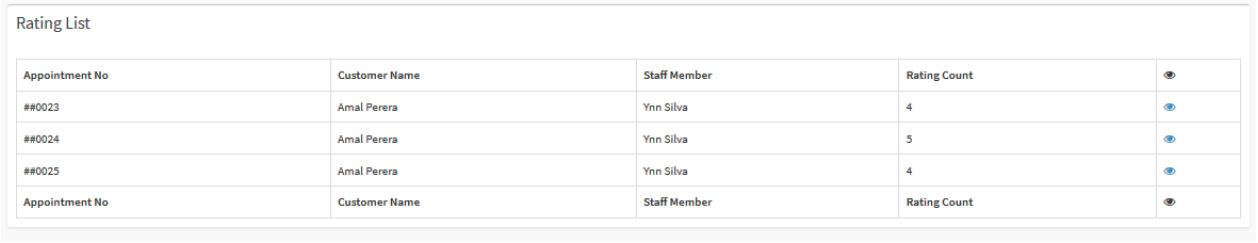


Figure C-8-Rating table

Dashboard

The dashboard will be linked directly with the most relevant components.

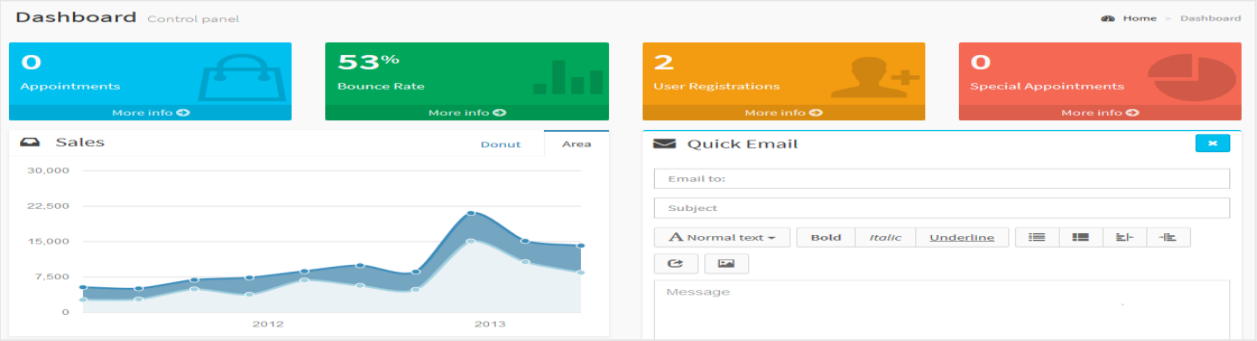


Figure C-9-Dashboard of an admin

User management

The system users will be added by the admin of the system. All the user details can be stored via following figure with name, email address, designation and image of the user. And the admin can add, update and delete records. Further all the inserted data are displayed in the table. When clicking on name of the user admin will be able see the brief description. If an admin enters invalid data system displays the error message. If user trying to save with empty field system checks and display error message. And also users can update details by their profile. Above Figure 4-4: Screen for Add User and Figure 4-6:Screen for retrieved all users will show the screens for the management of system users.

Promotion management

The promotions/offers will available for seasonal greetings and anniversaries. The admin will be able to add, update and delete promotions. And also system supports to send the promotions to the specific users.

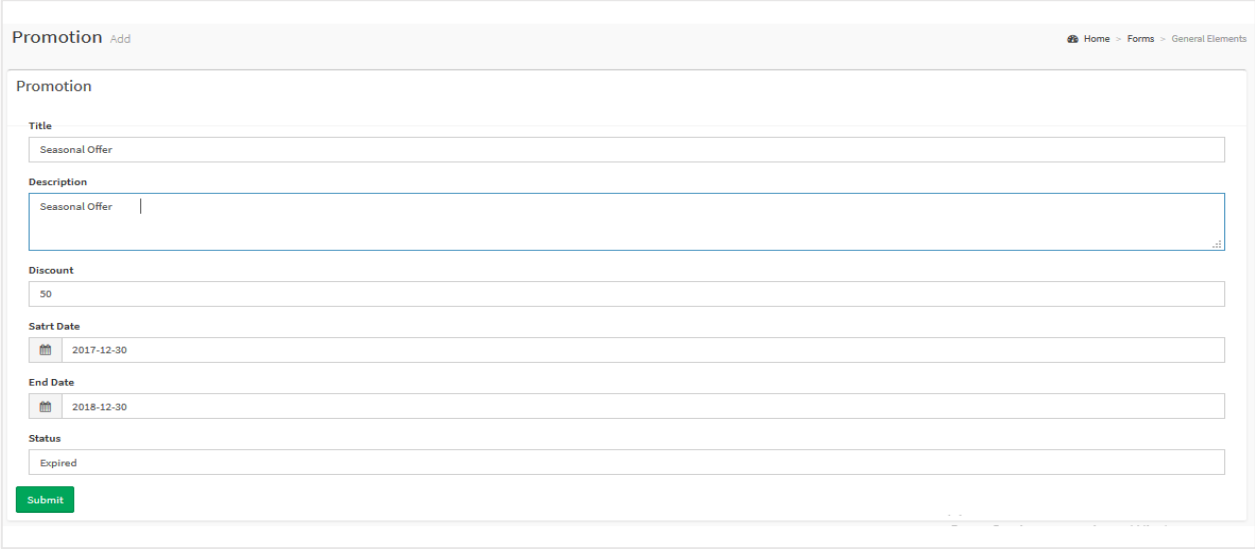


Figure C-10-Promotion adding form

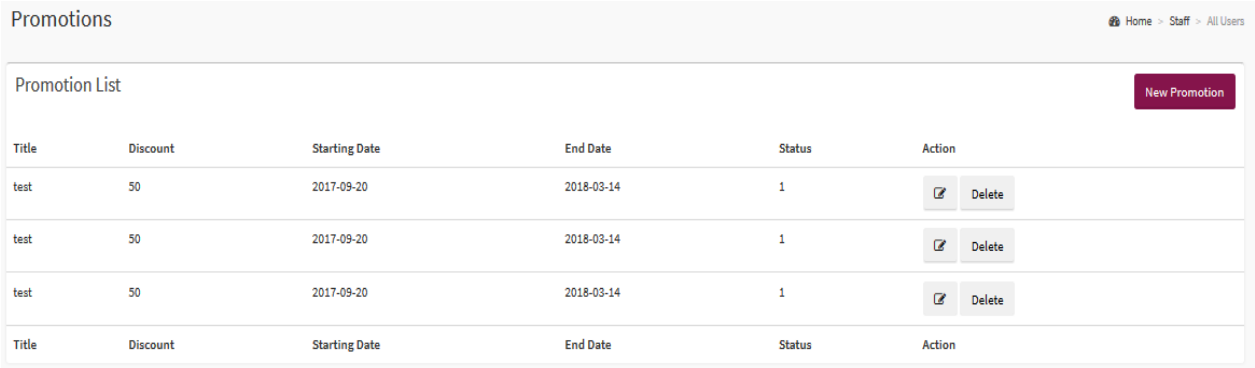


Figure C-11-All added promotions

Customer management

The system is listed all the customer records with a table. The admin will be able to view specific customer details by their name. The customer search also available for this page.

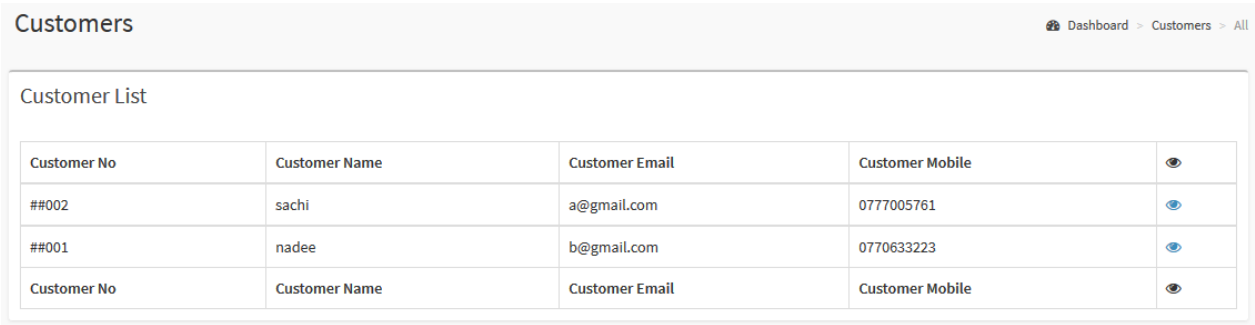


Figure C-12-Customer list

Transaction management

The transaction history is updating with all the transaction which have done through the system.

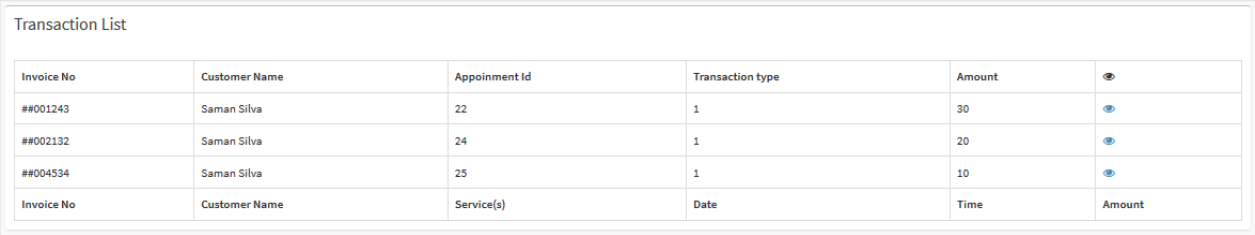


Figure C-13-List of transactions

The customer will be able to receive promotional codes, seasonal offers according to their interactivity.

APPENDIX D – MANAGEMENT REPORTS

Appointment report

Following figure shows succeeded appointments for the requested time range. All the relevant data such as appointment no, customer name, requested services, appointment date and time are displayed on the report.

Saloon Chami

Appointment Report

From : 13-12-2017 To : 15-12-2017

Appointment No	Customer Name	Staff member	Date	Time	Amount
##005	Nadee	Ynn Silva	13-12-2017	22.30	1231
##0022	Nadee	Ynn Silva	13-12-2017	22.30	123
##0023	Nadee	Ynn Silva	13-12-2017	22.30	13454
##0024	Nadee	Ynn Silva	13-12-2017	22.30	453

Figure D-1-Appointment report

Regular customer report

This is mostly important to make decisions about the staff and quality of the service they provide. And also this information is used when sending the seasonal offers.

Saloon Chami

Regular Customer Report

From : 13-12-2017 To : 15-12-2017

Customer Name	Customer Email	Customer Mobile	Visited Count
Nadee Silva	b@gmail.com	0770633223	6

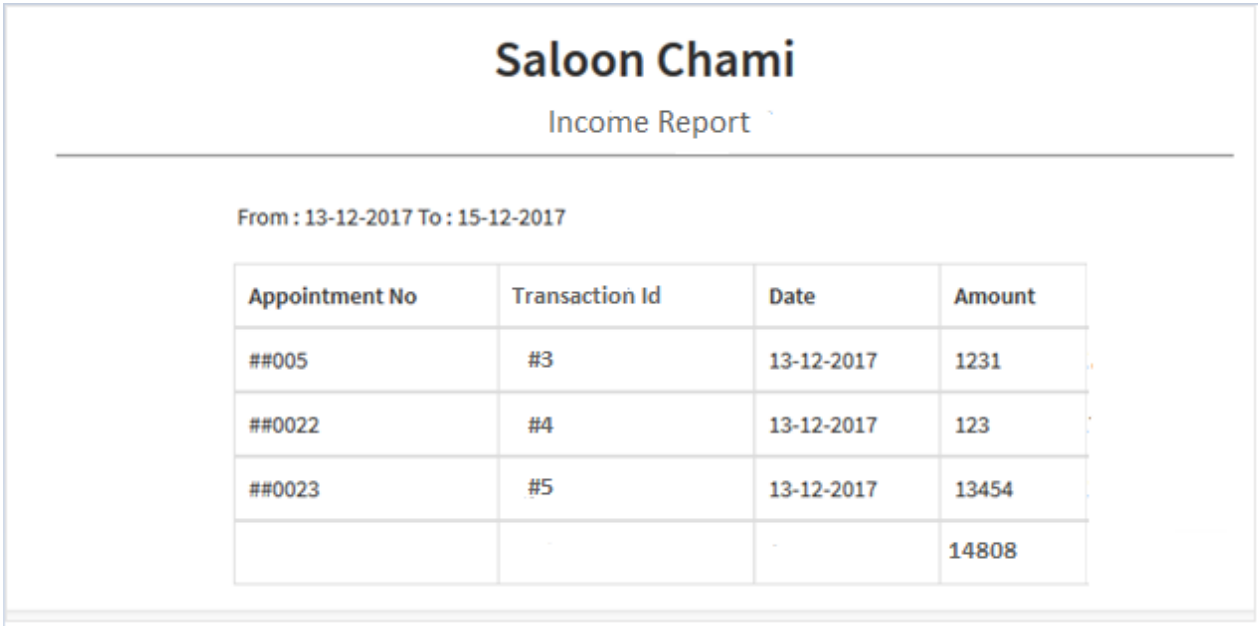
Figure D-2-Regular customer report

Services report

This will show the mostly requested services according to the provided time frame. This information will be used for making decision about price of the service and also increase the quality of services.

Income report

This will show the income of appointments which related to provided time frame.These are mostly uses for measure the growth of the business.



Saloon Chami

Income Report

From : 13-12-2017 To : 15-12-2017

Appointment No	Transaction Id	Date	Amount
##005	#3	13-12-2017	1231
##0022	#4	13-12-2017	123
##0023	#5	13-12-2017	13454
			14808

Figure D-3: Income report

APPENDIX E - TEST RESULTS

The following section will discuss the test cases which were used to test the system.

Test Case for Customer Registration				
No	Description	Expected Result	Actual Result	Pass/Fail
1	Check whether the users are able to register without inserting “Name”	Show error message	Show error message	Pass
2	Check whether the users are able to register without inserting “email”	Show error message	Show error message	Pass
3	Check whether the users are able to register without inserting “Mobile”	Show error message	Show error message	Pass
4	Check whether the users are able to insert the letters and symbols to the “Mobile” field	Show error message	Show error message	Pass
5	Check whether the Validations are available for the min/max length of the mobile number	Show error message	Show error message for minimum length of 9	Pass
6	Check whether the validations are available for the mismatching of the password	Show error message	Show error message for mismatched passwords	Pass
7	Checck whether the validations are available for min/max length for the password	Show error message	Show error message	Pass
8	Check whether the user insertions are not able cause the system crashes.	System not crashed	System not crashed	Pass
9	Check whether the users are able to register to the system by inserting the valid values	Successfully registered to the system	Successfully registered to the system	Pass
10	Check whether the registered customers redirect to the valid system page	Successfully redirect to the valid page	Successfully redirect to the valid page	Pass

Table E-1-Testcase for Customer Registration

Test Case for Validation of email address					
No	Description	Test Data	Expected Result	Actual Result	Pass/Fail
1	Check whether the users are able to register to the system by valid email	email@domain.com	Success	Success	Pass
2	Check whether the users are able to use the email contains dot with subdomain	email@subdomain.domain.com	Success	Success	Pass
3	Check whether the users are able to use the email contains with square bracket around IP address	email@[123.123.123.123]	Success	Success	Pass
4	Check whether the users are able to use the Quotes around email	"email"@domain.com	Success	Success	Pass
5	Check whether the users are able to use the digits in the address	1234567890@domain.com	Success	Success	Pass
6	Check whether the users are able to use the Dash in domain name	email@domain-one.com	Success	Success	Pass
7	Check whether the users are able to use the Underscore in the address field	_____@domain.com	Success	Success	Pass
8	Check whether the users are able to use the .name in top level domain name	email@domain.name	Success	Success	Pass

9	Check whether the users are able to use the dash in address field	firstname-lastname@domain.com	Success	Success	Pass
10	Check whether the users are unable to use the plain address as an email	testemail	Failed	Failed	Pass
11	Check whether the users are unable to use garbage characters in the local part	#@%^%#$@#$@#.com	Failed	Failed	Pass
12	Check whether the users are unable to use an email without username	@domain.com	Failed	Failed	Pass
13	Check whether the users are unable to use an email without @ sign	email.domain.com	Failed	Failed	Pass
14	Check whether the users are unable to use an email with Unicode characters	あいうえお@@domain.com	Failed	Failed	Pass
15	Check whether the users are unable to use an email without top level domain(.net/.com/etc)	email@domain	Failed	Failed	Pass
16	Check whether the users are unable to use an email with invalid IP format	email@111.222.333.44444	Failed	Failed	Pass

17	Check whether the users are unable to use multiple dot in the domain portion	email@domain..com	Failed	Failed	Pass
18	Check whether the users are unable to use leading dash in front of domain	email@-domain.com	Failed	Failed	Pass

Table E-2-Testcases for email validation

Following figure displays the user evaluation form which distributed among users.

USER FEEDBACK FORM					
Name of User :					
Role of User					
Description	Very good	Good	Average	Poor	Very poor
Overall reaction					
Character readability					
System navigation					
Ease of usage					
Functionalities					
Interfaces					
Ease of learning					
Response time					

Comments .....

Figure E-1:User feedback form

APPENDIX F - CODE LISTING

- Appointment model

The following code samples displays the major functionalities which use to retrieve the data related to appointments.

```
public function view_appointment($appointment_id){
        $this->load->database();
        //where change as where_in for get rating cus_id and user_id,no issue occured on appointment view
        $db_appointment_id=$this->db->where_in('id', $appointment_id);
        $query =  $db_appointment_id->get($this->table);
        return $query->result_array();
 }
 public function all_date_appointment($app_date){
        $this->load->database();
        //$this->db->select($data_appointment['fields']);
        $db_app_date=$this->db->where('app_date', $app_date);
        $query =  $db_app_date->get($this->table);
        return $query->result_array();
 }
 public function all_date_appointment_count($current_date){
        $this->load->database();
        //$this->db->select($data_appointment['fields']);
        $db_app_date=$this->db->where('app_date', $current_date);
        $query =  $db_app_date->get($this->table);
        $row_count = $query->num_rows();
        return  $row_count;

 }
```

```
  public function date_special_appointment_count($current_date,$special_id){
        $this->load->database();
        //$this->db->select($data_appointment['fields']);
        $db_app_date=$this->db->where('app_date', $current_date AND 'service_id',
".$special_id.");
        $query =  $db_app_date->get($this->table);
        $row_count = $query->num_rows();
        return  $row_count;

 }
 public function service_time_appointment($num){
        $this->load->database();
        //$this->db->select($data_appointment['fields']);
        $db_id=$this->db->where('id', $num);
        $query =  $db_id->get($this->service_table);
        return $query->result_array();

 }
```

- Report model

All reports are managing through a same controller. Following code snippets use for capture the data for the related reports. Controller code and model code for appointment report developed as follows,

Controller code

```
public function date_range_appointments (){
    $start_app_date = NULL;
    $end_app_date   = NULL;
    $app_status_id  = NULL;

    extract($_POST);
```

```
    $params['start_app_date']= $start_app_date;
    $params['end_app_date']  = $end_app_date;
    $params['app_status_id'] = $app_status_id;

    $data['start_app_date']= $start_app_date;
    $data['end_app_date']= $end_app_date;

    if (isset($submit)) {
    $date_range_appointments = $this->mod_appointments-
>date_range_appointments($params);
    $data['date_range_appointments'] = $date_range_appointments;

    }

    //$data['date_range_appointments'] = $date_range_appointments[0];

    $data['related_view']='system_appointment_report';
    $this->load->view('template', $data);

  }
```

Model code

```
public function date_range_appointments($params){

        $start_app_date = $params['start_app_date'];
        $end_app_date   = $params['end_app_date'];
        $app_status_id  = $params['app_status_id'];

       $this->load->database();
       $date_range_data = $this->db->where("app_date BETWEEN '$start_app_date' AND
'$end_app_date' AND app_status_id = '$app_status_id'");
       //$this->db->select($params['fields']);
```

```
        $query =  $date_range_data->get($this->table);


        return $query->result_array();
}
public function all_cus_appointments($customer_id){
  $this->load->database();
  $customer_id=$this->db->where('customer_id', $customer_id);
  $query =  $customer_id->get($this->table);


  return $query->result_array();
}
```