

Online Patient Management System

For

Modern New Medi Care Hospital

Sinthuja A

2017



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For
Modern New Medi Care Hospital**

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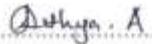


**This dissertation is submitted in partial fulfilment of the requirement of the
Degree of Bachelor of Information Technology (external) of the
University of Colombo School of Computing**

DECLARATION

DECLARATION

I certify that this dissertation does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any university and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my dissertation, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and abstract to be made available to outside organizations.


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ABSTRACT

The Modern New Medi Care hospital is a private hospital in Chavakachcheri. This is one of the leading hospitals that deals with health care needs, patient management, give prescription etc. This management of the Hospital is effectively managed by the handling of all its activities manually. Maintenance of booking activities, accounting and financial services are carried out effectively at present with paper work.

This manual work is very difficult to manage their day to day activities. The manual work system is a complicated one some of the defects observed in this system are, Report generation is not done satisfactorily in the absence of technical knowhow unexpected errors occur when the manual system is followed. The manual system consumes more time and more manpower. The hospital experiences various problems in the absence of an effective patient management system. Tracing records too poses difficulties and time consuming problems. The suggested Online Patient Management System could promote an efficient what is this means one in the management of Hospital. When Information Technology used to automate patent and channeling management, it greatly assists in accuracy, efficiency and consistency.

The important aim of this project is that it accelerates speed and improves the performance of the Online Patient Management System (OPMS). It helps in decision making by providing accurate information. It assists in replacing booking appointment system. The alerting of prescription is done by this system. It provides an effective system of appointment detail, maintenance and report generation. It is a scope of the Online Patient Management System is to provide records of Analysis and design of the Online Patient Management System for hospital.

This online patient management system has mostly been developed using some modern open sourced tools and software. PHP which is one of the powerful server side scripting language has been used for server side scripting along with the Apache web server and My SQL which is a relational database management system. The developed system has been properly tested using a comprehensive testing procedure which ensures a high-quality system.

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LIST OF ACRONYMS

CSS – Cascading Style Sheet

DVD – Digital Versatile Disc

ER – Entity Diagram

GB – Gigabyte

GUI – Graphical User Interface

HTTP – Hypertext Transfer Protocol

OO – Object Oriented

OPMS – Online Patient Management System

PHP – Hypertext Pre-Processor

RAM – Random Access Memory

SMS – Short Message Service

UCSC – University of Colombo School of Computing

1NF / 2NF / 3NF – First / Second / Third Normal Form

CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

The Online Patient Management System (OPMS) Development project for Modern New Medi Care Hospital, Jaffna is discussed in this dissertation. The maintenance of online control and other particulars will be taken into consideration by these OPMS. The Online control, channeling, doctor's timetable, prescription, staff, patient management with fundamental accounting procedures are included in the OPMS.

The OPMS simplifies user friendly and it enables a permitted computer user to manipulate the system without any difficulty. This helps the users transact business with necessary intimation by transmitting message without any delay. This system helps in the effective day to day business transaction and to maintain accounting reports.

The OPMS for New Medi Care Hospital is nothing but a flexible and a well-planned system when compared to the automated current manual system. This OPMS system basically includes patient management system that automates daily channeling and fundamental accounting procedures, generating reports, decision making of the New Medi Care Hospital.

1.2 MOTIVATION FOR PROJECT

Jaffna district is situated in most Northern part of Sri Lanka. The district has more than 25 government and private hospitals. The hospital services are presented in such a way that it is very much affordable to the greater majority of the local population who are average or lower middle income earners; Modern New Medi Care Hospital is a leading Hospital in the Chavakachcheri. Though it has good service facilities, it is not stored data properly. It maintains a good relationship with patient but, it takes a long time to provide their service.

The staff transacts business with the public with undue delay. At present, Hospital has not any automated facilities. Shortage of staff poses a big problem and whenever there is an unusual crowd, it takes a long time to deliver the service to patient. Staff cannot be blamed for this delay and engagement of adequate staff with the automated system

will rectify this problem. Shortage of medicines inconveniences the patient. Careful planning and obtaining required medicines in advance will facilitate an effective system. As most of the patients of Modern New Medi Care Hospital say that; 'Time management is very important in this fast world now a day and only by the introduction of a time saving device that this delay can be overcome'.

The above observances were discussed with the management of the Hospital and it is motivated that to solve those problem so suggested introducing Online Patient Management System for the smooth functioning of the Hospital.

1.3 OBJECTIVES AND SCOPE OF THE PROJECT

1.3.1 OBJECTIVES OF THE PROJECT

- Provide a user-friendly system that will ease the difficult the experienced in details of Generate channeling, patients, drugs, consultant visit, etc. reports in daily, monthly and yearly.
- This system will provide validated information that helps in decision making i.e., taking account of the appointment used and day to day activity details and preparing management reports.
- Preparation of periodical reports of the Hospital.
- The proposed system can be used in a computer with effective memory and processing power (not high). So this is also a cost effective system.
- Manage the medicine, staff, patient, admit, prescription, operation, fess and channeling details.
- Communicate through the system via SMS
- Patients make booking through online and make advance payment via ez cash and conform for booking.
- Make an alert through mobile to patients about channeling when they get booking through online
- Calculate the patient payment details automatically and show notification of pending, advance and paid payment details
- This system will develop and replace manual system effectively with regards to cost.
- Helps employer and employee with Graphical User Interface (GUI) system and this do not need much training.

- Moreover, the system will provide a speedy and better performance accessing method for patient Management for Modern New Medi Care Hospital.

1.3.2 SCOPE OF THE PROJECT

The scope of this project is to provide a cost effective system for this hospital to run to handle the day-to-day function in a smooth and effective manner by introducing the web based computer system.

1.4 CRITICAL FUNCTIONALITIES FOR THE PROJECT

With the existence of the present paper based manual system the clients are bound to undergo the under mentioned difficulties.

- Appointment taking becomes difficult.
- Considerable delay in billing and issuing receipts.
- Delay in confirmation for appointment.
- Difficulties in preparing reports connected with accounts so as to increase this business prospects.
- Difficulties experienced in finding out the prescription of patient and this is the result of the manual system.

1.5 STRUCTURE OF THE DISSERTATION

This section basically describes how the work is done throughout all the stages of the project. Each chapter in this dissertation provides the necessary details along with the relevant graphs, figures and reports in order to understand the project work. This chapter provides a brief introduction of the project. Motivation for this project and the objectives and scope of the project are also discussed here.

Chapter 2 is based on requirement analysis where the fact gathering techniques used, the functional and non-functional techniques identified and a comparison with existing similar systems are described.

Chapter 3 which is based on the design phase consists of all the methodological approaches used to design the complete system, all the relevant diagrams with descriptions and the main user interfaces with appropriate screen shots.

Chapter 4 is the implementation of the project work.

Chapter 5 is describing evaluations of the project work.

Chapter 6 Finally, conclusions this work with a discussion of your findings towards future extensions. After the main chapter there is a Reference section where all the materials referred to write the dissertation are given. Furthermore in the appendices, System documentation, design documentation, user documentation, management reports, test results, code listing and the client certificate are provided. Finally, a glossary of term and a general index are provided.

CHAPTER 2: ANALYSIS

This chapter will mainly focusing on the initial situation of the system, fact gathering techniques used in the project, project goals and delimitations of goals with respect to the system environment. It also provides a comparison with existing similar systems, functional and non-functional requirements of the proposed system, the details about the system users and also the prerequisites that must be applied for the system.

2.1 THE DRAWBACKS OF EXISTING SYSTEM

The follow defects are observed in the manual system of the Modern New Medi Care Hospital.

- Generation of reports is not done effectively in the absence of technical knowhow.
- Maintenance of the manual patient, staff, appointment, prescription, payment, channeling of doctors management results in unexpected errors.
- It needs more time and more man power.
- Tracing records from files possess a difficult and time consuming task.

The suggested system promotes efficient service than the existing one in the management of Modern New Medi Care Hospital, Chavakachcheri. It is suggested to have a patient management system to replace the manual system as observed in the Modern New Medi Care Hospital, Chavakachcheri. Information Technology used to automate Online Patient Management System will be very helpful and results in accuracy, efficiency and consistency. The use-case diagram for existing manual system is shown in the following Figure 2.1:

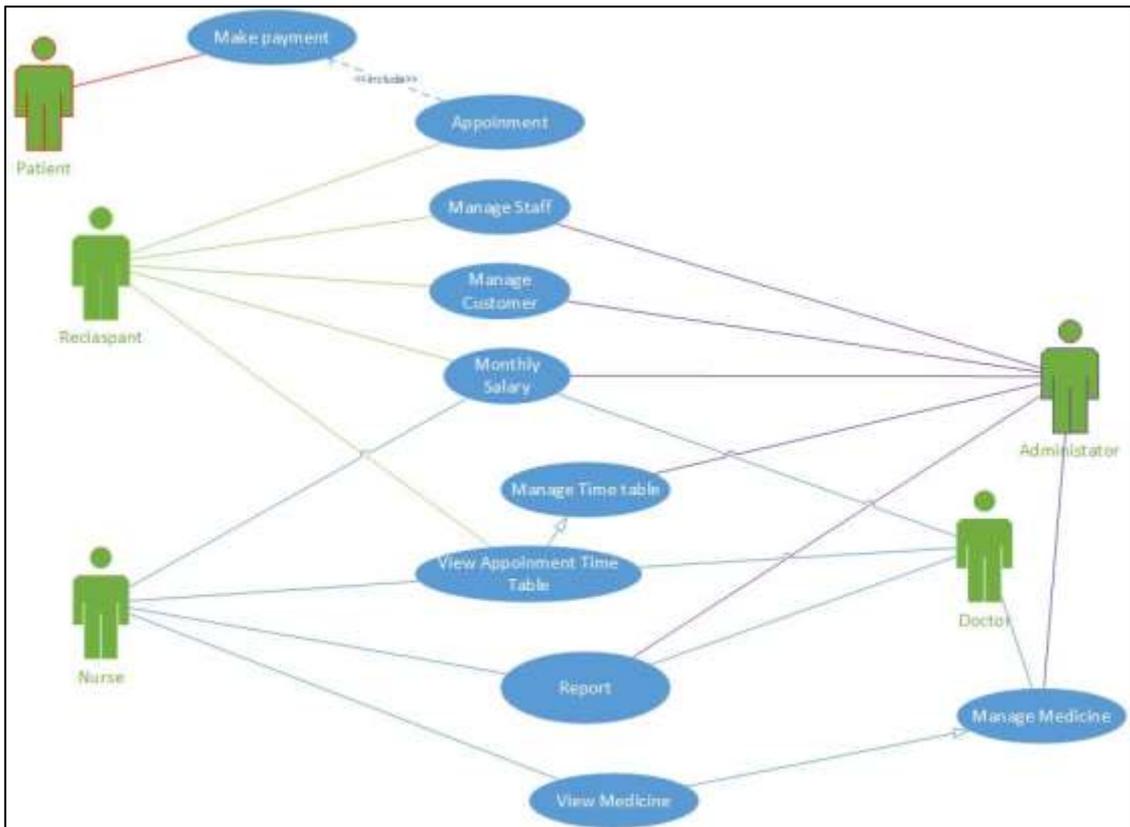


Figure 2.1 Use-Cases for Existing System

2.2 INFORMATION GATHERING TECHNIQUES

Gathering information form a significant part in requirement analysis phase and it consumes a lot of time. The analyst is responsible for the accuracy and documentation of this system. In a system development, Project the following measures have to be adapted.

- Interviewing
- Questionnaires
- Observation
- Prototyping

An analyst could use more than one measure to develop a single system. It's always advisable to use Interviewing and Questionnaires of the client.

2.2.1 THE SELECTION OF INTERVIEWING MEASURE

- The interviewing method provides a wider scope than the other methods as it is complex to observe some periodic activities.

- The interviewing methods enables analyze to find out completely for prompt feedback from the user. Information of this system was collected by interviewing system uses in this following manner.
- With the direction of the owner of Modern New Medi Care Hospital, Chavakachcheri, the users of the system were identified.
- Difficulties in finding out prescription details of each patient were collected
- The Owner/ Administrator, the staff, the receptionist were interviewed and most of the information of the daily routine activities of the system was attached.
- The staff was interviewed medicine details, staff details, patient details, prescription, payment, channeling management were collected.

At last the past and present records of the Modern New Medi Care Hospital related to this project were analyzed to collect sufficient information from the client

Interviews

The following are some of the questionnaires used in interviews with the owner of the Modern New Medi Care Hospitals to obtain a job oriented experience and to foster good relationship.

2.2.2 DATA COLLECTION

Questionnaire

- 1) Could you point out the most important activity in your Hospital?

Online Patient Management System

- 2) Could you provide a detailed activity you wish to computerize?

Channeling Details

Staff Details

Patient Management Details

Prescription Details

Doctor's Timetable Details

Online Control Details

- 3) Do you like to print reports?

Yes

2.3 USING TOOLS FOR DOCUMENTING REQUIREMENTS

Requirement documentation is the most important activity while collecting information about the proposed system. Many tools namely MS VISIO 2013, Microsoft Word, Microsoft Project 2010 and Rational Rose 2003 were used to analyze the requirements and documentation of requirements. To document the main activities of the Modern New Medi Care Hospital Use Case diagrams are used. And through ER diagram, entities are identified.

2.3.1 ANALYSIS OF THE SYSTEM REQUIREMENTS

To minimize the following issues, analysis of the requirements is an important method

- Requirements with contradictions
- Lost requirements
- Requirements that are impracticable
- Requirements that are uncertain
- Requirements copied

Information gathered by interviewing was analyzed in the above situation led to identification, discussion and solving of problems to the satisfaction of the client.

2.3.2 FORMALIZE REQUIREMENTS

Formalize requirements are the most significant activities. Outputs of above analyze requirements are Requirements definition and Requirement specification.

2.3.3 VALIDATION OF REQUIREMENTS

After gathering all input the owners and staff of the system, final draft of the requirements was validated. The system specification forms as a foundation to the system test checking of their requirements took place for accuracy, completeness and consistency. At this commencement of the test plan a specification test was held.

2.4 DETAILED AND EXACT REQUIREMENTS OF OPMS

2.4.1 FUNCTIONAL REQUIREMENTS

To document the functional requirements, this proposed system was organized. It will assist the system designer to develop and design specifications of the Modern New Medi Care Hospital, Chavakachcheri.

- Manage staff details, medicine details, channeling details, prescription details and patient details.
- Calculate payment details for appointment
- Manage alert news.
- Generate reports.
- Manage channeling.

2.4.2 NON-FUNCTIONAL REQUIREMENTS

Not only the functional requirements, but also the non-functional requirements are vital to the successful implementation of the project. Although they are not directly concerned, it was found out that there are many non-functional areas which have to be address in order to complete this system in a successfully manner. Main non-functional requirements which need to be achieved are described below.

- **Accuracy and consistency** of the system is very important. In this project there exist quite a few functionalities which accuracy is very vital. Entering data should be validated by the system
- **Reliability** is another main non-functional requirement which is required by the users. Although it does not specified directly. Keeping database backup is important in this regard.
- **Portability** System is portable only if the executable files can be run on a new platform without change.
- **Software Security** of the system is a very important thing. Only the authorized persons should be allowed to operate the system with their own username and password only.
- **Efficiency** Time management efficiency of the performance.
- **Response time & Processing time** –Although this was not specified by the users, in general it is needed that the system should give response to the user without much delay.
- **Operability** The easy operation of system.

2.5 SYSTEM REQUIREMENTS OF THE OPMS

2.5.1 HARDWARE REQUIREMENTS

- Pentium 4 processor 1.4GHz or Higher
- RAM 1GB or Higher
- VGA 128MB or Higher
- Hard disk 40GB or Higher
- Internet facility.
- Basic Printer.

2.5.2 SOFTWARE REQUIREMENTS

- Windows operating system.
- Wamp Server (PHP 5.4.12, My SQL 5.6.12, Apache 2.4.4)
- Adobe Dreamweaver CC
- Adobe Photoshop
- CSS
- JavaScript
- Microsoft Word
- My SQL Workbench 6.0.8 CE
- Microsoft Project 2013
- Microsoft Visio professional 2013

2.5.3 USER REQUIREMENT IN THE OPMS

User experience requirements

- Basic knowledge of handling operating system
- Typing speed necessary to use this system for data entry
- Basic knowledge of database management system
- Basic knowledge to handle printers.

The administration should arrange special training of the user of the system do not possess the requisite experience.

2.6 SIMILAR SYSTEM

In Sri Lanka most of the southern side hospitals are addicted to computerize their management but in the northern part of Sri Lanka lack in the Information Technology in that case most of hospitals are still work in manually.

“Lanka Hospital” [1] is a leading hospital in Sri Lanka famous hospital in Sri Lanka. It facilitates to viewers to search details of services, appointment details, facilities, channeling and booking details.

The Lanka hospital home page is shown in the following Figure 2.2:



Figure 2.2 Lanka Hospital

Another Prominent hospital in Sri Lanka is “Durdans Hospital” [2]. It facilitate to viewers to search details of services, appointment details, facilities, channeling and booking details. They have the facility that makes online payments. Furthermore they facilitate that international care. The Durdans hospital home page is shown in the following Figure 2.3:



Figure 2.3 Durdans Hospital

The third one is “Hemas Hospital” [3]. It facilitates to viewers to search details of services, appointment details, facilities, channeling and booking details. They have three branches in southern part of Sri Lanka; Wattala, Thalawathugoda and Galle. The Hemas hospital home page is shown in the following Figure 2.4:



Figure 2.4 Hemas Hospital

The most of the northern hospitals work done in paper work. From this system hospital manage their day to day activities through online, online booking, create reports automatically and etc. This system will help them to reduce their work load and save the time consuming.

CHAPTER 3: DESIGN

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. This a construction phase of a software system. This contains, designing of user interfaces, database and outputs along with users are needed to meet operational goals. Information system design is concentrated on the technical execution feature of the development project. The following techniques are prevalent in a design system.

- Structured design Techniques
- Prototyping
- Rapid Application Techniques
- Joint Application Development

These technologies are used in relation between the scope and goal of the project.

3.1 DIFFERENT MODELS AND METHODOLOGIES

In the development online patient management system of Modern New Medi Care Hospital, Chavakachcheri was resolved to follow the perfected design techniques. Waterfall development has distinct goals for each phase of development This model system shows the five phases of the development system and can be used to develop the OPMS in which the requirements are well structured. The following phases are used one by one in order.

There are number of designing methods and methodologies are available to designing the system. Waterfall Model, Rapid Application Development, Incremental Development, Prototype are some of them. Correct development method has to be chosen to successfully complete the system. Generally Waterfall model is uses to develop the system where the requirements are stable. It's a linear process model while the previous stage should be completed before the next level starts. RAD is used when the minimal planning is available in favor of prototyping. The extensive pre-planning is allowed to develop the system in this method. Incremental Development is widely suggested for large systems. In this development more than iterations can be done simultaneously. Incremental Development also includes the repeated cycle to reduce the error in the system and fulfill the requirements successfully.

The waterfall model is suitable for projects which have clear and stable requirements. The waterfall model is the original SDLC method and its name comes from its structure where it has a cascading effect from one phase to the other as shown in Figure 3.1. Separate and distinct phases of specification and development, linear Sequential model.

The Water fall model is shown following Figure 3.1

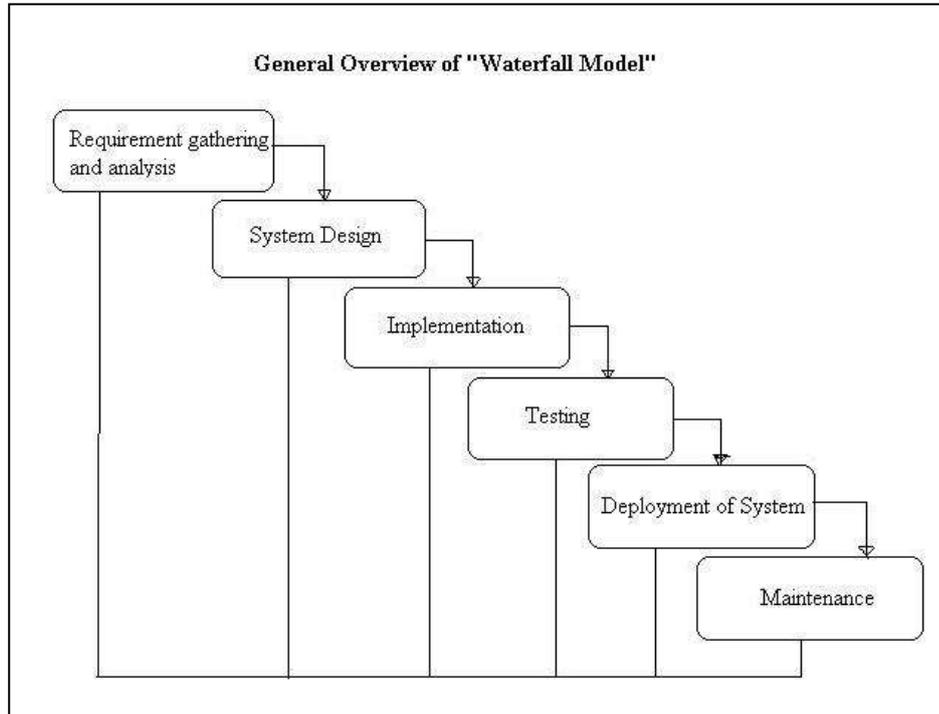


Figure 3.1 Water Fall Model

3.2 ALTERNATE SOLUTION AND EVALUATION

In software development all the system basically divided into three categories that are standalone, network based and web based system are shown in Table 3.1

Alternate solutions	Windows based	Web based	Network based
Access from anywhere	X	Unlimited	Limited
Graphical User Interface	X	√	√
Multiple users	X	√	√
Internet facility	X	Unlimited	Limited
Security	Less	High	More
Sharing facilities	X	High	More

Table 3.1 Alternative Solution

In this system the web based business management system for Modern New Medi Care Hospital has many patients in various place, they want to access the system in their places. The management like to centralized the backend (database) and provide the system to all users in simultaneously. For these reasons the management has decided to develop the system in web based.

3.3 PROCESS DESIGN

The design gives the solution for requirements analysis, based on this design to develop the system. This design was divided into three stages:

- Database design
- Application architecture design
- Interface design

3.3.1 DATABASE DESIGN

Database design is done through data modeling. The database designing is done to specify the structure of the object of the system. To avoid the data redundancies the every table of the database were normalized to third normal form.

In normalization there is several level of normal form but we mostly used first three normal form. First normal form (1NF), eliminate duplicative columns from the same table and create separable tables for each group and identify the unique column or set of columns it is called as primary key for that table. Second normal form (2NF), if any non-key attributes are functionally depended on just a part of the key was remove and create separate table and connect both table with foreign key. Thus 2NF can only be violated only when a key is composite key. Third normal form (3NF), remove columns that are not depend upon the primary key.

After third normal form most of the table mostly avoids the data redundancy, if any additional other normal form will be used. I drew the Entity Diagram by My SQL Workbench 6.0.8 CE. Our system ER diagram shown following Figure 3.2 ER Diagram:

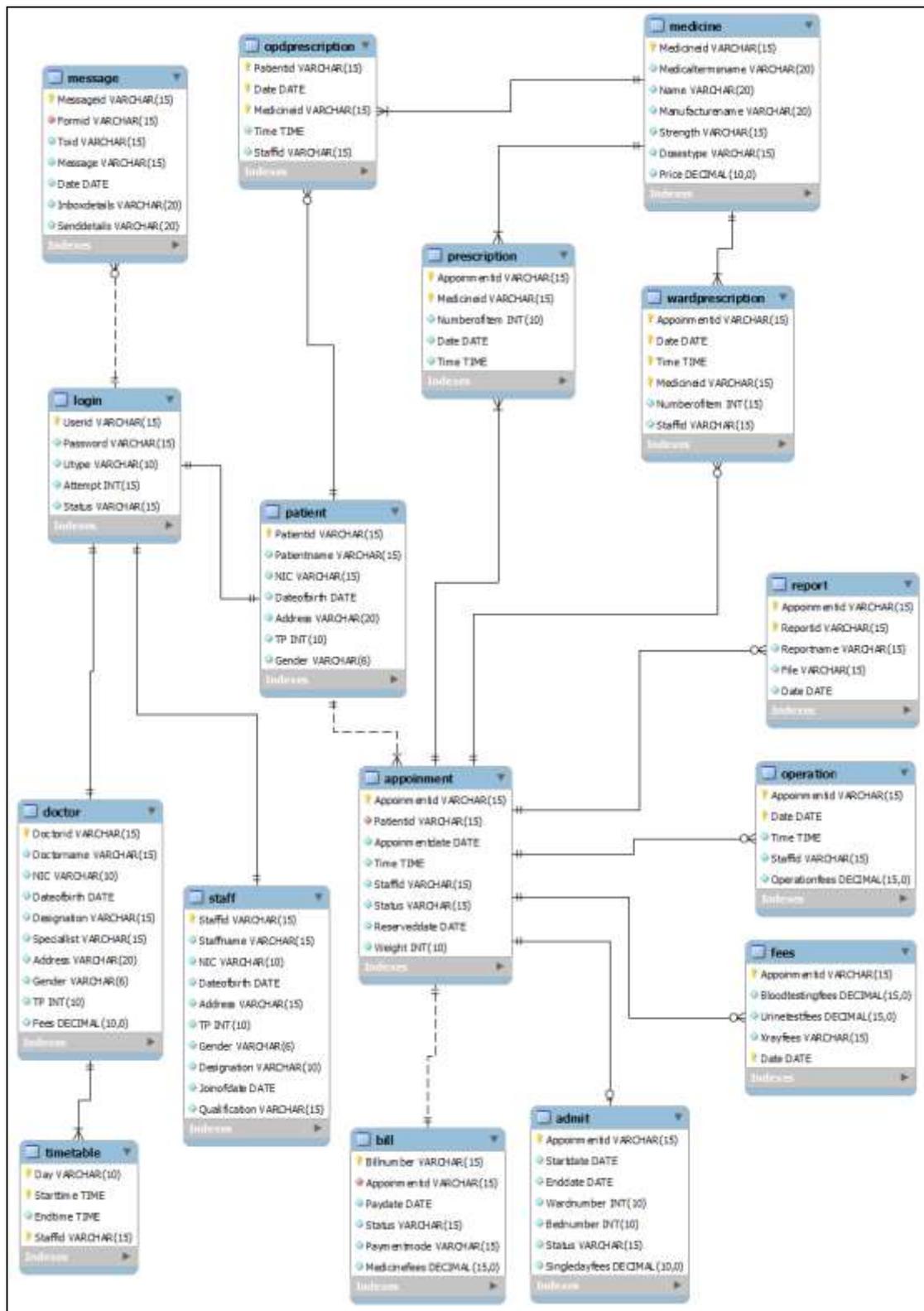


Figure 3.2 ER Diagram

3.3.2 APPLICATION ARCHITECTURE DESIGN

This design describes the functionality and task of the system are connected into sub system. In this design we draw activity, class, sequence and use-case diagram. I used the Microsoft Visio Professional 2013 to draw those diagrams.

Use-case diagram

It is simply represent the user's interaction with the system, summarized the relationship between use-cases, actors (users) and systems. This system use-case diagram shown following Figure 3.3 Use-case Diagram:

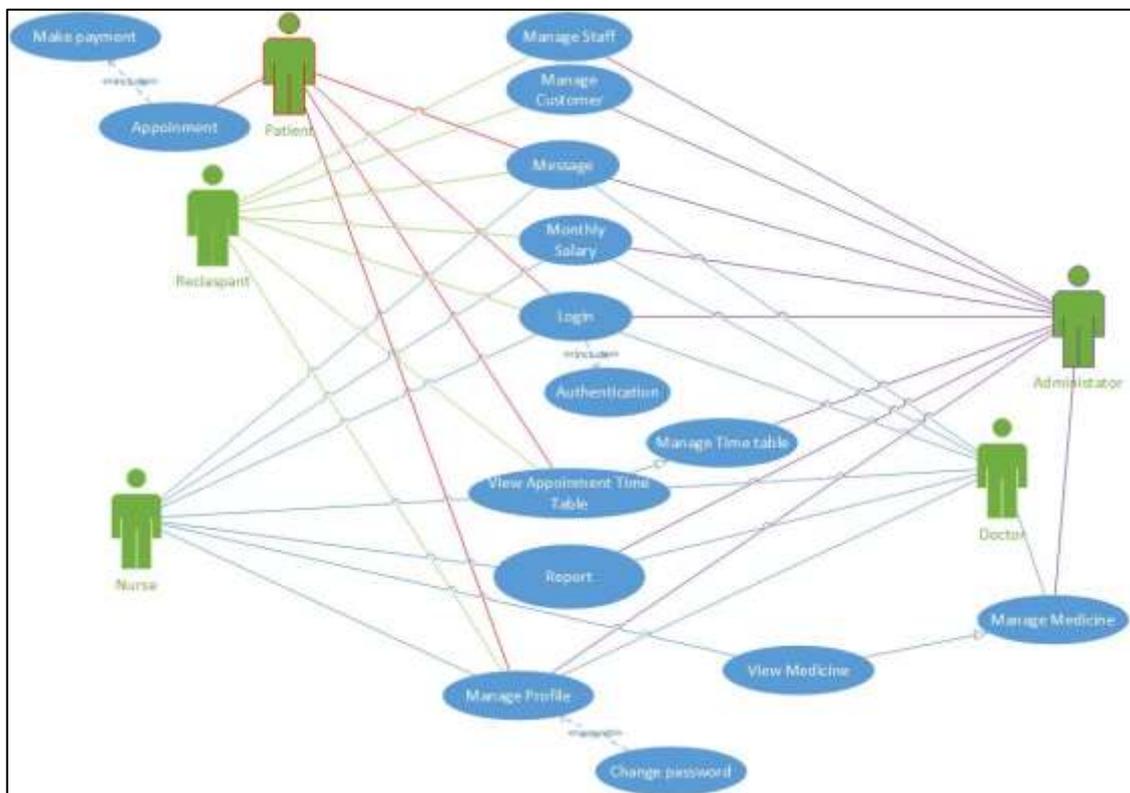


Figure 3.3 Use-Cases Diagram

The use-case narrative:

The use case narrative for above use case Figure 3.3 is illustrated in following

Table 3.2:

Use-case	Login
Actor	Administrator, Doctor, Nurse, Receptionist, Patient
Description	Only already registered users can access the system. Others cannot, if they want to access; want register to this system. Registered users when login; system validate the username and password; and authorized that is legal or illegal; if correct authorized user system allowed to access the system.
Use-case	Appointment
Actor	Patient
Description	The guest actor can search the channeling time, doctors details, facilities and etc. if they want appointment they want to login into system; after login they can booking for appointment and want make advance payment via ez cash, after ez cash management confirm that for appointment; then patient can consult with doctor on applied appointment date

Table 3.2 Use-Cases Narrative

Activity Diagram

This diagram represents the graphical view of workflows of stepwise activities in the system. This activity diagram for login is shown load login form new user, input user name and password and validate to get the username and password check validate three (3) attempt and view password recovery. Activity diagram for login is shown on following Figure 3.4 Activity Diagram for Login:

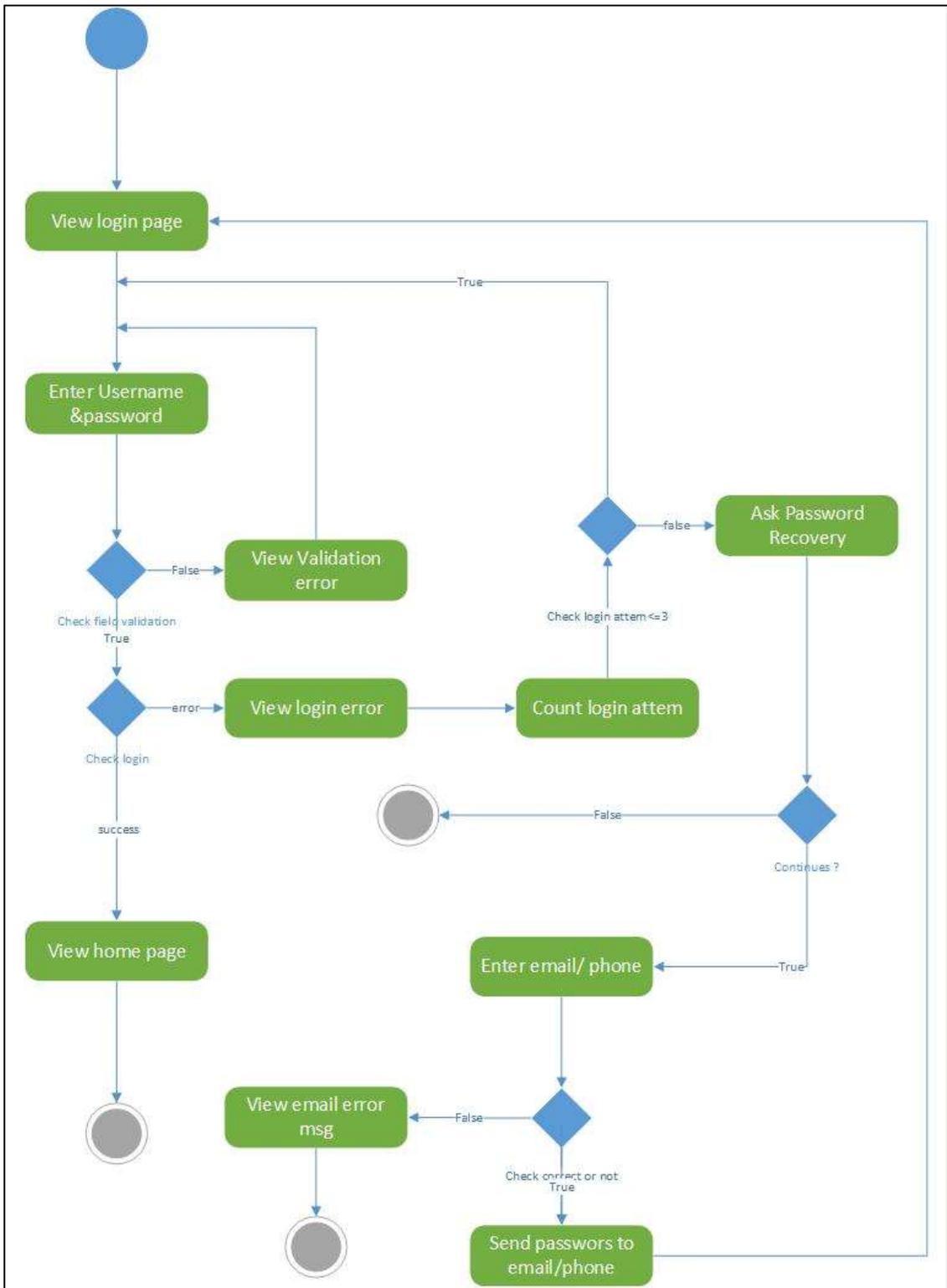


Figure 3.4 Activity Diagram for Login

Sequence diagram

This diagram represents how objects interact in given situation or activity. Sequence diagram for login is shown on Figure 3.5 Sequence Diagram for Login:

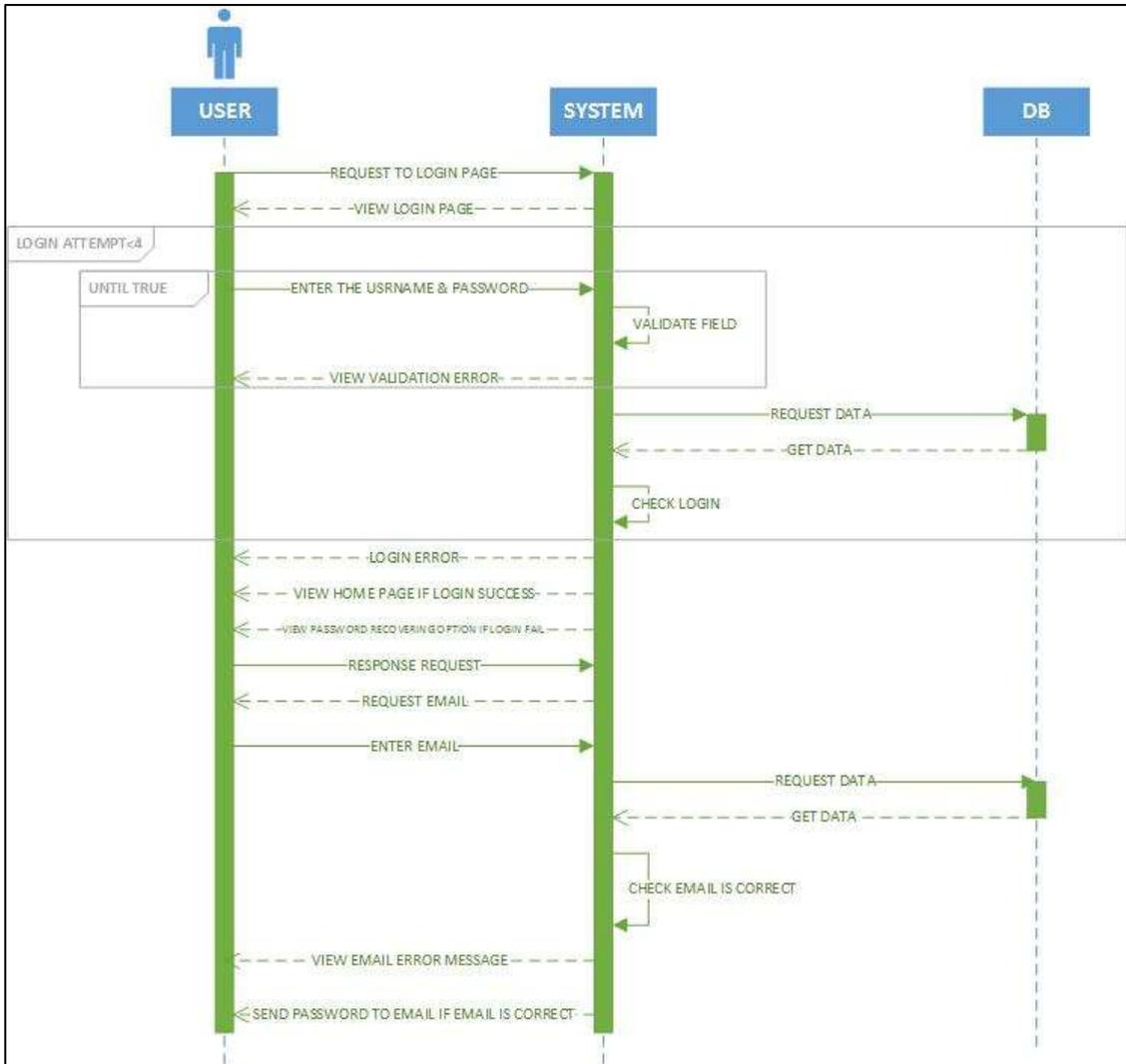


Figure 3.5 Sequence Diagram for Login

3.3.3 INTERFACE DESIGN

The design type is suited according to the system features the user interfaces designed to accept input from user and provide a well formatted output. User interfaces are an essential part of an information system which helps the user to interact with the computer. “The goal of user interface design is to provide the best way for people to interact with computers, or what is commonly known as human computer interaction”. It is believed that making the H.C.I. more effective, user friendly and more powerful will help the human to be more satisfied with the work he/she does, and thereby will be more productive in their day to day work. In the present day majority of organizations have identified this fact and are focusing more on implementing good interfaces.

3.4 SAMPLE INTERFACE IN MODERN NEW MEDI CARE HOSPITAL

I. Home Page Inter face

- The Home page contains login facility. System user can login to the system by giving correct password for selected user name. In the main menu, about us tag includes general Information of Modern new medi care hospital Chavakachcheri.
- The User can login in this page

The Figure 3.6 shows this home page interface

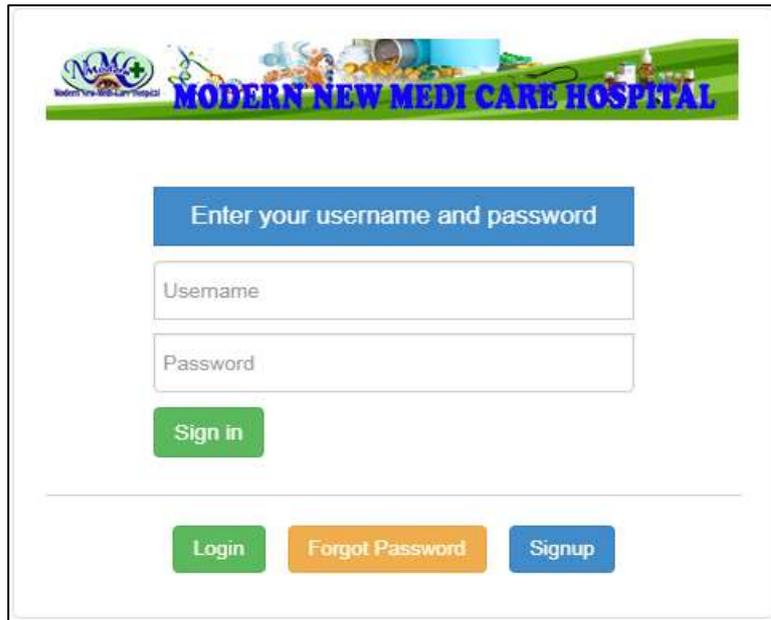


Figure 3.6 shows this home page interface.

II. Login in Inter face.

- The O.P.M.S for Modern new medi care hospital User can sign in to the system throw enter the selected username & the correct password, she/he can login the Modern new medi care hospital's home page.
- If the User forgot the password, she/he can get that to do single click on forgot password link. In this step, the system needs his/her available e-mail address to send the correct username @ password.

The Figure 3.7 shows this login interface.

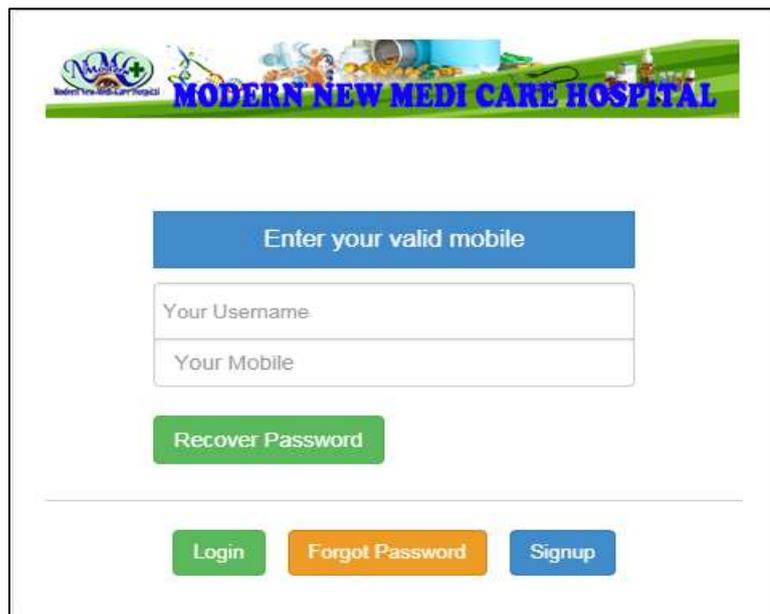


The screenshot shows the login interface for Modern New Medi Care Hospital. At the top, there is a banner with the hospital's logo and name. Below the banner, there is a blue box with the text "Enter your username and password". Underneath this box are two input fields: "Username" and "Password". Below the input fields is a green "Sign in" button. At the bottom of the interface, there are three buttons: "Login" (green), "Forgot Password" (orange), and "Signup" (blue).

Figure 3.7 shows this login interface.

Forget Password

When user attempt more than three then the login system automatically provide a forget password interface. In forget password user interface, the user has to enter his valid email address and submit, and then the system will automatically send the password to that email id.



The screenshot shows the forget password interface for Modern New Medi Care Hospital. At the top, there is a banner with the hospital's logo and name. Below the banner, there is a blue box with the text "Enter your valid mobile". Underneath this box are two input fields: "Your Username" and "Your Mobile". Below the input fields is a green "Recover Password" button. At the bottom of the interface, there are three buttons: "Login" (green), "Forgot Password" (orange), and "Signup" (blue).

Figure 3.8 Forget Password

III. After the login.

Recognized Department users are welcome to Web based Online Patient Management System. Authorized users make all activities that they need through this main interface. It contains buttons, Menu bar and tool bar buttons. This main interface contains online control, channeling and staff details. Different type of users has different type of interfaces according to their privileges.

The Figure 3.9 shows after the login as admin



Figure 3.9 Admin home page

IV. Appointment interface

Admin or staff can access this interface he/she can be able to enter any new sales with the details of Appointment id, Patient id, Appointment date, Time.

Figure 3.10 shows enter Appointment interface

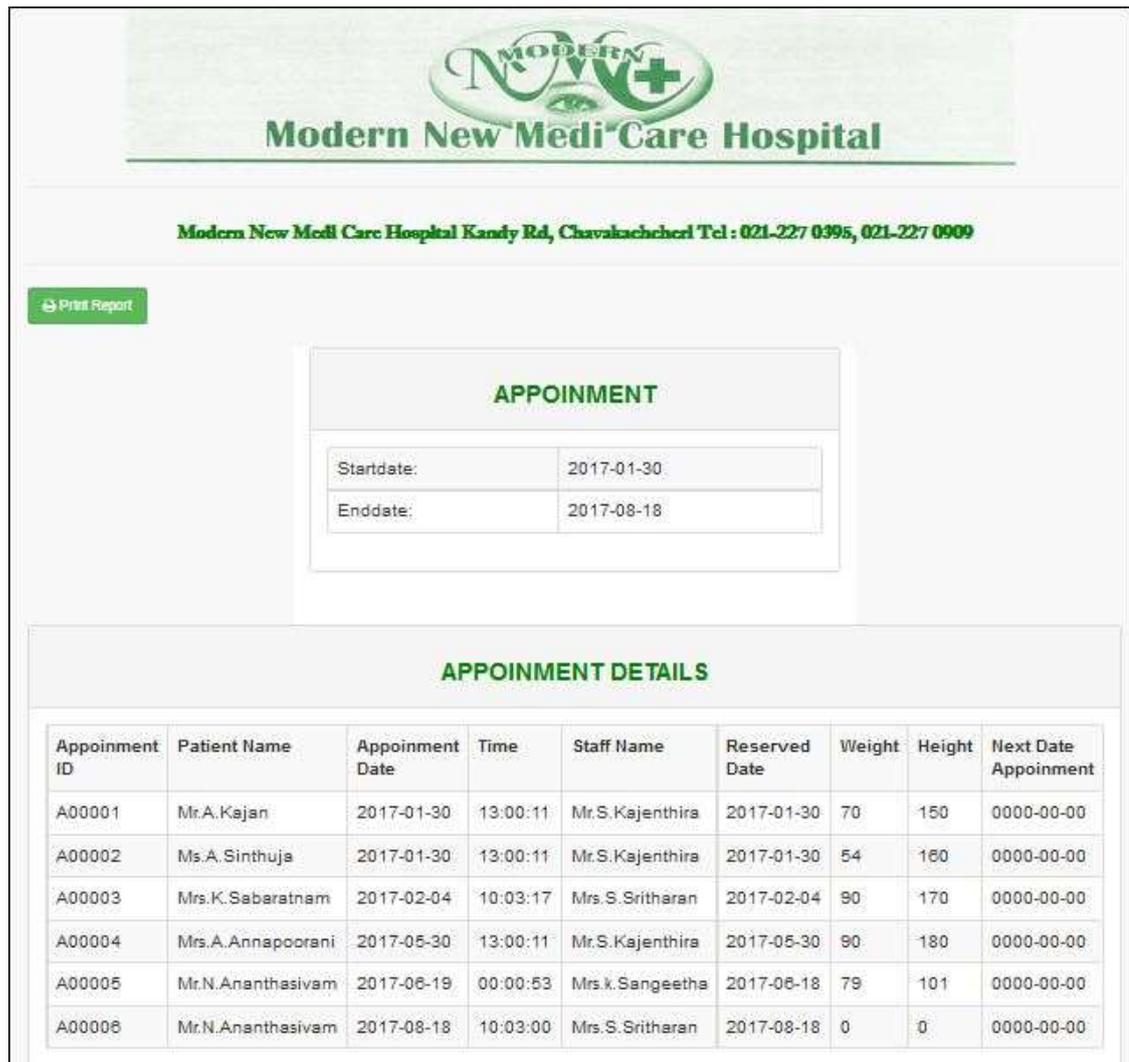


Figure 3.10 Appointment

V. Reports Interface

- Report generation is easily to do in this system
- The admin or staff user can check the hospital's detail on that day
- The appointment details are display on the screen

Figure 3.11 shows appointment report interface



Modern New Medi Care Hospital

Modern New Medi Care Hospital Kandy Rd, Chavakachched Tel : 021-227 0395, 021-227 0909

Print Report

APPOINTMENT

Startdate:	2017-01-30
Enddate:	2017-08-18

APPOINTMENT DETAILS

Appointment ID	Patient Name	Appointment Date	Time	Staff Name	Reserved Date	Weight	Height	Next Date Appointment
A00001	Mr.A.Kajan	2017-01-30	13:00:11	Mr.S.Kajenthira	2017-01-30	70	150	0000-00-00
A00002	Ms.A.Sinhuja	2017-01-30	13:00:11	Mr.S.Kajenthira	2017-01-30	54	160	0000-00-00
A00003	Mrs.K.Sabaratnam	2017-02-04	10:03:17	Mrs.S.Sriharan	2017-02-04	90	170	0000-00-00
A00004	Mrs.A.Annapoorani	2017-05-30	13:00:11	Mr.S.Kajenthira	2017-05-30	90	180	0000-00-00
A00005	Mr.N.Ananthasivam	2017-06-19	00:00:53	Mrs.k.Sangeetha	2017-06-18	79	101	0000-00-00
A00006	Mr.N.Ananthasivam	2017-08-18	10:03:00	Mrs.S.Sriharan	2017-08-18	0	0	0000-00-00

Figure 3.11 Appointment Report Interface

Figure 3.12 shows print report interface

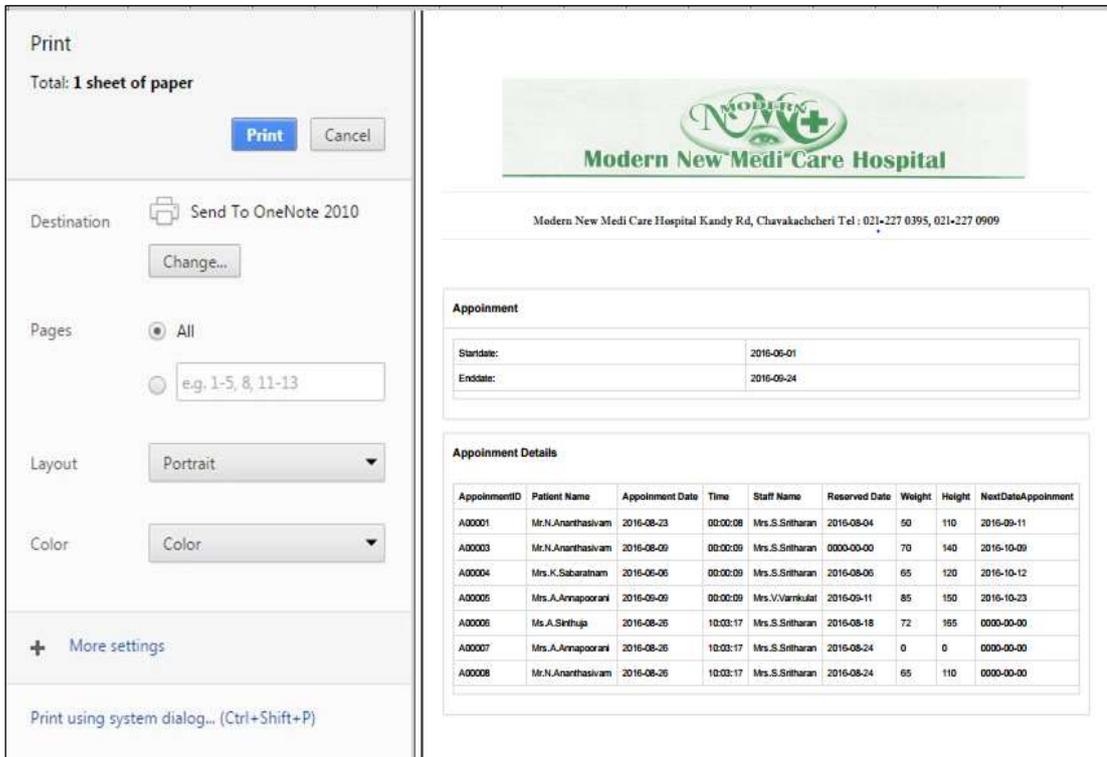


Figure 3.12 Print Report Interface

V. Prompt message interface

This prompt message is display when the entering item is successfully saved

Figure 3.13 shows the entering prompt message interface



Figure 3.13 Prompt message interface

Sometime the user can delete item or other details; this prompt message is conform the deletion.

Figure 3.14 shows the deleting prompt message interface.



Figure 3.14 Deleting prompt message

CHAPTER 4: IMPLEMENTATION

Implementation is the system development process followed by the software designing. The OPMS deals with the Online Patient Management System. The Implementation system is adopting a new system in day to day activity. It is a process that operates in real environment. During this phase, Application programs, databases and interfaces with user and similar systems are built. Implementation is not only programming

4.1 HARDWARE AND SOFTWARE USED IN OPMS

The Online Patient Management System for New Medi Care Hospital implementation is used some hard ware requirements & Software requirements.

4.1.1 HARDWARE REQUIREMENTS

- Pentium IV Processer
- 128MB or Higher RAM
- 101/102 Keyboard and Optical Mouse
- Color Monitor, Printer(for report)
- CD writer
- Dot matrix printer
- Network Connection

4.1.2 SOFTWARE REQUIREMENTS

- Windows operating system
- WampServer (PHP 5.4.12, My SQL 5.6.12, Apache 2.4.4)
- Adobe Dreamweaver CS5.5
- Adobe Photoshop CS5
- CSS (Cascading Style Sheet)
- JavaScript

4.1.3 TECHNOLOGIES

- PHP (Hypertext Pre Processor) was used to develop the system
- CSS was used to make the system interface more user-friendly and attractive

- JavaScript was used more, and also AJAX was used to develop the system.

4.2 WAMP SERVER

As shown above WAMP is an acronym for Window, Apache My SQL, and PHP. This is a software bundle consisting of the before mentioned four software. WAMP server is solid and stable high-performance platform for windows.

4.3 CODE SEGMENTS

The My SQL connection code is used to connect the system with the server, if correct username, password and local host database will connect successfully. My SQL select database code is used to connect the database after accessing the local host.

In this system there are four modules such as login, management, booking and patient. The login module consist of login, forget password of this system. The management module: manage the staff, doctor, medicine and report. In booking module: patent can make booking online and choose their prefer the doctor and date. When they booking they want to paid the advance payment. The patient module: patient registration and patient history. The Module structure show in the following Figure 4.1:

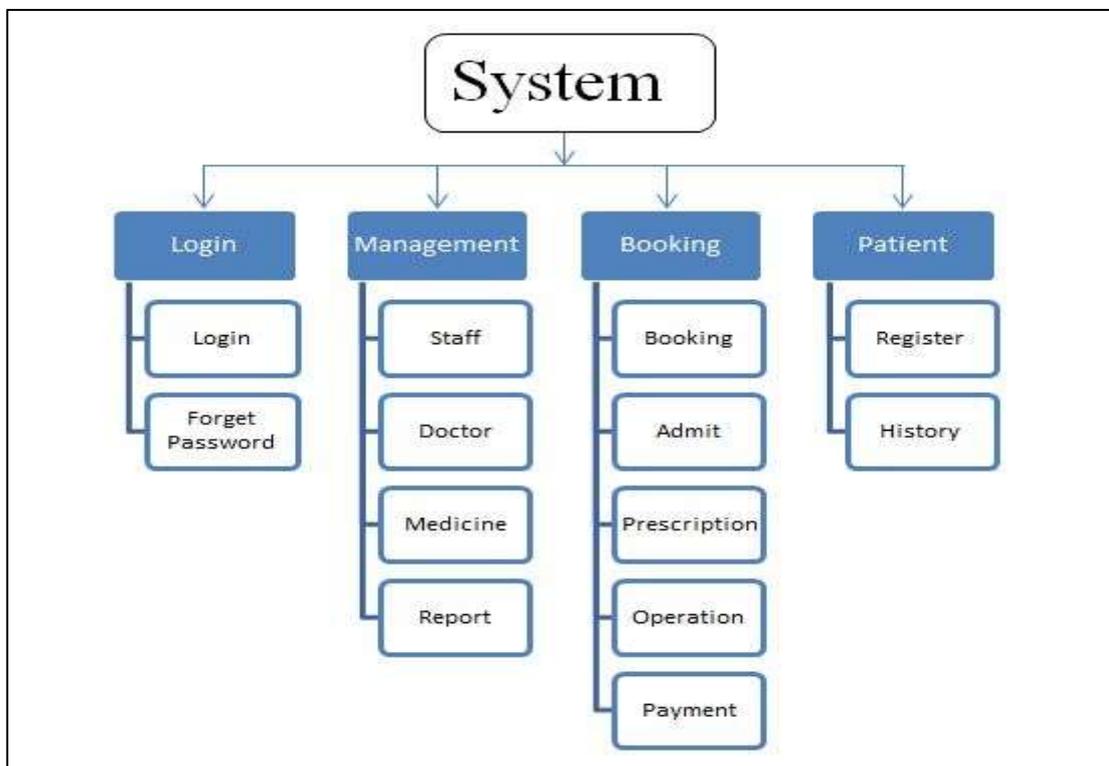


Figure 4.1 Module Structure

4.3.1 LOGIN THE OPMS

The user is able to login to the Online Patient Management System through the website

```
</php  
  
Include("config.php");  
  
if(!isset($_SESSION))  
  
{  
  
Session start();  
  
$msg="Please login with your Username and Password."  
  
if(isset($_POST['btn_submit']))  
  
{  
  
                $username=$_POST['txt_username'];  
  
                $password=$_POST['txt_password'];  
  
$SQL="SELECT * FROM login WHERE uname='$username' AND pwd='$password'";  
  
$result=mysql_query($SQL) or die(mysql_error());  
  
if (mysql_num_rows($result) == 1)  
  
        {  
  
                $row=mysql_fetch_assoc($result);  
  
                $usertype=$row['utype'];  
  
                $_SESSION['username']=$username;  
  
                $_SESSION['usertype']=$usertype;  
  
if ($usertype ='admin')  
  
{  
  
}  
  
header('Location:adminhome.php');
```

```
exit;

}

elseif($utype = 'reception')

{

header('Location: receptionhome.php');

exit;

}

elseif($utype = 'nurse')

{

header('Location: nurse home.php');

exit;

}

elseif($utype = 'doctor')

{

header('Location: doctor home.php');

exit;

}

else

{

header('Location:nofile.html');

exit;

}

}

else
```

```

{
$msgg="<font color=#FF0000><b>Error username or password, Please try
again!!!</b></font>";
}
}
<?

```

4.3.2 NEW REGISTER (INSERT) CODE

If user enters all correct information the system insert the details into user table and patient table. If we enter wrong the system provide an alert message box with meaningful message.

New register code,

```

if(isset($_POST['btnsubmit']))
{
$sql1="INSERT IN TO staff(Staffid,Staffname,NIC,Dateofbirth,Address,TP,Gender,
Designation, Join of date, Qualification)
values(
        ".mysql_real_escape_string($_POST['txtstaffid']).",
        ".mysql_real_escape_string($_POST['txtstaffname']).",
        ".mysql_real_escape_string($_POST['txtnic']).",
        ".mysql_real_escape_string($_POST['txtdob']).",
        ".mysql_real_escape_string($_POST['txtaddress']).",
        ".mysql_real_escape_string($_POST['txttpnumber']).",
        ".mysql_real_escape_string($_POST['txtgender']).",
        ".mysql_real_escape_string($_POST['txtdesignation']).",
        ".mysql_real_escape_string($_POST['txtjoinofdate']).",
        ".mysql_real_escape_string($_POST['txtqualification']).");
$result=mysql_query($sql1) or die ("error in.sql1:".mysql_error());

if($result)
{

```

```

                echo "<script> alert('Successfully Insert Into Database');
</script>";

            }

    }

```

4.3.3 EDIT THE PRODUCT DETAILS (UPDATE) CODE

After enter correct details the system updates the details

Edit the details,

```

if(isset($_POST["btnsubmitted"]))
{
    $sql5="UPDATE staff SET
    Staffname='".$_mysql_real_escape_string($_POST["txtstaffname"])."',
    NIC='".$_mysql_real_escape_string($_POST["txtnic"])."',
    Dateofbirth='".$_mysql_real_escape_string($_POST["txtdob"])."',
    WHERE Staffid='".$_mysql_real_escape_string($_POST["txtstaffid"]).''";
    $result5=mysql_query($sql5) or die ("error in.sql5:".mysql_error());
    if($result5)
    {
        echo "<script> alert('Successfully Update Into Database');
window.location.href='index.php?pg=staff.php&option=fullview&Staffid='".$_POST["
txtstaffid"].'''; </script>";
    }
}

```

Deleting the records.

```

else if($_GET['option']=="delete")
{
    $Staff_ID=$_GET['Staff_ID'];

    $sqldelete ="DELETEFROM staff WHEREStaff_ID='$Staff_ID'";

    $result =mysql_query ($sqldelete) or die("Error in sql1 part:".mysql_error());
}

```

Use the java script to conform the deletion

```
<script>

functiondeleletconfig()

{

var del=confirm("Are you sure you want to delete this record?");

if (del==true)

{

alert ("record deleted")

}

Else

{

alert("Record Not Deleted") }

return del;

}

</script>
```

4.3.4 REUSED MODULE

Some of code is used from external factor. The BCORE admin [6] is used only for design user-interface, forms and tables. This is free template and available in web in free.

4.4 SECURITY

This Online Patient management system for Modern New Medi Care Hospital has many patients in various place, they want to access the system in their places and transform many data, so it is important to maintain the security. The administration have full privilege to access the system, in other hand other users have less privilege than administration. From this system only registered user only access the system, the registered user uses their user name and password to login and access the system. After register in this system the new user can access the system

If user try to login with wrong password, this system allow only three times after three times system automatically load the forget password page. From forget password page the system verify the user name and registered mobile number then system send a password to user's registered mobile number. All pages have user privilege to access the page and system will not allow accessing the page illegally.

CHAPTER 5: EVALUATION

In this section the developer will attempt to summarize what the system can achieve and his further critical analysis that may not yet have been covered earlier. The evaluation and project appraisal examines the processes used and the outcome of a software project. And what was learnt during its duration. It discusses whether the objective of the software project was achieved. What problems occur due to the processes being used? And Delivery of software on time and within budget. In turn, the process scope is limited to software processes, although a successful system depends on more than just software (e.g., hardware, workflow design, training, documentation).

5.1 BACKGROUND OF TESTING

Software testing [4] is the process of executing a program or system in order to find errors. It is important that software should be tested in all possible situations using all possible inputs in order to find any errors in the particular system and correct it. This type of vigorous testing is needed in order to produce a quality system

5.2 VALIDATION AND VERIFICATION

Validation and verification (V & V) is the name given to the checking and analysis processes that ensure that software conforms to its specification and meets the needs of the customers who are paying for the software.

V & V is a whole life-cycle process. It starts with requirements reviews and Continues through design reviews and code inspections to product testing. There should be V& V activities at each stage of software process.

- Validation: Are we building the right product?
- Verification: Are we building the product right?

5.2.1 SOFTWARE INSPECTION

Analyze and check system representations such as the requirements documents, design Figures and program source code. They may be applied at all stages of the development process. Inspections may be supplemented by some automated analysis of the source text of a system or associated documents. Software inspections [5] and

automated analysis are static V&V technique as they do not require the system to be executed

5.2.2 SOFTWARE TESTING

Involves executing an implementation of the software with test data and examining the outputs of the software and its operational behavior to check that it is performing as required. Testing is a dynamic technique of V & V because it works with an executable representation of the system.

5.3 SOFTWARE TESTING PROCEDURE

Testing procedures should be established at the start of any software project. All testing carried out should be based on a test plan, this should detail which tests are to be carried out. For each test, the following information should be included in the test plan

- The pre-requisites for the tests.
- The steps required to carry out the tests
- The expected results of the test.

The outcome of any tests should be recorded in a test results document that includes whether the test succeeded or failed and a description of the failure. Test results for all passes through the test plan must be recorded to allow accurate records to be kept of where problems occur and when they were identified and corrected.

5.4 UNIT TESTING

This type of testing will be carried out for each and every atomic module or unit in the system. Every feature of a single unit is tested using **test cases**. A test case will consist of three main components:

1. Test data (Inputs to the test case)
2. Expected outcome
3. Objective of testing

Taking the above mentioned components into consideration, a test case is designed and using the test data the program is run. The actual outputs which are results of the executed program are recorded and they are compared with the expected outcome in order to identify errors. Then the errors will be repaired accordingly. Two actual test cases are shown below in Table 5.1

Objective	Input	Expected output	Actual output
Checking input validation of Pharmacology Name	Numbers	Pop up message	Pop up message
Checking input validation of Quantity	Characters	Pop up message	Pop up message

Table 5.1 Test cases

5.5 TECHNIQUE OF TESTING

5.5.1 BLACK BOX TESTING

Approach to testing where the program is considered as a 'black-box'.

The program test cases are based on the system specification. Inputs from test data may reveal anomalous outputs. i.e. defects Test planning can begin early in the software process. Main problem - selection of inputs. Equivalence partitioning

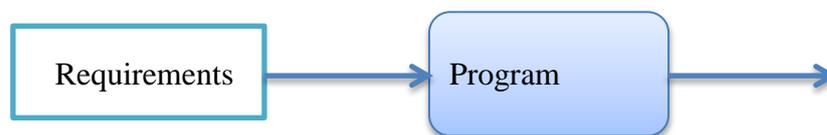


Figure 5.1 Black box testing

5.5.2 WHITE BOX TESTING

Sometimes called Structural testing or glass box testing; derivation of test cases was according to program structure. Knowledge of the program used to identify additional test cases. Objective is to exercise all program statements (not all path combinations).

The three main areas which will be covered using white box testing are:

1. **Sequence Coverage (Statement Coverage)** – This will be checking all sequential lines of code without considering the selections and loops.
2. **Selection Coverage (Condition Coverage)** – This will focus on simple conditions, compound selections, nested selections and case statements.
3. **Loop Coverage** – This will be checking all the loops in the source code.

5.5.3 COMBINING BLACK BOX AND WHITE BOX TESTING

Black box testing as well as white box testing has their respective pros and cons. None of these two methods is fully compatible with a system. So it is more effective if both types are combined together in the proper manner.

5.6 INTEGRATION TESTING

After testing all the units or modules of the system, these are integrated in to Sub systems and then to the entire system using Integration testing. Integration testing is done using several strategies.

5.6.1 TOP-DOWN TESTING

Top-down software testing is an incremental unit testing method which begins by testing the top level module, and progressively adds in lower level modules, one at a time. Top-Down testing uses stubs.

5.6.2 LOAD TESTING

Load testing is subjecting a system to a statistically representative load. The two main Reasons for using such a load is in support of software reliability testing and in performance testing.

5.7 TESTING RESULTS OF OPMS

No	Text Data	Purpose	Expected Results	Actual Results
1	Enter username password	To test the access to the application is correct	Should display the main form	As expected
2	Enter username as New Medi Care Hospital instead of it	To test the access to the application with the incorrect username	Should display an error message	As expected
3	Enter the password as 123456	To test the application with incorrect password	Should display an error message	As expected
4	Enter user name and email	To test the access to the application	Should display a message & send	As expected

	address	is correct.	the password in user's e-mail	
5	Enter e-mail as admin instead of it.	To test the access to the application with the incorrect e-mail address	Should display an error message	As expected
6	Click on the Patient menu on main form.	It should appear the Patient form.	It should appear the Patient.	As expected
7	Click on the Doctor menu on main form.	To appear the doctor form.	It should appear the doctor form.	As expected
8	Click on the Nurse menu on main form.	To appear the Nurse form.	It should appear the Nurse details form.	As expected
9	Click on the Staff menu on main form	To appear the Staff details form.	It should appear the Staff form.	As expected
10	Click on the Admit menu on main form.	To appear the admit form.	It should appear the admit form.	As expected
11	Click on the Appointment request on main form.	To appear the appointment request form.	It should appear the appointment order form.	As expected
12	Click on the Operation menu on main form.	To appear the operation form.	It should appear the operation form.	As expected
13	Click on the prescription menu on main form.	To appear the prescription form.	It should appear the prescription form.	As expected
14	Click on the Time table menu on main form.	To appear the Time table form.	It should appear the Time table form.	As expected
15	Click on the add new button on detail form	It should display new entry form	It should display the new entry form	As expected

16	Click the delete button on the detail form	It should display the message	It should display the message	As expected
17	Click the edit button on the detail form	It should display the edit page	It should display the edit page	As expected
18	Click the view button on the detail form	It should display the more detail of the selected page	It should display the more detail of the selected page	As expected

Table 5.2 Testing results of OPMS for Modern New Medi Care Hospital

5.8 ACCEPTANCE TEST RESULT

The System is developed by the client request. The final output of the system should be satisfying the client to the success of this project. The following questionnaire was designed to assess the client's satisfaction.



Modern New MediCare Hospital

User evaluation

Date: 06.11.2017

Test Case Number	Test Case	Satisfied Yes? Or No?
01	New user Register Module	yes
02	Administrator Module	yes
03	Reception Module	yes
04	Nurse Module	yes
05	Doctor Module	no
06	Patient Module	yes
07	Common Function Module	yes
08	User Friendly Of System	No
09	Validation and Verification Code	yes
10	Access the System	yes
11	Overall Perform Of the System	yes

How do you feel about the System? *good*

Evaluated By:

Signature: *[Signature]*

Date: 06.11.2017

DR.S.SIVARUBAN
(SLMCNO 25649)
MEDICAL DIRECTOR
MODERN NEW MEDI CARE HOSPITAL
CHAVAKACHCHERY
JAFFNA

No. 63, Kandy Road, Chavakachcheri. T.P : 021 227 0909, 021 227 0395, 021 205 7437

Figure 5.2 Acceptance Result

Feedback also gained from user evaluation the overall rating is converted into a Pie chart as shown in Figure 5.3

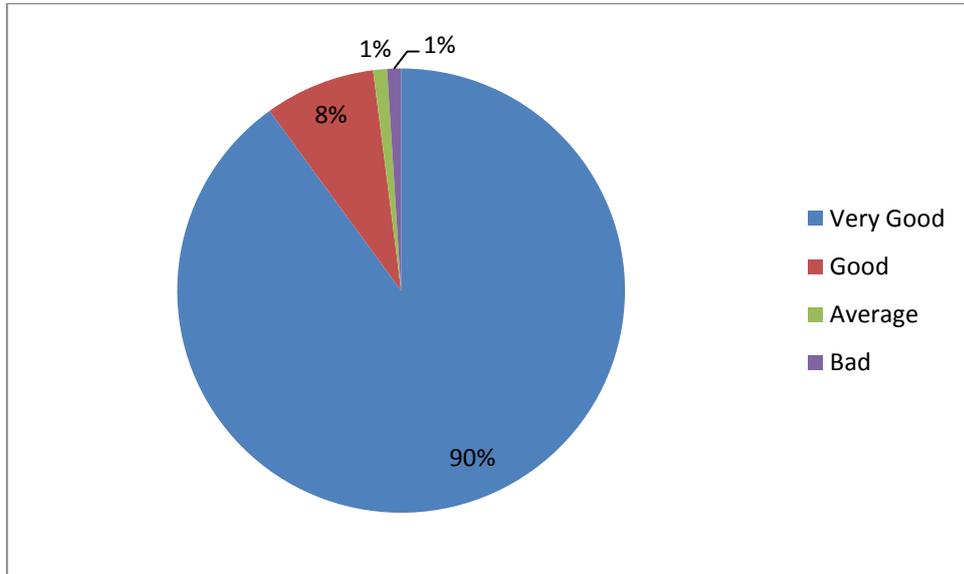


Figure 5.3 User evaluation

CHAPTER 6: CONCLUSION

6.1 CRITICAL ASSESSMENT OF PROJECT

This chapter is reviewed the initial objectives and extend to which they were fulfilled. It is summarized the project's **strengths** and **weakness**. A final **critical appraisal** is detailed on the project as a whole, covering its management, the final implemented system, and the documentation, including this dissertation and the technical and user manuals. These are discussed below.

There are various ways to achieve the effective management and the most suitable one is the introduction of the concept of the integrated system. It brings under one organizational umbrella, the following components:

The reasons why there were achieved in the OPMS are as follows;

- It's ability to assess large amount of data
- It cuts short data redundancy and increases integrity leading to management data and information.
- Its user friendly.
- It has a variety of reports facilities.
- Whenever required it makes information available.
- Its search facilities are faster.
- It possesses alert and message prompt facilities.
- It has immediate help facilities and help assistant facilities.
- It has backup facilities.
- It possesses basic accounting facilities.

It assists the decision making of the management and speeds up the show rooms accounting work. In order to fulfill this development must possess the features of management information system.

The classification on the information system does not infer that the world computer system must belong to only one category. In spite of it, the effective management of information is the key to the success of today's organization. Therefore an online patient management system is common to any organization. This dissertation explains

the necessity, analysis and development of the Online Patient Management System for Modern New Medi Care Hospital, (OPMS) Chavakachcheri.

In addition numerous reports were introduced by me especially for the show rooms accounting and decision making activities. This project satisfies the online patient management requirements of the Modern New Medi Care Hospital and the fundamental software standards. But it has failed to include any additional details and employees' EPF & ETF as mentioned in the requirement definition. Although there is client's wish, it is not capable of changing the overall system functionally and qualitatively. Anyway it could make amendments in future about 95% of the project is successful here. The OPMS possesses the database backup facilities and consistency and it has a variety of reports facilities to consider decision making. This developed system is a single user system and it is customized specially for Modern New Medi Care Hospital, Chavakachcheri.

6.2 LESSON LEARNT

This project gave me the wide range of practical knowledge in the system development. It gave the great opportunity to apply the theories in system analyzing, designed the diagrams, system development and report writing areas. The developed domain area was considerably large and has complexity. So from the requirement analyzing part to until the implementation were able to learn plenty of knowledge regarding the system development. Through this project I have acquired more knowledge in CSS, Ajax, JavaScript and PHP web language tools.

6.3 FUTURE WORK

The system can be improved with the following facilities according to the client's future requirements.

- Credit card payment

Now the system is implemented only with cash, cheque and credit payments, but in future the credit card payment also can be added.

- Client-server model

When the client requires more than one point the standalone system can be implemented as Client-server model based on a centralized database

- Accounting Features

Accounting Features such as Trial Balance, Profit and loss account can be added to the system

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APPENDIX

APPENDIX A – SYSTEM DOCUMENTATION

Introduction

It will give knowledge about how to install our system and database, and it is help to client for installation and maintenance.

Step -1: Double click on downloaded file WampServer 2.4, follow the instruction given automatically through wizard window.

Step -2: First click next, after that accept the agreement and click next.



Figure A.1 Setup Wizard

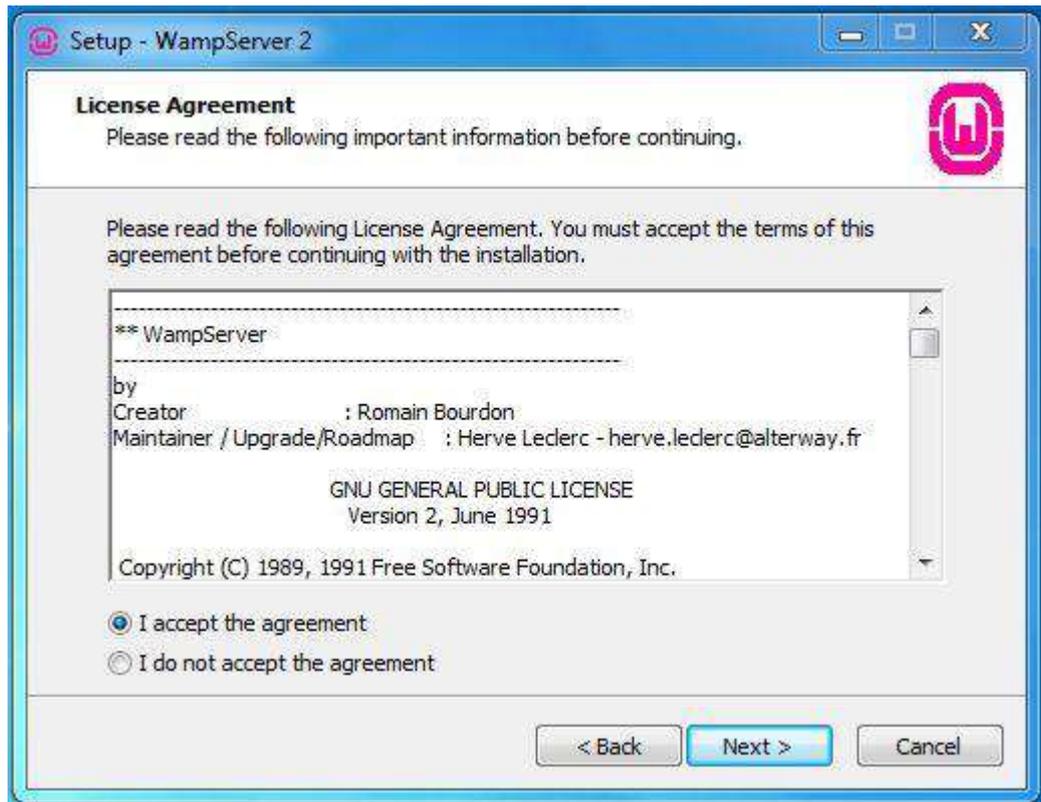


Figure A.2 Agreement

Step -3: Select the installation location of WampServer.

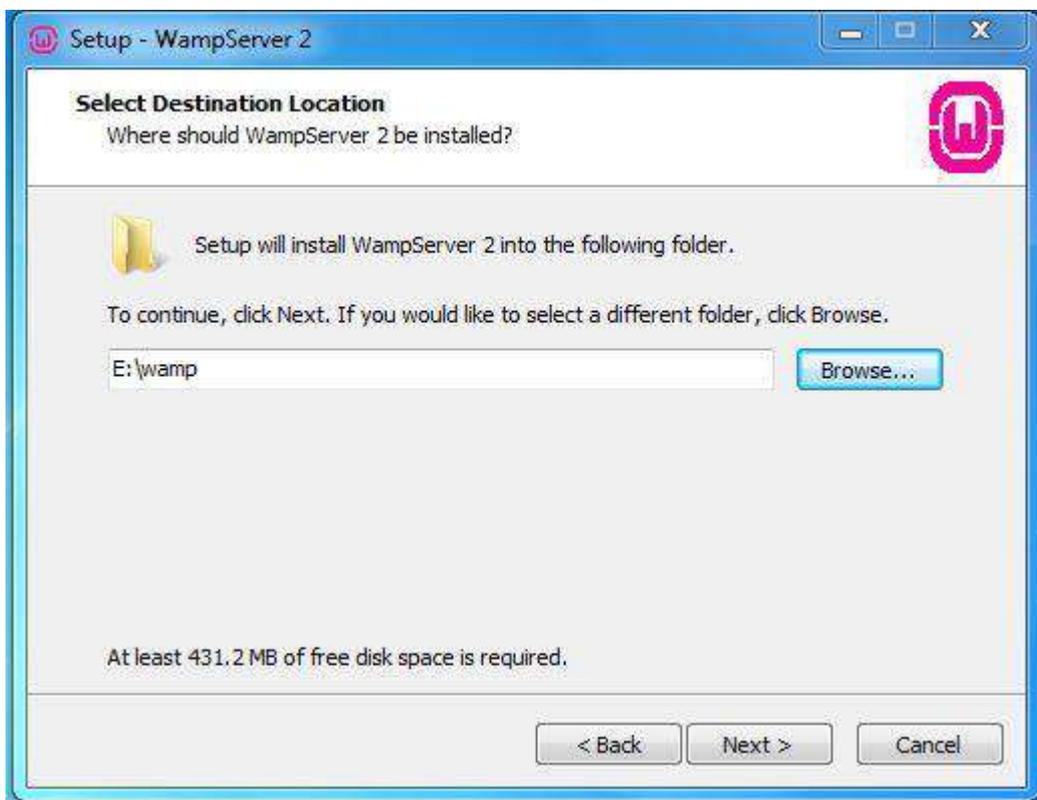


Figure A.3 Folder Select

Step -4: Click Install and it will finish automatically.

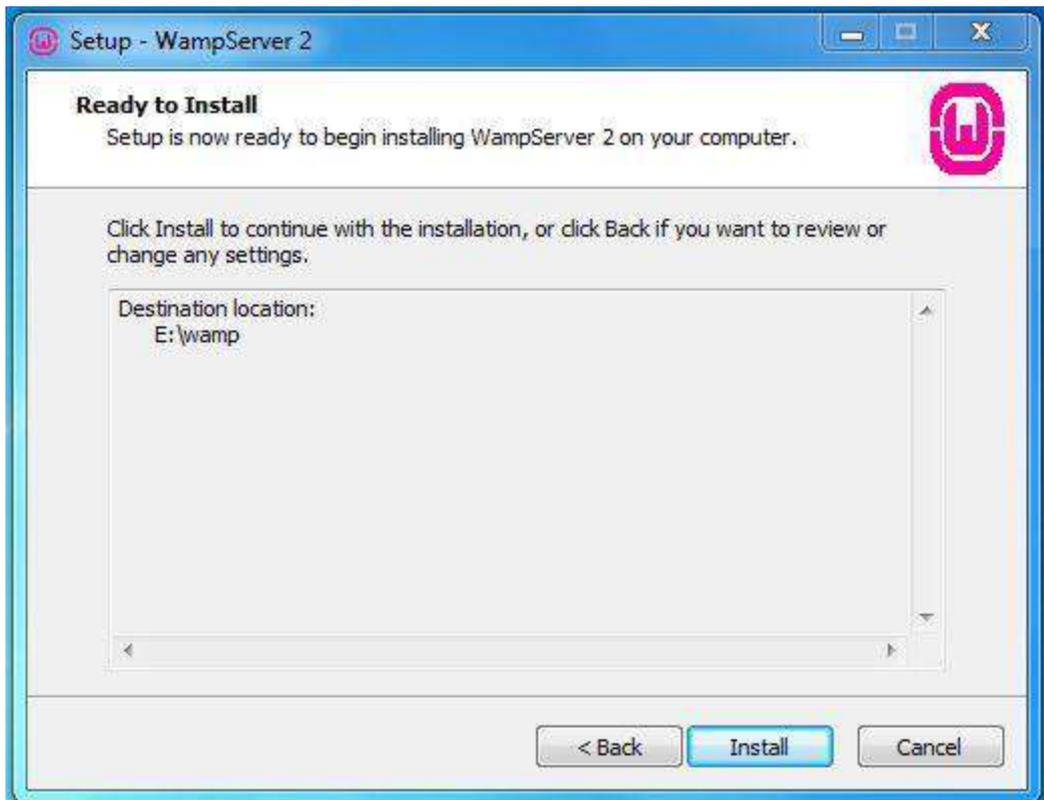


Figure A.4 Install

Step- 5: After Install, start the WampServer in taskbar WampServer icon visible in green color. After that can browse it via browser. Type in browser's address bar "local host or 127.0.0.1".



Figure A.5 Wamp Start

Step - 6: That browser is contain a page, there is a page as WampServer home page with phpmyadmin tool under heading Tools, click that link and type username as "root" and password is not contain any values. And click go button to enter phpmyadmin page.



Figure A.6 Start Page



Figure A.7 Login Page

Step -7: After login click Import tab, in that tab click browse and select the database file new_medical.sql file from CD under Database folder and click go button.

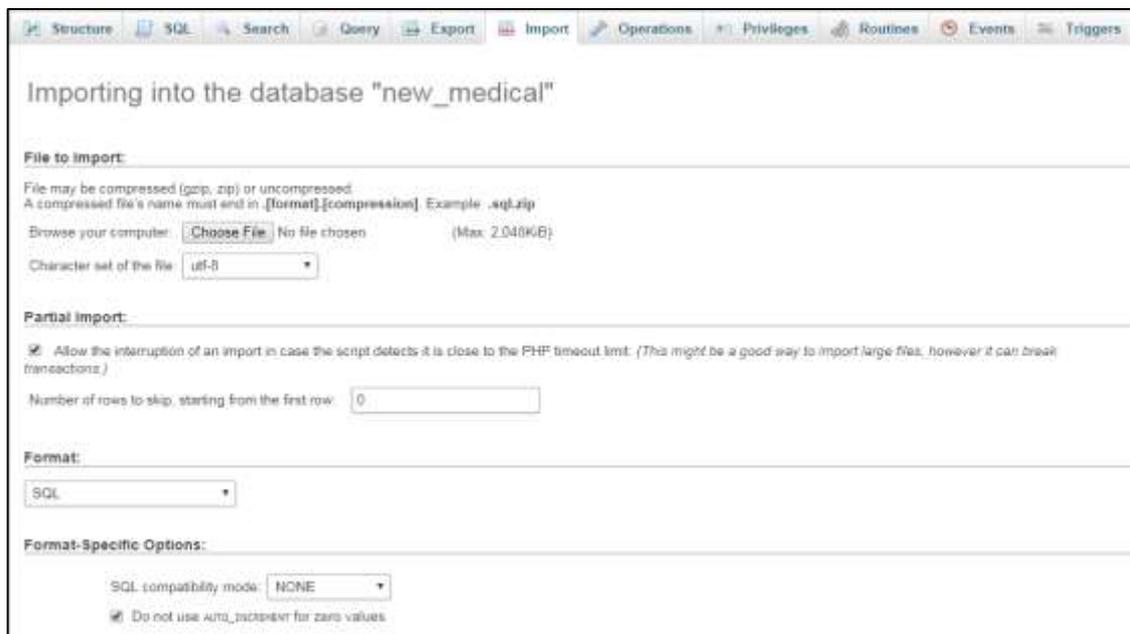


Figure A.8 Import Database

Step -8: Now successfully update database to the system.

Table	Action	Rows	Type	Collation	Size	Overhead
admit	Browse Structure Search Insert Empty Drop	-1	InnoDB	latin1_swedish_ci	32 KiB	--
appointment	Browse Structure Search Insert Empty Drop	-8	InnoDB	latin1_swedish_ci	48 KiB	--
bill	Browse Structure Search Insert Empty Drop	-5	InnoDB	latin1_swedish_ci	48 KiB	--
doctor	Browse Structure Search Insert Empty Drop	-5	InnoDB	latin1_swedish_ci	32 KiB	--
fees	Browse Structure Search Insert Empty Drop	-1	InnoDB	latin1_swedish_ci	32 KiB	--
login	Browse Structure Search Insert Empty Drop	-17	InnoDB	latin1_swedish_ci	16 KiB	--
medicine	Browse Structure Search Insert Empty Drop	-8	InnoDB	latin1_swedish_ci	16 KiB	--
message	Browse Structure Search Insert Empty Drop	-8	InnoDB	latin1_swedish_ci	64 KiB	--
opdprescription	Browse Structure Search Insert Empty Drop	-4	InnoDB	latin1_swedish_ci	48 KiB	--
operation	Browse Structure Search Insert Empty Drop	-1	InnoDB	latin1_swedish_ci	32 KiB	--
patient	Browse Structure Search Insert Empty Drop	-7	InnoDB	latin1_swedish_ci	32 KiB	--
prescription	Browse Structure Search Insert Empty Drop	-2	InnoDB	latin1_swedish_ci	48 KiB	--
report	Browse Structure Search Insert Empty Drop	-1	InnoDB	latin1_swedish_ci	32 KiB	--
staff	Browse Structure Search Insert Empty Drop	-2	InnoDB	latin1_swedish_ci	32 KiB	--
timetable	Browse Structure Search Insert Empty Drop	-3	InnoDB	latin1_swedish_ci	32 KiB	--
wardprescription	Browse Structure Search Insert Empty Drop	-1	InnoDB	latin1_swedish_ci	48 KiB	--
16 tables	Sum	66	InnoDB	latin1_swedish_ci	592 KiB	0 B

Figure A.9 Database View

Step-9: The “www” directory will be automatically created. According the Step 3, our www folder is under C:\wamp. In www folder we create a subdirectory and Rename it E-Management system

APPENDIX B – DESIGN DOCUMENTATION

Activity Diagram for New Register (Figure B.1)

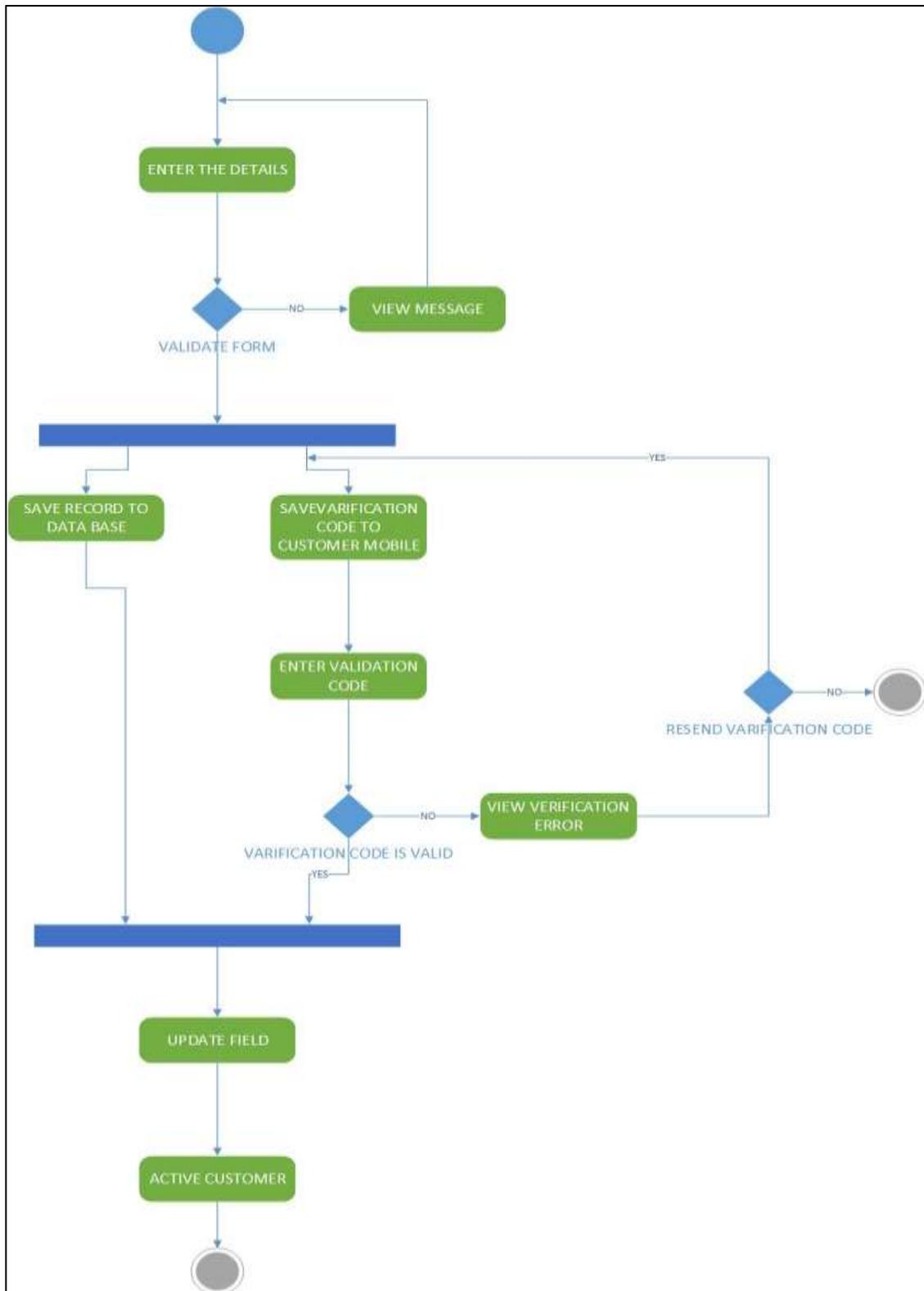


Figure B.1 Activity Diagram for New Register

Activity Diagram for New Booking (Figure B.2)

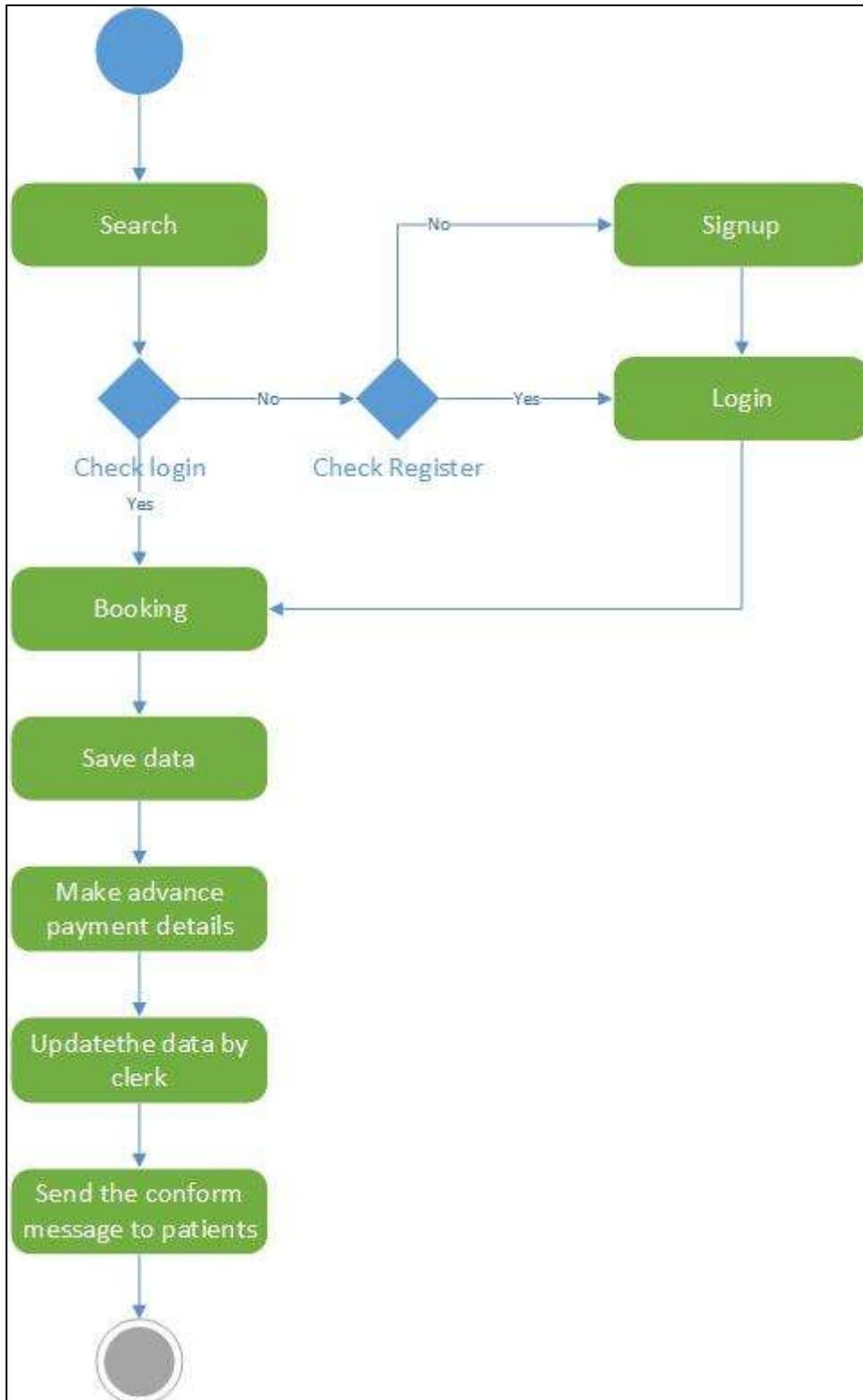


Figure B.2 Activity Diagram for Booking

Sequence diagram:
 Sequence Diagram for New register (Figure B.3)

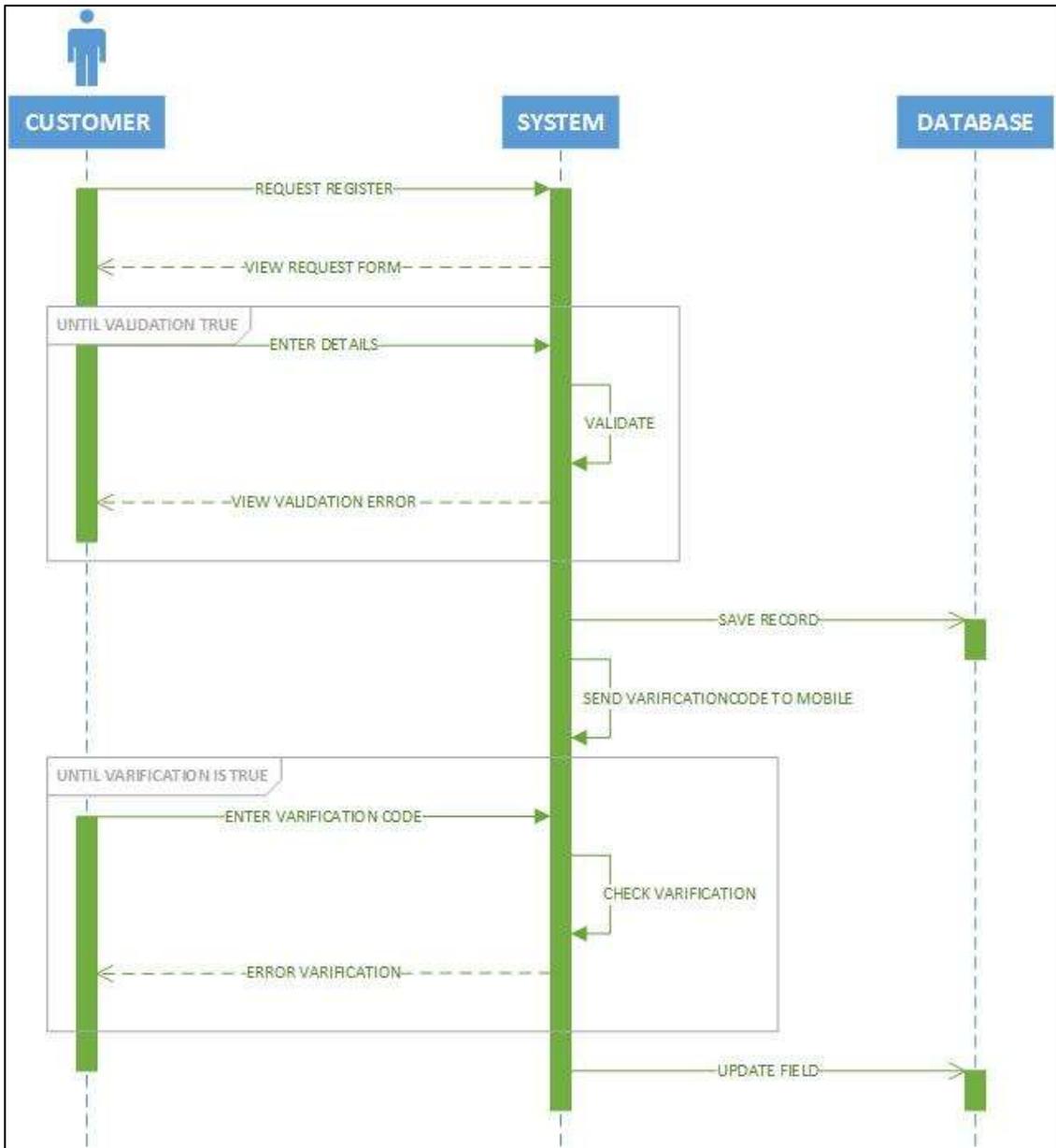


Figure B.3 Sequence Diagram for New Register

Sequence Diagram for Booking (Figure B.4)

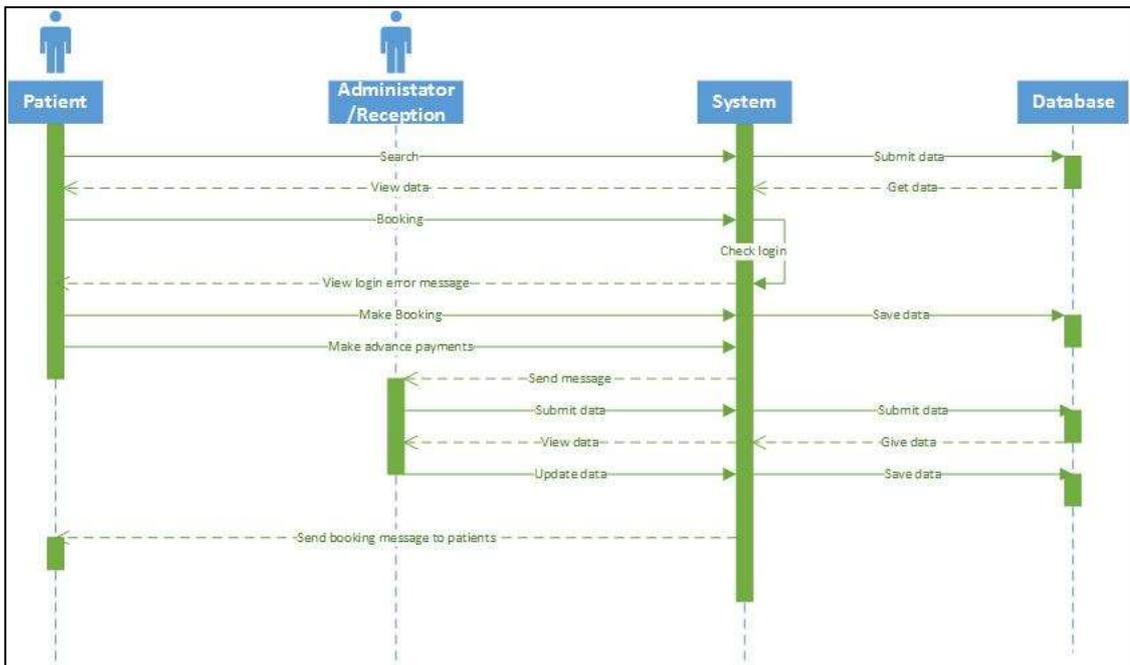


Figure B.4 Sequence Diagram for Booking

APPENDIX C - USER DOCUMENTATION

How to initiate the system

The user has to enter his user name and password in the log in form (Figure C.1) to initiate the system. If there was an error in the username or password, the following error message will be displayed

“The user name or password error please check your user name and password”

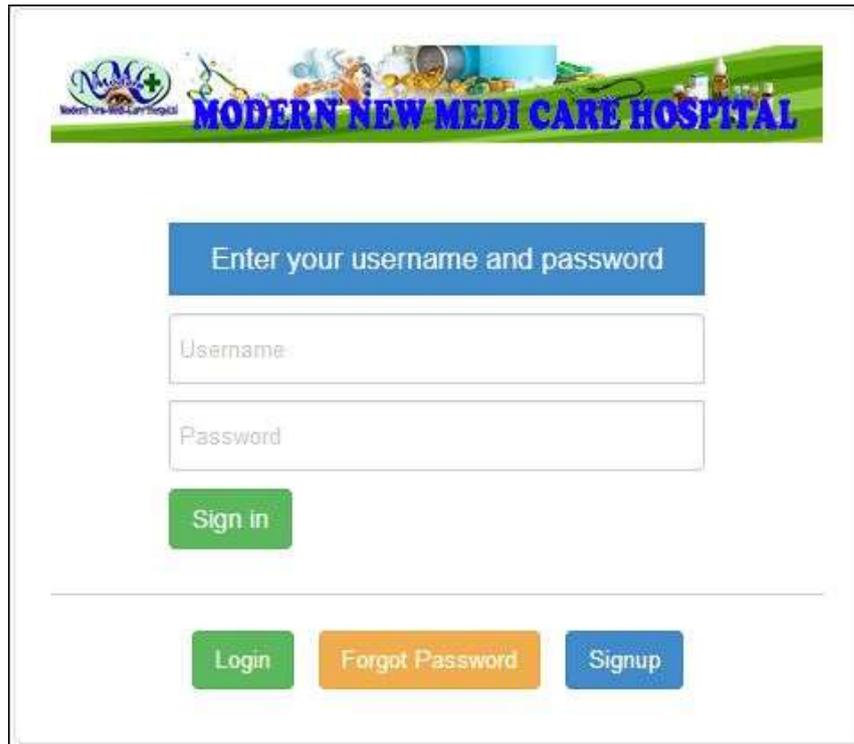
The image shows a web-based login interface for 'MODERN NEW MEDI CARE HOSPITAL'. At the top, there is a banner with the hospital's logo and name. Below the banner, a blue box contains the instruction 'Enter your username and password'. Underneath this are two input fields: 'Username' and 'Password'. A green 'Sign in' button is positioned below the password field. At the bottom of the form, there are three buttons: 'Login' (green), 'Forgot Password' (orange), and 'Signup' (blue).

Figure C.1 How to initiate the system

Add new Staff –Admin menu

- Admin can enter new staff, others not allowed to enter new staffs
- All fields must be filled
- Staff ID inserted automatically admin can't change that

STAFF DETAILS ADD

Staff ID	<input type="text" value="S00010"/>
Staff Name	<input type="text"/>
NIC	<input type="text"/>
Date Of Birth	<input type="text" value="yyyy-mm-dd"/>
Address	<input style="height: 40px;" type="text"/>
TP Number	<input type="text"/>
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female
Designation	<input style="border-bottom: 1px solid black;" type="text" value="Admin"/>
Join Of Date	<input type="text" value="2017-10-22"/>
Qualification	<input type="text"/>

Figure C.2 Add new staff Interface

View entered staff interface-Admin

- Admin only can see the staffs that are already entered
- If admin wants to see more details about a drug click view button on the right hand side

STAFF DETAILS				
Add New		Edit		
10	records per page			Search
StaffID	StaffName	Address	Designation	Action
S00001	S.T.Manthan	No- 01 Kikkudi East, Jaffna	admit	View Edit Delete
S00002	Jegatha	Sankuveli South, Manipay	nurse	View Edit Delete
S00003	Melati	No- 1300 Main street, Jaffna	reception	View Edit Delete
S00004	Manthan	No- 2215 Kobbady Rd, jaffna	nurse	View Edit Delete
S00005	Mrs.K.Kugathasan	No.2 Kandy Rd Chevalachcheri	reception	View Edit Delete
S00006	Miss.K.Kanabhai	No-02 Kalmaly lane, Chevalachcheri	nurse	View Edit Delete
S00007	Ms.K.Kalavathi	No-12 Kandy Rd Chevalachcheri	nurse	View Edit Delete
S00008	Ms.K.Vasanthi	No-13 Kalmaly Lane Chevalachcheri	nurse	View Edit Delete
S00009	Ms.A.Rajavi	No-9 Sivan temple Rd Chevalachcheri	nurse	View Edit Delete

Showing 1 to 9 of 9 entries

Previous Next

Figure C.3 Staff view Interface

View more details about staffs interface-Admin

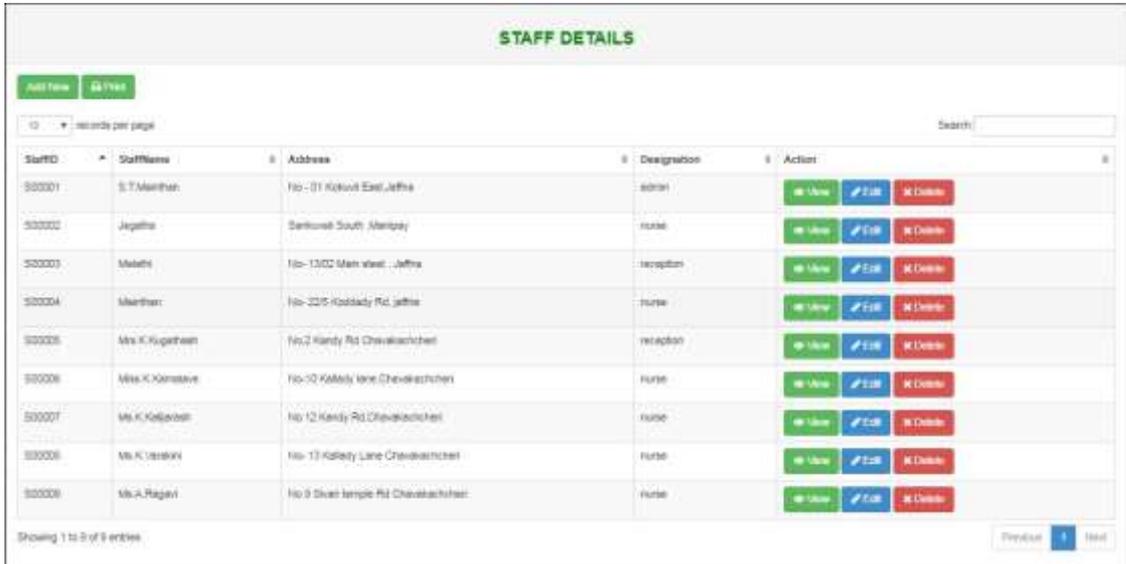
- Admin can see more details about entered staff
- In this interface admin can view staff _id, name, Address, TP number, and Designation of staff's information.
- After view click go back button to get previous page

STAFF DETAILS FULL VIEW	
StaffID	S00002
StaffName	Jegatha
NIC	877192296V
DateOfBirth	1987-08-06
Address	Sankuveli South, Manipay
TP	771234567
Gender	Female
Designation	nurse
Joinofdate	2010-02-01
Qualification	BIT
Go Back Print	

Figure C.4 Staff view Interface

Edit/delete Staff Interface –Admin

- Admin can only edit or delete Staffs
- Admin can change entered data easily by this interface just click edit button
- if necessary can delete



The screenshot displays a web interface titled "STAFF DETAILS". At the top, there are two buttons: "Add New" (green) and "Filter" (grey). Below these is a search bar and a dropdown menu for "records per page" set to "10". The main content is a table with the following columns: StaffID, StaffName, Address, Designation, and Action. Each row represents a staff member and includes three buttons in the Action column: "View" (green), "Edit" (blue), and "Delete" (red). The table contains 9 entries. At the bottom left, it says "Showing 1 to 9 of 9 entries". At the bottom right, there are "Previous" and "Next" navigation buttons.

StaffID	StaffName	Address	Designation	Action
S00001	S.T.Murthy	No-01 Kikkul East, Jaffna	admin	View Edit Delete
S00002	Jayath	Sekund South, Mannar	nurse	View Edit Delete
S00003	Malehi	No-1302 Mann west, Jaffna	reception	View Edit Delete
S00004	Murthy	No-2215 Koddady Rd, jaffna	nurse	View Edit Delete
S00005	Ms.K.Kuparath	No.2 Kandy Rd Chevalachcheri	reception	View Edit Delete
S00006	Miss.K.Korntave	No-10 Kalmaly lane Chevalachcheri	nurse	View Edit Delete
S00007	Ms.K.Kalavath	No-12 Kandy Rd Chevalachcheri	nurse	View Edit Delete
S00008	Ms.K.Vasanthi	No-13 Kalmaly Lane Chevalachcheri	nurse	View Edit Delete
S00009	Ms.A.Rajani	No-3 Silver temple Rd Chevalachcheri	nurse	View Edit Delete

Figure C.5 Staff edit Interface

Edit staff form interface

- After click edit button admin can be seen in this form interface
- After changing the necessary values click Save changes button to update database with new records

STAFF DETAILS EDIT	
StaffID	S00002
StaffName	Jegatha
NIC	877192298V
Dateofbirth	1987-08-08
Address	Sankuvelli South ,Manipay
TP	771234567
Gender	Female
Designation	nurse
Joinofdate	2010-02-01
Qualification	BIT
<input type="button" value="Go Back"/> <input type="button" value="Save Change"/>	

Figure C.6 Staff edit Interface

Delete staff record

- If an entered data is not needed in future admin can delete that item by clicking delete button on staff edit interface
- After clicking that button the delete confirmation dialog box will appear admin should click ok button on that dialog box if he wants to delete that particular record otherwise click cancel button

Figure-C.7

127.0.0.1 says: ×

Are you delete this record!!

Figure C.7 Staff delete confirm dialog box

Enter new Bill detail interface

- Admin can add bill details by this interface
- The entered here with the following appointment id, pay date, status, payment mode
- All fields must be filled

BILL DETAILS ADD	
Bill Number	<input type="text" value="B00005"/>
Appointment ID	<input type="text" value="Select The Appointment"/>
Pay Date	<input type="text" value="2017-10-29"/>
Status	<input type="text" value="Paid"/>
Payment Mode	<input type="text" value="Cach"/>
<input type="button" value="Go Back"/> <input type="button" value="Reset"/> <input type="button" value="Submit"/>	

Figure C.8 Bill detail interface

Calculate Bill detail interface


Modern New Medi-Care Hospital

Modern New Medi-Care Hospital Kandy Rd, Chavakachcheri Tel : 021-227 0395, 021-227 0909

[Print Report](#)

APPOINTMENT DETAILS

Patient Name	Mr.A.Kajan
Appointment Date	2017-01-30
Doctor Name	Mr.S.Kajenthira

PRESCRIPTION DETAILS

Date	Medicine Name	Num of Medicine	Unit price	Price
2017-01-30	Priton	2	3	6
Total prescription price				6

ADMIT DETAILS

Start Date	2017-01-30
Enddate	2017-01-30
Ward Number	W001
Bed Number	B1
Single day fees	3500
Total Admit fees	3500

WARD PRESCRIPTION DETAILS

Date	Time	Medicine Name	Num of Medicine	Unit price	Price
2017-01-30	11:03:10	Paracetamol	2	3	6
Total ward prescription price					6

TOTAL PRICE

Total price	3512
--------------------	-------------

Figure C.9 Bill details interface

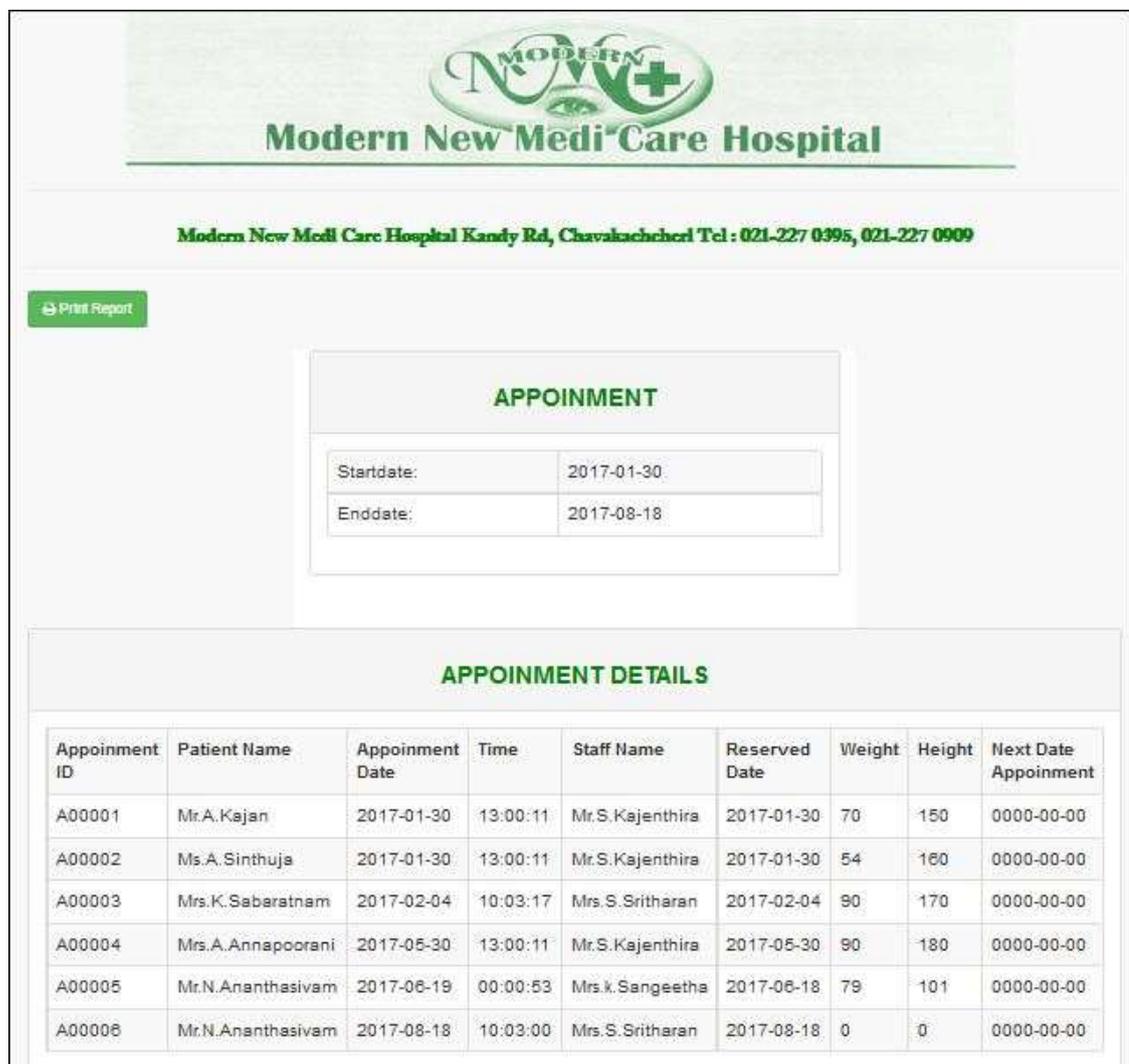
APPENDIX D – MANAGEMENT REPORTS

Introduction

Reports are used to make a decision about any organization. This process enables the system user to generate a view reports, timely, weekly and monthly summary reports. With that the user can create Modern medi care hospital issuing and receiving report. These reports are used for printing purposes and hospital future decision makings. This can be done through the **Main** screen (interface) of the O.P.M.S.-Modern medi care hospital. And user can also print his report as easy. Here, the most of Report generation can be done through the Report Menu of the Main interface. But, the Request order reports are generated when the system user makes request through its interfaces.

Sample Reports

1. Modern New Medi Care Hospital Appointment details



Modern New Medi Care Hospital

Modern New Medi Care Hospital Kandy Rd, Chavakachcheri Tel : 021-227 0395, 021-227 0909

Print Report

APPOINTMENT

Startdate:	2017-01-30
Enddate:	2017-08-18

APPOINTMENT DETAILS

Appointment ID	Patient Name	Appointment Date	Time	Staff Name	Reserved Date	Weight	Height	Next Date Appointment
A00001	Mr.A.Kajan	2017-01-30	13:00:11	Mr.S.Kajenthira	2017-01-30	70	150	0000-00-00
A00002	Ms.A.Sinhuja	2017-01-30	13:00:11	Mr.S.Kajenthira	2017-01-30	54	160	0000-00-00
A00003	Mrs.K.Sabaratnam	2017-02-04	10:03:17	Mrs.S.Sriharan	2017-02-04	90	170	0000-00-00
A00004	Mrs.A.Annapoorani	2017-05-30	13:00:11	Mr.S.Kajenthira	2017-05-30	90	180	0000-00-00
A00005	Mr.N.Ananthasivam	2017-06-19	00:00:53	Mrs.k.Sangeetha	2017-06-18	79	101	0000-00-00
A00006	Mr.N.Ananthasivam	2017-08-18	10:03:00	Mrs.S.Sriharan	2017-08-18	0	0	0000-00-00

Figure D.1 Appointment details

2. Modern New Medi Care Hospital Operation details

The screenshot displays the header for Modern New Medi Care Hospital, including its logo and contact information. Below the header is a 'Print Report' button. The main content area is titled 'OPERATION' and contains a table with start and end dates. Below this is a section titled 'OPERATION DETAILS' which contains a table with columns for Appointment ID, Date, Time, Staff Name, and Operation Fees. The table lists two appointments: one on 2017-04-09 by Mr.K.Kuruparan for 750, and another on 2017-06-18 by Ms.R.Balasarasvathi for 24500.

Modern New Medi Care Hospital
Modern New Medi Care Hospital Kandy Rd, Chavakachechi Tel : 021-227 0395, 021-227 0909

Print Report

OPERATION

Startdate:	2017-04-09
Enddate:	2017-06-18

OPERATION DETAILS

Appoinment ID	Date	Time	Staff Name	Operation Fees
A00002	2017-04-09	17:15:28	Mr.K.Kuruparan	750
A00002	2017-06-18	15:57:21	Ms.R.Balasarasvathi	24500

Figure D.2 Operation details

3. Modern New Medi Care Hospital Bill details



Modern New Medi Care Hospital

Modern New Medi Care Hospital Kandy Rd, Chavakachcheri Tel : 021-227 0395, 021-227 0909

[Print Report](#)

APPOINTMENT DETAILS

Patient Name	Mr.A.Kajan
Appointment Date	2017-01-30
Doctor Name	Mr.S.Kajenthira

PRESCRIPTION DETAILS

Date	Medicine Name	Num of Medicine	Unit price	Price
2017-01-30	Priton	2	3	6
Total prescription price				6

ADMIT DETAILS

Start Date	2017-01-30
Enddate	2017-01-30
Ward Number	W001
Bed Number	B1
Single day fees	3500
Total Admit fees	3500

WARD PRESCRIPTION DETAILS

Date	Time	Medicine Name	Num of Medicine	Unit price	Price
2017-01-30	11:03:10	Paracetamol	2	3	6
Total ward prescription price					6

TOTAL PRICE

Total price	3512
--------------------	-------------

Figure D.3 Bill details

4. Modern New Medi Care Hospital OPD Prescription details

Modern New Medi Care Hospital

Modern New Medi Care Hospital Kandy Rd, Chavakachcheri Tel : 021-227 0395, 021-227 0909

Print Report

OPD PRESCRIPTION

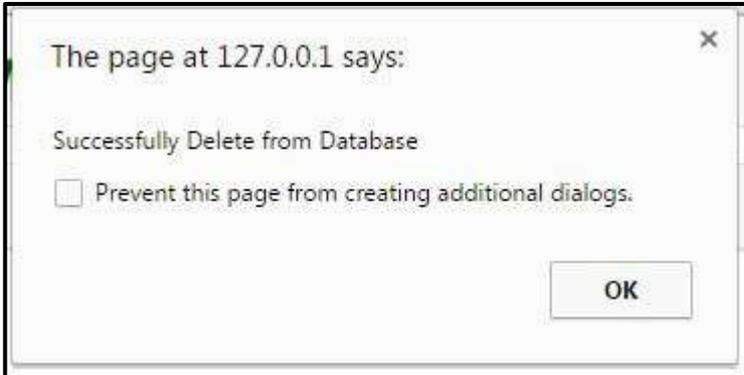
Startdate:	2017-01-30
Enddate:	2017-01-30

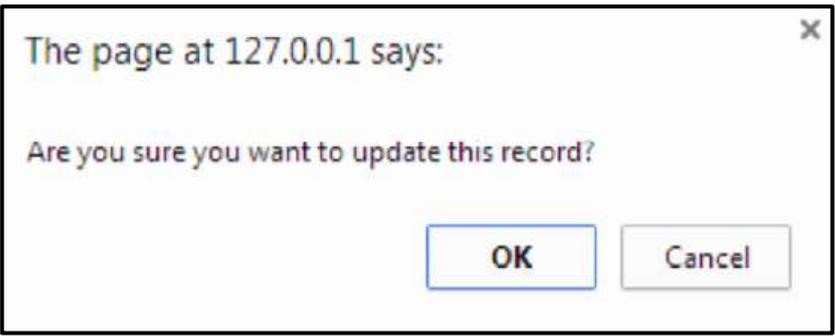
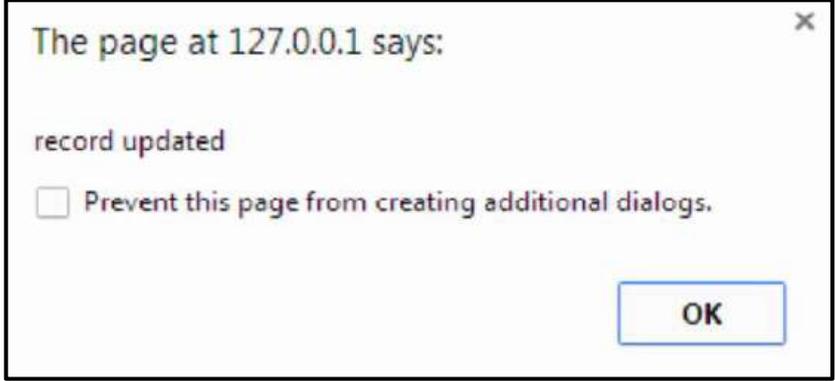
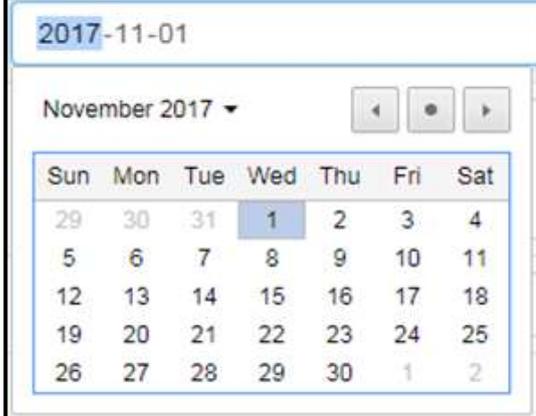
OPD PRESCRIPTION DETAILS

Patient Name	Date	Medicine Name	Time	Staff Name
Mr.A.Kajan	2017-01-30	Panadol	11:03:47	Mrs.S.Sritharan
Mr.N.Ananthasivam	2017-01-30	Paracetamol	00:04:55	Mrs.S.Sritharan

Figure D.4 OPD Prescription details

APPENDIX E – TEST RESULTS

Test case	Screen short	Result
Login with empty username		pass
When we enter wrong username or password		pass
Delete confirmation message		pass
Record deleted message		pass

<p>Edit confirmati on message</p>		<p>pass</p>
<p>Record edited message</p>		<p>pass</p>
<p>The date picker</p>		<p>pass</p>
<p>The drop down box shown</p>		<p>pass</p>

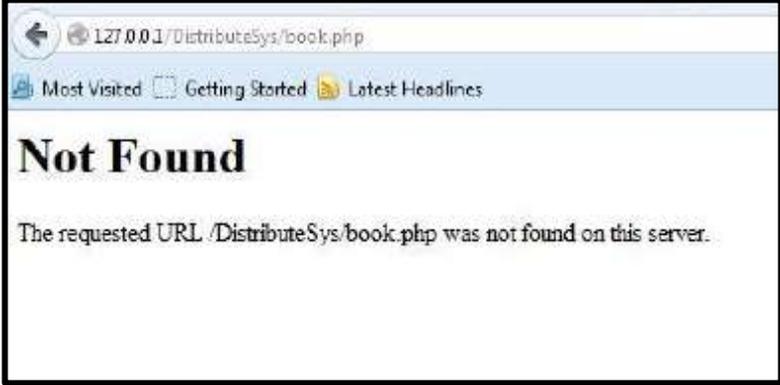
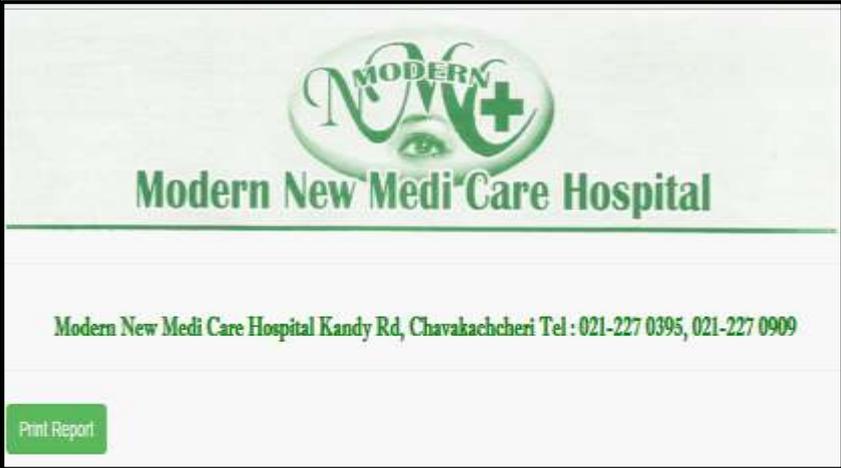
<p>Enter wrong URL</p>		<p>pass</p>
<p>Display print Button in report</p>		<p>pass</p>

Table E.1 Test Cases


```

    }
    else
    {
        alert("Enter 10 digit hand phone number");
        document.getElementById("txttpnumber").value="";
        document.getElementById("txttpnumber").focus()=true;
        return false;
    }
}
}
function hand()
{
    var str = document.getElementById("txttpnumber").value;
    var res = str.substring(0, 2);
    if(res=="07")
    {
        return true;
    }
    else
    {
        alert("enter 10 digit of hand phone number");
        document.getElementById("txttpnumber").value="";
        document.getElementById("txttpnumber").focus()=true;

        return false;
    }
}

```

```

}

// function for password
function password()
{
    var str = document.getElementById("pwd").value;

    var res = str.length;

    if(res>6)
    {
        return true;
    }
    else
    {
        alert("enter more than 6 character password");
        document.getElementById("pwd").value="";
        return false;
    }
}

// function for new password
function new password()
{
    var str = document.getElementById("nwpwdd").value;

    var res = str.length;

    if(res>6)
    {
        return true;
    }
    else

```

```

    {
        alert("enter more than 6 character password");
        document.getElementById("nwpwdd").value="";
        return false;
    }
}

// function for only allow input a text in textbox

function is Text Key(evt)
{
    var charCode = (evt.which) ? evt.which : event.keyCode;

    if (((charCode >64 && charCode < 91)||charCode >96 && charCode <
123)||charCode ==08 || charCode ==127||charCode ==32||charCode
==46)&&!(evt.ctrlKey&&(charCode==118||charCode==86))))

        return true;

        return false;

    }

function validatenic()
{
    var nic=document.getElementById("txtnic").value;

    if(nic.length==10)
    {
        var nicformat1=/^[0-9]{9}[a-zA-Z0-9]{1}$/;

        if(nic.match(nicformat1))
        {
            var nicformat2=/^[0-9]{9}[vVxX]{1}$/;

            if(nic.match(nicformat2))
            {
                document.getElementById("msgnic").innerHTML="";
            }
        }
    }
}

```

```

        }
        else
        {
            document.getElementById("msgnic").innerHTML="last
character must be V/v/X/x";
            document.getElementById("txtnic").focus();
        }
    }
    else
    {
        document.getElementById("msgnic").innerHTML="First 9
characters must be numbers";
        document.getElementById("txtnic").focus();
    }
}
else if(nic.length==12)
{
    var nicformat3=/^[0-9]{12}$/;
    if(nic.match(nicformat3))
    {
        document.getElementById("msgnic").innerHTML="";
    }
    else
    {
        document.getElementById("msgnic").innerHTML="All
12 characters must be number";
        document.getElementById("txtnic").focus();
    }
}

```

```
    }
    else if(nic.length==0)
    {
        document.getElementById("msgnic").innerHTML="";
    }
    else
    {
        document.getElementById("msgnic").innerHTML="NIC No
must be 10 or 12 Characters";
        document.getElementById("txtnic").focus();
    }
}
function deletedata()
{
    var x=confirm("Are you delete this record!!");
    if(x)
    {
        return true;
    }
    else
    {
        return false;
    }
}
</script>
```

APPENDIX G – CLIENT CERTIFICATE



Modern New Medi Care Hospital

Bit Coordinator
Unirversity of Colombo School of Computing(UCSC)
Colombo – 7

Date - 06.11.2017

Dear Sir/Madam

LETTER OF CERTIFICATION

This is to certify that Miss Sinthuja Ananthasivam (R110261) has successfully designed and developed Online Patient Mangement System for Modern New Medi Care Hospital the Project was undertaken by his partial fulfillment of a requirement for the Bachelor of Information Technology Degree program.

This system was fully satisfied with our requirement and this system Online Patient Management System would be solution for us. I'm pleased to certify that the system fulfill the requirement of the hospital and could be used as our management system and host to public use.

Thank you

Yours Faithfully

Mr N Sivaruban
(Proprieter)
Modern New Medi Care Hospital
A9 Rd, Chavakachcheri.

DR.S.SIVARUBAN
(SLMCNO 88649)
MEDICAL DIRECTOR
MODERN NEW MEDI CARE HOSPITAL
CHAVAKACHCHERY
JAFFNA

No. 63, Kandy Road, Chavakachcheri. T.P : 021 227 0909, 021 227 0395, 021 205 7417

GLOSSARY

- Apache – Open source web server.
- PHP – Hypertext Pre-Processor, it is one of the famous server side scripting languages.
- CSS – Cascading Style Sheet described how the structured element must be rendered on screen or on media.
- JavaScript – it is one of the Client-side scripting languages.
- Database – The backend storage of system.
- SDLC – Software Development Life Cycle is a structure imposed on the development of a software product.
- OO – Object Oriented, is an approach to designing