A
Project Report
On
"IEMO(Intelligent Electronical Medical Office)"

Prepared by
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Under the Supervision of
Prof. Jalpesh Vasa

A Report Submitted to

Charotar University of Science and Technology

for Partial Fulfilment of the Requirements for the

Degree of Bachelor of Technology

in Information Technology

(8th Semester Software Project Major-IT447)

Submitted at

SMT. KUNDANBEN DINSHA PATEL DEPARTMENT OF INFORMATION TECHNOLOGY

Chandubhai S. Patel Institute of Technology

At: Changa, Dist: Anand – 388421

April 2022

DECLARATION BY THE CANDIDATES

I hereby declare that the project report entitled "IEMO (Intelligent Electronical Medical Office)" is our own work conducted under the guidance of **Prof. Jalpesh Vasa and Mr. Manish Lakhara.**

I further declare that to the best of our knowledge, the project for B. Tech does not contain any part of the work, which has been submitted for the award of any degree either in this University or in other University without proper citation.

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Company Certificate

MEDITAB
Improving the Business and Delivery of Healthcare

Date: 22 April 2022

To Whomsoever It May Concern

This is to certify that Vedang Thakkar is an intern in our organization since December 6, 2021 until current. He has worked on Web Development and Security Bug Fixes during his internship period in the organization.

This letter is issued on employee's request and the company is not responsible for any current or future liabilities.

For Meditab Software (India) Pvt. Ltd.

Chaitra Shetty

Human Resources

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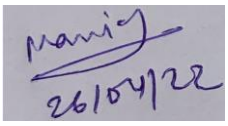
Accredited with Grade A by NAAC

CERTIFICATE

This is to certify that the report entitled "**IEMO(Intelligent Electronical Medical Office**" is a bonafied work carried out by **Mr. Vedang Dilipbhai Thakkar (18IT135)** under the guidance and supervision of **Prof. Jalpesh Vasa** & **Mr. Manish Lakhara** for the subject **Software Project Major (IT447)** of 8th Semester of Bachelor of Technology in **Information Technology** at Faculty of Technology & Engineering – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate himself has duly been completed, and fulfils the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred to the examiner.

Under supervision of,



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ABSTRACT

Medical insurance and payment system projects main idea to use the software application of medical stores and hospitals for maintaining easy billing system. The data is stored on a website, oracle is used as a website for this project. In the current system of medical services and patient information is stored in the form of manual records. In this inaccurate data process there is a risk of data loss and retrieving old records is not possible. It is a mainly use for billing purpose, The medical billing process is a process that involves a third party payer, which can be an insurance company or the patient. Medical billing results in claims.

This software is supported to eliminate and in some cased reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. Basically the project describes how to manage for good performance and better services for the clients.

ACKNOWLEDGMENT

With immense pleasure and commitment, we would like to present the project assignment. The nature of the project on the development of The Medical Billing and Electronical Health record management system, has given us a wide opportunity to think, implement and interact with various aspects of management skills as well as the new emerging facilities and the technology used in architecture and the enhancements given to the students with a boon of spirituality and curricular activities.

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many hands. I would like to extend my sincere thanks to all of them.
I am highly indebted to Prof. Jalpesh Vasa for his guidance and constant supervision as well as for providing necessary information regarding the project & also for his support in completing the project.
I am grateful to my external guide Mr. Manish Lakhara in Meditab Software for giving me the support and encouragement that was necessary for the completion of this project.
I would like to express my gratitude to H.O.D. Dr. Parth Shah and I am also grateful to all my faculty members of Chandubhai S. Patel Institute of Technology for their kind cooperation and encouragement which help me in completion of this project and preparing the report.
Last but not the least, I would also like to thank my colleagues, who have co – operated during the preparation of my report and without them this project has not been possible. Their ideas helped me a lot to improve my project report.

"We may not achieve everything we dream, but we cannot achieve anything unless we dream."
–

Vedang Thakkar (18IT135)

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CHAPTER 1 INTRODUCTION

1.1 PURPOSE

- The Purpose of Software Requirements Specification (SRS) is to provide a detailed description of **the Medical Billing and Electronical Health record management system.** SRS will give a complete understanding of purpose and its functionality. This document helps developers to understand software correctly as well as it can be used as a software validation document for users.

1.4 OVERVIEW

- Intelligent Electronical Medical Office(IEMO) is basically a Medical billing software and It is mainly used for faceless appointment booking , medical insurance and all type for billing. This web Application is made with Angular Js. Angular Js is used for front end development and for backend in this application, .net and node js is used, for data base Postgres and MySQL is used and host a web application on server AWS is used.
- Basically the project training is start with some angular exercises. The exercise is defined as The Advanced Search, Smart quiz Web Application. The web application is reduced as much as possible to avoid error while entering the data. It also provides error message while entering invalid data. Thus by this all it proved it us user-friendly. As described above, Medical office can lead to error free, secure, reliable, easy to operate and fast management system. It can assist the user concentrate on their other activates rather to concentrate on the record keeping. Thus in better utilization of resources.
- This is designed to assist in strategic planning., and will help you ensure future goals. Also, for those busy executive who are always on the go, iur systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

1.3 SCOPE

It may help for patient to book appointment, take insurance, took medicine by order in this covid pandemic. It will help a patient to know the management of passed year perfectly and vividly. It helps in current all works relative to Medical Software and Billing system. It will be also reduced the cost of collecting the management & collection procedure will go on smoothly. In this project our main aims at Business process automation, i.e we have tried to computerize various processes of Medical billing and insurance software.

In this web application patient has to fill the various forms & number of copies of the forms can be easily generated at a time. This application generates types of information that can be used for various purposes. And its easy to operate The schedule of patient appointment is managed easily. Be expandable.

Application also provides excel export of patient records and Billing records for clinic.

Manually creating a Web Application and configuring a website on it is a very tedious job. Moreover sometimes we even need to maintain patient health data for which we require the setup of a Angular which too is a tedious process to perform.

This process is very time consuming as well as erroneous because as there is a human hand involved, there is even a scope of error for sure and it is difficult to maintain consistency.

The .Net technology and node js will take care of this backend process and for data storage Postgres or MySQL database will be used.

1.4 DEFINATIONS

1. Angular 11- Front End component base Frame-work
2. .net - Software Development Framework
3. Node Js – Back End Frame work
4. Postgres and MySQL - Stable Database Management System
5. Postman – API Testing

1.5 OBJECTIVES :

- The main objective of the project on Medical office web application is to manage the details of patients, Medicine, Medicine Company, Facility, Medicine Stock, Sells, Super Bill, Patient Insurance, Provider etc. It manages all the information about customer, supplier, sells, patient. The project is totally built at administrative end and this only the clinic administrator is guaranteed the access. Because in the project there is one module of security rights to percale screens.

- It is a mainly use for billing purpose, The medical billing process is a process that involves a third party payer, which can be an insurance company or the patient. Medical billing results in claims.

- The claims are billing invoices for medical services rendered to patients. The entire procedure involved in this is known as the billing cycle sometimes referred to as Revenue Cycle Management. A patient can do appointment remotely, and take insurance from any medical company .

Functionalities provides by Intelligent electronical medical Office are as follows:

- Provides the searching facilities based on various factors. Such as Patient, Medicine Company, Medicine Stock, Sells and Insurance Company.
- It also manage the supplier details online for Medicine stock details, sells details, customer. Then manage the billing provider details , visit note status, appointment details of patient , room allocation to patient , patient case, patient family history, patient insurance claims, Patient prescription, patient receipts, etc.
- Shows the information and description of the patient, clinic.
- Integration of all records of sells,

1.6 TOOLS AND TECHNOLOGY USED

To create and understand the whole system we require to get basic knowledge of five main technology

1. Angular 11- The specific version of angular should be used for Front End web development. It is component base Frame-work.
2. .net - NET is a software development framework and ecosystem designed and supported by Microsoft to allow for easy desktop and web application engineering.
3. Node Js – Node. js is an open-source and cross-platform runtime environment for executing JavaScript code outside a browser.
4. Postgres and MySQL - It is a highly stable database management system.
5. Postman – Postman is an application used for API testing. It is an HTTP client that tests HTTP requests, utilizing a graphical user interface, through which we obtain different types of responses that need to be subsequently validated.

- **TOOLS**
  - Visual studio code
  - Postgres
  - ConEMU

- **TECHNOLOGY**
  - Angular 11
  - Html, scss
  - .net core
  - Postgres SQL
  - Typescript
  - My SQL

1.6.1 ANGULAR

- Angular 11, a recent development of Google's web-based web framework, was recently published as a production release. Outstanding include solid forms, enhancement of router performance, and automatic font installation.
- A component-based framework for building scalable web applications
  A collection of well-integrated libraries that cover a wide variety of features, including routing, forms management, client-server communication, and more a suite of developer tools to help you develop, build, test, and update your code. With Angular, you're taking advantage of a platform that can scale from single-developer projects to enterprise-level applications. Angular is designed to make updating as straightforward as possible, so take advantage of the latest developments with a minimum of effort

1.6.2 NODE JS

- Node.js is a server-side platform built on Google Chrome's JavaScript Engine. Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications. Node.js applications are written in JavaScript, and can be run within the Node.js runtime on OS X, Microsoft Windows, and Linux.
- Node.js also provides a rich library of various JavaScript modules which simplifies the development of web applications using Node.js to a great extent.

1.6.3 POSTGRES

- PostgreSQL (pronounced as post-gres-Q-L) is an open source relational database management system (DBMS) developed by a worldwide team of volunteers. PostgreSQL is not controlled by any corporation or other private entity and the source code is available free of charge.

1.6.4 AWS

- AWS means Amazon Web Services. It is a rental cloud computing platform which on spot provides elastic resources to fulfil our computing needs. With the computing resources, it also provides other services to manage the security and other stuff.

1.6.5 POSTMAN

- Postman is an API (application programming interface) development tool that helps build, test and modify APIs. Almost any functionality that any engineer may need is included in this tool. It is used by more than 5 million engineers every month to make upgrading their API easier and simpler. It has the ability to create different types of HTTP requests (GET, POST, PUT, PATCH), saves locations for later use, converts API into multilingual code (such as JavaScript, Python).

CHAPTER 2 PROJECT PLANNING

2.1 PROJECT PLANNING

2.1.1 Project Development Approach and Justification (Process Model Used)

- The spiral model is mainly used for these medical office. An adapted Agile development methodology works well for most healthcare solution projects because it enables the product team to more accurately capture the elements and features that matter most to end users (whether it medical clinic staff or patients) and prioritize the delivery of those features.
- The concept of agile project management has gone on to spark several specific sub frameworks and methodologies such as lean, Kanban and scrum. Because agile project management methodologies have some principles : It's quick, It's open to data-driven change.
- As such, agile project methods, all of the work to be done is added to a backlog that teams can prioritizing the backlog so teams know what to focus on first.

2.1.2 PROJECT EFFORT AND EFFORT TIME, COST ESTIMATION

- Regarding the programmer's efforts we spoke to the management of the institution's final affairs, the staff who kept the records in most registers and the accounting officer about their current program, their needs and their expectations for the proposed new system. system.
- Reliable, accurate and secure data was also regarded as hard work outside of the proposed system. Because there was such a record of tracking all activities, performed by Medical billing and daily insurance plan.
- This web application started about 5 years ago, Software costs include a small percentage of all computer-based system costs. There are a few factors, considerable, that can affect the final cost of software such as - personal availability, technology, Hardware and Software etc.
- The cost estimates made by our company for the project are also based on the basic metrics collected from past projects and these are used in conjunction with variable rates to improve costs and efforts.

- Effort Measurement: This refers to the total number of hours a person needs to develop a project. It even includes the time required to create the script and user manual.
- Hardware Required: This includes the cost of PC and hardware costs required to upgrade the project.
- Software Required Rate: This includes server maintenance costs, web hosting fee, site service charges required for the development of the project.

2.1.3 Functionalities provides by Intelligent electronical medical Office are as follows:

- Provides the searching facilities based on various factors. Such as Patient, Medicine Company, Medicine Stock, Sells and Insurance Company.
- It also manage the supplier details online for Medicine stock details, sells details, customer. Then manage the billing provider details , visit note status, appointment details of patient , room allocation to patient , patient case, patient family history, patient insurance claims, Patient prescription, patient receipts, etc.
- Shows the information and description of the patient, clinic.
- Integration of all records of sells.

2.2 PROJECT WORK SCHEDULING

2.2.1 GANTT CHART

- It is also known as Bar chart is used exclusively for scheduling purpose. It is a way to manage a project. It is used for scheduling appointments and organizing events for the venue in particular. Budget planning and resource planning. Gantt is a bar chart with each bar representing the function. Bars are drawn against the timeline. The length of time scheduled for work. The Gantt chart in the diagram shows the gray parts of the loosening period which is the last time the work is completed.

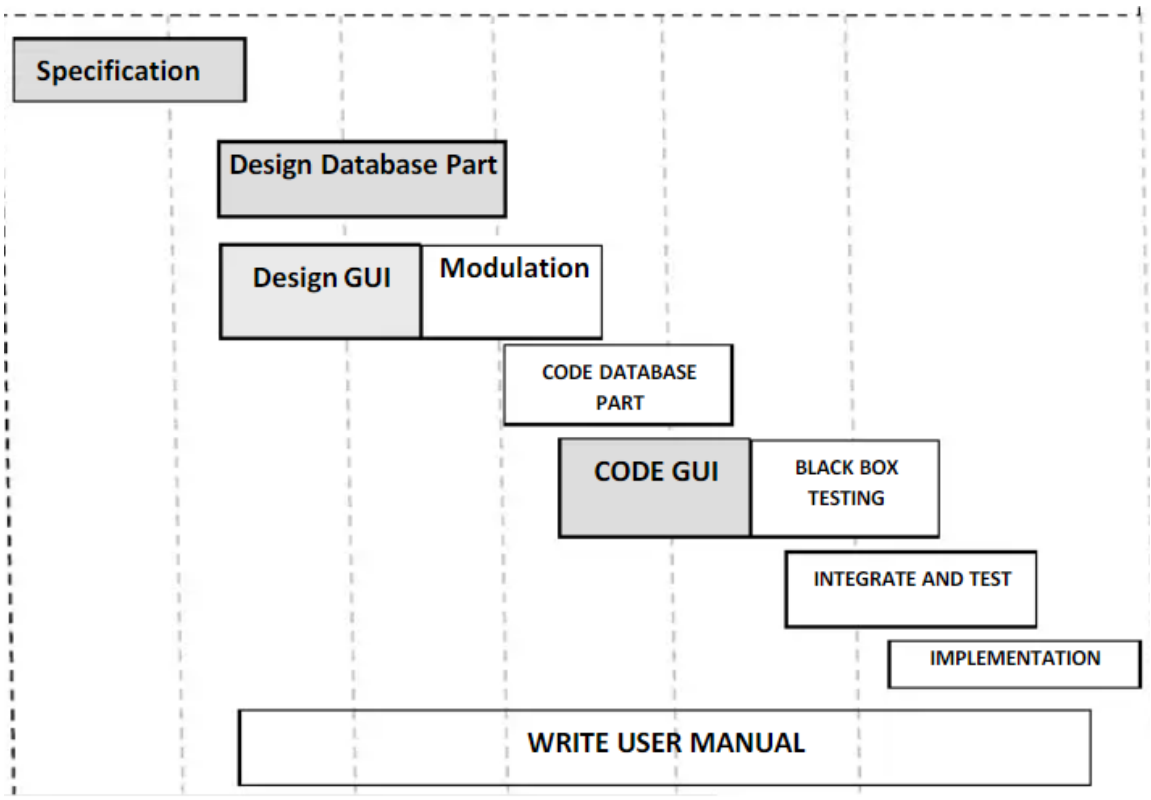

Fig 2.2.1 Gantt Chart

2.2.2 PERT CHART

- PERT chart is designed for events, activities or activities. It is a planning device that clearly demonstrates the order of tasks to be performed. Allows for component calculation. The time and cost associated with the route are calculated and the route requires a significant amount of time over the critical route.

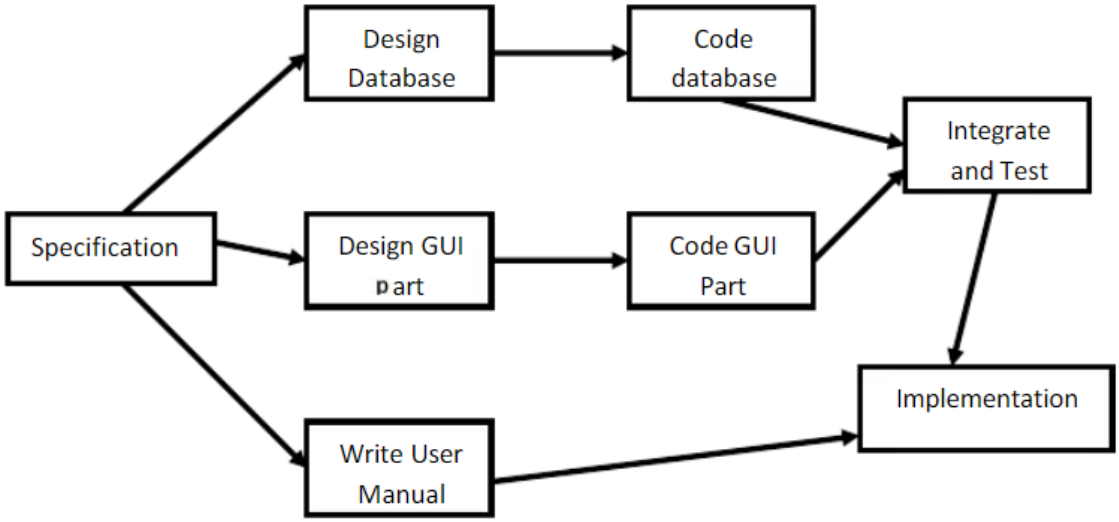

Fig. 2.2.2 PERT chart

2.2.3 SYSTEM ANALYSIS :

- **STUDY OF EXISTING SOLUTION**
    - System analysis is a process of gathering and interpreting facts, diagnosing problems and the information about the Intelligent electronical Medical Office system to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and systems development process. The Billing process and insurance from the organization are traced to the different processes. The system analyst plays the role of the interrogator into the working of the current system. The conclusion is an understanding of how the system functions. This system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The solutions are given as proposals. The proposal is then weighed with the current system analytically and the best one is selected. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied tight proposal. System study is problem solving activity that requires intensive communication between the system users and system developers.

2.2.4 REQUIREMENTS OF PROPOSED SYSTEM:

- **FUNCTIONAL REQUIREMENTS**
- There are many of software requirements included in the functional requirements of the Medical Billing and Electronical Health record management system, which contains various process, namely Registration, check out, Report Generation, and Database.

- Registration Process of SRS(Software Requirements Specification)
    - Adding Patients : The Medical Billing and Electronical Health record management system enables the staff in the front desk to include new patients to the system.

- Assigning an ID to the patients: The Medical Billing and Electronical Health record management system enables the staff in the front desk to provide a unique ID as known as patient chart for each patient and then add them to the record sheet of the patient. The patients can utilize the ID throughout their Appointment Booking time or any time .
- Providing a Employee/Providers : The Medical Billing and Electronical Health record management system enables the staff in the Employee for a patient to provide a Provider according to patient Emergency and Provider availability.

- **Check out of SRS**
  - Deleting a Patient Identity: Clinic staff in the ward administration can remove a patient chart from the system when a patient leaves hospital.
  - Adding Available Lists in Rooms: Staff in the ward management department may place an empty Room on the list of available beds.
  - Adding List Available to Providers: Staff at the ward management level can place an empty Care Team on the Staff / Providers list..

- **Report Generation of SRS**
  - Patient Information: Medical Billing and Electronical Health records management system generates a report for every patient about various information such as patient name, Telephone Number, Provider name, facility name, Email, doctor name, room name, and more.
  - Availability Room and Care Team: Medical and Technical Payment Records Management System assists in generating reports on room availability and care team regarding information such as vacant or vacant Room number, ward name and more.
  - Website Review: Medical Billing and Electronical Health records management system enables users to update patient information as defined in the required information.

NON FUNCTIONAL REQUIREMENTS

- There are a lot of software requirements specifications included in the non-functional requirements of Medical Billing and Electronical Health record management system, which contains various process, namely Security, Performance, Maintainability, and Reliability.
- **Security**
    - Patient Identification: The system requires the patient to see themselves using the phone. Logon Id: Any users who use the system need to hold a Logon ID and password depending on the location.
    - Modification: Any modification such as adding, deleting, renewing, etc. on the website can be synchronized quickly and done by the site manager only.
    - Front Desk Staff Safety Rights: The front desk staff can view any data throughout the Medical Health Record, add a new patient record as they enter, rather than the safety of a particular screen of every patient, so the administrator can assign rights to their clinic staff.
    - Administrative rights: The administrator may view and modify any information in the Medical Billing and Electronical Health system for records management.
- **Performance and Maintainability**
    - Response Time: The system provides one-second consent once 'patient information has been checked after booking.
    - Strengths: The program needs to support at least 1000 people at a time.
    - User interface: User interface agrees within five seconds.
    - Backup: The system provides efficient backup of data.
    - Errors: The system will track all errors and maintain its own log. If the data does not come correctly the email task you have to do.

- **Reliability**
    - Availability : The system is available all the time.

CHAPTER – 3 SYSTEM REQUIREMENT STUDY

3.1 HARDWARE REQUIREMENTS

- Processor : Intel(R) Core(TM) i5-9500 CPU @ 3.00GHz 3.00 GHz
- Computer Displays and Display Resolution, Multiple Users and Network Operation, Patient ID Card Scanning, Label Printers, Computers and
- Operating Systems: Windows, Linux
- RAM : 16 GB
- Hard Disk: 235 GB

SOFTWARE REQUIREMENTS

- Operating System: Windows 10
- Language: Java 2 Runtime Environment
- Database: MySQL, Postgres
- Webserver: Local
- Browser: Microsoft edge, chrome etc.
- Software Development kit: Java jdk 1.7 and above
- Node version: 10.15.3

3.2 ASSUMPTIONS AND DEPENDENCIES

- Each user must have a valid user id and password
- Server must be running for the system to function
- Users must log in to the system to access any record.
- Only the Administrator can delete records.

3.3 CONSTRAINTS

- Other few technical challenges that fail the implementation of Medical Billing and Electronical Health record management system, in the healthcare industry includes Networks and computer have different maintenance problems, lack of no standards for Data entry and data retrieval, difficulties in training users technically to use Medical Billing and Electronical Health record management system.
- The software currently will operate in English (US) and Spanish language only. Operating machines must have internet connectivity.

3.4 SPECIFIC REQUIREMENTS

- This section contains all of the functional and quality requirements of the system. It gives a detailed description of the system and all its features. The software requirement specification contains all the requirements stated in the business requirements documentation that the user specified.

3.5 LIMITATIONS OF EXISTING SOLUTION

- Lack of Long Range Planning: Organizations are involved in achieving the objectives of temporary projects
- Organization Disruption: Project compete for people and resources with functional departments.
- There is another limitation of this application is shifting people form project to project may constrain the training and development of new employees by experienced employees and billing providers.
- Project may not be suitable for all tasks. It is not suitable for small organization which lack resources.
- To run the project only specific version should be allowed

3.6 PRODUCT FUNCTION

- At its most basic definition, a billing system is the process by which a business bills and invoices customers. Billing systems often include payment software that automates the process of collecting payments, sending out recurring invoices, expense tracking, and invoice tracking.

CHAPTER – 4 SYSTEM ANALYSIS

4.1 SYSTEM DESIGN

In this time, a logical system design is built which complete the given requirements. Design time of software development deals with transforming the clients all requirements into a logically ongoing system. Normally, system design is performed in the following in two steps:

1. Primary Design Phase : The system is designed at block level. These all blocks are created on the basis of study analysis done in the problem identification phase. It will be minimizing the information flow between blocks by different blocks are created for different function. Thus, all activities which require more interaction are kept on one block.
2. Secondary Design Phase: : In the secondary phase the detailed design of each block is performed.

   The general tasks involved in the design process are the following:

   1. Create various blockchain processes for the entire system.
   2. Create small, integrated and usable modules for each block.
   3. Create multi-database frameworks.
   4. Specify program details to achieve the performance you want.
   5. Create input method, and system results.
   6. Create design texts.
   7. System updates.

4.2 USER INTERFACE DESIGN

- User Interface Design is about communication between user and computer. It has to do with everything that starts the program or logs in to the system so that eventually the input and output you want to be delivered. The full flow of screens and messages is called dialogue.

The following steps are various guidelines for User Interface Design :

1. The system user should always know what to do next.
2. The screen should be formatted so that different types of information, instructions and messages always appear in the same normal display area.
3. The message, instructions or information should be displayed long enough to allow the system user to read it.
4. User displays less attributes.
5. The default field values and responses to be entered by the user must be specified.
6. User should not be allowed to proceed without debugging.
7. The system user should never receive an operating system message or malicious error.

4.3 PRELIMINARY PRODUCT DESCRIPTION

- The first step in the system development life cycle is the preliminary investigation to determine the feasibility of the system. The purpose of the preliminary investigation is to evaluate project requests. It is not a design study nor does it include the collection of details to describe the business system in all respect. Rather, it is the collecting of information that helps committee members to evaluate the merits of the project request and make an informed judgment about the feasibility of the proposed project.

- Analysts working on the initial investigation should achieve the following objectives:
    - Specify and understand the project application. Also Find project size.
    - Examine the costs and benefits of alternatives.
    - Determine the feasibility of technology and performance of alternatives.
    - Report the findings to management, and recommendations that describe the acceptance or rejection of the proposal.

4.4 ADVANTAGES

- Specifically, the integration of software into the system has made communication more effective in the context of a health care system. As a result, it is possible to access all data from anywhere in the world through.
- The successful use of technology has contributed to the reduction of many restrictions. One of the major problems in the health care system is considered to be the local limit. This has been successfully addressed with the addition of a Medical billing and Health record management plan. Important messages can be sent via instant messaging, emails, etc.
- Improved productivity and efficiency are considered as another important benefit of the hospital management system. Currently, it has been productive to manage the things automatically when compared to the old day manual set up.
- In recent days, many changes have been made to the system. One of the highlights is considered a change in the education system. This eventually gave the situation a new version of the system.

4.5 DISADVANTAGES

- One of the worst aspects of The Medical Billing and Electronical Health record management system is often related to safety. It is considered a concern if you are connected to the Internet without adequate security which could cause serious security-related problems.
- Another major problem associated with the healthcare industry is data breach. Not only that, but it is also known to be a complex problem.

- Unemployment is one such thing. Employment opportunities are often limited by systemic changes. Also, the gradual need for personal data recording becomes an insignificant factor.

4.6 DATA DICTIONARY

- This is normally represented as the data about data. It is also termed as metadata some times which gives the data about the data stored in the database. It defines each data term encountered during the analysis and design of a new system. Data elements can describe files or the process.
- Following are some major symbols used in the data dictionary
    - = equivalent to
    - + and
    - [] either/ or
    - () Optional entry

CHAPTER 5 ANALYSIS DIAGRAM

5.1 USE CASE DIAGRAM

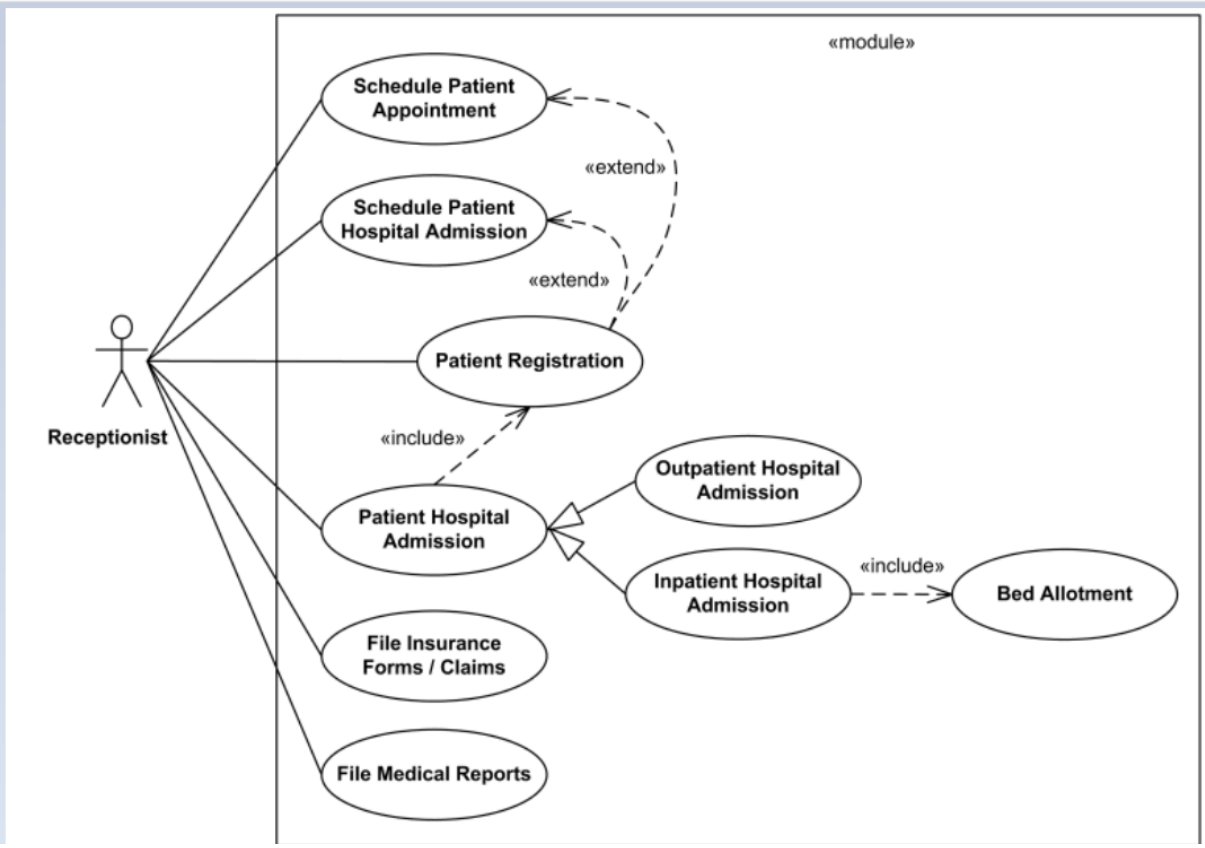

Fig. 5.1 Use Case Diagram

5.2 SEQUENCE DIAGRAM

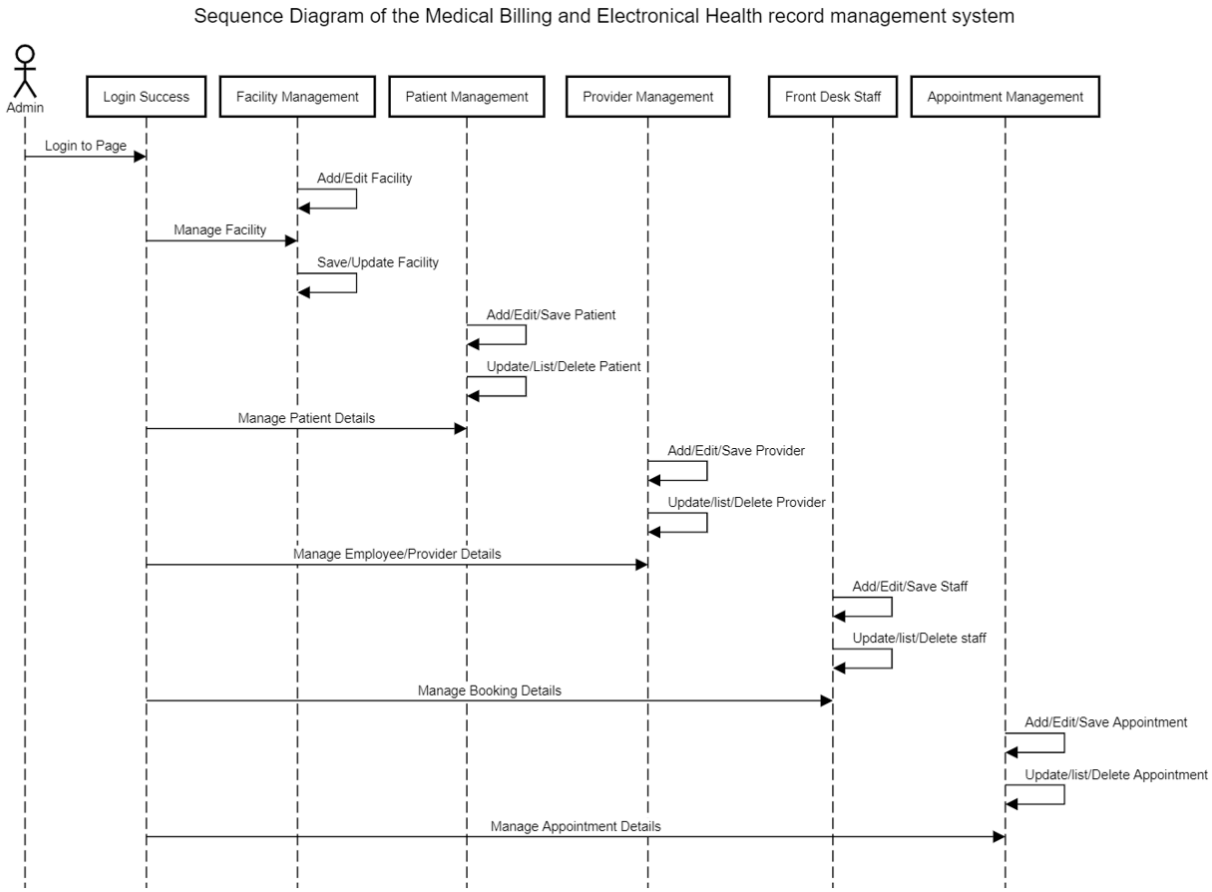

Fig. 5.2 Sequence Diagram

5.3 ACTIVITY DIAGRAM

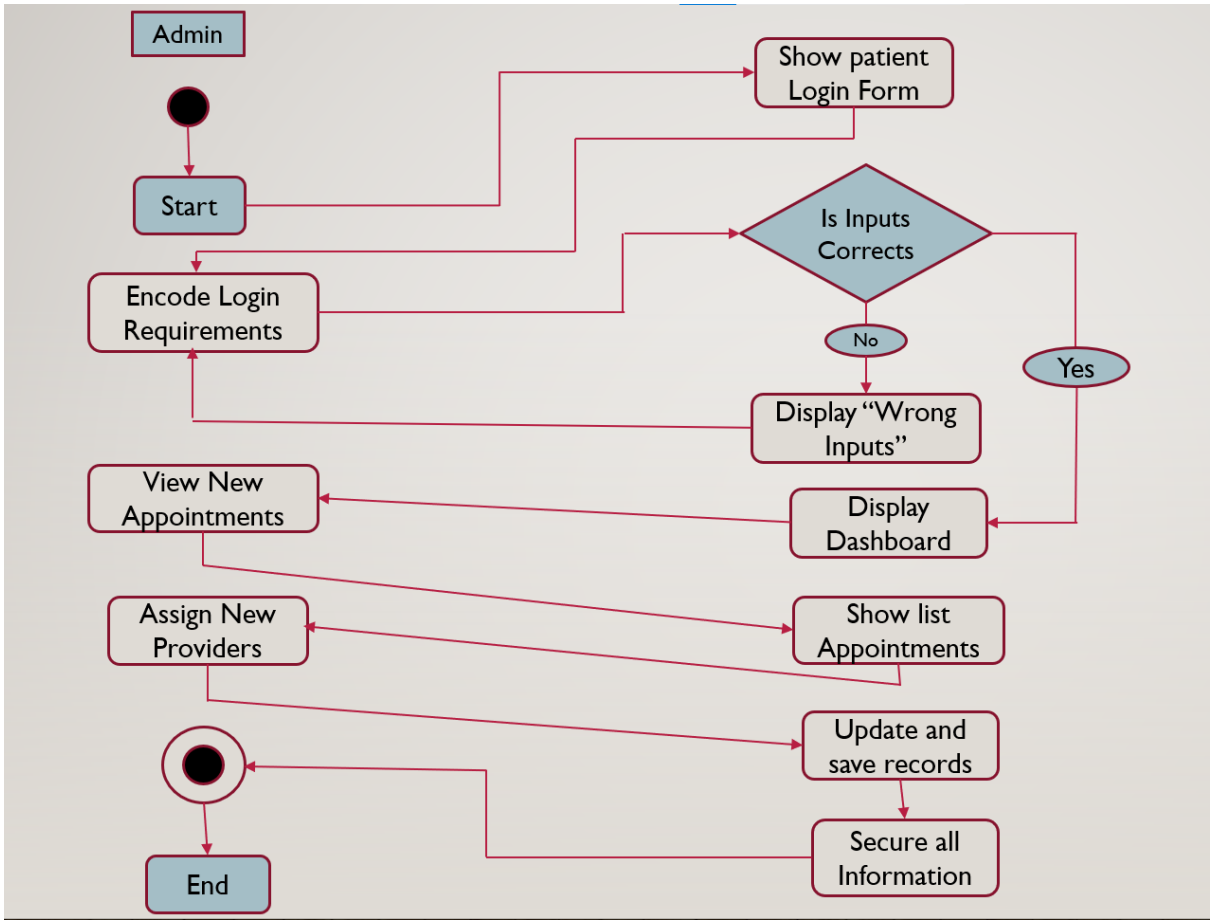

Fig.5.3: Activity Diagram for admin

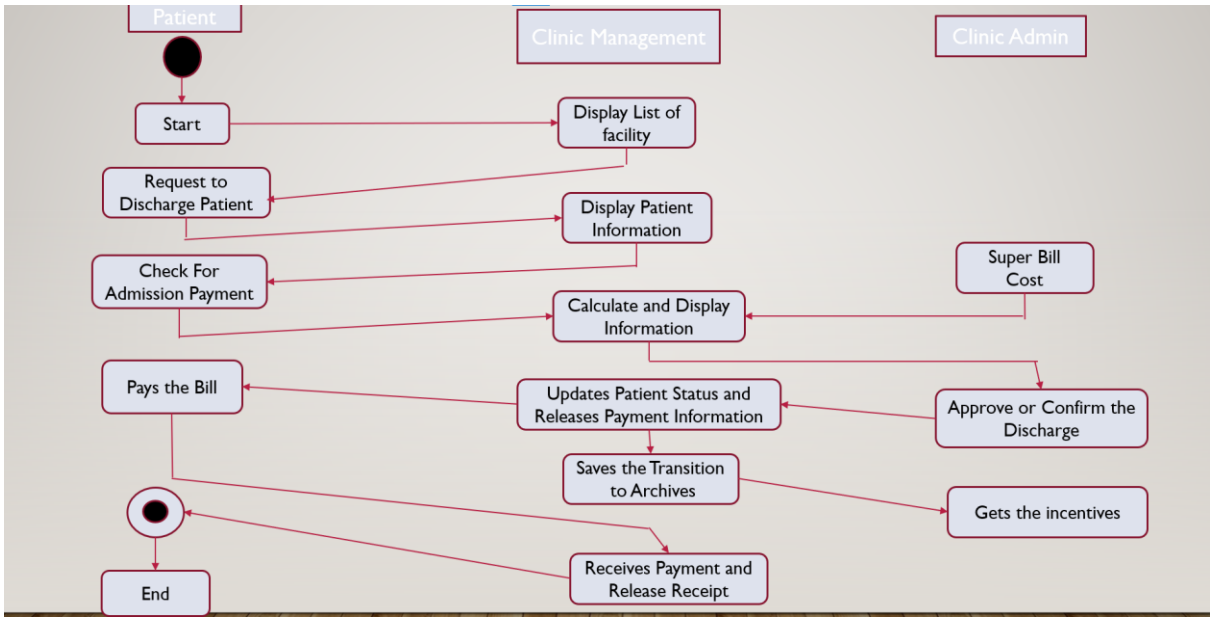

Fig. 5.4 Activity Diagram for multiple use

5.4 STATE CHART DIAGRAM

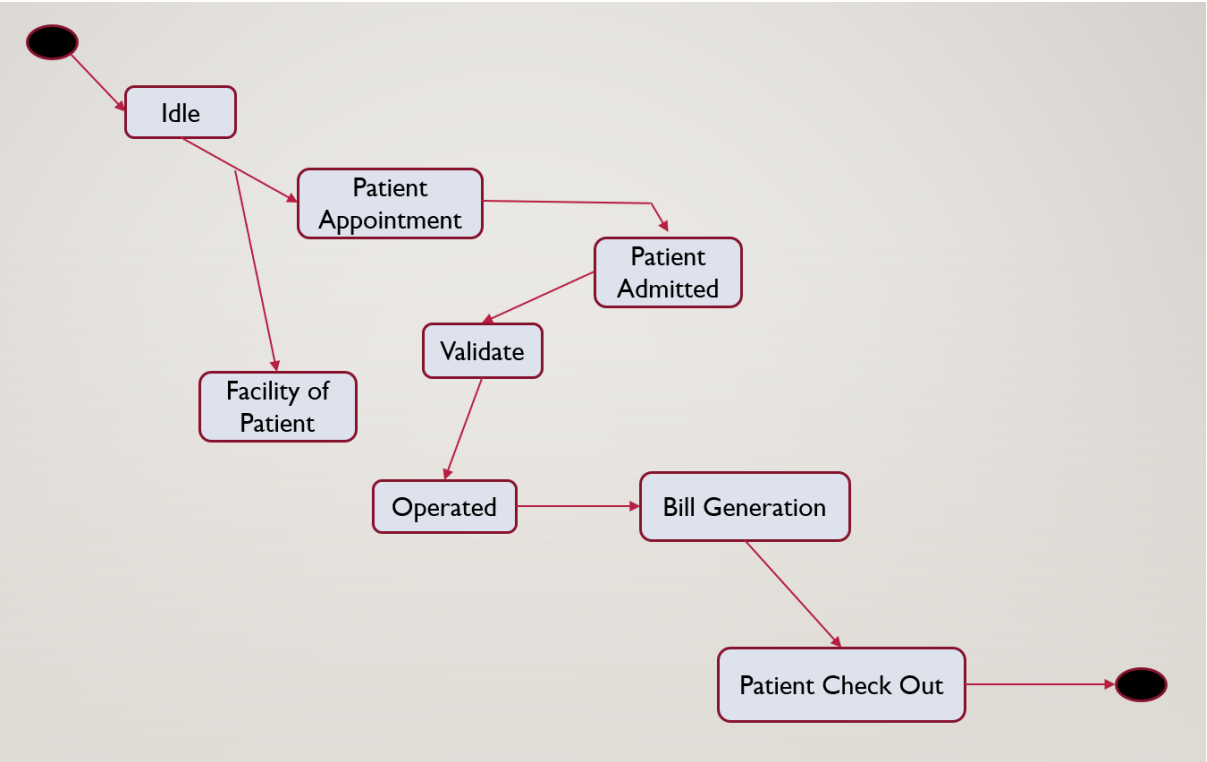

Fig. 5.5 State Chart Diagram

5.5 DATA FLOW DIAGRAAM (0 and 1 LEVEL OR HIGHER)

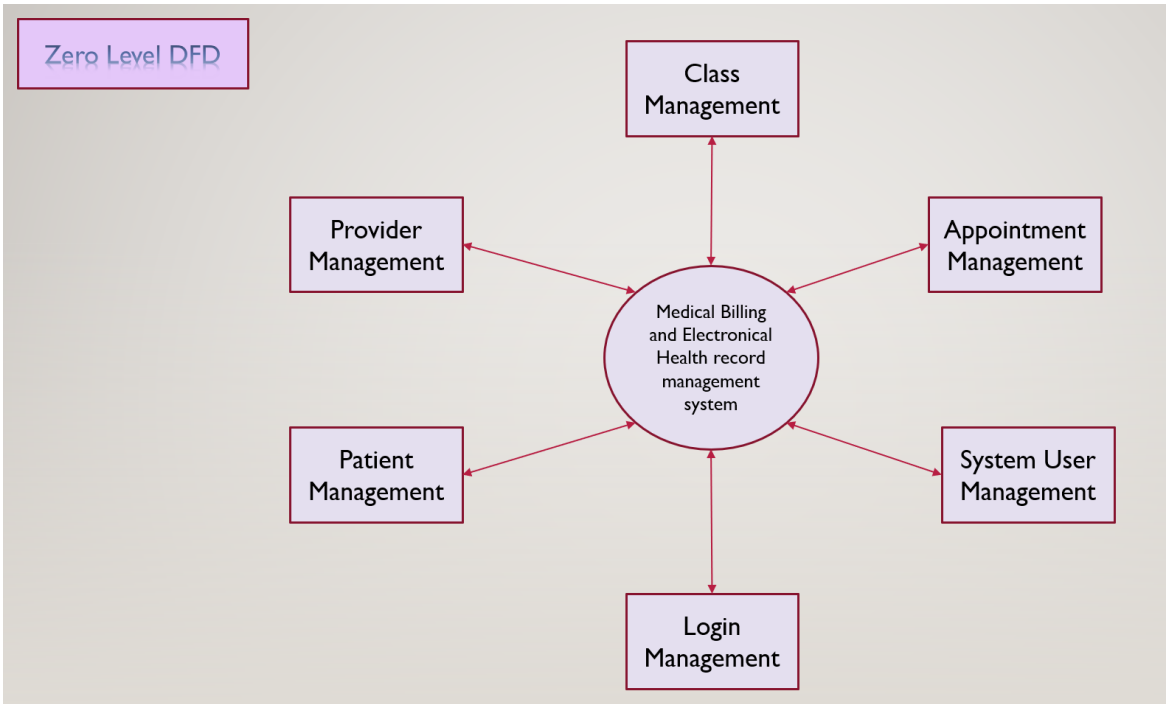

Fig. 5.6 Data Flow Diagram (Level 0)

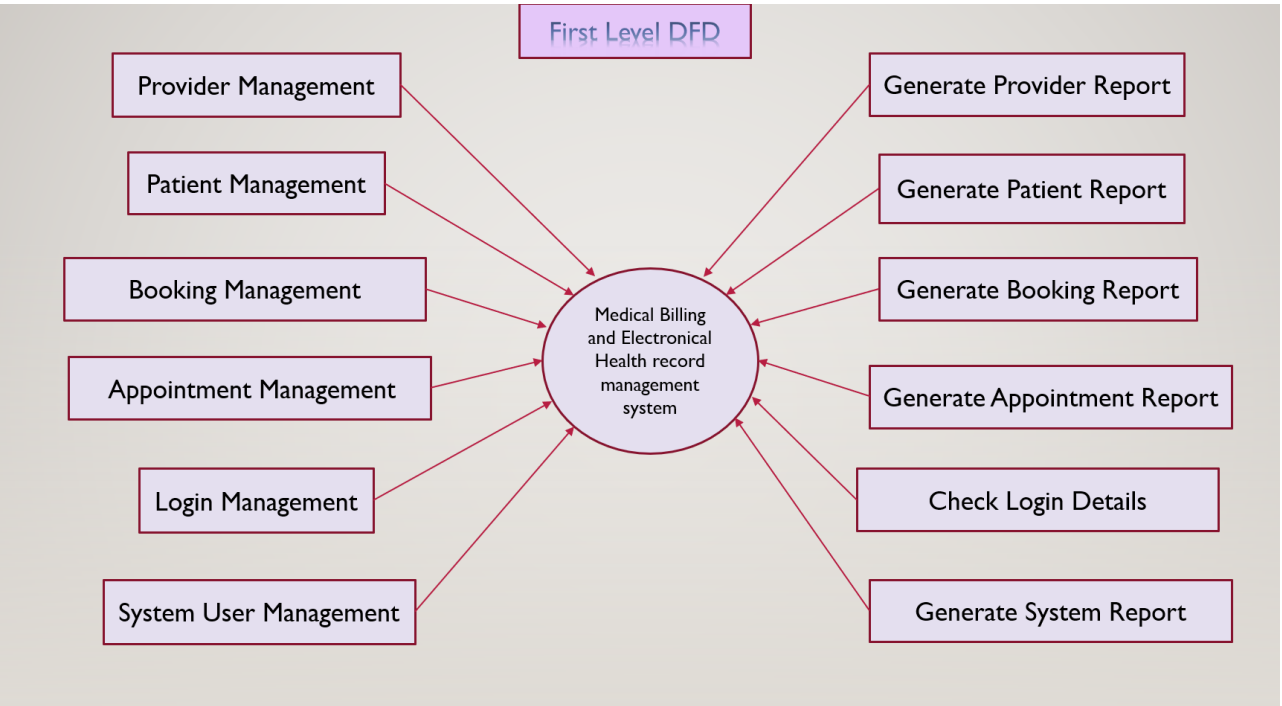

Fig. 5.7 Data Flow Diagram (Level 1)

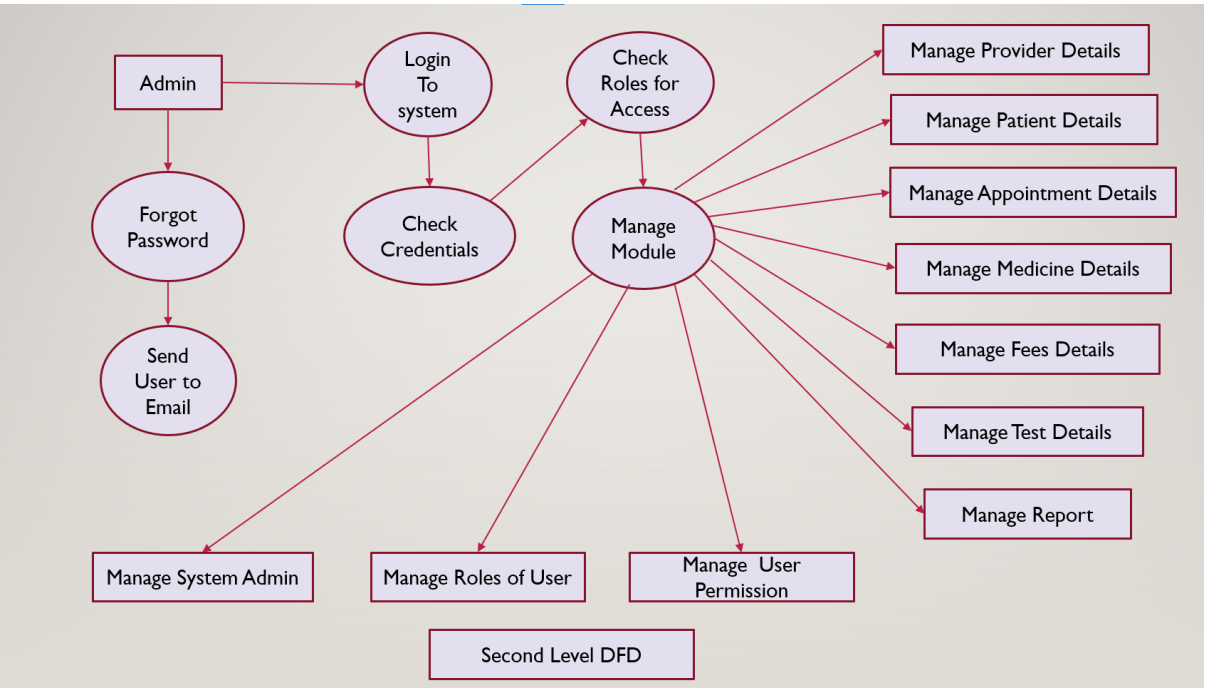

Fig. 5.8 Data Flow Diagram (Level 2)

5.6 SYSTEM FLOW DIAGRAM

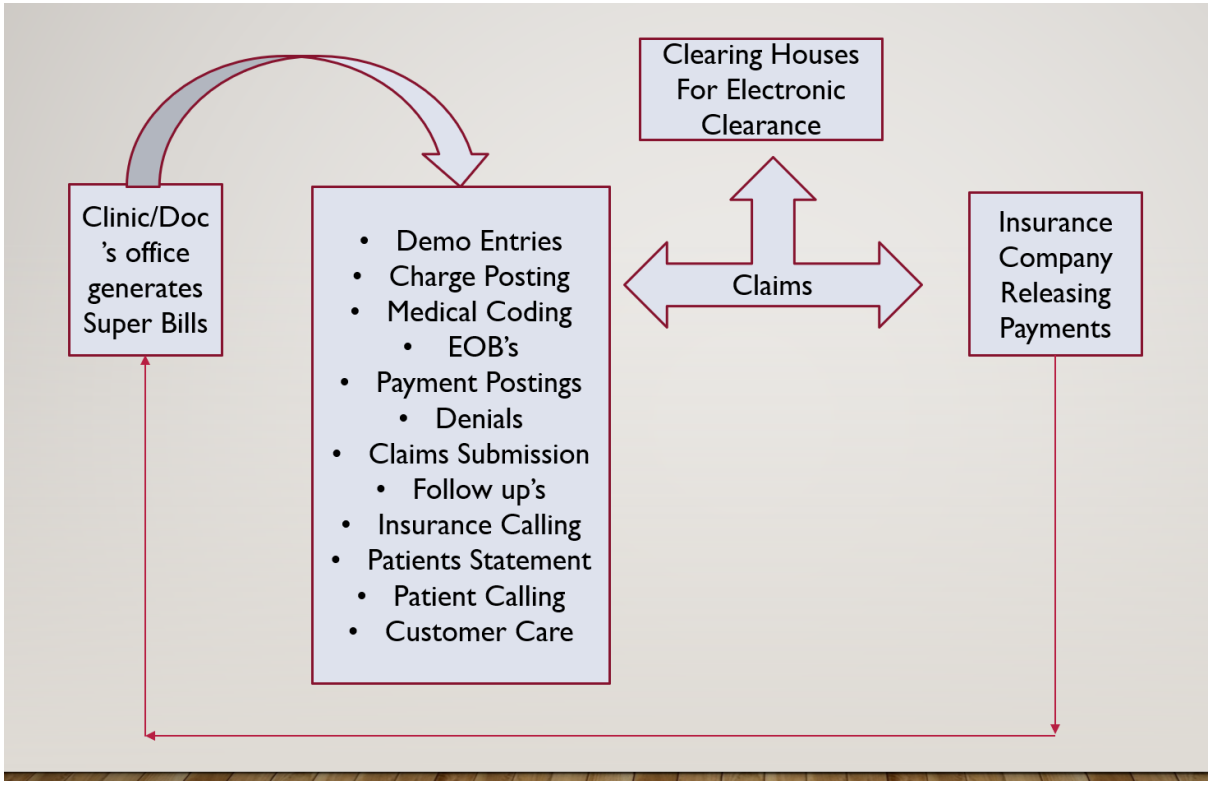

Fig .5.9 System Flow Diagram

CHAPTER 6 DESIGN

6.1 DATABASE SCHEMA DESIGN

Note: According to HIPAA law and company policy, we are not allowed to draw a System Design.

6.2 SCREEN LAYOUT

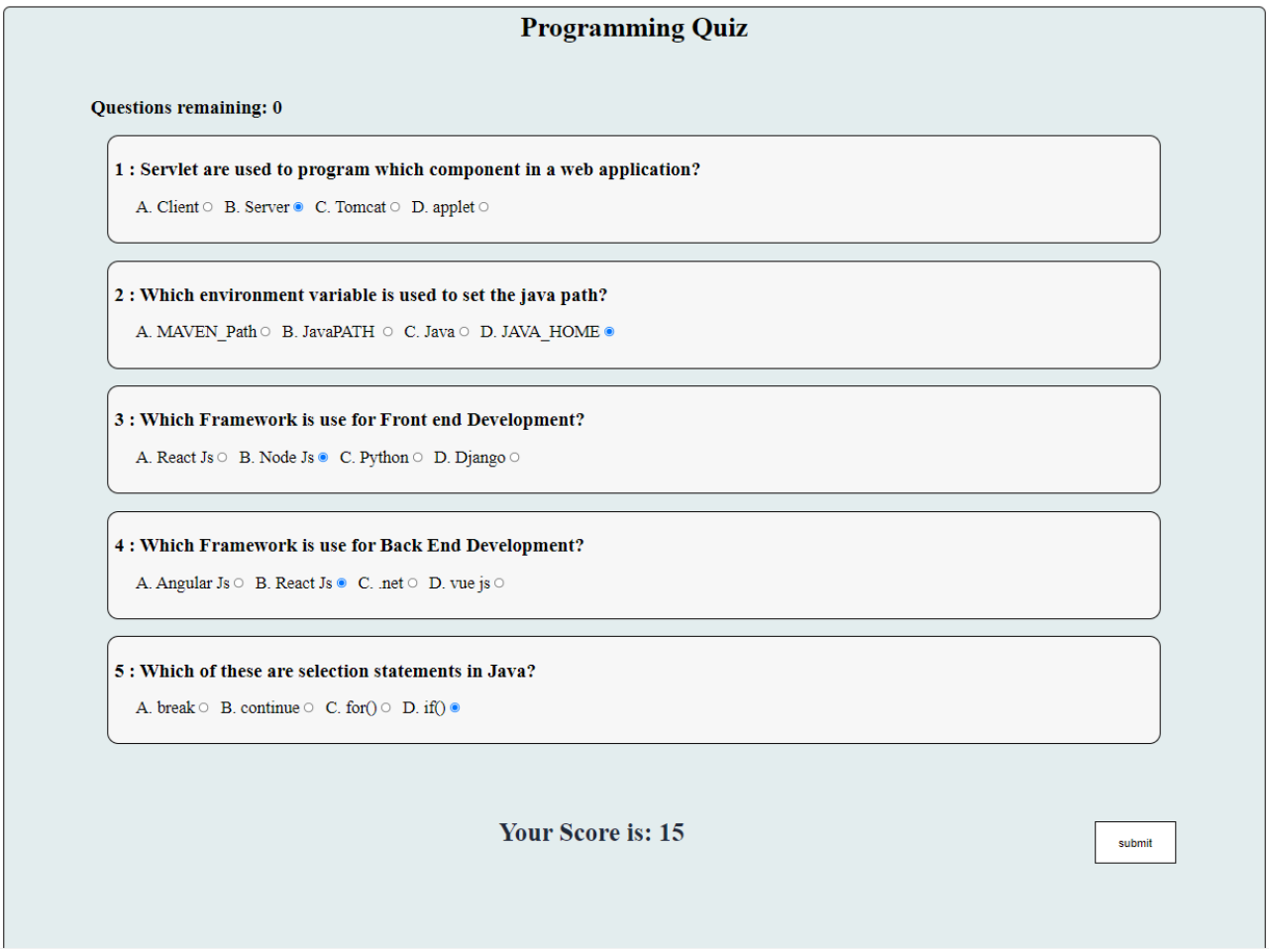

Fig. 6.1 Angular Programming Quiz Exercise

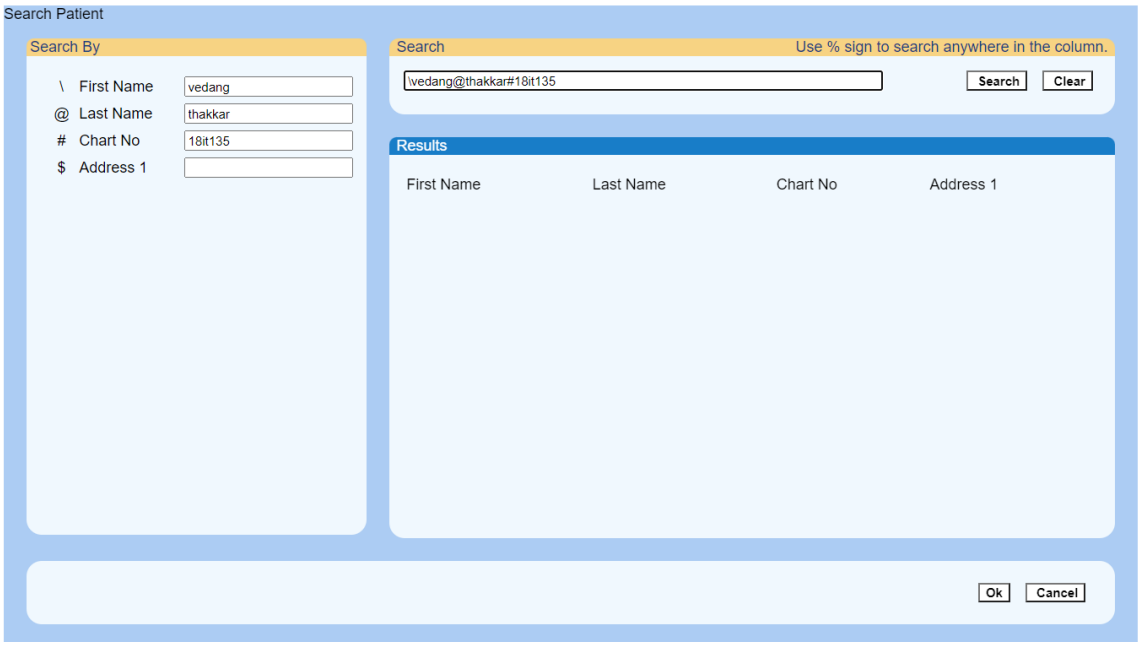

Fig. 6.2 Angular Programming smart search Exercise

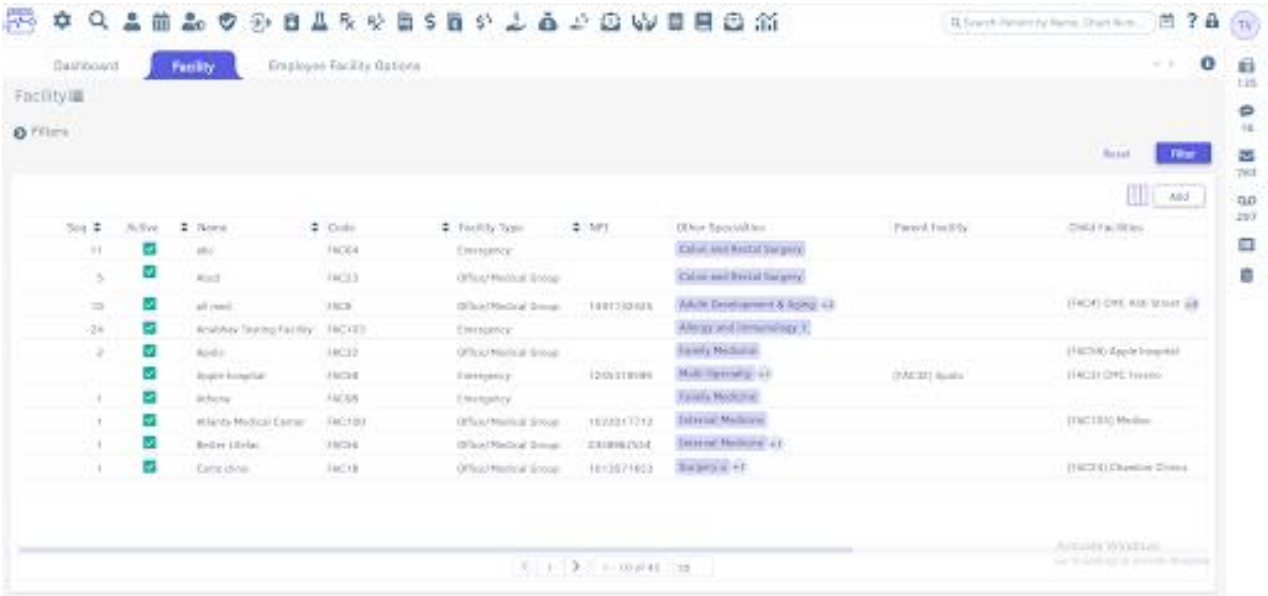

Fig 6.3 Facility

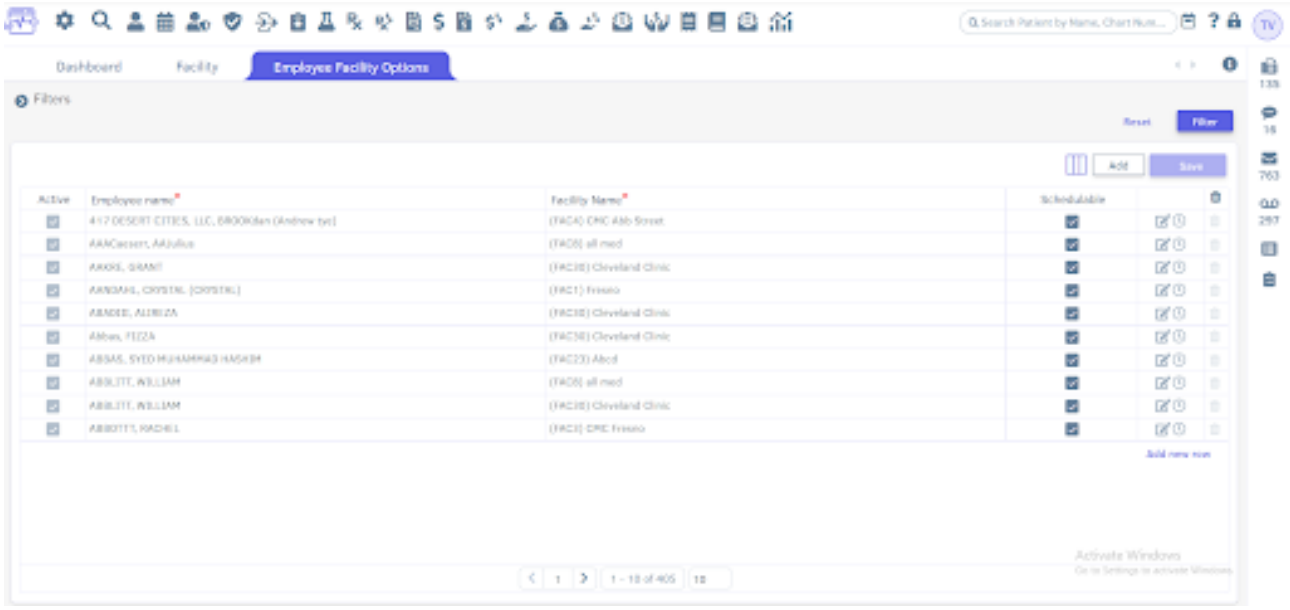

Fig 6.4 Employee Facility Options

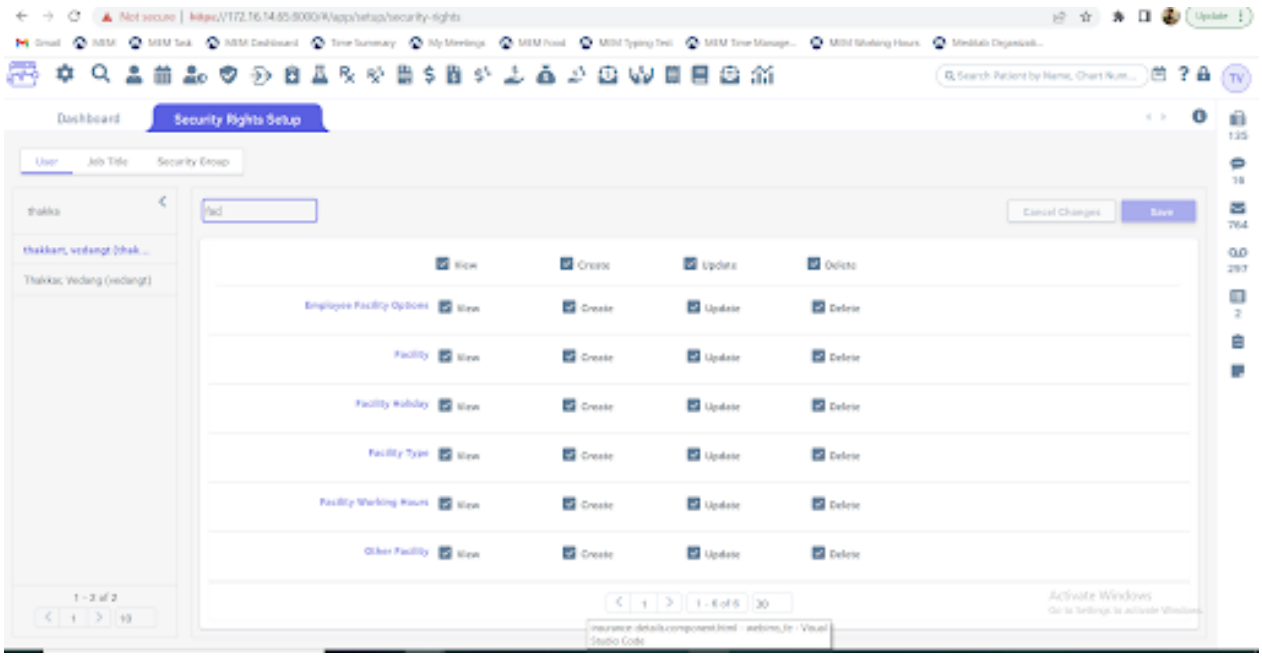

Fig. 6.5 Security Rights

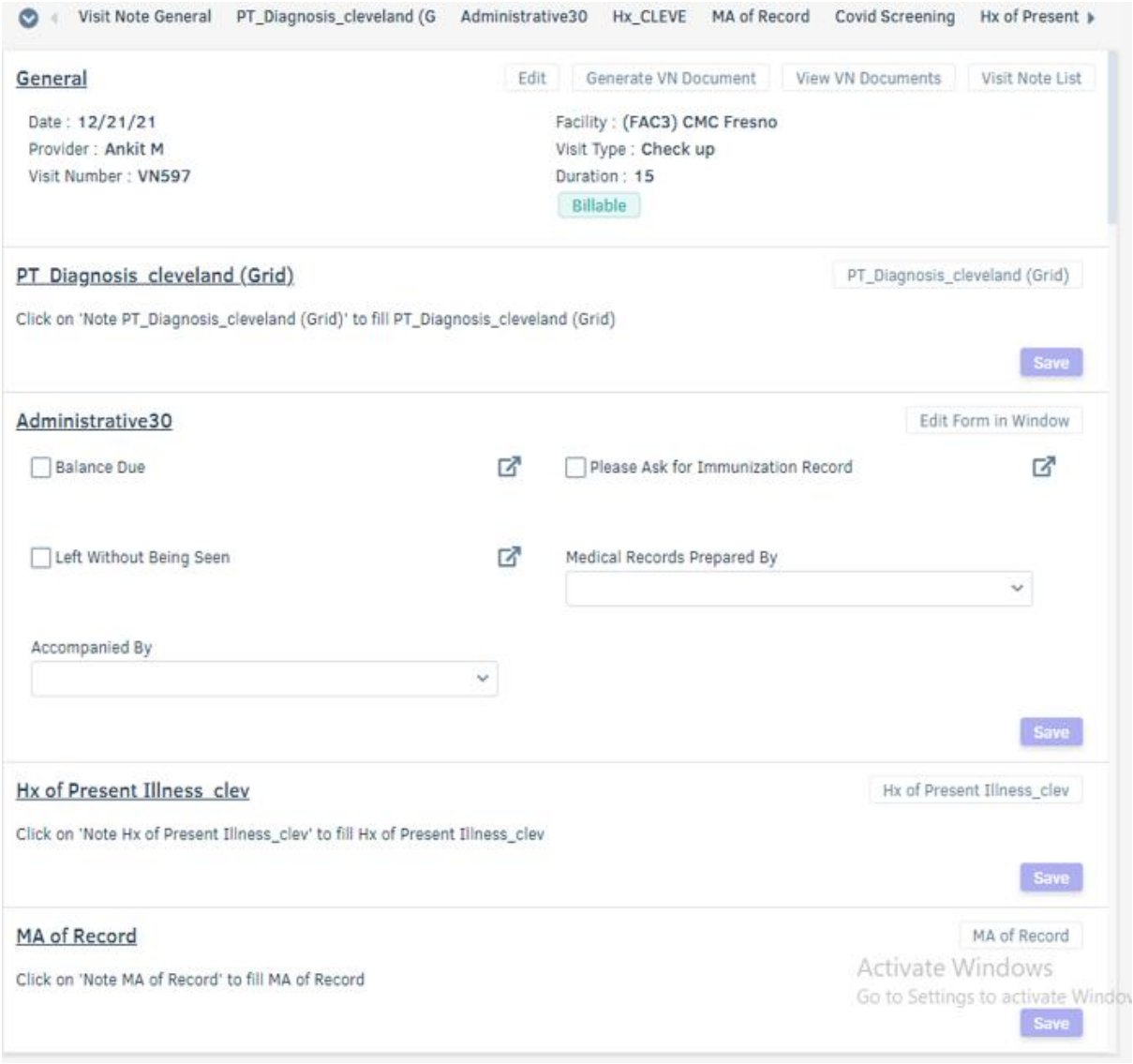

Fig. 6.6 Visit note

CHAPTER 7 TESTING

7.1 TESTING PLAN

For Testing plan, I worked on Security rights testing particular screens. In that I have to check the user rights of VIEW, CREATE, UPDATE and DELETE and also I have done developer testing for CRUD.

Test Case ID	Test Scenario	Test Data	Pass/Fail
T01	Check CRUD rights on facility	Test data from the dataset	Pass
T02	Check CRUD rights on Employee screen	Enter the data from test dataset	Pass
T03	Check CRUD rights Insurance	The data from Patient Medical Report	Pass

But as of Company policies, here I declared only three test case of testing, But I tested 170 screen.

CHAPTER 8 CONCLUSION AND FUTURE EXTENSION

8.1 CONCLUSION

- Define basic health insurance terms related to medical bills and claims process. Explain the basic anatomical, physiological and pathological terms used in the field of health care. Apply the concept of protection and privacy in accordance with HIPAA guidelines. Our project is the only humble business to meet the needs of managing their project. Several easy-to-use codes have also been adopted. The purpose of software design is to provide a framework that allows the client to make appropriate estimates made during the initial period of the software project and should be updated regularly as the project progresses. And also for backup copy of codebase repository and website regularly on different servers.

8.2 FUTURE EXTENSION

- Compliance with healthcare policies, Increasing patient number, Delivery of quality healthcare services , Inefficiencies in different administrative procedures and systems. healthcare professional able to keep themselves safe in the era off pandemic with programmed robots. Integrate multiple load balancers to distribute the loads of the system.

8.3 LIMITATION

- Although I have put my best efforts to make the software flexible, it works easily but the limitations will not be removed even by me. Although the software introduces a wide range of options to its users some complex options could not be included in it; Partly due to logistic and partly due to lack of skills. Off-line reports od patient, sells, clinic cannot be generated due to batch mode execution. Heavy Regulation, High Litigation Risk project.

REFERENCES

1. **Angular: https://angular.io/**
2. **Node Js: https://nodejs.org/en/docs/**
3. **Postgress : https://www.postgresql.org/docs/**
4. **HTML : https://www.w3schools.com/html/**
5. **CSS : https://www.w3schools.com/css/**

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