CLINIC-PHARM SYSTEM

A PROJECT REPORT

Submitted by

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Reg.No: SJC17MCA-D011

to

the APJ Abdul Kalam Technological University
in partial fulfillment of the requirements for
the award of the Degree

of

MASTER OF COMPUTER APPLICATIONS

Department of Computer Applications

ST.JOSEPH'S COLLEGE OF ENGINERRING AND TECHNOLOGY

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April, 2019

DECLARATION

I undersigned hereby declare that the project report "**CLINIC-PHARM SYSTEM** " , submitted for partial fulfilment of the requirements for the award of degree of Master of Computer Applications of the APJ Abdul Kalam Technological University, Kerala is a bonafide work done by me under supervision of **Mr**. **Sumithmon KS**. This submission represents my ideas in my own words and where ideas or words of others have been included, I have adequately and accurately cited and referenced the original sources. I also declare that I have adhered to ethics of academic honesty and integrity and have not misrepresented or fabricated any data or idea or fact or source in my submission. I understand that any violation of the above will be a cause for disciplinary action by the institute and/or the University and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been obtained. This report has not been previously formed the basis for the award of any degree, diploma or similar title of any other University.

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(*Approved by AICTE and affiliated to APJ Abdul Kalam Technological University)*

CERTIFICATE

This is to certify that the report entitled "**CLINIC-PHARM SYSTEM**" submitted by "**DELNA JOSE, Reg.No: SJC17MCA-D011**" to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Master in Computer Applications is a bonafide record of the project work carried out by her under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

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External Examiner 1: External Examiner 2:

ACKNOWLEDGEMENT

If words are considered as symbols of approval and tokens of acknowledgment, then let words play the heralding role in expressing my gratitude. To bring something into existence is truly a work of God. I would like to thank God for not letting me down and showing me the silver lining in the dark clouds.

I would like to thank **Dr. J David**, Principal, St.Joseph's College Of Engineering And Technology for his support and encouragement. I convey my heartfelt thanks to **Dr.T.D.Jainendrakumar** (Head of the Department of Master of Computer Applications, St.Joseph's College Of Engineering And Technology ,) for providing an opportunity for the project presentation. It is my pleasure to express my gratitude to the project coordinator **Mrs. Soumya George**, Department of Computer Applications, St.Joseph's College Of Engineering And Technology whose support and constructive criticism has led to the successful completion of the task.

With the biggest contribution to this report, I would like to thank **Mr. Sumithmon KS.**, Department of Computer Applications who had given me full support in guiding me with stimulating suggestions and encouragement to go ahead in all the time of the this work.

I would also thank my institution and faculty, my family and friends without whom this project would have been a distant reality.

Delna Jose

ABSTRACT

CLINIC-PHARM system is a drug management system that can be used by doctors in a clinic to manage the drugs available with them in an efficient way to the patient. It allows the doctor to keep track of the drugs available and update the drugs available whenever it is sold to a patient and order for drugs when it is sold out.

The project CLINIC-PHARM system includes registration of patients, storing their details into the system, and also computerized billing in the pharmacy, and labs. The software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically. It includes a search facility to know the current status of each medicine.

This Clinic Pharmacy System can be entered using a username and password. It is accessible either by an administrator or doctor. Only they can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast.

Clinic-Pharm is powerful, flexible, and easy to use and is designed and developed to deliver real conceivable benefits to the clinics.

The system consists of two modules:-

1. Admin

2. Doctor

The system contains four users, administrator and doctor. Role of admin is to register the authorized doctor and add medicines to the system. The doctor is responsible for registering patient to the system and calculating the invoice using the system.

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INTRODUCTION

1.1 PROBLEM DEFINITION

The Clinic-Pharm is a management system which is specially designed for most of the general clinics for keeping the record of pharmacy in their daily clinic operation information .The existing Clinic-pharm System is the system which under the study for the project that which going through many types of above specified processes like storing medicine details, case history, daily report etc. all these are manually.

The aim of this project is to fully automate the clinic daily operation by leading the clinic to operate in effective and efficient way throughout the help of the system so that they could eliminate paper work that originally use to take place.

1.2 ABOUT THE ORGANIZATION

The college was founded by a group of well-known academics. They are pioneering educators, having unmatched experience in the field of education with a belief that the continuous search for knowledge is the sole path to success. The Primary focus of the institution is to expose the young minds to be world of technology, instilling in them confidence and fortitude to face new challenges that enables them to excel in their chosen field. The college inculcates the development of all facets of the mind culminating in an intellectual and balanced personality. Our team of dedicated and caring faculty strives to widen the students' horizon of learning thereby achieving excellent results for every student.

St. Joseph's College Of Engineering And Technology, right from inception, has been maintaining high levels of standard in academic and extracurricular realms of activities. We offer BTECH degree courses in 6 engineering disciplines, and Master's Degree courses in Engineering, Computer Application and Business Administration. In the short span of a decade of its existence and among the six batches of students that have graduated, the college bagged several university ranks and has a remarkably high percentage of pass. The students of batch of mca bagged ranks in the university. The college is also the venue of national and state level seminars and symposiums and has emerged as the hub of technical education in the state. The placement scenario is also quite commendable, with several premier industries visiting for St. Joseph's College Of Engineering And Technology placement and recruitment.

I.3 OBJECTIVE OF THE PROJECT

This system has developed for managing all the activities in a Clinic, where doctor can easily search their registered patients as their need. Each user of the system has role and permission according to their role. The main objective of the project is to fully automate the clinic daily so that they could eliminate paper work that originally uses to take place.

Clinic-pharm system will shrink the clinic needed space on keeping up with the paper work. The end user can search for the patient records easily by only input some criteria, the system will immediately respond to the user with patient information based on that criteria and thus can save a lot of time and work on searching.

CHAPTER 2

INITIAL INVESTIGATION AND FEASIBILITY STUDY

2.1 INITIAL INVESTIGATION

The purpose of this document is to give a clear picture of the module designs of the project Clinic-pharm . The system will cover all the basic modules that are the admin module and the doctor module. The system provides an easy way to manage medicine details, patient details etc. The Clinic-Pharm system will give the facilities for registration of patients, storing their details into the system, and also computerized billing in the pharmacy.

This project also helps to understand various functionalities of the modules in the project as well as it gives a pictorial design of how the website will look like with its functionalities working together various to achieve the requirements.

2.2 EXISTING SYSTEM

The study of the existing system is a pre-requisite for developing any software system. The study of the system reveals many features of the existing system. This gives analyst an insight into the working of the system and helps the developer to design an appropriate system, which will eliminate the many limitations present in the existing system.

Limitations of the Existing System are:-

- It is a manual system
- Process is by means of paperwork
- Difficult to keep all the paper records

- The file manipulating method was not done in a centralized manner.
- Document storing, accessing them takes more time
- Searching process is mainly done manually and it is difficult
- Chances of loss in document containing important details.
- Difficult to find out accurate data in minimal time
- Time consuming and mishandling of reports.

2.3 PROPOSED SYSTEM

The Clinic-Pharm System is designed for any hospital to replace their existing manual paper based system. The new system is to control the information of patients, medicine availability, and patient invoices. These services are to be provided in an efficient, cost effective manner, with the goal of reducing the time and resources currently required for such tasks .The software is developed as a simulated system and the complex procedures are avoided to make the system easy to use. The proposed system is user friendly and has simplicity and security. In the proposed system the data redundancy can be avoided to certain extend and the data consistency can be maintained. The record keeping and searching process are easy.

2.3.1 Advantages of the Proposed System

- Give solution to the current system problems
- Less time consuming and more efficient
- Result will be very precise and accurate
- Easy to use and fast
- Simple user interface to reduce processing time
- Easy searching and storing documents
- Eliminate chances for errors and reduce effort

2.3.2 Features of the Proposed System

The various features of proposed system are as follows:

- Access to the system and database as per user identification
- The maximum security ensured
- Integrity reliability and integrity of data
- User-friendly and flexible in all aspects
- Data entry updates is quite easy
- Effective table manipulation as facilitated by the rich SQL
- Good validation checking
- Easy maintenance
- Removes chances of leakage of information.
- Provides a better record keeping system

All these form the major aspects and advantages of the proposed system. Provision is made for effective improvements of maintenance are needed at any stage.

2.4 FEASIBILITY STUDY

During system analysis, a feasibility study of the proposed system was carried out to see whether it was beneficial to the organization. The main aim of the feasibility study is to determine whether it would be financially and technically feasible to develop the product. While evaluating the existing system, many advantages and disadvantages raised. Analyzing the problem thoroughly forms the vital part of the system study. Problematic areas are identified and information is collected.

The benefits of this site are users can easily interact and get the services without much complexity. It helps to make it possible that more users can interact with the site at a time. Feasibility study is to determine whether the proposed system is technically, economically and behaviourally feasible in all respects.

The main aim of feasibility study is to evaluate alternative site and propose the most feasible and desirable site for development. If there is no loss for the organization then the proposed system is considered financially feasible. A feasibility study is carried out to select the best system that meets performance requirements.

The feasibility study activity involves the analysis of the problem and collection of all relevant information relating to the product such as the different data items which would be input to the system, the processing required to be carried out on these data, the output data required to be produced by the system as well as various constraints on the behaviour of the system.

In this scenario, problems are identified. Essential data are being gathered for the existing problems. It is necessary that this analysis familiarizes the designer with objectives, activities, and the function of the organization in which the system is to be implemented. The feasibility study was divided into four:- Technical, Economical, Operational and Behavioural. It is summarized below:-

2.4.1 Technical Feasibility

According to feasibility analysis procedure the technical feasibility of the system is analyzed and the technical requirements such as software facilities, procedure, inputs, are identified. While considering the problems of existing system, it is sufficient to implement the new

system. The proposed system can be implemented to solve issues in the existing system. It includes the evaluation of and how it meets the proposed system.

2.4.2 Economic Feasibility

Economic analysis is most frequent used for evaluating of the effectiveness of the candidate system. More commonly known as cost/benefit analysis the procedure is to determine the benefit and saving that are expected from a candidate system and compare them with the existing system. Except for the initial capital amount and the amount after each financial year, no other huge amount is needed. The expenses can be handles by any participants. So, the system is economically feasible.

This feasibility involves some questions such as whether the firm can afford to build the system, whether its benefits should substantially exceed its costs, and whether the project has higher priority and profits than other projects that might use the same resources. Here there is no problem. This firm has fully equipped hard ware, and fully fledged software, so no need to spend money on these issues. And as the client and the developer are one, there is no further problem in economic issues.

2.4.3 Operational Feasibility

Methods of processing and presentation are all according to the needs of clients since they can meet all user requirements here. The proposed system will not cause any problem under any circumstances and will work according to the specifications mentioned. Hence the proposed system is operationally feasible.

People are inherently resistant to change and computer has been known to facilitate changes. The system operation is the longest phase in the development life cycle of a system. So,

Operational Feasibility should be given much importance. This system has a user-friendly interface. Thus it is easy to handle.

2.4.4 Behavioural Feasibility

In today's world, computer is an inevitable entity. As per the definition of behaviour design, many valid points are recognized in this study. This system behaviour changes according to different environment. In order to ensure proper authentication and authorization and security of sensitive data of the admin or employers, login facilities are provided. These are the main feasibility studies tested in this application.

CHAPTER 3

SYSTEM ANALYSIS AND DESIGN

3.1 SOFTWARE REQUIREMENT SPECIFICATION

The primary goal of the system analyst is to improve the efficiency of the existing system. For that study of specification of the requirement is very essential. For the development of the new system, a preliminary survey of the existing system will be conducted. An investigation is done whether the up gradation of the system into an application program could solve the problems and eradicate the inefficiency of the existing system. This gives an idea about the system specifications required to develop and install the project ”CLINIC-PHARM”.

The System Requirements Specification is based on the System Definition. The requirement specifications are primarily concerned with functional and performance aspect of a software product and emphasis are placed on specifying product characteristics implying how the product will provide those characteristics. One of the most difficult tasks is selecting software, once the system requirement is find out then we have to determine whether a particular software package fits for those system requirements. This selection summarizes the application requirement.

3.1.1 Hardware Requirement

- MICROPROCESSOR : PENTIUM 4 OR HIGHER

- PROCESSOR SPEED : 500MHZ
- CACHE MEMORY : 512KB
- SYSTEM BUS : 32BITS
- RAM : 1GB
- HARD DISK : 100GB
- KEYBOARD : STANDARD KEYBOARD
- MOUSE : MS SERIAL MOUSE

3.1.2 SOFTWARE REQUIREMENT

- OPERATING SYSTEM : WINDOWS 8
- WEB SERVER : APACHE
- FRONT END : PHP
- BACK END : MYSQL
- SCRIPTING LANGUAGE : HTML, JAVASCRIPT

3.2 SYSTEM DESIGN

Designing the system in an effective way leads to the smooth working of any software's. System design is the process of developing specification for a candidate system that meet the criteria established in the system analysis. Major step in the system design is the preparation f the input forms and output reports in a form applicable to the user. The main objective of the system design is to use the package easily by any computer operator. System design is the creative act of invention, developing new inputs, and database, off-line

files, method, procedure and output for processing business to meet an organization objective. System design builds information gathered during the system analysis. This system is designed neatly so that user will never get ambiguity while using the system.

3.2.1 Non-Functional Requirements

Performance Requirements

For the efficient performance of the application, network must have high bandwidth so that the task of centralized management does not lead to network jam. Also the hard disk capability must be high so that data can be effectively stored and retrieved.

Security Requirements

Security requirements of this application involve authentication using user name and password so that invalid users are restricted from data access. For the security of data, periodic database backups must be performed so that we can recover data in the case of data loss.

3.3 UNIFIED MODELING LANGUAGE [UML]

UML is a way of visualizing a software program using a collection of diagrams. The notation has evolved from the work of Grady Booch, James Rumbaugh, Ivar JAcobson and the Rational Software Corporation to be used for object-oriented design, but it has since been extended to cover a wider variety of software engineering projects. Today, UML is accepted by the Object Management Group(OMG) as the standard for modelling software development.

UML stands for Unified Modeling Language.UML 2.0 helps extend the original UML specification to cover a wider portion of software development efforts including agile practices.Improved integration between structural models like class diagrams and behavior models like activity diagrams.

The original UML specified nine diagrams; UML 2.x brings that number up to 13. The four new diagrams are called: communication diagram, composite diagram, interaction overview diagram and timing diagram. It also renamed state chart diagrams to state machine diagrams also known as state diagrams.

Types of UML diagrams

The current UML standards call for 13 different types of diagrams: class, activity, object, use case, sequence, package, state, component, communication, composite structure, interaction overview, timing and deployment. These diagrams are organized into two distinct groups: structural diagrams and behavioral or interaction diagrams.

Structural UML diagrams

- Class diagram
- Package diagram
- Object diagram
- Component diagram
- Composite structure diagram
- Deployment diagram

Behavioral UML diagrams

- Activity Diagram
- Sequence diagram
- Use case diagram
- State diagram
- Communication diagram
- Interaction overview diagram
- Timing diagram

3.3.1 Use case Diagram

To model a system the most important aspect is capture the dynamic behaviour. To modify a bit in details, dynamic behaviour of the system when it is running or operating. So only behaviour is not sufficient to model a system rather dynamic behaviour is more important than static behaviour. In UML there are five diagrams available to model dynamic nature and use case diagram is one of them. Now as we have to discuss that the use case diagram is dynamic in nature there should be some internal or external factors for making the interaction. These internal and external agents are known as actors. So use case diagram consists of actors, use case and their relationships. The diagram is used to model the system of an application. A single use case diagram captures a particular functionality of a system.

Use case Diagram objects:

- Actor
- Use case

- System
- Package Actor

Actor

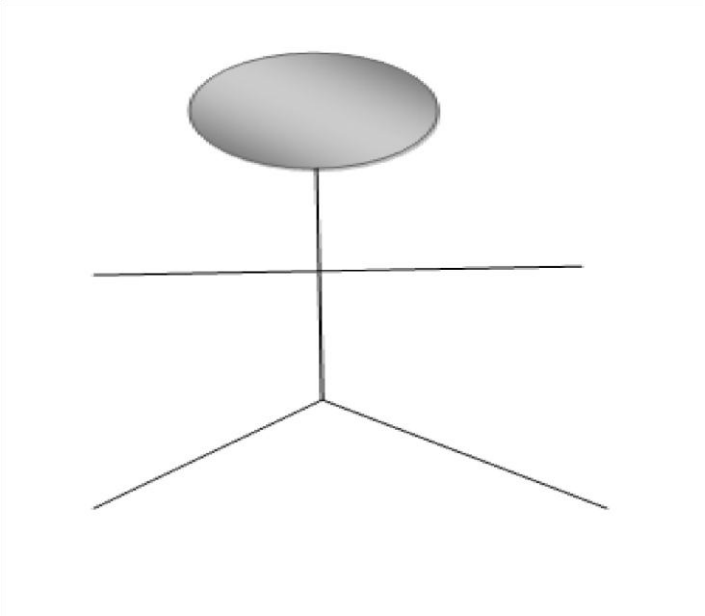

Figure 3.1: Actor

Actor is a use case diagram in an entity that performs a role in one given system. This could be a person, organization or an external system usually drawn like skeleton.

Use case

A use case represents a function or an action within the system. Its drawn as an oval and named with the function.

System

Figure 3.2: Use Case

System is used to define the scope of the use case and drawn as a rectangle. This is an optional element but useful when your visualizing large systems. For example you can create all the use cases and then use the system object to define the scope covered by your project. Or you can even use it to show the different areas covered in different releases.

Package

Package is another optional element that is extremely useful in complex diagrams. Similar to use class diagrams, packages are used to group together use cases.

The following is the UML diagram of this system:-

3.3.2 Sequence Diagram

UML sequence diagrams are used to represent or model the flow of messages, events and actions between the objects or components of a system.Time is represented in the vertical direction showing the sequence of interaction of the header elements.

Sequence Diagrams are used primarily to design, document and validate the architecture, interfaces and logic of the system by describing the sequence of actions that need to be performed to complete a task. UML sequence diagrams are useful design tools because they

provide a dynamic view of the system behavior which can be difficult to extract from static diagrams or specifications.

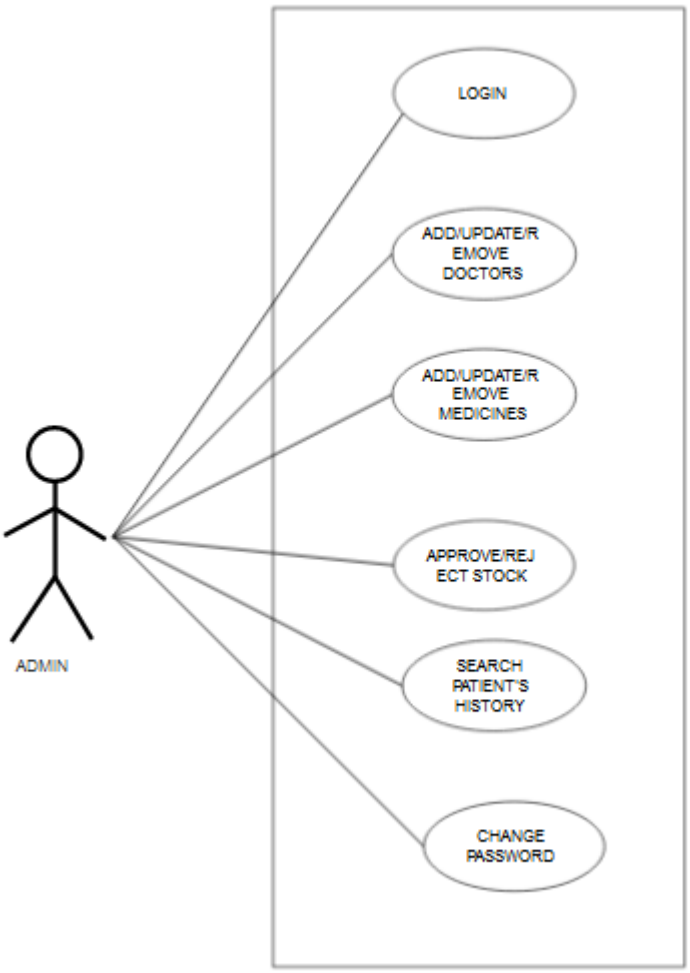

Figure 3.3: UML DIAGRAM FOR ADMIN

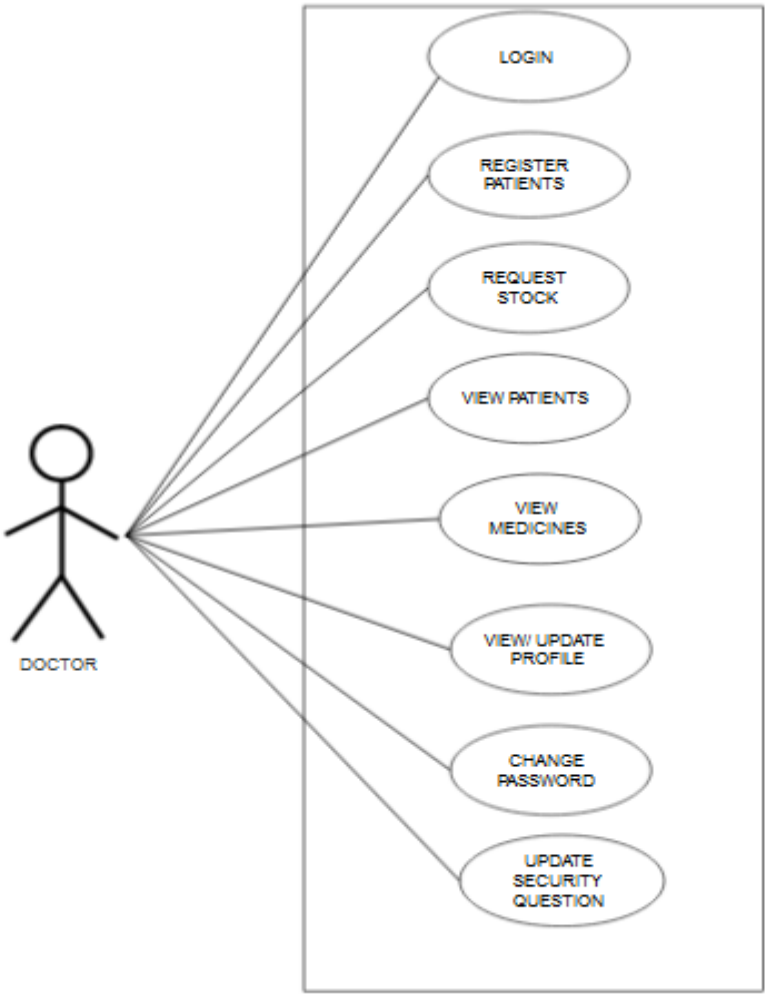

Figure 3.4: UML DIAGRAM FOR DOCTOR

Although UML sequence diagrams are typically used to describe object-oriented software systems, they are also extremely useful as system engineering tools to design system architectures in business process, as message sequence charts and call flows for telecoms or wireless system design, and for protocol stack design and analysis.

A sequence diagram is an interaction diagram that shows how objects operate with one another and in what order. It is a construct of a message sequence chart. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes

involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario. Sequence Diagrams are typically associated with use case realizations in the logical View of the system under development. Sequence diagrams are sometimes called event diagrams or event scenarios.

A sequence diagram shows, as parallel vertical lines (lifelines), different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner.

3.4 SYSTEM DESIGN

The most creative and challenging phase of the system life cycle is the system design. The term design describes a final system and the process by which it is developed. It refers to the technical specification that will be applied in implementing the candidate system. In system design, we move from the logical to the physical aspects of the life cycle.

The first step is to determine how the output is to be produced and in what format. Then input data and master files have to be designed as the next step and finally the impact of the candidate system on the user and organization are documented and evaluated by the management. After identifying the problem and the limitation of the existing system, a detailed design of the proposed system is conducted.

Free flow personnel interview and reference to previous records prepared manually were the only methods taken to collect necessary information. At present, all organizations are on the path of computerization process.

Design is the phase that indicates the final system. It is the solution, the translation of requirements into ways of meeting them. In this phase the following elements were designed namely, data flow, data stores, processes, procedures was formulated in a manner that meet the project requirements. After logical design physical construction of the system is done.

The database tables, input screens, output screens, output reports are designed. After analyzing the various functions involved in the system the database, labels as dictionaries designed. Care is taken for the field name to be in self-explanatory form. Unnecessary fields are avoiding so as not affecting the storage system.

Care must be taken to design the input screen in the most user-friendly way so as to help even the novice users to make entries approximately in the right place. This is being accomplished by the use of giving online help messages, which are brief and cleanly prompts users for appropriate action.

Design is the only way that we can accurately translate a customer's requirements into a finished software product or system. Without design, risk of building an unstable system exist one that will fail when small changes are made, one that will be difficult to test.

All input screens in the system are user friendly and are designed in such a way that even a layman can operate. The sizes of all screens are standardized. Reports generated in this software give the finer accepts of the required information, which helps in taking vital decision.

The importance of the software design can be stated with a single word quality. Design is a place where quality is fostered in software development. Design is the only way where requirements are actually translated into a finished software product or system.

Mainly this project consists of 2 Modules:

- **Admin**
- **Doctor**

Admin Module

Administrator is the main actor in this system. He has the entire control of the system which includes adding all the authorized students. Brief description about the functionalities performed by the admin is given below. After the admin successfully login to this website the admin can perform the functionalities including:

- Admin Login

  By the Username and password admin can login to the system.

- Add / Update/ Remove Doctors

  Admin is responsible to add the doctors of the clinic and also responsible for update or delete the doctor.

- Add/ Update/ Remove Medicines

  Admin is responsible to add medicines and also responsible for update or delete the medicine details.

- Approve/ Reject Stock

  Admin is responsible for approve or reject extra stock as per the need.

- Search Patient's History

  Admin is able to search already registered patients history.

- Change Password

Admin is able to change his/her password.

Doctor Module

Doctor is important actor in the system. Doctor is able to add patients, assign medicine for each patient, and calculating the corresponding invoice. And also they can request the new medicines to the Admin if the quantity of the medicine low.

- Doctor Login

  By using the user name and password, doctor can login to the system.

- Register Patients

  Doctor is able to register patient to the system

- Request Stock

  Doctor is responsible to request more stock of medicine if it is low.

- View Patients

  Doctor is able to view the already registered patient's history.

- View Medicines

  Doctor is able to view the medicine details.

- View or Update Profile

  Doctor can view and update his/her own profile.

- Change Password

  Doctor is able to change his/her password

- Update Security Questions

  Doctor is able to update his/her security question and answer.

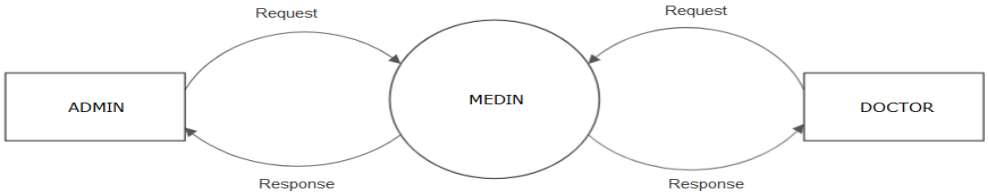

Figure 3.5: LEVEL0

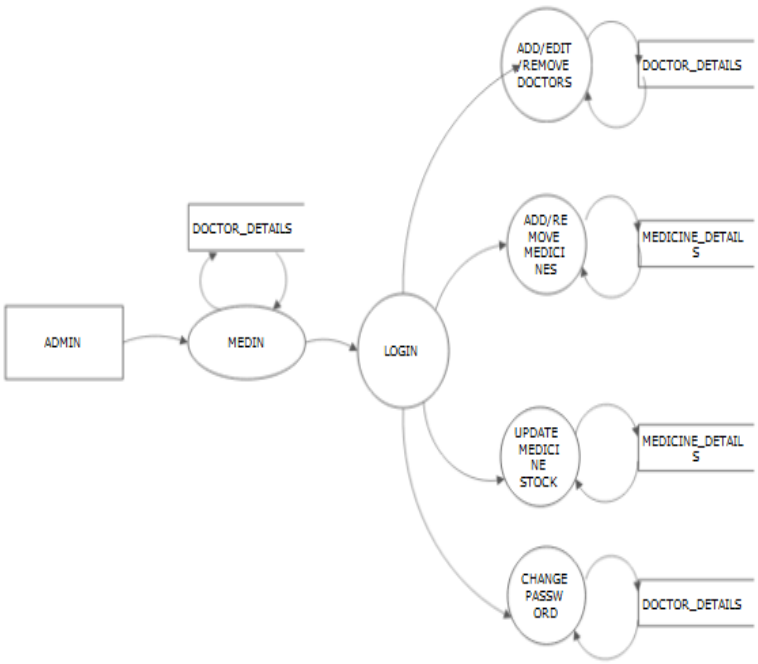

Figure 3.6: LEVEL1-ADMIN

3.4.1 Input Design

Input design is the process of converting user-oriented input into a computer based format. The goal of the designing input is to make data entry as easy and free from error. In PHP, input to the system is entered through forms. A form is “any surface on which information is to be entered, the nature of which is determined by what is already on that surface.” If the data going into the system is incorrect, then processing and output will magnify these errors. So designer should ensure that form is accessible and understandable by the user.

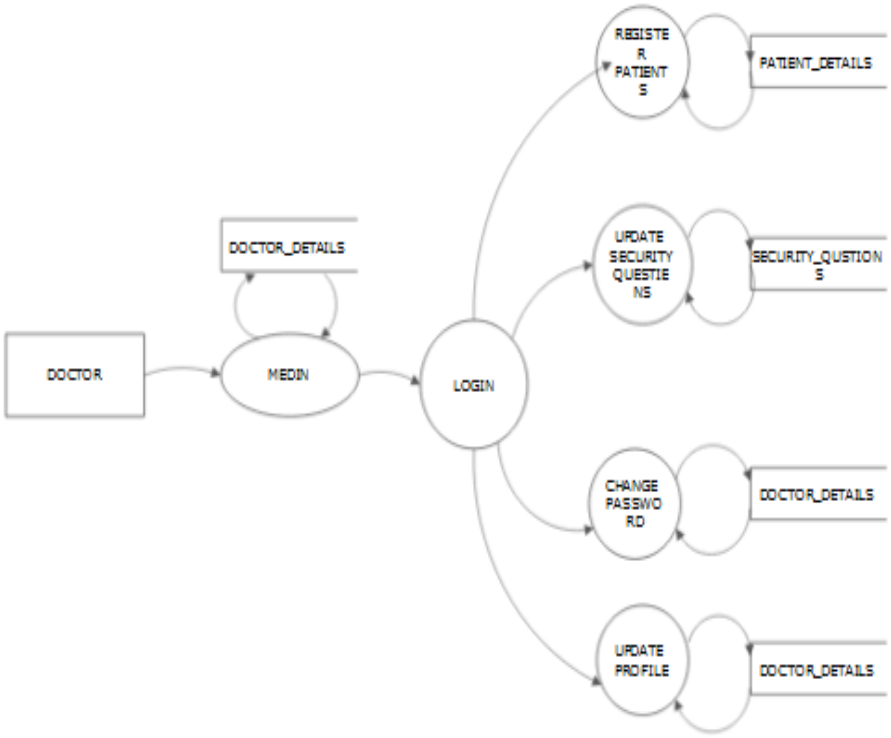

Figure 3.7 LEVEL1-DOCTOR

End-users are people who communicate to the system frequently through the userinterface , the design of the input screen should be according to their recommendations.

The data is validated wherever it requires in the project. This ensures only correct data is entered to the system. GUI is the interface used in input design. All the input data are validated in the order and if any data violates any condition the use is warned by a message and asks to re-enter data. If the data satisfies all the conditions then it is transferred to the appropriate tables in the database. This project uses text boxes and drop down to accept user input. If user enters wrong format then it shows a message to the user. User is never lift in confusion as to what is happening. Instead appropriate error messages and acknowledgments are displayed to the user.

3.4.2 Output Design

A quality output is one, which meets the requirement of the end user and presents the information clearly. In any system results of processing are communicated to the user and to the other systems through outputs. In the output design it is determined how the information is to be displayed for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship and helps user decision making.

It generally refers to the results and the information that are generated by the system. Effective, descriptive and useful design will improve the relationship with the user and the system because it is the direct source of information to the user. The objective of the output design is to convey the information of all the past activities, required status and to emphasize important events. Outputs from the computers are providing primarily to communicate the results of processing to the user. They also used to provide a permanent copy of these results for later consultation. The major outputs are system flow diagrams and data flow diagram.

3.5 ACTIVITY DIAGRAM

Admin

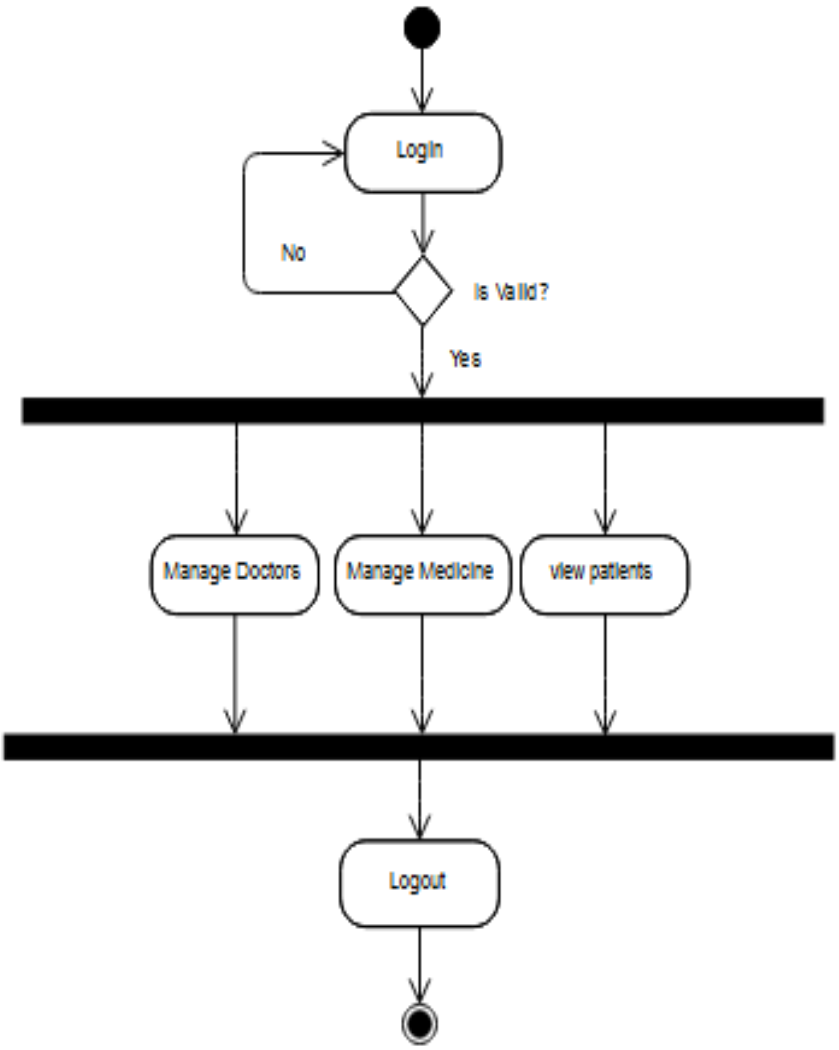

Figure 3.8: Activity diagram for Admin

Doctor

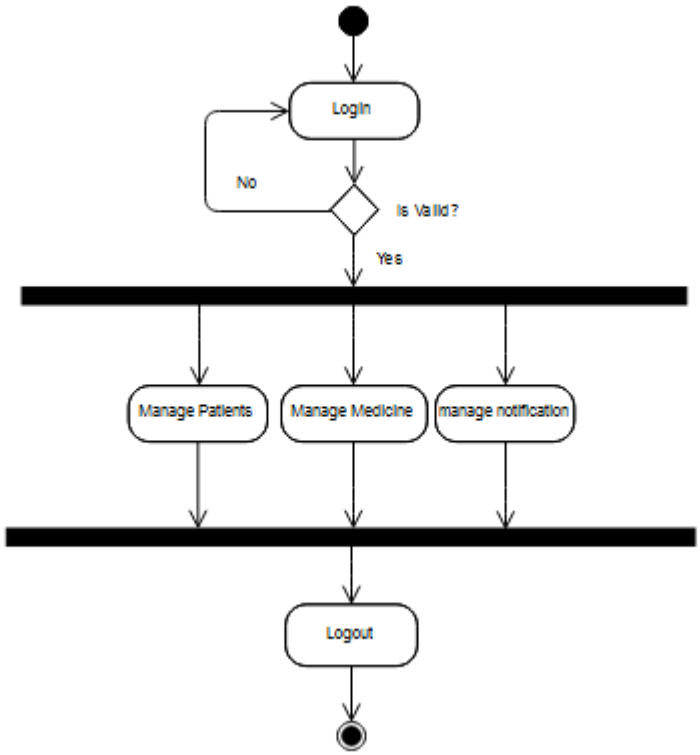

Figure 3.9: Activity diagram for Doctor

3.6 SEQUENCE DIAGRAM

Admin

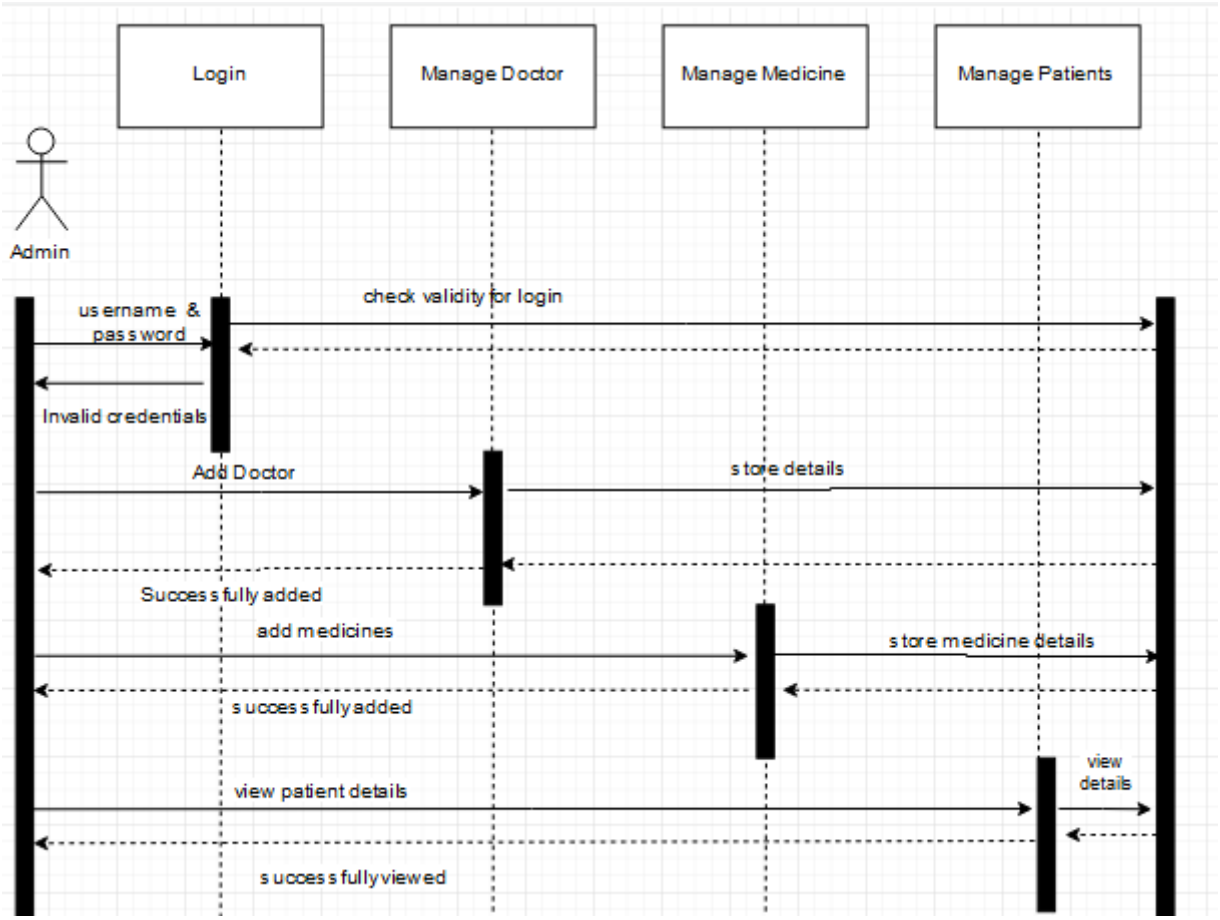

Fig 3.10 :Sequence diagram for Admin

Doctor

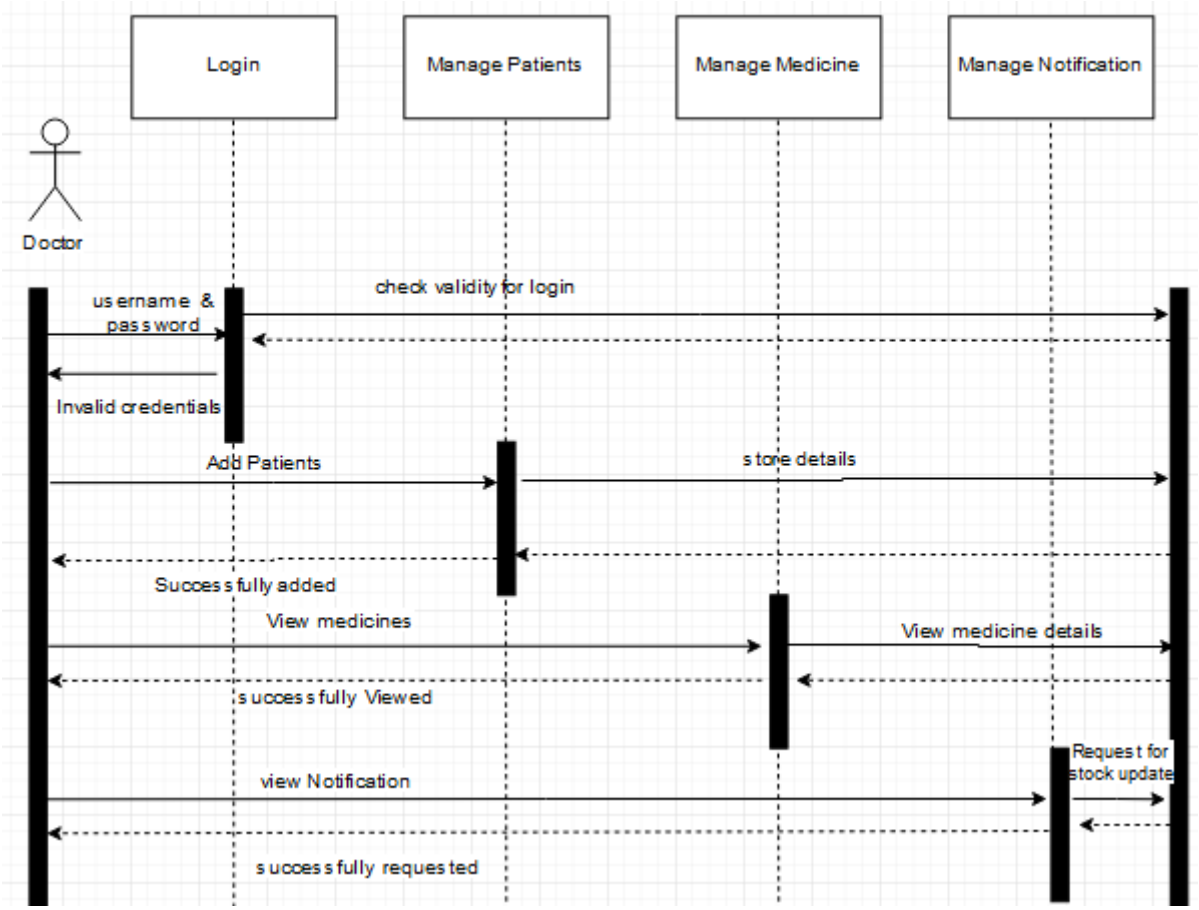

Fig 3.10 :Sequence diagram for doctor

3.7 TABLES

FIELDS	DATA TYPE	CONSTRANTS	DESCRIPTION
Doctor_id	Int	PRIMARY KEY	It is used to store the unique id
Name	Varchar(50)	Not Null	it should not be null
Age	Int	Not Null	it should not be null

Specification	Varchar(50)	Not Null	it should not be null
Experience	Int	Not Null	it should not be null
Mobile_no	Big Int	Not Null	it should not be null
Email	Varchar(50)	Not Null	it should not be null
Role	Varchar(5)	Not Null	it should not be null
Flag	Int	Not Null	it should not be null
Username	Varchar(50)	Not Null	it should not be null
Password	Varchar(50)	Not Null	it should not be null

Table 3.1: Table Doctor_details

FIELDS	DATA TYPE	CONSTRAINT	DESCRIPTION
Patient_id	Int	PRIMARY KEY	It is used to store the unique id
Name	Varchar(50)	Not Null	Should not be null.
Age	Int	Not Null	Should not be null.
Mobile_no	Varchar(50)	Not Null	Should not be null.
Gender	Varchar(50)	Not Null	Should not be null.
Disease	Varchar(50)	Not Null	Should not be null.
Place	Varchar(50)	Not Null	Should not be null.

Table 3.2: Table Patient_Details

FIELDS	DATA TYPE	CONSTRAINT	DESCRIPTION
Medicine_id	Int	PRIMARY KEY	it is used to store unique

			id
Name	Varchar(50)	Not null	it should not be null
Category	Varchar(50)	Not null	it should not be null
Type	Varchar(50)	Not null	it should not be null
Qty_in_stock	Int	Not null	it should not be null
Price	Float	Not null	it should not be null

Table 3.3: Table Medicine_details

FIELDS	DATA TYPE	CONSTRAINT	DESCRIPTION
Security_id	Int	PRIMARY KEY	it is used to store unique id
Doctor_id	Int	FOREIGN KEY	it refers to the table doctor_details
Sec_question	varchar(50)	Not null	it should not be null
Sec_answer	varchar(50)	Not null	it should not be null

Table 3.4: Table Security_question

FEILDS	DATA TYPE	CONSTRAINT	DESCRIPTION
Patient_med_id	Int	PRIMARY KEY	it is used to store unique id
Patient_id	Int	FOREIGN KEY	it refers to the table patient_details
Medicine_id	Int	FOREIGN KEY	it refers to the table medicine_details

Quantity	Int	Not Null	it should not be null

Table 3.5 Table Patients_medicine

3.8 TOOLS AND PLATFORMS

3.8.1 Introduction To Php

PHP stands for Hypertext Preprocessor. It's an open source, server-side, scripting language which is used for developing web applications. Scripting language like PHP can be thought as a program or code that is script-based and has a purpose of automating of tasks. PHP is readily available and it is also entirely free. It also gives an application in administration such as server administration and mail functionalities.

3.8.2 The PhpMyAdmin

PhpMyAdmin is one of the most popular applications for MySQL database management. It is a free tool written in PHP. Using this software, we can drop, create, import, alter, delete, and export MySQL database tables. We can execute MySQL queries, optimize, repair and check tables, change collation and execute other database management commands.

PhpMyAdmin is accessible only from the same host that XAMPP is running on, at http://128.0.0.1 or http://localhost. Before you can access the MySQL server, phpMyAdmin will prompt you for a user name and password. Restart the Apache server using the XAMPP control panel

3.8.3 The JavaScript

JavaScript often abbreviated as "JS", is a high-level, dynamic, un-typed, and interpreted run-time language. It has been standardized in the ECMAScript language specification.

Alongside HTML and CSS, JavaScript is one of the three core technologies of World Wide Web content production; the majority of websites employ it, and all modern Web browsers support it without the need for plug-ins. JavaScript is prototype-based with first-class functions, making it a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles. It has an API for working with text, arrays, dates and regular expressions, but does not include any I/O, such as networking, storage, or graphics facilities, relying for these upon objects made available by the host environment in which it is embedded.

3.8.4 The Bootstrap

Bootstrap is a type of framework which help us to design websites in faster and easier way. It consists of HTML and CSS based design templates for buttons, typography, image carousels, forms tables, navigation, modals, etc. It also provides us the support for JavaScript plugins. It helps us to save our coding effort by offering less CSS functionality and **pre**-built blocks of code rather than structuring code from the scratch.

3.8.5 HTML

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a webserver or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

3.8.6 CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of

web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG and XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications.

3.8.7 XAMPP

XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a lightweight Apache distribution and simple that makes it extremely easy for application developers to create a local web server for testing and deployment purposes.

A couple of advantages of using XAMPP for development are:

- You can start and stop the whole web server + database stack with one command.
- XAMPP is portable so you can carry it around on a thumb drive.
- The security settings are strict by default, nobody but you will be able to access the web server.

CHAPTER 4

SYSTEM TESTING

4.1 TESTING METHODOLOGIES AND STRATEGIES

Software testing is an integral part of to ensure software quality, some software organizations are reluctant to include testing in their software cycle, because they are afraid of the high cost associated with the software testing .There are several factors that attribute the cost of software testing. Creating and maintaining large number of test cases is a time consuming process. Furthermore, it requires skilled and experienced testers to develop great quality test cases.

Even with the wide availability of automation tools for testing, the degree of automation mostly remains at the automated test script level and generally significant amount of human intervention is required in testing. In addition data collected, as testing is conducted provides a good indication of software quality as a while. The debugging process is the most unpredictable part of testing process. Testing begins at the module level and work towards the integration of entire computer based system. No testing is completed without verification and validation part.

The goal of verification and validation activities are to access and improve the quality of work products generated during the development and modification of the software. Testing plays a vital role in determining the reliability and efficiency of the software and hence is very important stage in software development. Tests are to be conducted on the software to evaluate its performance under a number of conditions. Ideally, it should do so at the level of each module and also when all of them are integrated to form the completed system.

In the project ”CLINIC-PHARM” the testing has been successfully handled with the modules. The test data was given to each and every module in all respect and got the desired output. Each module that has been tested is found working properly.

4.1.1 Unit Testing

Here we test each module individually and integrated the overall system. Unit testing focuses verification efforts even in the smallest unit of software design in each module. This is known as ”module testing”. The modules of the ”CLINIC-PHARM” are tested separately. This testing is carried out in the programming style itself. In this testing each module is focused to work satisfactorily as regard to expected output from the module. There are some validation checks for the fields. Unit testing gives stress on the modules of ” CLINIC-PHARM” independently of one another, to find errors. Different modules are tested against the specifications produced during the design of the modules. Unit testing is done to test the working of individual modules with test servers. Program unit is usually small enough that the programmer who developed it can test it in a great detail. Unit testing focuses first on that the modules to locate errors. These error are verified and corrected and so that the unit perfectly fits to the project.

4.1.2 Integration Testing

Data can be lost across an interface, one module can have an adverse effect on the other sub-functions, when combined they may not perform the desired functions. Integrated testing is the systematic testing to uncover the errors within the interface. This testing is done with simple data and the developed system has run successfully with this simple data. The need for integrated system is to find the overall system performance. The Modules of this project are connected and tested.

After splitting the programs into units, the units were tested together to see the defects between each module and function. It is testing to one or more modules or functions together

with the intent of finding interface defects between the modules or functions. Testing completed at as part of unit or functional testing, integration testing can involve putting together of groups of modules and functions with the goal of completing and verifying meets the system requirements.

4.1.3 system Testing

System testing focuses on testing the system as a whole. System Testing is a crucial step in Quality Management Process. In the Software Development Life Cycle, System Testing is the first level where the System is tested as a whole. The System is tested to verify whether it meets the functional and technical requirements. The application/System is tested in an environment that closely resembles the production environment where the application will be finally deployed.

The perquisites for System Testing are:-

- All the components should have been successfully Unit Tested.
- All the components should have been successfully integrated.
- Testing should be completed in an environment closely resembling the production environment. When necessary iterations of System Testing are done in multiple environments.

4.1.4 User Acceptance Testing

The system was tested by a small client community to see if the program met the requirements defined the analysis stage. It was fond to be satisfactory. In this phase, the system is fully tested by the client community against the requirements defined in the analysis and design stages, corrections are made as required, and the production system is built. User acceptance of the system is key factor for success of the system.

Login

Test Step	Expected Result	Actual Result	Status	Remarks(if any)
Click on the Login button without entering user name or password.	Messages like "Please enter User Name" and "Please Enter Password" should appear.	Messages "Please enter User Name" and "Please Enter Password" appear.	Pass	None
Enter a non-existing user name password and click on the Login button	Message like "Invalid User Name" should appear	A message "Invalid User Name" appears	Pass	None
Enter a valid user name but wrong password and click on the Login button	Message like "Wrong Password" should appear	A message "Wrong Password" appears	Pass	None
Enter a valid user name and password and click on	The page should be navigated to the home page	The page is navigated to the home page	Pass	None

the Login button				

Fig 4.1 : Login

Patient registration

Test Step	**Expected Result**	**Actual Result**	**Status**	**Remarks(if any)**
Enter all fields with valid entries & click SUBMIT button	Message like "Successfully Loaded" & The page should refresh	A message "Successful!!" appears and page is refreshed	Pass	None
Enter fields with invalid entries	Message like "Invalid entries" should appear	A message "Invalid Entry" appears	Pass	None
No fields are filled but click SUBMIT button	Message like "Fill all the fields" should appear	A message "Fill all required fields" appears	Pass	None

Fig 4.2: Patient registration

Doctor registration

Test Step	Expected Result	Actual Result	Status	Remarks(if any)
Enter all fields with valid entries & click SUBMIT button	Message like "Successfully Loaded" & The page should refresh	A message "Successful!!" appears and page is refreshed	Pass	None
Enter fields with invalid entries	Message like "Invalid entries" should appear	A message "Invalid Entry" appears	Pass	None
No fields are filled but click SUBMIT button	Message like "Fill all the fields" should appear	A message "Fill all required fields" appears	Pass	None

Fig 4.3 : Doctor Registraion

Change Password

Test Step	Expected Result	Actual Result	Status	Remarks(if any)

Enter all fields with valid entries & click RESET button	Message like "Successfully Loaded" & The page should refresh	A message "Successful!!" appears and page is refreshed	Pass	None
Enter fields with invalid entries	Message like "Invalid entries" should appear	A message "Invalid Entry" appears	Pass	None
No fields are filled but click SUBMIT button	Message like "Fill all the fields" should appear	A message "Fill all required fields" appears	Pass	None
Enter the password and confirm password with different values	Message like "Mismatching password and confirm password" should appear	A message "Fill matching password and confirm password" appears	Pass	None

Fig 4.4 : Change Password

CHAPTER 5

SYSTEM IMPLEMENTATION

The implementation is one phase of software development. Implementation is that stage in the project where theoretical design is turned into working system. Implementation involves placing the complete and tested software system into actual work environment. Implementation is concerned with translating design specification with source code. The primary goal of implementation is to write the source code to its specification that can be achieved by making the source code clear and straight forward as possible. Implementation means the process of converting a new or revised system design into operational one. The three types of implementation are:-implementation of a computerized system to replace a manual system, implementation of a new system to replace existing one and implementation of a modified system to replace an existing one.

The implementation is the final stage and it is an important phase. It involves the individual programming ; system testing, user training , and the operational running of developed proposed system that constitute the application subsystem. The implementation phase of the software development is concerned with translating design specification in the source code. The user tests the developed system and the changes are according to the needs. Before implementation, Several tests have been conducted to ensure no errors encountered during the operation. The implementation phase ends with an evaluation of the system after placing it into operation of time. The validity and proper functionality of all the modules of the developed application is assured during the process of implementation. Implementation is the process of assuring that the information system is operational and then allowing user to take

over its operation for use and evaluation. Implementation is the stage in the project where the theoretical design is turned into a working system. The implementation phase constructs ,installs and operated the new system. The most crucial stage in achieving a new successful system is that it works effectively and efficiently.

CHAPTER 6

CONCLUSION

Clinic-pharm system is a management system that is designed to improve accuracy and to enhance safety and efficiency in the clinic. The Clinic-pharm is a management system which is specially designed for most of the general clinics for keeping the record of pharmacy in their daily clinic operation information.

The aim of this project is to fully automate the clinic daily operation by leading the clinic to operate in effective and efficient way throughout the help of the system so that they could eliminate paper work that originally use to take place.

Clinic-pharm will shrink the clinic needed space on keeping up with the paper work. The end user can search for the patient records easily by only input some criteria, the system will immediately respond to the user with patient information based on that criteria and thus can save a lot of time and work on searching.

7. REFERENCES

- The Joy of PHP Programming: A Beginner's Guide – by Alan Forbes. ...
- PHP & MySQL Novice to Ninja – by Kevin Yank. ...
- Head First PHP & MySQL – by Lynn Beighley & Michael Morrison. ...
- Learning PHP, MySQL, JavaScript, and CSS: A Step-by-Step Guide to Creating Dynamic Websites – by Robin Nixon.

8. SCREEN SHOTS

ADMIN FUNCTIONALITIES:-

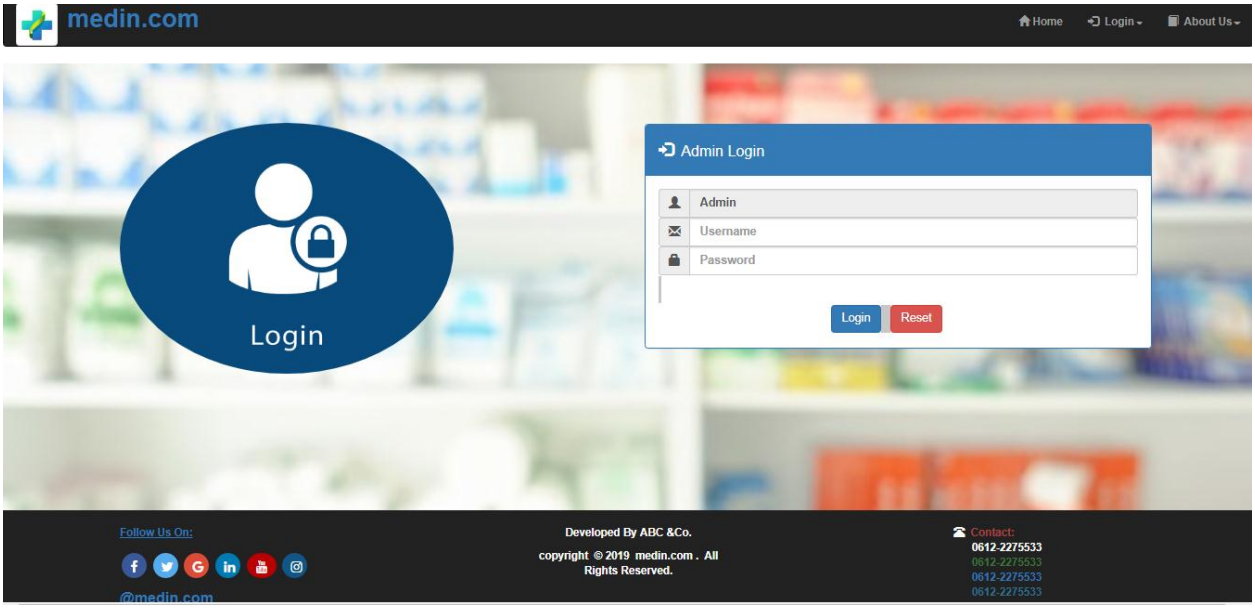

Fig.8.1 Admin Login page

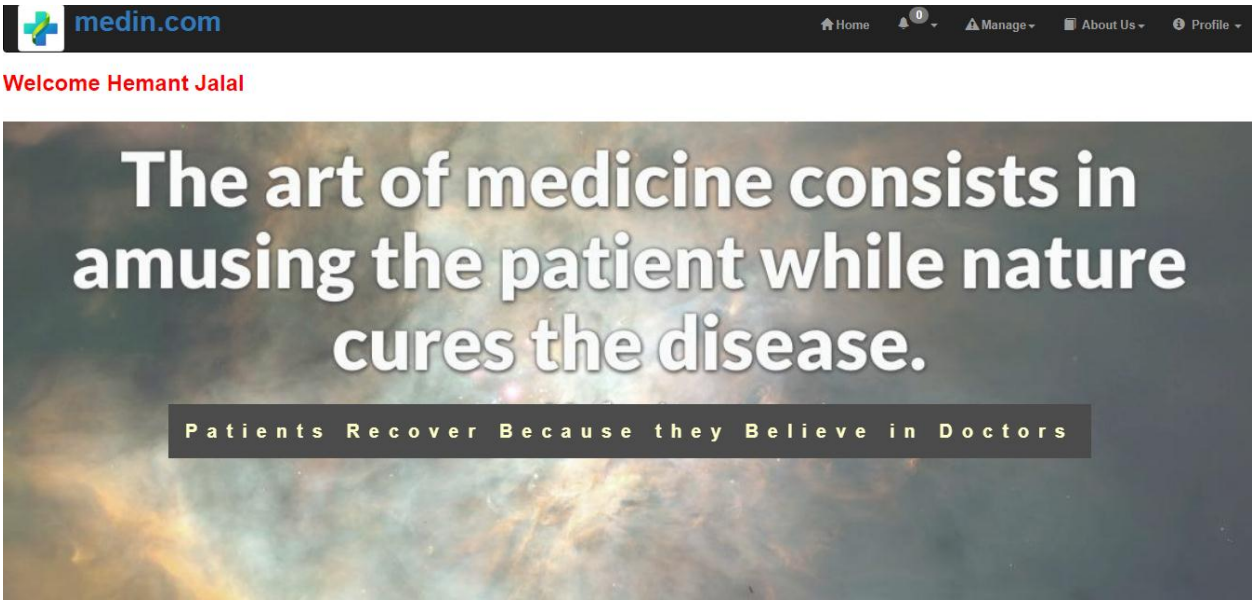

Fig.8.2. Admin Homepage

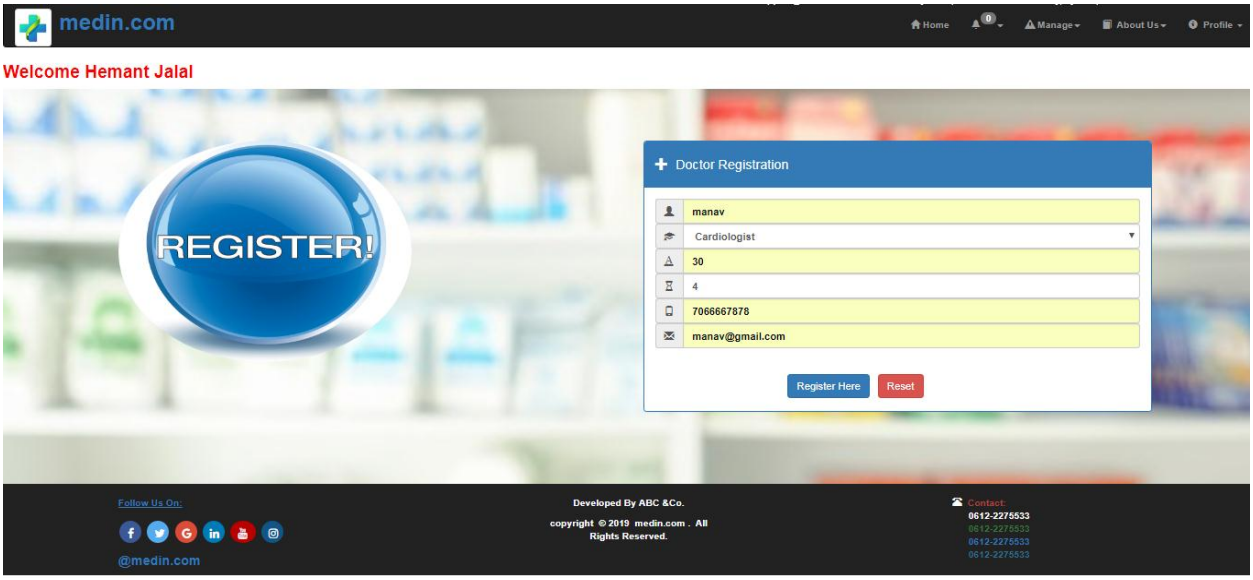

Fig.8.3. New Doctor Registration page

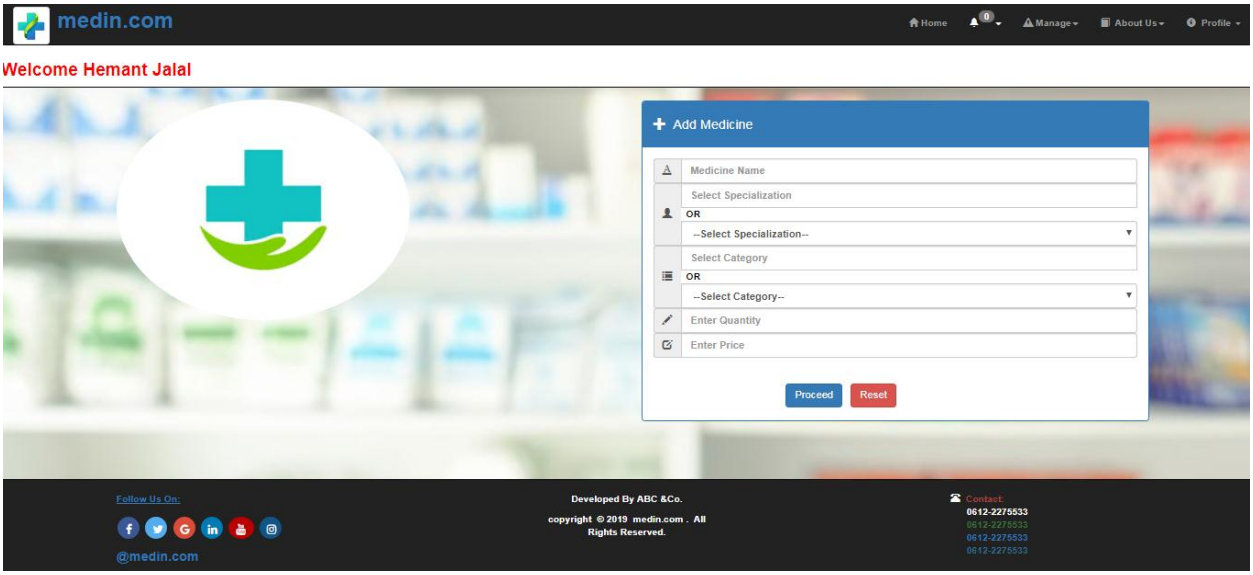

Fig.8.4. Add New Medicine page

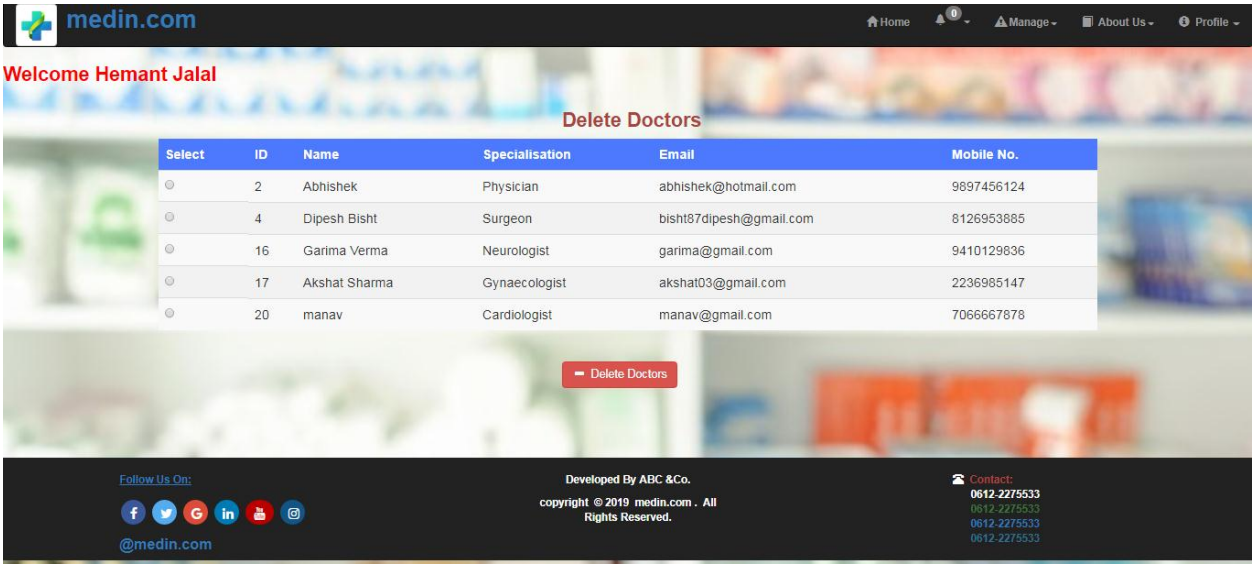

Fig.8.5. Delete Doctor page

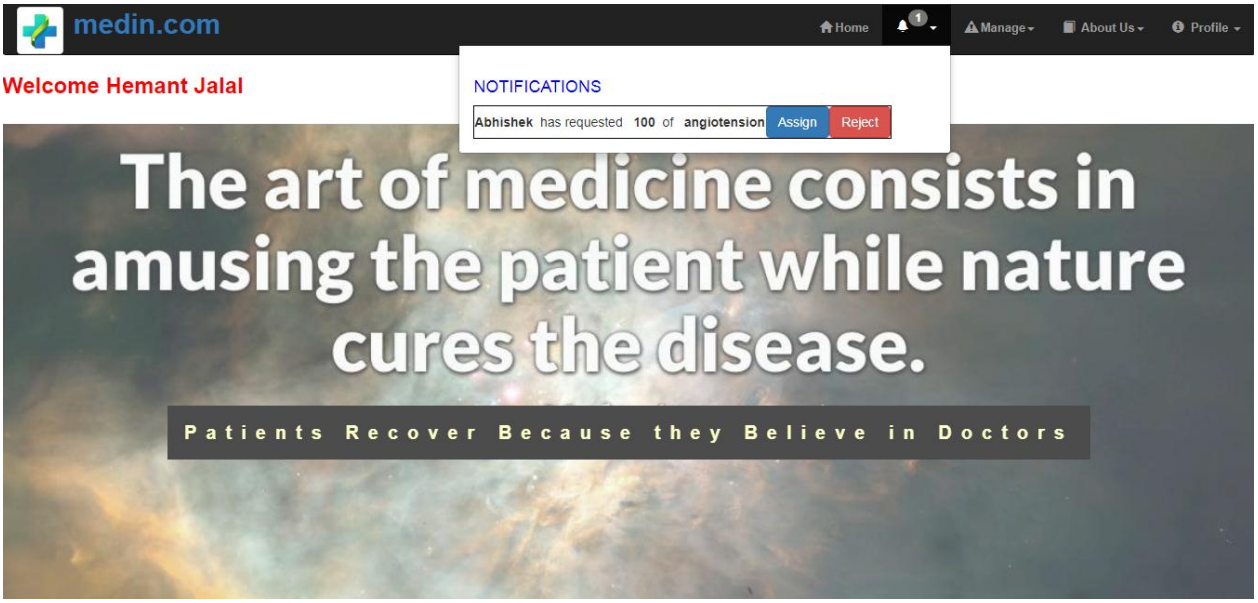

Fig.8.6. View Medicine Request page

DOCTOR FUNCTIONALITIES:-

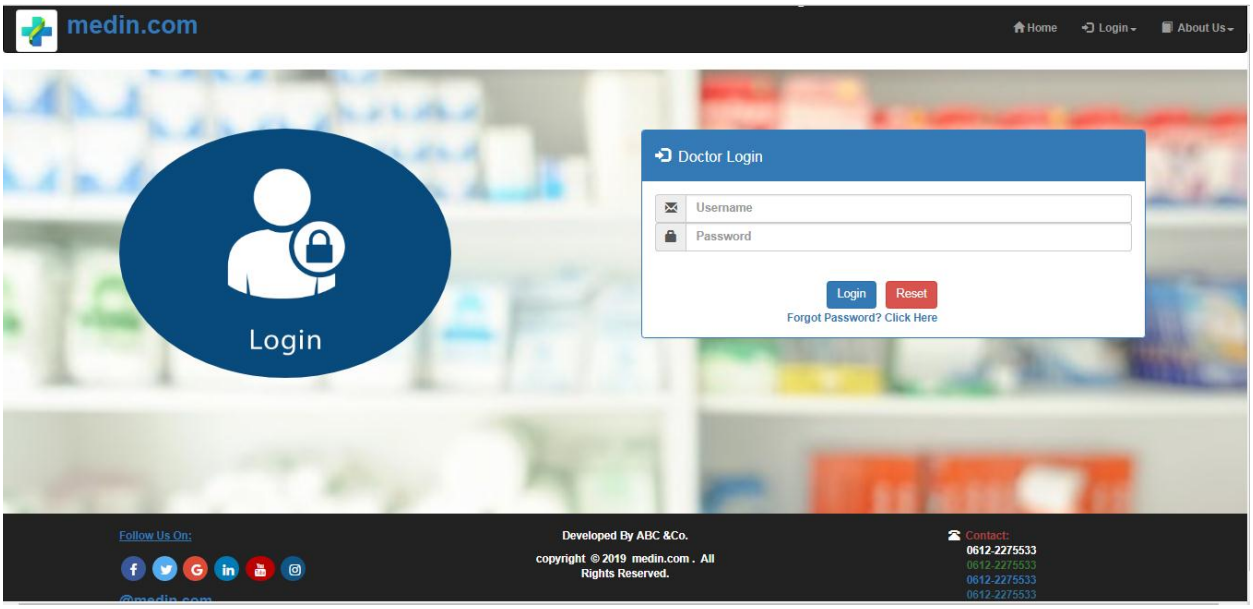

Fig.8.8. Doctor Login Page

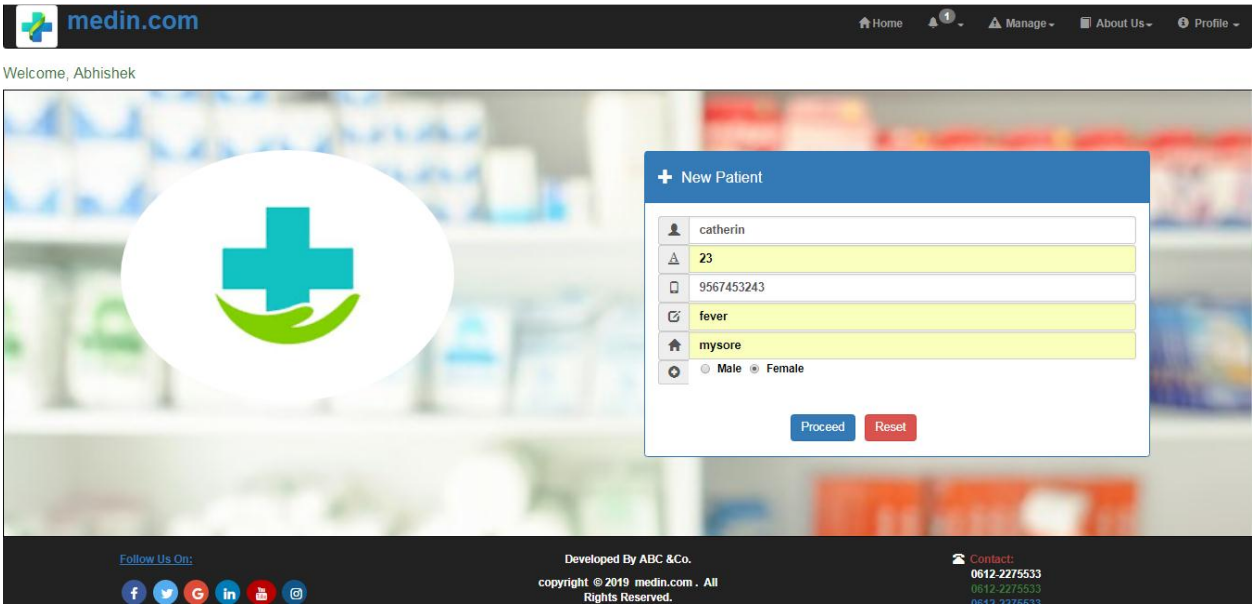

Fig.8.8. Add Patient

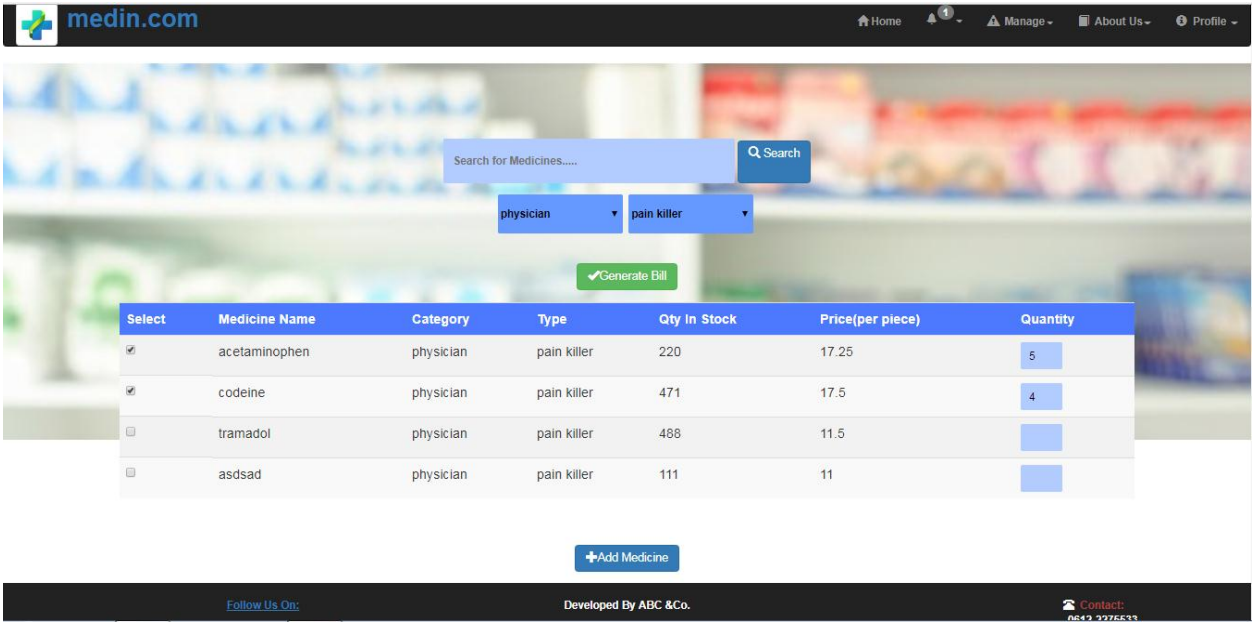

Fig.8.9. Medicine Allocation

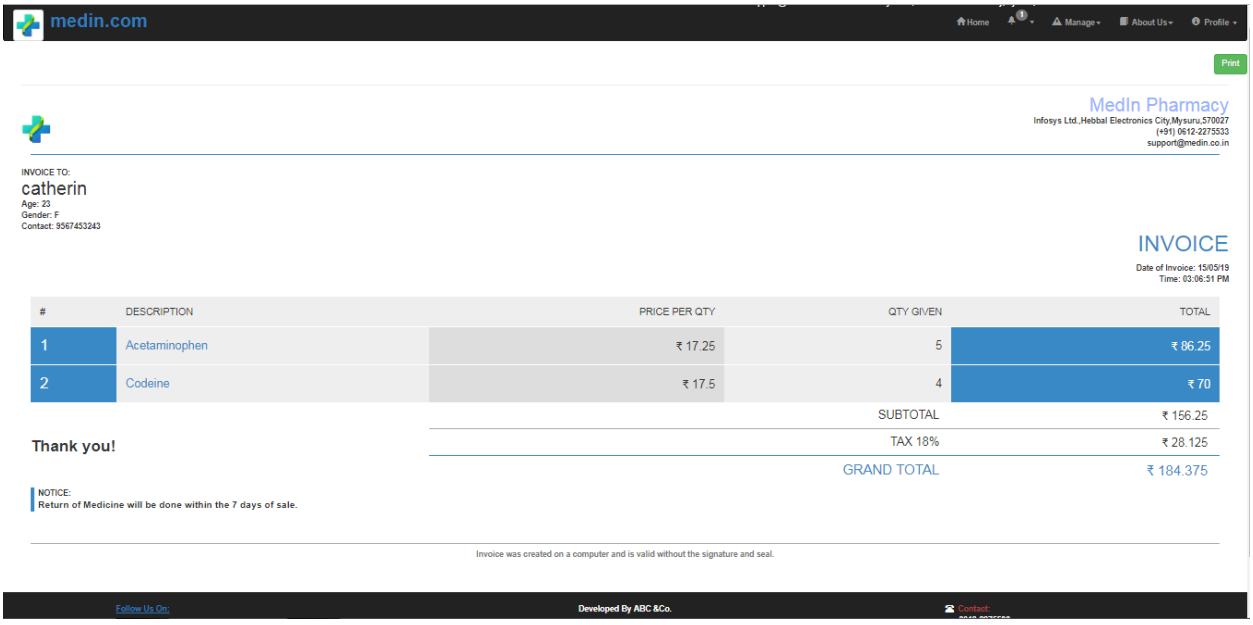

Fig.8.10. Billing page

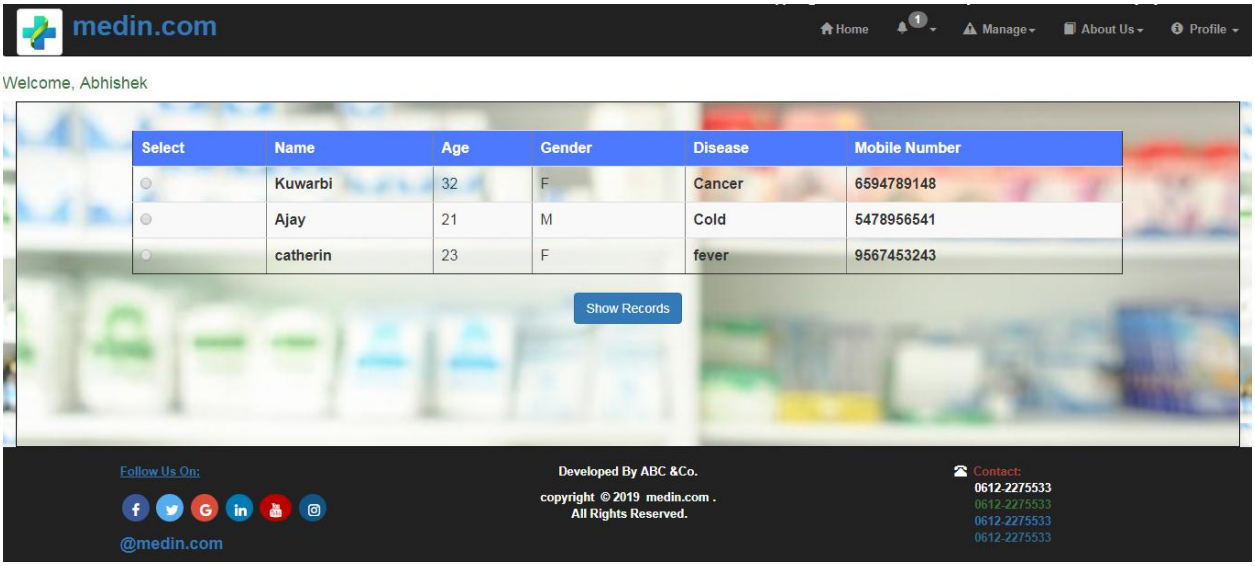

Fig.8.11. View Patient History

2

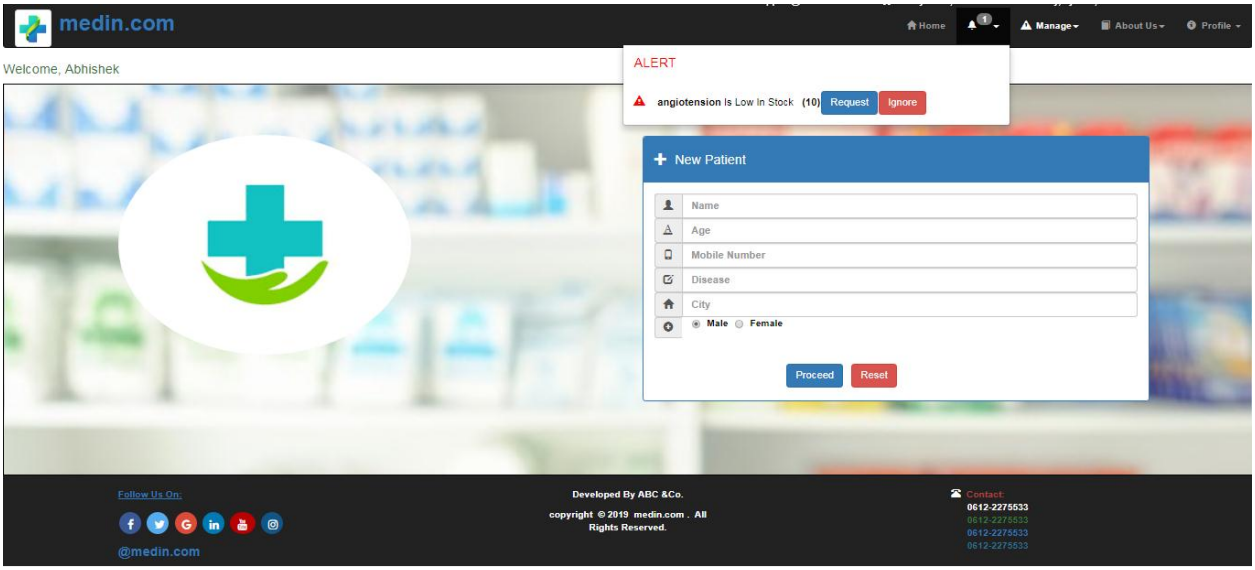

Fig.8.12. Doctor Notification Menu

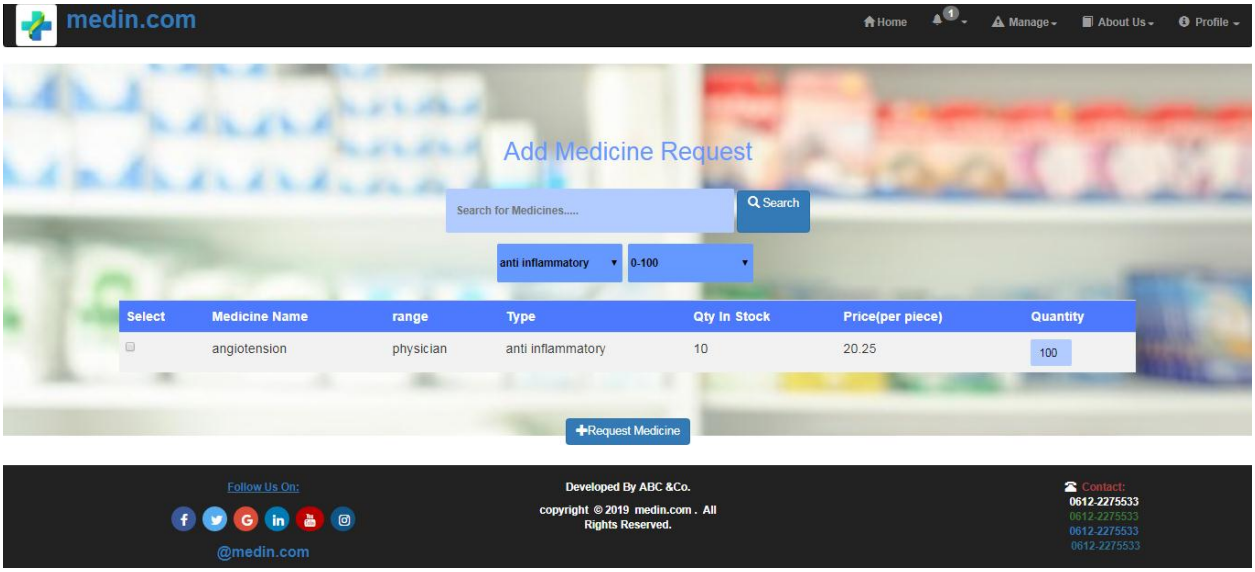

Fig.8.13. Medicine Request page

Fig.8.14. About Doctor page

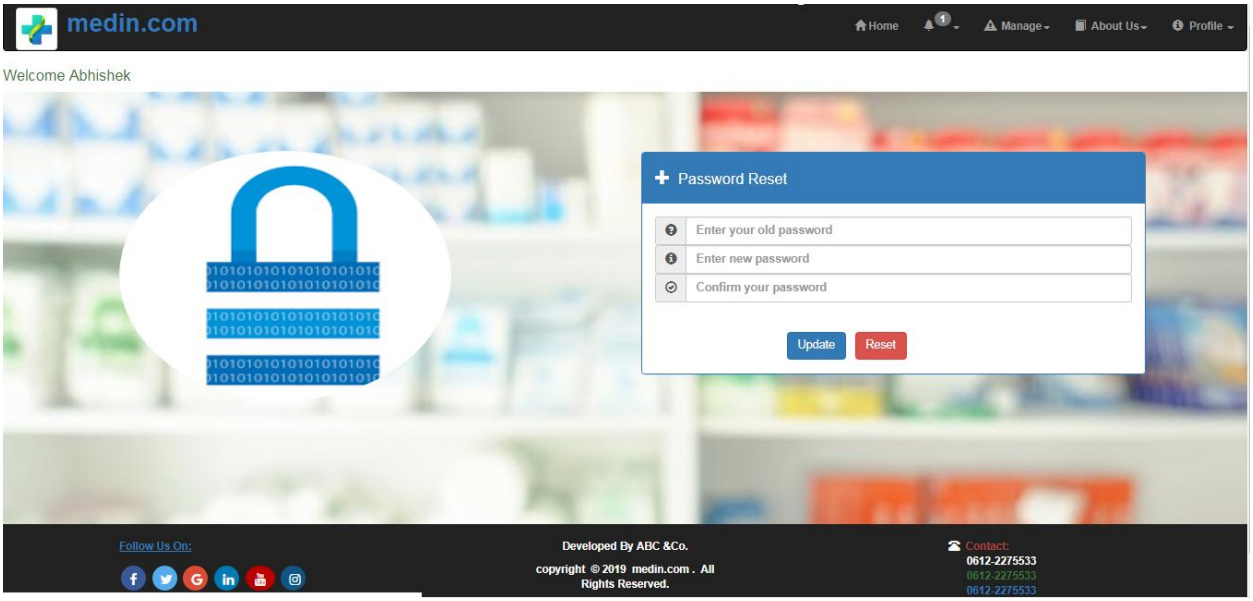

Fig.8.15. Change Password page

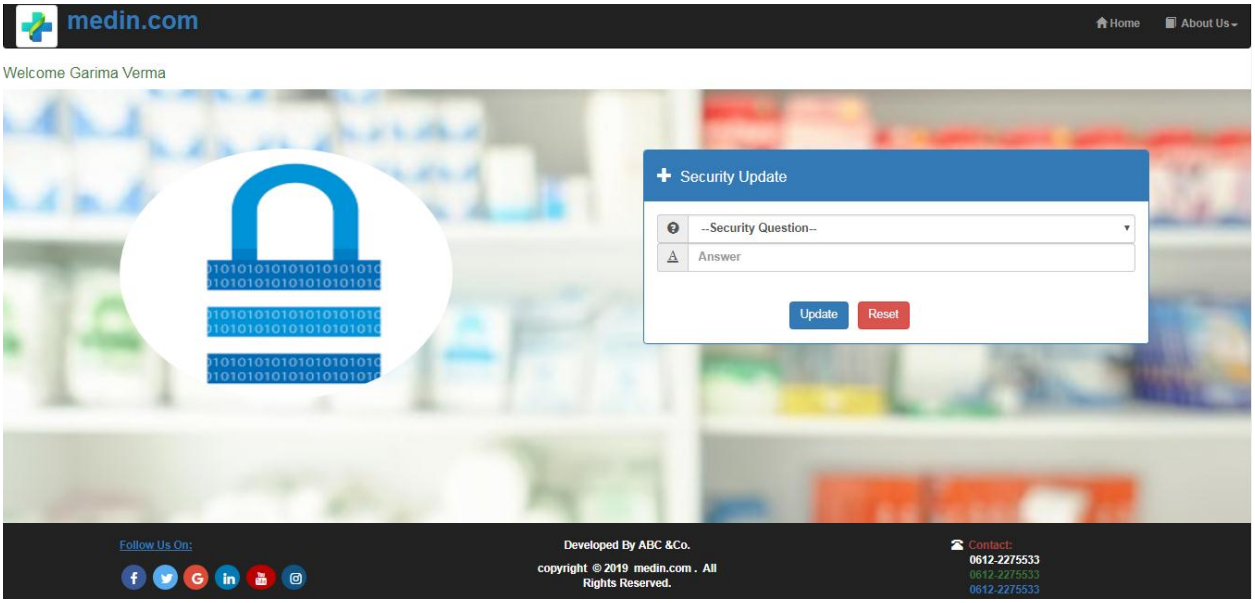

Fig.8.16. Securit6y Question Update page

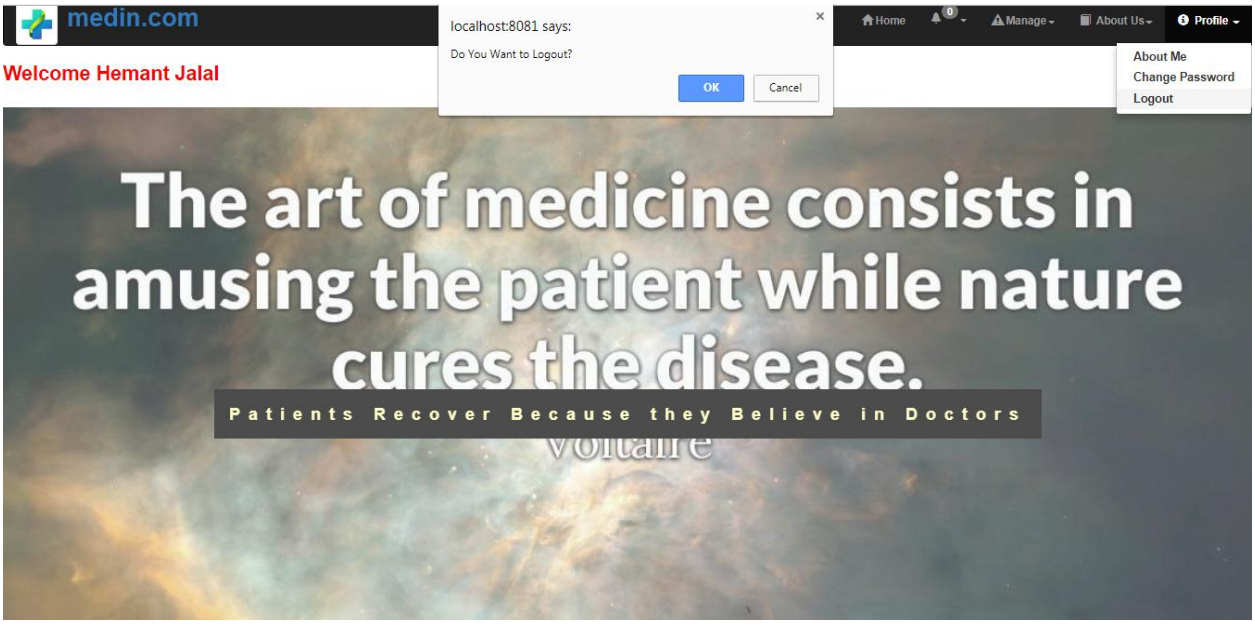

Fig.8.18. Logout