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APPROVAL

This Project titled "**Pharmacy Management System**", Submitted by "**Shoriful Islam**",

ID No: **181-16-246** to the Department of Computing & Information Systems, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computing & Information Systems and approved as to its style and contents. The presentation has been held on- 13-02-2022.

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Declaration

I hereby declare that; this project has been done by me under supervision of "Ms. Nayeema Rahman, Senior Lecturer", Department of Computing and Information System (CIS) of Daffodil International University. I am also declaring that this project or any part of there has never been submitted anywhere else for the award of any educational degree like, B.Sc., M.Sc., Diploma or other qualifications.

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Abstract

This project illustrates the designing and implementation of a web-based Pharmacy management system. The primary aim is to improve accuracy and enhance safety and efficiency in the pharmaceutical store by minimizing issues that occur in day-to-day operations. Currently, they are using a manual system which is very hard in handling. Managing the stock with paper records based on the expiry dates and the quantity available in the stock are some major problems identified in the problem. The system intends to minimize the workload of the staff and increase the value of the business to gain competitive advantages in the pharmaceutical industry.

The system allows different tasks for different users. They are admin, manager, salesman users who can be logging the system as different user roles to perform their functions separately. Admin has all privileges of the system. Creating users, generating reports for managerial decisions, manage employees are some admin tasks. In addition, the system will show a notification about expiry dates of medicine and stock ending details. It is easy to handle stock management through the software rather than working with paper records. Customers are the main asset of the business. So, the system will help to reduce the waiting time of the customers.

The system is developed using CodeIgniter which is an open-source PHP web framework and MySQL database. Laravel supports the MVC architecture which is more efficient and attains the perfect design for the system. CSS, Bootstrap, JavaScript, Ajax are some other technologies used to develop this system.

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Chapter 1 – Introduction

The project's primary goal is to maintain the pharmaceutical store's database. This project gives users an inside look at how a Pharmacy Management System is designed and implemented. This is accomplished by compiling a database of the store's available medications. The pharmacy management system's main goal is to increase accuracy, as well as safety and efficiency, in the pharmacy. The goal of this project is to create software that will help a pharmaceutical shop run more efficiently. This program was created to provide effective policing by supplying statistics on medicine in stock. The database is then linked to the main program via the Visual Basic application's connectivity with the previously built database. The pharmacy management system helps to keep the database up to date by allowing users to change the medicine in stock. This is a pharmacy management system that is used to handle the majority of the pharmacy's activities.

The pharmacy management system is a management system that is aimed to increase accuracy, safety, and efficiency in a pharmacy. This application may be used in any pharmacy that needs to keep track of a database. It's a computer-based system that helps pharmacists manage inventories, costs, and medical safety, among other things. The program may produce reports based on the needs of the user. This pharmaceutical management system also allows users to create reports within a set time frame. During opening stock and sales operations, the system allows the user to specify a production and expiration date for a certain item or medicine. Invoices, bills, receipts, and other documents may be printed using the program. It may also keep track of the supplies that the supplier sends in. The system will also provide a report with a list of items that will expire after a certain date, before the product itself expires. Consultation with system users determines the system's offerings and aims. It also requires manual input when fresh batches of medicine arrive and when drugs are moved out of the pharmacy for some time period of time. The pharmaceutical management system is in the process of being developed. The pharmacy management system is a well-designed, well-integrated piece of technology. Every month, the pharmacist may want to prepare a report for the flow of medicine in and out of the pharmacy, obtaining information about the medicine, such as the expiration date, date purchased, a number of drug kinds remaining, and the position of a drug in the pharmacy. The pharmacy management system is in charge of keeping

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medicine and consumables in the pharmacy unit in good working order. This pharmaceutical management software is simple to use.

Chapter: 2 Initial Studies

2.1 Background study

The research's context Data entry, retrieval, stock, sales, customer records, debtor's and management administrator's records, and the determination of the minimum quantity of each medicine are all part of a pharmacy management system. In this system, the string searching approach is used. This method is used to refer to the name, code, and description of a medicine. Aside from that, the system offers two sorts of methods: quantity and medicine expiration date. This system checks the date to notify the salesman that a certain drug has expired, and it will be activated to alert the salesman if a particular medicine has reached its minimal quantity. This system allows the administrator to properly regulate and monitor the medicine stock. The pharmacy serves a large number of customers due to its size and breadth of services. Due to increased demand for medicine in various places, the number of clients is rapidly expanding. This condition keeps the pharmacist busy, and they spend a significant amount of time managing and controlling their company data. Meanwhile, the pharmacist must assure customer pleasure in order to maintain accurate records in a timely manner. (Anon, 2018)

2.2 Problem area

In the pharmacy, a manual system is now in use. It necessitates the pharmacist manually monitoring each medicine in the pharmacy's inventory. The paper record was preserved in file cabinets by pharmacy management. Managing a large pharmacy with paper records will be tiresome and difficult to maintain track of inventory in terms of medicine in the store, expiration

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date, and quantity of medicine accessible based on categories and functions. This means that the pharmacist will have to perform these services manually. As the pharmacist's workload rises, this generally leads to blunders. This system also makes certain that access is controlled depending on functionality and role. By tracking medicine movement in the pharmacy, this system also delivers effective drug inventory management. The pharmacist must read over the stock balance and make an approximate estimate of the amount to order based on Figures, therefore drafting the order takes a substantial amount of time. Drug prescriptions and drug-to-drug interactions will be impossible for the system to handle.

The pharmacist must place an order for the medication to refill the supply, which is rapidly depleting. In addition, the ordering of medicines is done by hand. Medicines that have passed their expiration date should not be utilized. This pharmacy management system will guarantee that an adequate supply of drugs and consumable materials is available for the patient. This project's efforts will alert pharmacists to prescriptions that are about to expire, preventing those medications from being marketed and giving answers to the difficulties mentioned before. A pharmacy management system aids in the storage of daily medication transactions.

2.3 Possible Solution

The possible solution of this pharmacy management system is to develop software for the effective management of a pharmaceutical store that will be able to achieve the following objectives:

- Ensuring effective policing by providing statistics of the medicine in stock.
- Maintaining the correct database by providing an option to update the medicine in stock.
- Improving system efficiency by ensuring effective monitoring of services and activities.
- Provide a list of the best medicines by observing the movement of medicines in the pharmacy.
- Ensure that a level of limited access exists based on functionality and role.
- Ensure that the system is user-friendly.
- To be able to generate daily reports and monthly within a specified period of time.

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2.4 RESEARCH METHODOLOGY

The research method used for this project work gives a description of how the pharmacy management system for stores medicine and manages it. As a result, the approach employed in the design and collecting of data from multiple sources is important.

- Analyzing the present manual system and organizational style in detail.
- Knowing and understanding the present system's input and output operations.
- Held meetings with the manager of the Central Pharmacy to know the equipment needed, and the mode of operation of the old system.
- discussions with the current employees in the pharmacy and collecting their opinions about the existing system where they are working.
- Collecting and analyzing existing materials on the project topic, written by different experts.
- finally Analyzing similar systems through the internet.

Chapter -3 Literature Review

A literature review is an essential part of the design process. It helps me to understand who differently has worked on my content, methods that have been used to investigate this content and results/ issues from analogous studies. My literature review must be expansive enough to prove that my project is necessary and important. In this chapter, I've explained shortly some problems were including various types of pharmacy systems some pharmacy websites in the perspective of comparison on the various system this project related.

3.1 Discussed the problem domain

The Transaction Processing System (TPS) and Management Information System (MIS) were the focus of the Pharmacy Management System (PMS). In our pharmacy system, we have a lot of deficiencies. Our rural pharmacy system is looking forward to working with paper. In the country, there is currently no comprehensive solution for auto-generate and internet-based work. As a result, we're seeking an automated system that's similar to ours. Each organization creates its own system based on its internal operations. However, due to a lack of analysis and in-depth examination, there is no coordination among these groups and their operations. The following are the key issues with the country's pharmaceutical system: No monitoring system over that sector. (Rathnayake, 2018)

- Don’t have auto report generate and invoice system.
- Don't have purchase and sales return police.
- Don't show Expire date and shortlist notification using the pharmacy management system.
- In our Country no one system have to store hospital information this is the biggest issue in our country’s pharmacy system.

3.2 Discussed the problem possible solution

My Pharmacy Management System is a web-based solution that helps pharmacies to Stock management efficiently. It is designed and developed for pharmacy, medicine stores, departmental stores, and medicine shops. Handle all of the pharmacy data easily. Information and technology can enable the storage of structured sales records, facilitate the electronic prescribing, customers, and management of medicines, automate the handling of medicines in the supply chain and Provide equipment to monitor inventory effectiveness and safety. it can enable professionals to provide high-quality services and help to provide accurate data through the system that will be able to handle all necessary activities in the pharmacy sales and stock reports.

The use of computers in pharmacy has expanded rapidly in the last 10 years. They have dramatically changed both institutional and communal practices. Computers have automated many traditional pharmaceutical tasks of pharmacists, enabling them to enhance their clinical activities. The pharmacy management system focuses on pharmacy store operations and how it manages inventory flows, including suppliers (external) and department dispensaries (internal). The system covers general activities such as receiving information from suppliers, processing departmental drug requests, returning expired medicine to suppliers, and distributing medicine in the department. A pharmacy management system is a drug stock inventory system consisting of data entry, retrieval, and monitoring stock facilities, with a minimum amount of caution for each drug. This system always triggers to remind the pharmacist if certain medications reach the minimum amount. This system gives a warning message so that the pharmacist can control and monitor the drug stock very well.

Chapter-4 Methodology

This section will discuss the pharmacy management system and the strategy that was chosen for the creation of the proposed project. I've now covered the four most common project development approaches.

4.1 What to use

To determine a project's or company's success or failure rate, the SDM must be used (Software Development Methodology). Software development has a wide range of concepts all around the world, and deciding which one is best for my project is a difficult task. This methodology assists in keeping the consumer informed and awake by sticking to a well-defined methodology.

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Now I've defined the process I'll use to complete this project successfully. I choose a methodology from a variety of options, including the Waterfall Model, Agile Software Development Methodologies, Rapid Action Development Methodologies, and Dynamic System Development Model, which are all briefly described below:

4.2 Waterfall Model

This method emphasizes a logical sequence of stages that flow in one direction, similar to a waterfall model. Because of the waterfall methodology, I can only go on to the next development step after the current one is completed. Analysis, Design, Requirement, Implementation, Deployment, Maintenance, and Testing are the phases **Invalid source specified.**. that are followed in the order shown below.

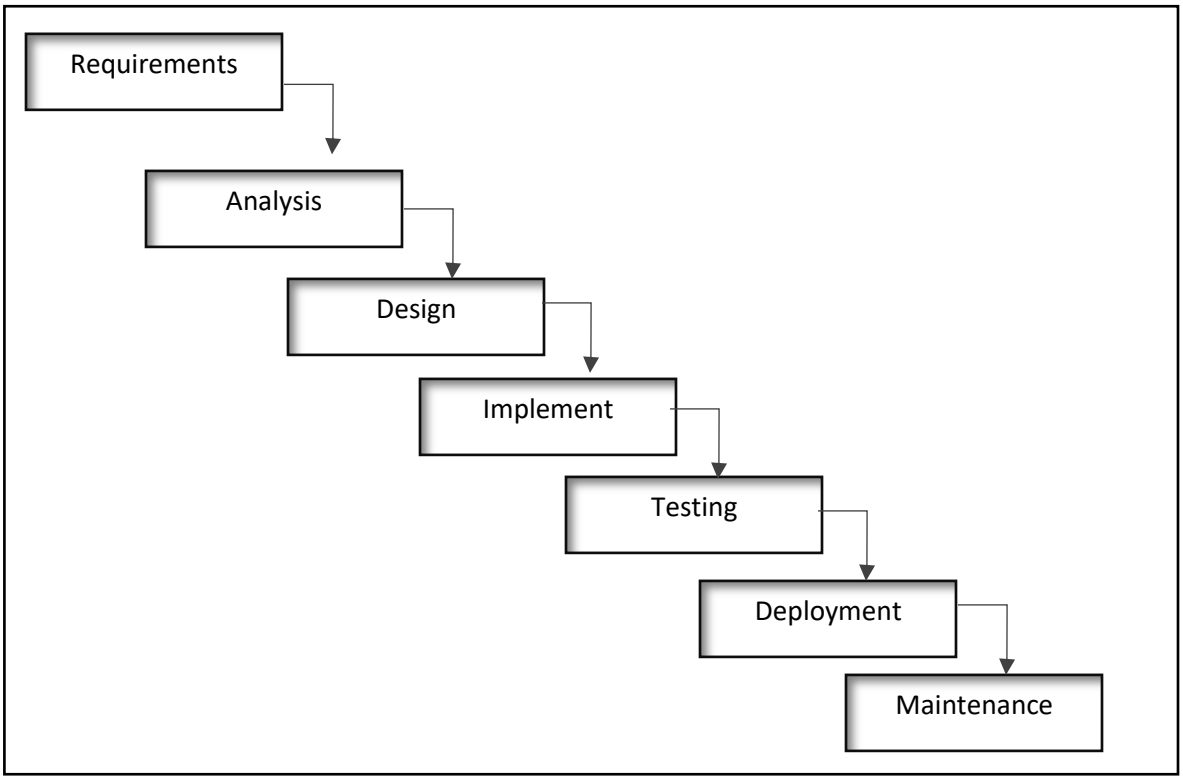

Figure 1: Waterfall model

4.2.1 Advantages of waterfall Model

- This model is straightforward and simple to comprehend.
- It's simple to manage, with specified deliverables and a review process for each phase.
- It's broken down into phases and processed one at a time.
- This paradigm is appropriate for smaller systems or projects with well-defined needs.
- There are clearly defined stages and well-defined milestones.
- Tasks are simple to organize, and the procedure is properly explained. **Invalid source specified.**

4.2.2 Disadvantages of Waterfall Model

- There is a lot of danger and uncertainty.
- This model is suitable for object-oriented projects; however, it is not suitable for complex projects.
- It is a long-term project with a terrible model.
- It is unable to modify scope during the life cycle to fit changing requirements.

4.3 Rapid Application Development

Rapid application development makes use of minimum preparation in favor of rapid prototyping, as well as quicker software delivery and continual iterations to meet a strict time limit. For this project, I will create a workable system that will be more efficient than old approaches. It uses an iterative and incremental approach that could be "good enough for now" for clients who need software soon. (Custom Software Development Company in US, 2021)

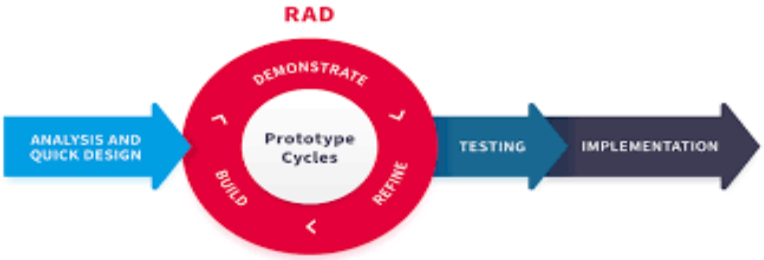

Figure 2: Rapid action Development model

4.3.1 Advantages of RAD

- It's suitable for reduces on development time.
- It improves component reusability from a project standpoint.
- It gives customers comments and allows for a rapid initial review.
- To complete the project on schedule, RAD does not require a large number of people.

4.3.2 Disadvantages of RAD

- Strong teamwork is required.
- Developers with a high level of expertise are required.
- Throughout the product's life cycle, it is necessary to satisfy user requirements.
- When compared to other models, this model is more difficult to manage.
- Rapid application development can only be used to create systems that can be modularized.

4.4 Dynamic systems development method (DSDM)

The DSDM lifecycle provides best practice guidelines for delivering goods on time and on budget, with proven scalability to handle business projects, and the methodology's core goal can be

perfected at the first attempt. It's ideal for legacy processes and incremental approaches based on the RAD.

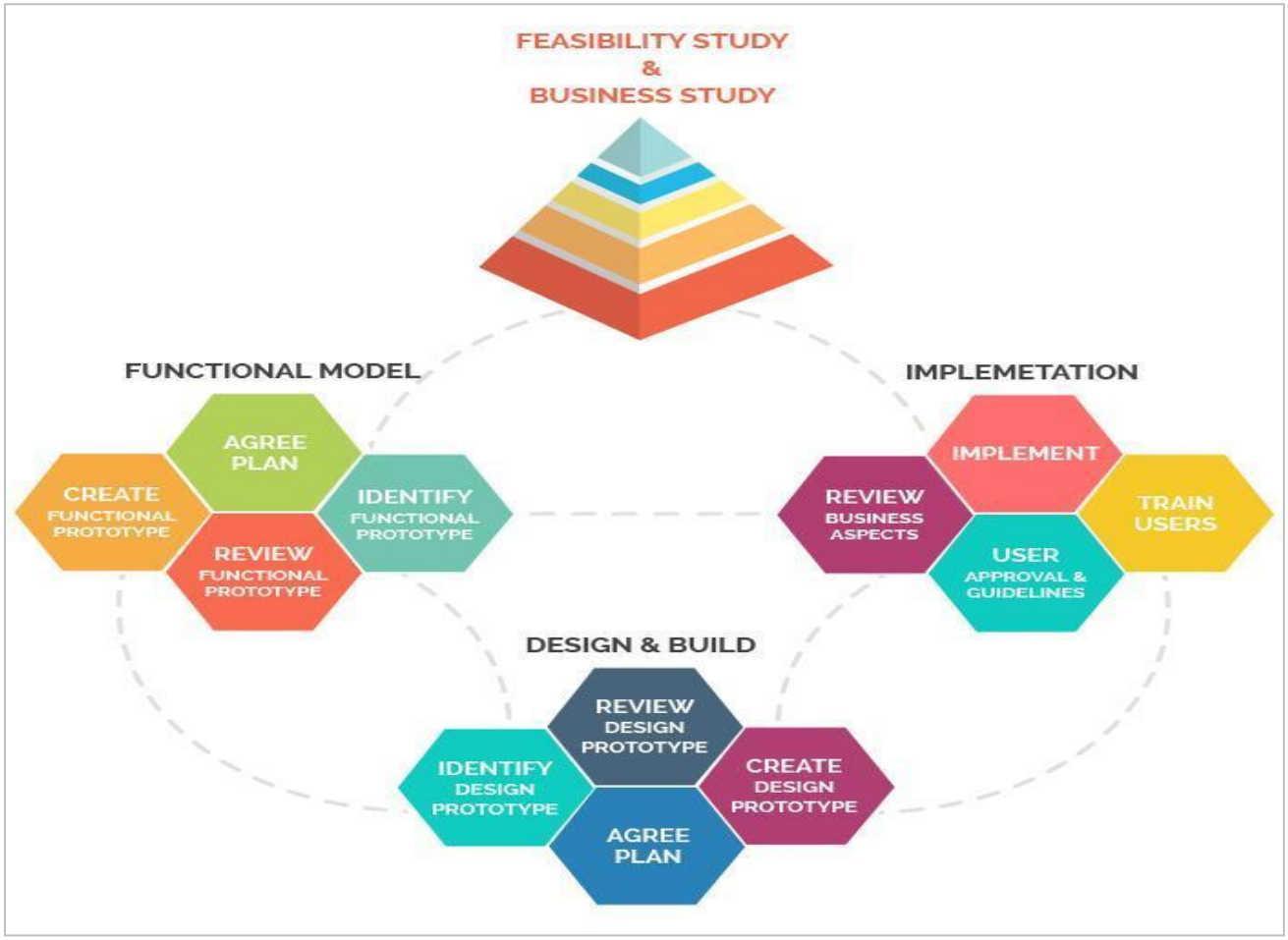

Figure 3: DSDM Methodology

4.4.1 Advantages of DSDM

- able to meet deadlines while maintaining a flexible workflow.
- Everyone in the company can easily understand how the project is progressing.
- Business cases are prioritized in the DSDM paradigm, ensuring that any initiatives delivered have critical business value.
- quickly deliver basic product functionality.

- End-users are easily accessible to developers.
- It will be simpler to maintain the project on schedule.
- The rate of change and progression is rapid.

4.4.2 Disadvantages of DSDM

- This approach is not well-suited to all sorts of projects, and its implementation can be costly.
- It isn't appropriate for small enterprises.
- This methodology requires less time for development, which may have an impact on the developer's ability to execute projects.

4.5 Lean Development Methodologies

Lean Software Development (LSD) is an agile method to software development that focuses on minimizing development time and resources, eliminating waste, and only providing the functionality that the product requires. The Minimum Viable Product (MVP) method is a Lean technique in which a team publishes a bare-bones version of its product to the market, learns from consumers what they like, don't like, and want to be added, and then iterates based on that input. (Anon, p. 2016)

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Figure 4: This figure is about Lean Development Methodology

4.5.1 Advantages of LDM

- The development team can supply greater features in a shorter period of time.
- LDM facilitates the team's decision-making ability by empowering them.
- Eliminate unnecessary damage
- The LED methodology minimizes project time and expenses while simultaneously speeding up the software development process.

4.5.2 Disadvantages of LDM

- After a working interval, extra time and meetings are required to complete a project properly.
- This approach entailed users, and it worked well at the time.

- It emphasizes the importance of adhering to their rules or judgments, as well as the path they desire.

4.6 Choosing Methodology

Because this is an academic topic, following a set technique for this undertaking is quite challenging. For this project, I needed to gather requirements first, and then develop the system. There are no further programmers, developers, or team members in this project, and I am the sole implementer. This project cannot be matched to a specific methodology; however, it frequently follows the Waterfall Model, necessitating the use of a hybrid methodology for subsequent development.

I believe that the Waterfall model is the best for gathering requirements and that the DSDM astern iterative process is the greatest choice for project development. This project is interesting from this point of view: (Anon , p. 2016)

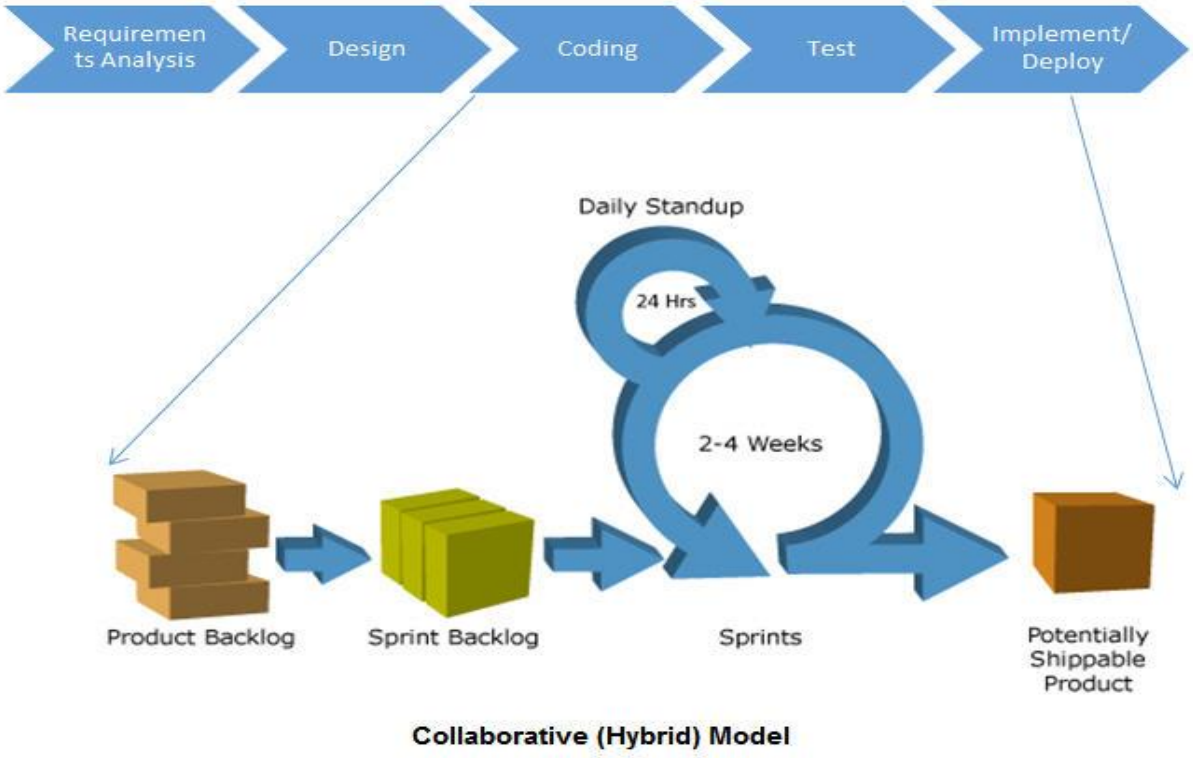

Figure 5: This figure is about Hybrid Methodology for this project

4.6.1 Why used it

This project is not only academic in purpose, but it also has a commercial purpose, and it follows a certain software development approach. So, I utilized the Hybrid methodology, which is the greatest fit for the project in terms of gathering requirements and iterative development. That is why, for this project, I chose a hybrid software development process.

4.6.2 Sections of Methodology

This section, which focuses on how to fulfill a procedural phase in which identifying needs, analysis, UI designs, and developments are added and completed in intervals, has been mentioned. Now, on the next page, I've included a description of each level.

4.6.3 Feasibility Study

In this step, a feasibility study has an analysis that easily takes all of a project's relevant factors, including economic, technical, legal, and scheduling considerations, to determine the likelihood of completing the project and also evaluates the project's potential for success; as a result, perceived objectivity is an important factor in the study's credibility for potential investors and lending institutions. (Rathnayake, 2018)

4.6.4 Critical Analysis

This section is for a specific organization and composing a critique to assess the project's effectiveness. This part focuses entirely on the analysis of project business procedures and the difficulties that are associated with the proposed system scope regions. It has to do with how problems can be solved utilizing long-term solutions that are backed up by adequate analysis for a project or system.

4.6.5 Requirements Analysis

This part is critical for outlining stakeholders' expectations on a project that has been thoroughly examined, documented, and managed to meet all of the established requirements. This stage identifies the proposed system's major requirements by gathering a variety of requirements, such as focus groups, and incorporating respected stakeholders and end-users who will extract the system's potential benefits while keeping business in mind.

4.6.6 Design Specification

This section describes how the proposed system meets the functional requirements outlined in the Functional Requirements, and it includes the desired prototype and fractions of the ideal solutions.

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It contains advice on how to test certain requirements, configure settings, and review functionalities and code.

4.6.7 Implementation

The goal of this part is to create the suggested system and database based on the design specification prototype. When the development process is finished, it should be implemented for the following stage.

4.6.8 Testing

After finishing the development activities, the testing process began to evaluate the system's performance, which is a required phase. During each test, a test log is kept for each system.

4.6.9 Documentation

This component serves as a roadmap for building a system, allowing an individual to easily understand the process of system development.

4.6.10 Evaluation

After the planned system has been completed, this part will be used to evaluate performance and obtain appropriate feedback from users. As a consequence, a system analyzes its performance in comparison to that of other similar systems.

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Chapter-5: Planning

Project planning began at the commencement of a project. Planning is critical to complete any job properly. A project's failure might be caused by poor planning. A well-planned project guarantees a high-quality product, on-time delivery, product business value, and job quality. The planning stage covers the whole project's duration and method of execution. The project plan, test plan, risk management, change management, and quality management are all covered in this chapter.

5.1 Management Plan/ Work Breakdown Structure

Work Breakdown Structure: The work breakdown structure divided the entire project into tasks. It provides the task's length, as well as the task's start and finish dates. It's a good technique to finish a project in a short amount of time. WBS are listed below for this project.

SL	Chapter	Duration (Days)	Start date	End date
1.	Introduction	2	8/21/21	8/22/21
2.	Initial study	5	8/23/21	8/27/21
3.	Literature review	5	8/28/21	8/1/21
4.	Methodology	2	9/2/21	9/3/21
5.	Planning	5	9/6/21	9/10/21
6.	Feasibility study	7	9/11/21	9/17/21
7.	Foundation	10	9/18/21	9/27/21
8.	Exploration	7	9/28/21	10/4/21
9.	Engineering	9	10/5/21	10/13/21
10.	Deployment	14	10/15/21	10/29/21
11.	Testing	6	10/30/21	11/5/21
12.	Implementation	8	11/6/21	11/13/21
13.	Critical evaluation	5	11/14/21	11/18/21

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14.	Lesson learned	2	11/18/21	11/19/21
15.	Conclusion	3	11/20/21	11/22/21
	Total=	91 Days		

Table 1: Work Breakdown Structure

5.2 Gantt Chart

Gantt Chart is one of the most useful charts in project development. It shows the graphical representation of the project activity schedule. The Gantt chart for the pharmacy Management System is attached below:

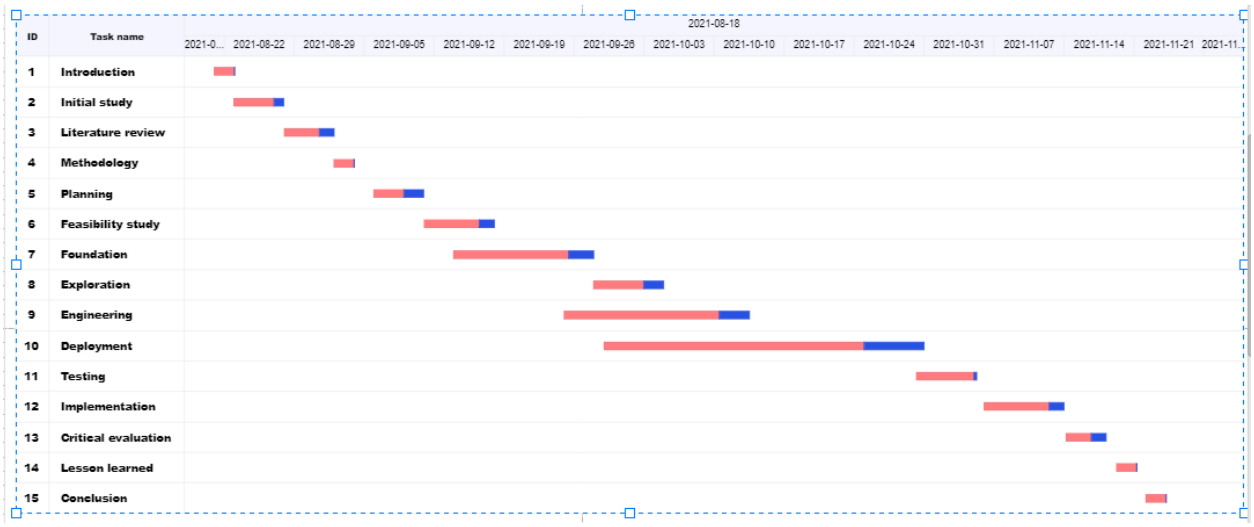

Figure 6: Gantt Chart

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Chapter-6: Feasibility

A feasibility study is an important factor of every project. A feasibility study gives information on whether or not a project is possible in the real world. A project description, market situation, facilities, legal & technical requirements are all included in the feasibility study, which supports project decision-making.

All types of feasibility are possible: There are several different types of possibilities. From the perspective of this project, some of the feasibility studies are outlined below.

6.1 Operational feasibility study

Operational feasibility is a measure of how well a proposed system solves issues and exploits possibilities discovered during scope definition, as well as how well it meets the criteria determined during the requirements analysis phase of system development. (osarome, 2011).

The suggested approach would address the issue of people who lack project ideas or guidelines, as well as adopting technology for new creations. The suggested system interface will be more user-friendly and secure for every sort of user. displaying their daily report and generating an invoice.

6.2 Technical feasibility

The technical feasibility of a project is determined by looking at it from a technological standpoint. It explains the hardware and software that will be required for this project. Technical feasibilities will also detail the proposed system's technical capabilities.

6.2.1 Hardware

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Hardware	Configuration
Laptop	Corei5
	4GB DDR4 Ram
	500GB HDD
	Processor 2.30 GHz
Router	Wi-Fi Router

Table 2: hardware requirement

6.2.2 Software

- Xampp
- Google chrome browser
- Windows 10(operating system)
- Visual Studio Code

Database:

- MySQL

Technology:

- Html
- CSS
- Java Script
- Bootstrap
- Ajax
- JQuery
- Android9 (for mobile user)

Server Side:

- PHP
- CodeIgniter

These are based requirements for running this system. All the software will be updated and the latest version.

6.3 Economic Feasibility

The term "economic feasibility" refers to the proposed system's economic benefits. Analyze the advantage of the proposed system's investment in terms of economic feasibility.

For this proposed system required a website to record pharmacy management details. This proposed system needs PC, Domain, Hosting, and Server and also certain maintenance cost for developing and maintaining the website of the system. **"This is according to my consideration, because my organization does not share their Economic Feasibility."**

There are several options for developing the suggested system, including web-based application, mobile application, desktop application.

6.3.1 Web-based application cost

System Components Name	**Total Number Of Component**	**Component Price**
Desktop or Laptop	1	40,000.00
Web Domain	1year	3000.00
Web Hosting	1year	4000.00
Developer Cost		30,000.00

Maintenance Cost	total	10,000 (per year)
	total	87,000.00

Table 3: Web-based Application cost.

6.3.2 Mobile application cost

The system app must be installed on every device, and a pharmacy management system must be developed.

System Components Name	**Total Number Of Component**	**Component Price**
Desktop or Laptop	1	40,000.00
Domain	1year	3000.00
Hosting	1year	4000.00
Developer Cost		20,000.00
Maintenance Cost	total	8,000 (per year)
	total	75,000.00

Table 4: Mobile Application cost.

6.3.3 Desktop Application cost

System Components Name	Total Number Of Component	Component Price
Desktop or Laptop	1	40,000.00
Domain	1year	3000.00
Hosting	1year	4000.00
Developer Cost		20,000.00
Maintenance Cost	total	15,000 (per year)
	total	82,000.00

Table 5: Desktop Application cost.

6.4 Cost-benefit analysis

The gold of Cost-benefit analysis determines the total earning and spending assumption. The total cost and earnings and cost are compared to determine the benefit. Now the following the cost-benefit analysis for this pharmacy management system.

S.L No.	Equipment	Year 1	Year 1	Year 1	Total
01	Web-based Application	87,000.00			87,000.00
02	Mobile Application	75,000.00			75,000.00
03	Desktop Application	82,000.00			82,000.00
04	Domain		3000.00	3000.00	6,000.00

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05	Hosting		4000.00	4000.00	8000.00
06	Maintenance		10000.00	10000.00	20,000.00
	Total Cost	244,000.00	17,000.00	17,000.00	278,000.00

Table 6: Estimation of project total cost.

Chapter 7: Foundation

This part's objective is to discuss the project's functional and non-functional areas. This section of the document explains how to include functional and non-functional requirements.

Two types of requirements list are given below:

- Functional requirements
- Non-functional to requirements

7.1 Functional requirements

For the system, functional requirements explain how a service or system should behave or react to particular values and solutions, as well as what features and functions it should have.

- Admin, Manager, and salesman must be a login system
- Admin and manager manage account
- All the system users manage Medicine Database
- Admin, Manager, and salesman create Point of Sales (POS)
- Showing Order, Supplier, Expense module
- Automate Date to date report generate
- All the system users manage Customer and supplier management

- Easy Invoice/sale search by Invoice Id
- Admin and manager Daily Sales, Expense Report generate
- Admin and Manager create Current Month Statistics
- Only today's sales report generates Salesman
- Admin and manager Easy to Settings pharmacy management system
- Admin and manager showing and collecting due payment

7.2 Non-Functional Requirements

- Barcode generates
- Maintainability
- The system security
- Data security and privacy
- Showing Expire Alert Notification
- Showing Stock Alert Notification
- Searching for all the tables data
- Response time

7.3 Technology to be implemented

The technology that will be used is web technology, which service base system that admin users and salesman will be able to access over the internet. Web technology is extremely nowadays since it can be assessed anytime and anywhere in the globe without the need to install any software. The pharmacy management system is divided into two parts, one of the admin/managers and another is a salesman.

7.4 Web application

In this field, web applications enable users to access the system via the internet via a web browser, with the following web application features:

- Every device has a web browser that can run a web application.
- The system has no limitations in the eyes of the users. The mechanism is based on URLs.
- There are some difficulties with the suggested system, such as performance and security.

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Chapter 8 – Exploration

Exploration is used to describe the system's early work performance or deliverable, and this chapter will include the prioritized requirements list, as well as the requirements catalog and functional requirements.

8.1 Pharmacy Management System Use Case Diagram

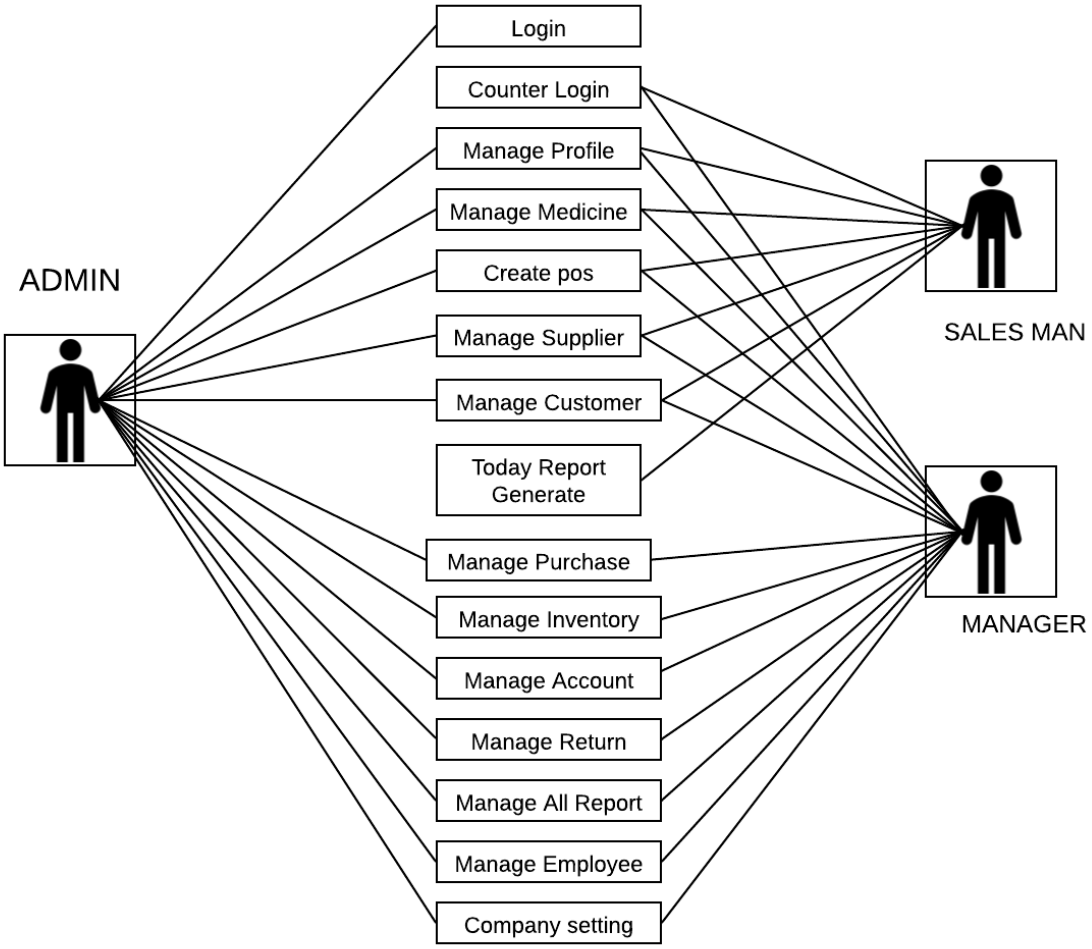

Figure 7: Use Case of Pharmacy Management System

8.2 Activity Diagram of the System

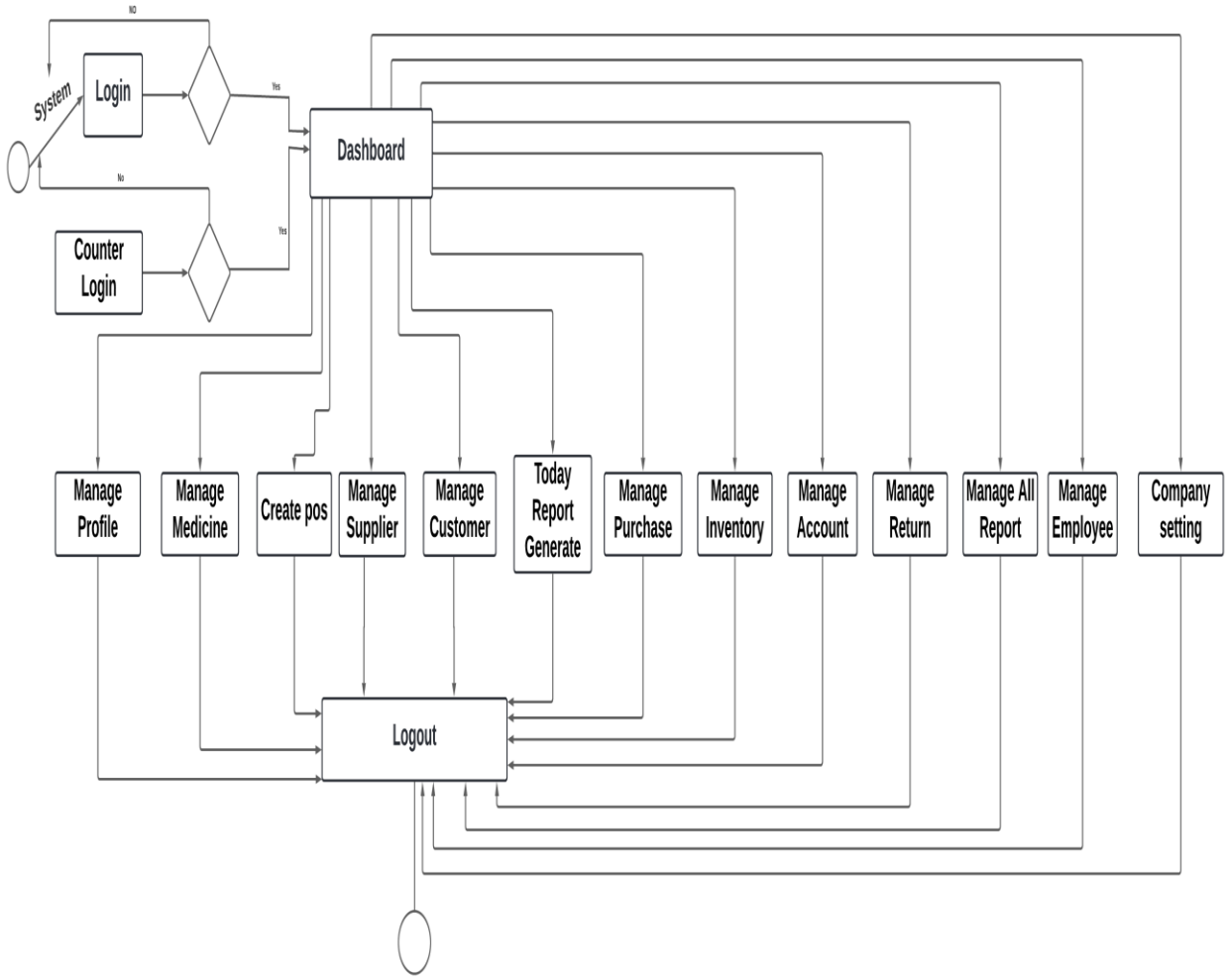

Figure 8: Full System Activity Diagram

8.1 Admin and manager activity Diagram

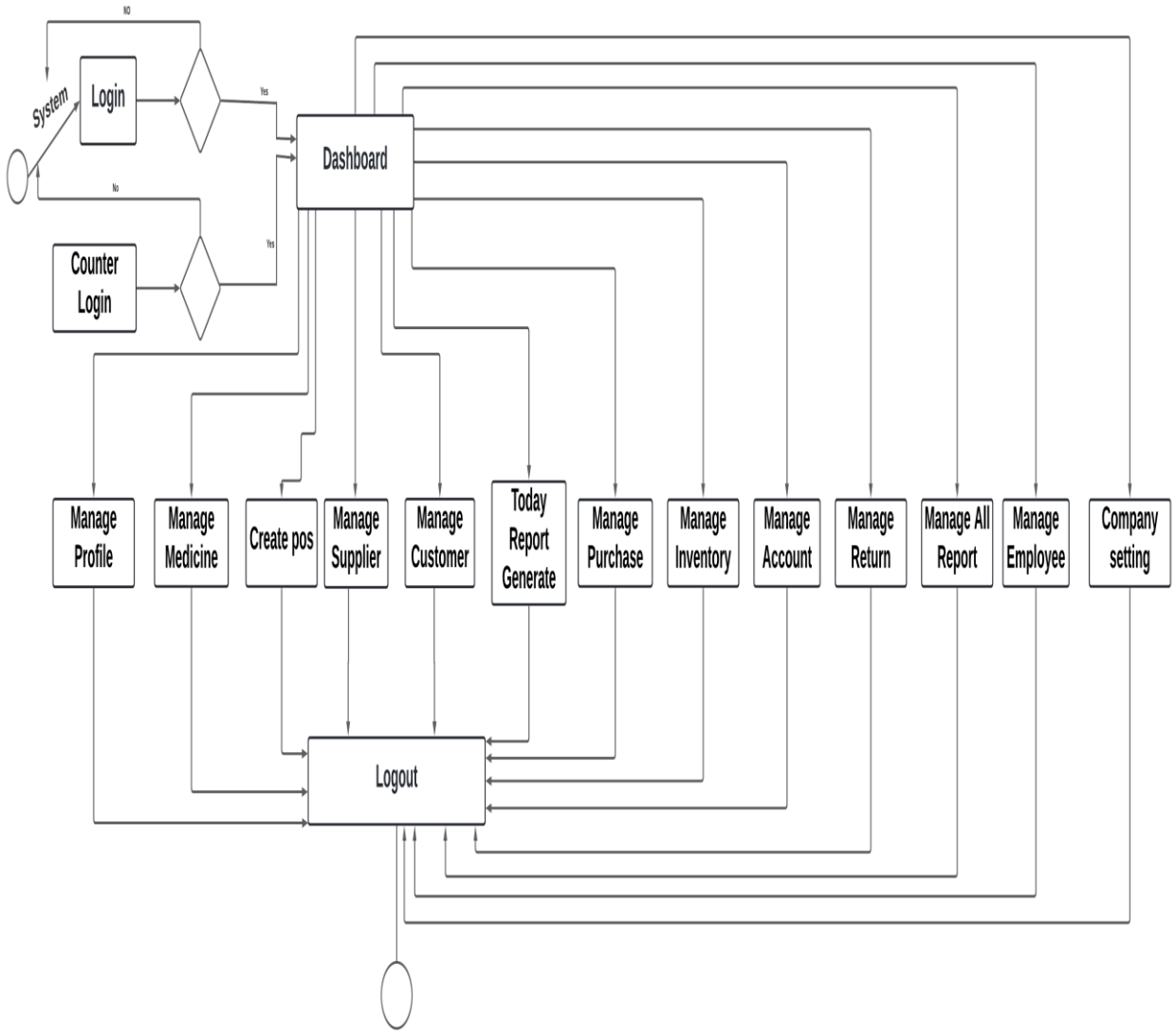

Figure 9: admin and manager activity diagram

8.2.1 Sales Activity Diagram of the System

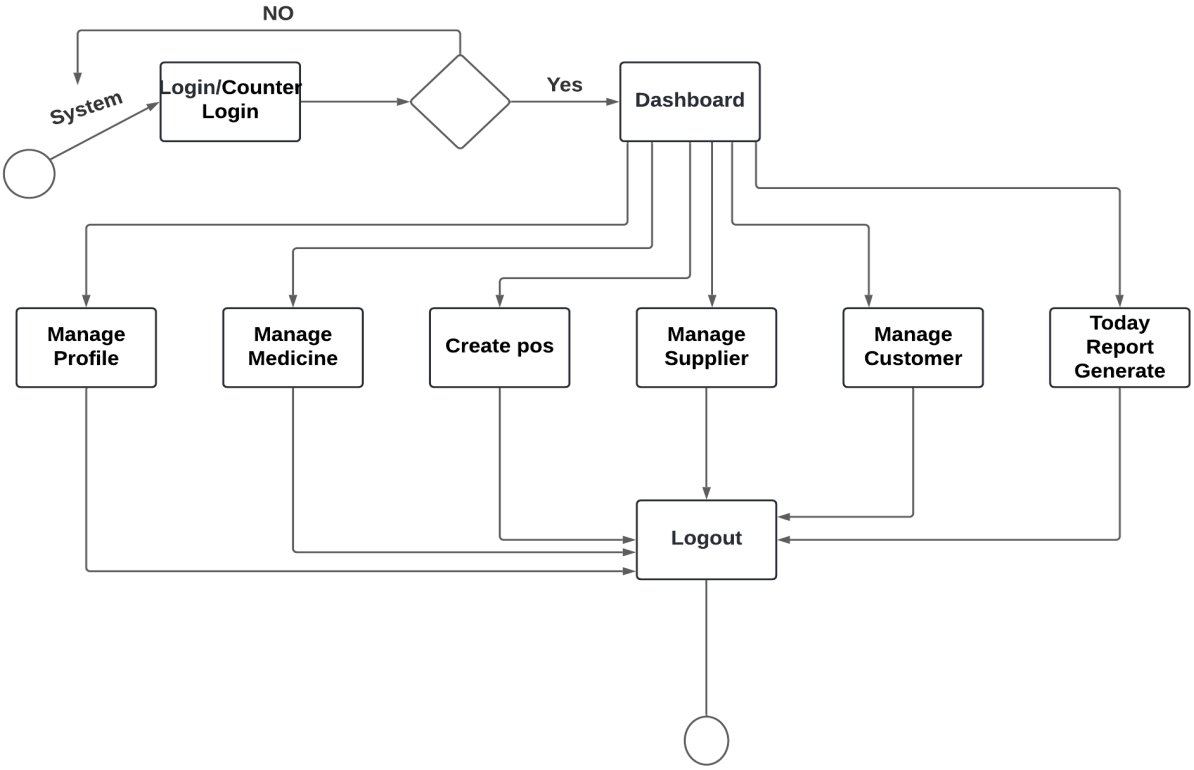

Figure 10: Activity Diagram of Salesman

8.3 Requirements Catalogue

The proposed system's requirements are prioritized, as determined by the Moscow Prioritization. Here I'm going to list all of the criteria, which will be detailed in the following requirements catalog.

8.3.1 Functional Requirements catalog of the projects

"Login as Admin"

Source	**Sing-off**	**Priority**	**Requirement**
Admin	All User	Must	M-001
Functionals requirement			
Login into the system. No one can perform an action without proper authentication.			
Description	**Target value**	**Acceptance**	**Comment**
Login	10000	9500	

Table 7: Admin login requirement

"Medicine Sales as a Salesman"

Source	**Sing-off**	**Priority**	**Requirement**
Salesman	Medicine Sales	Must	M-002
Functionals requirement			
Counter Login into the system. After the login system salesman can sell the medicine.			
Description	**Target value**	**Acceptance**	**Comment**
Medicine sales	12000	8500	

Table 8: Medicine Sales as a Salesman

"Counter Login as a Manager"

Source	**Sing-off**	**Priority**	**Requirement**
Manager	Counter Login	Must	M-003
Functionals requirement			
Counter Login into the system. After the Counter login system manager can control the system like an admin.			
Description	**Target value**	**Acceptance**	**Comment**
Manager	500	320	

Table 9: Counter Login as a Manager

8.3.2 Prioritized Requirements List

I have to use the MoSCoW prioritization technique to make a priority list of identified requirements. The prioritized requirement list of the Pharmacy Management System is given below:

SL NO	Requirement	Priority
O1	login or counter login for all users	must
O2	Add medicine, purchase	must
O3	Add customer, wholesalers	Should
O4	Add and manage doctor, phone book, fire service, hospital	could
O5	Today and monthly Report generates	Should
06	Account manages	must
07	Invoice number	must
08	Supplier	must
09	Admin/manager update employee	should
10	Searching all of manage list	should

Table 10: Prioritized Requirements

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8.4 Prototypes of the proposed system" Pharmacy Management System"

"Prototyping"

In this step I have represented some important low-fidelity prototypes of the proposed system:

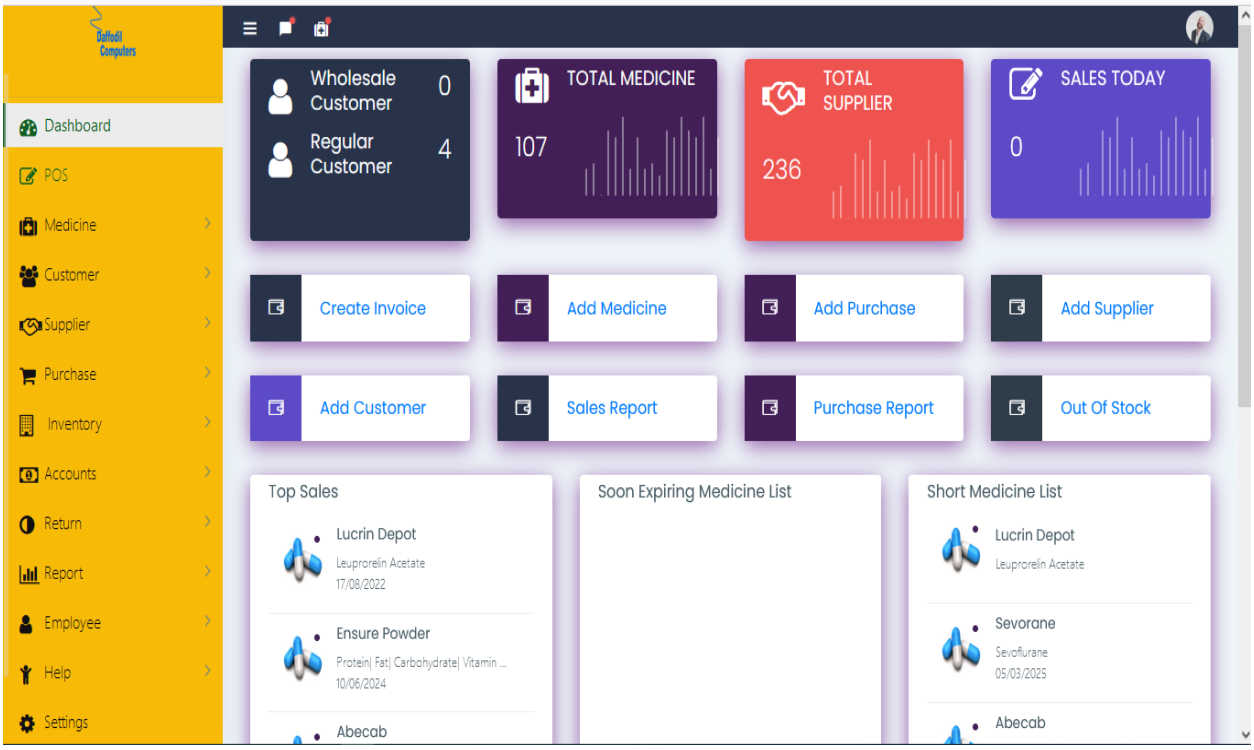

Figure 11: Admin and manager dashboard

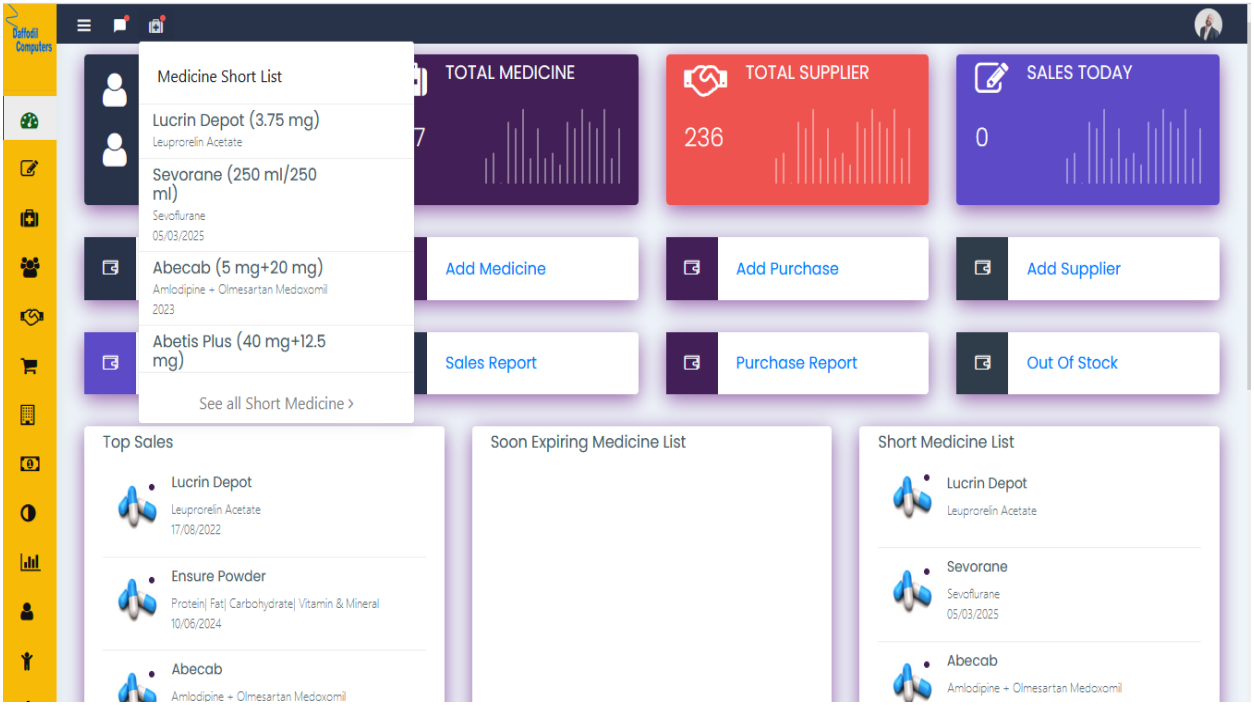

Figure 12: Medicine shortlist notification admin and manager dashboard

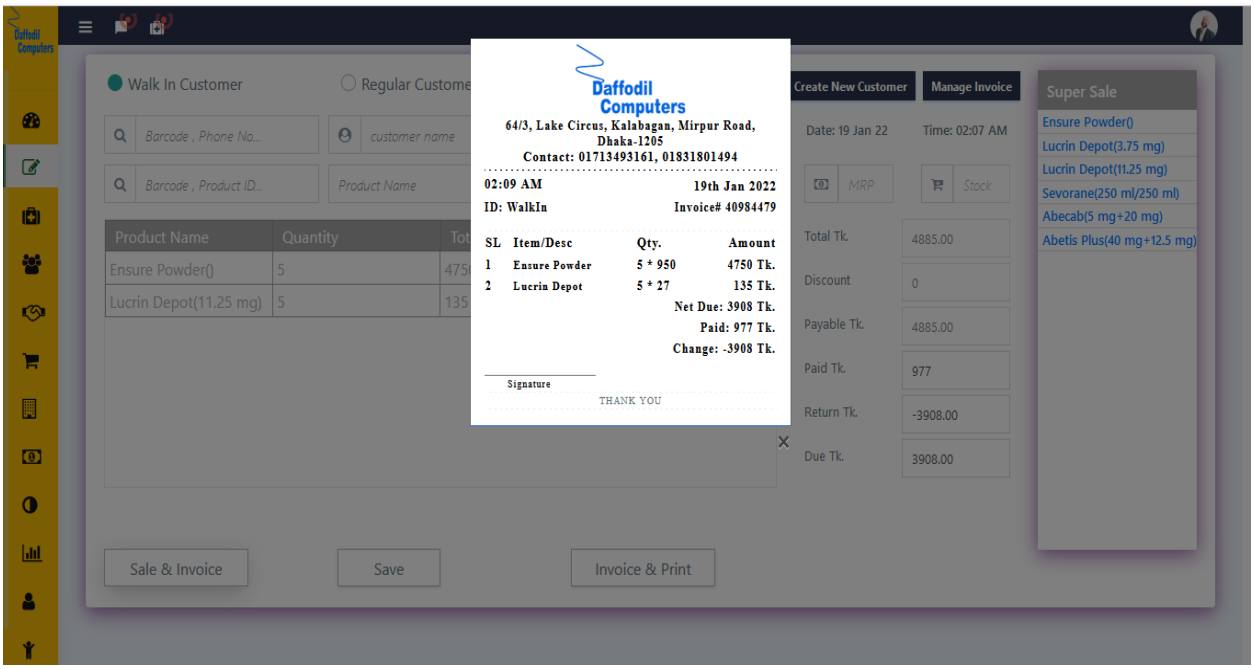

Figure 13: After-sales medicine show pos invoice*

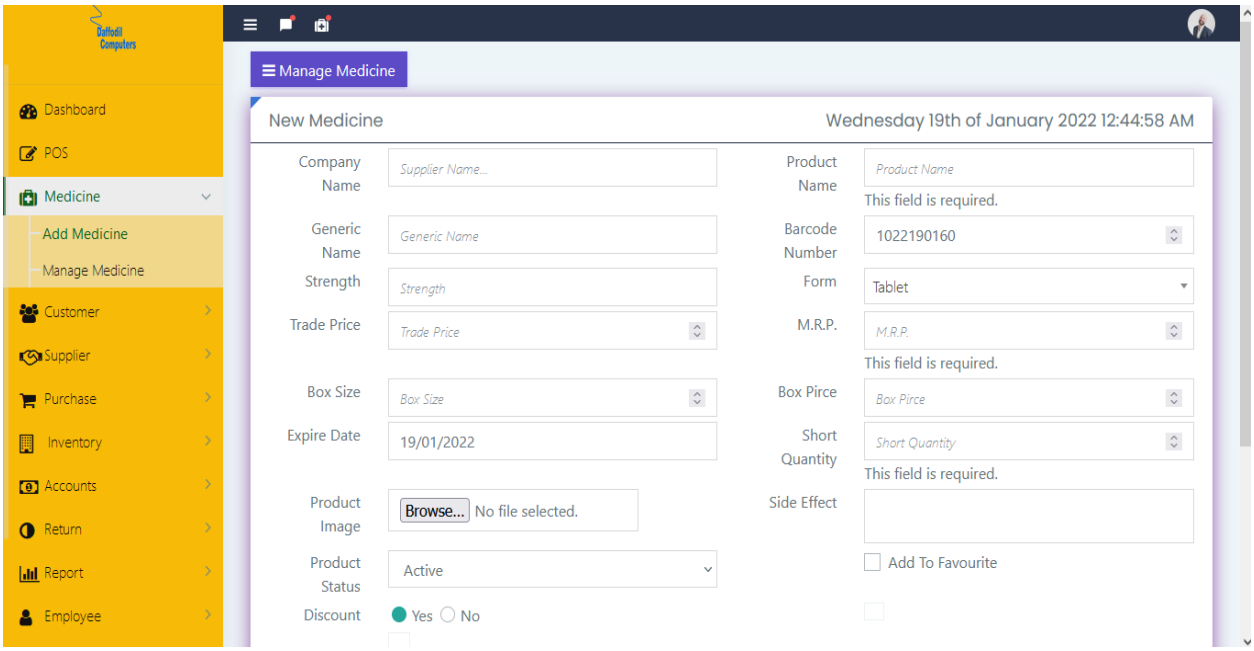

Figure 14: medicine add process

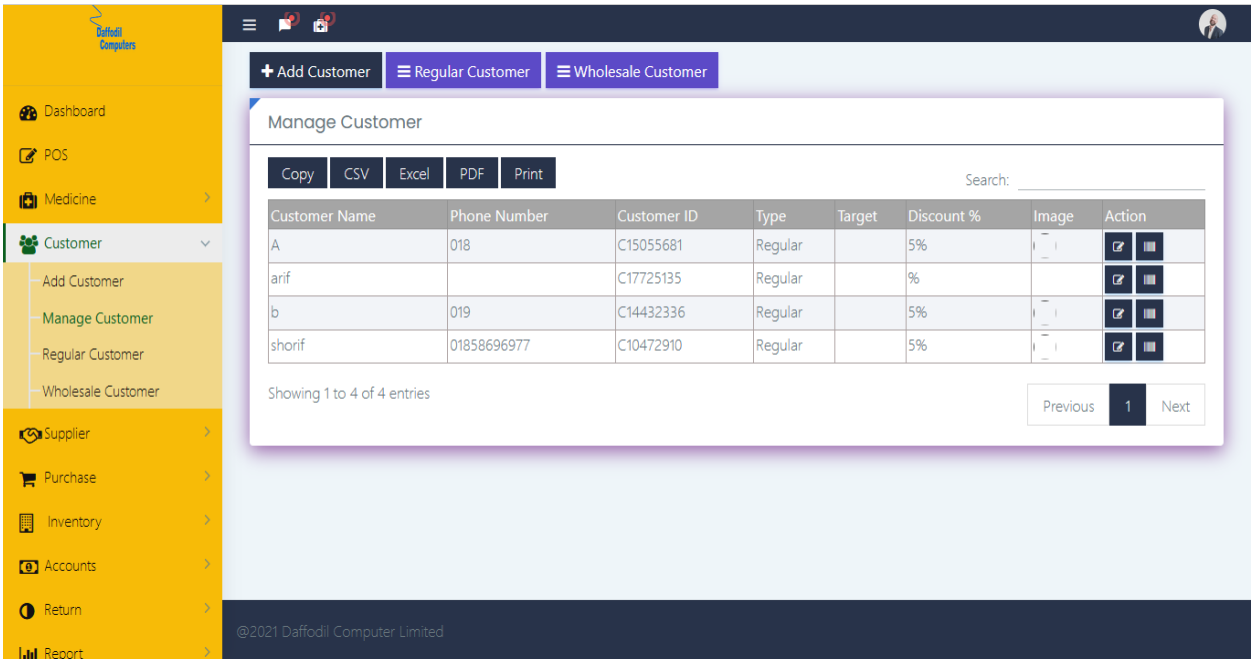

Figure 15: customer manage list

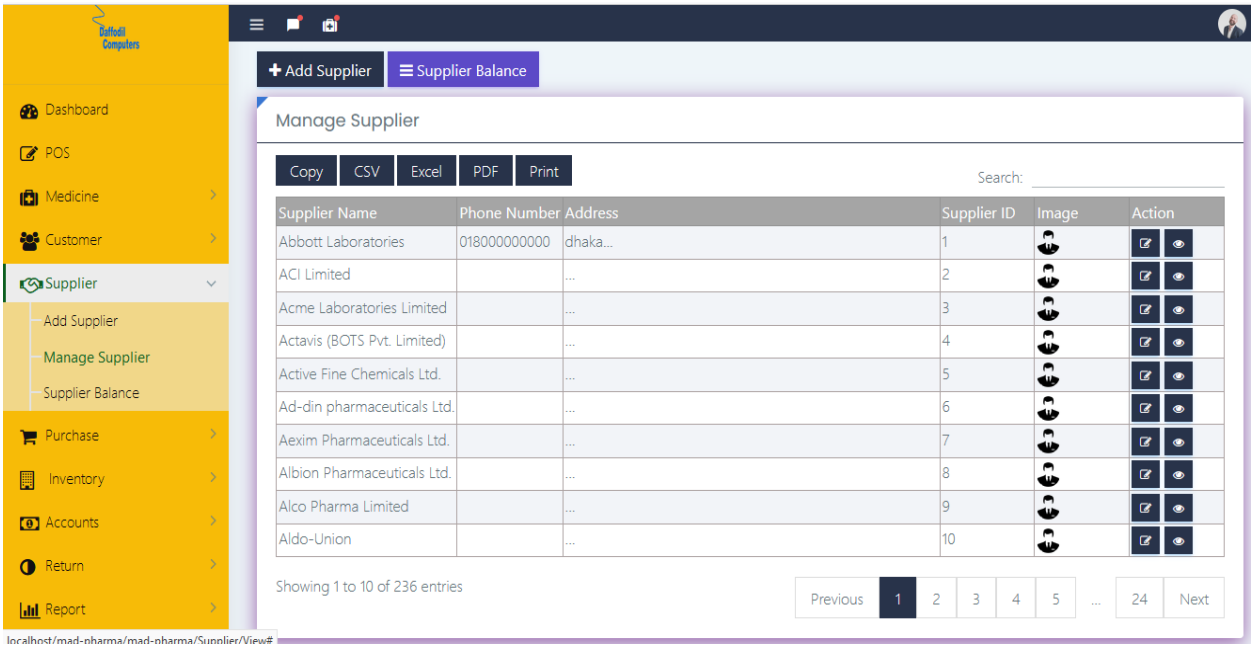

Figure 16: supplier manage a list

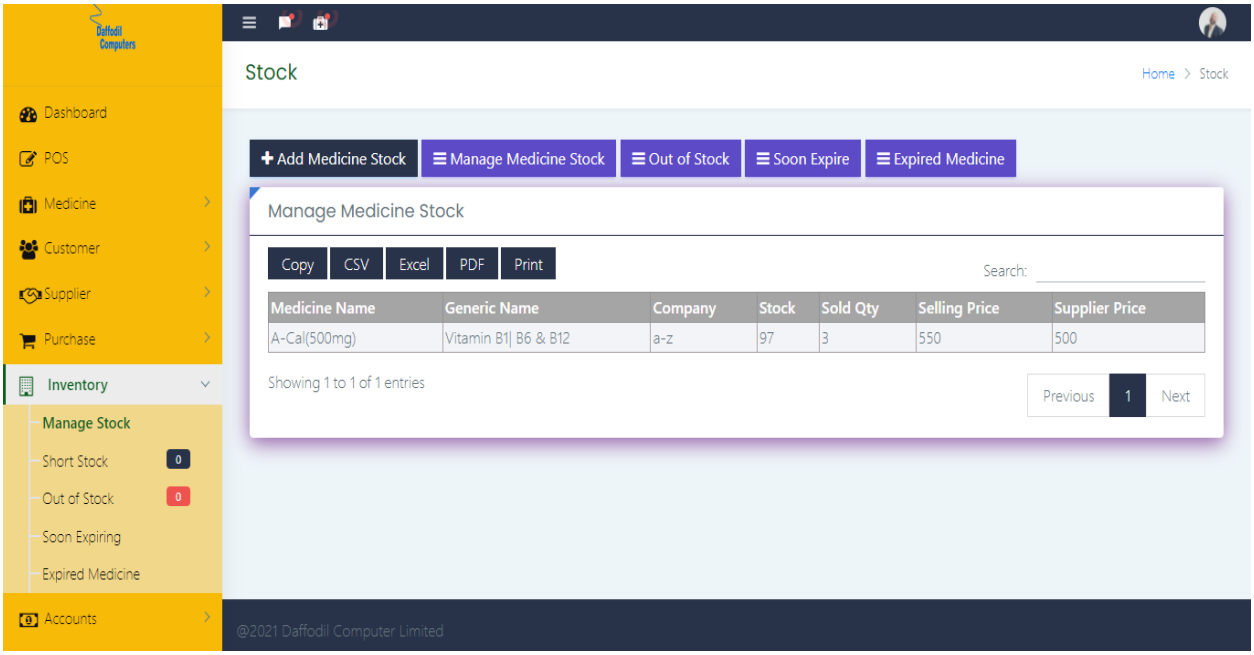

Figure 17: manage medicine stock list.

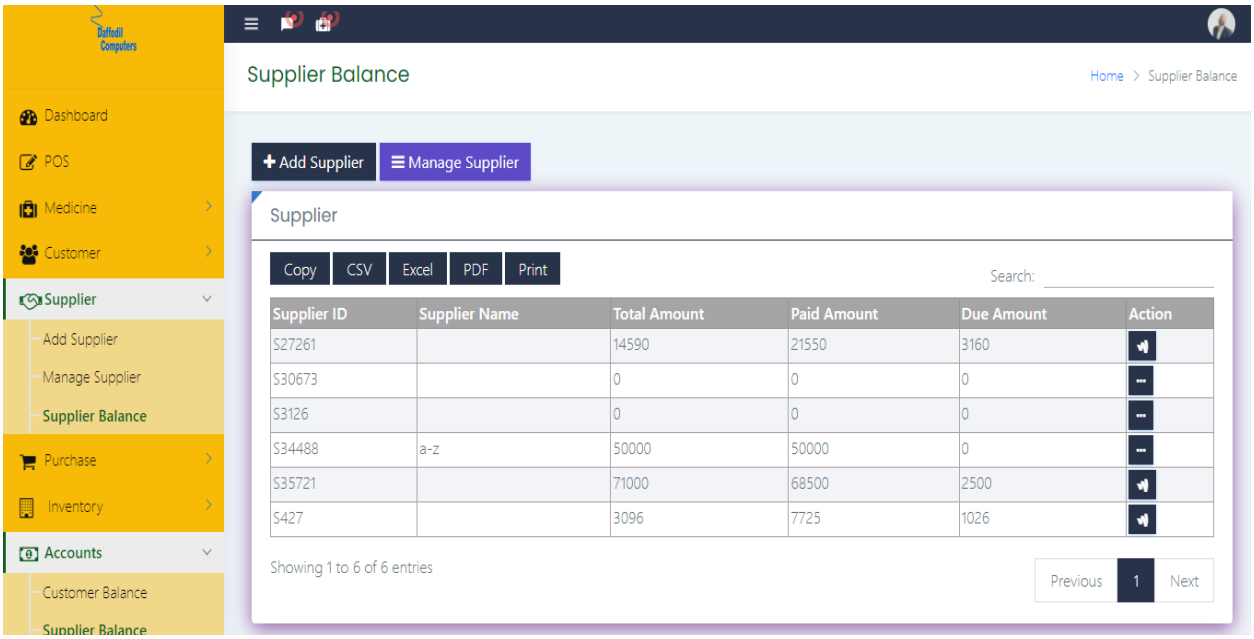

Figure 18: show all supplier balance.

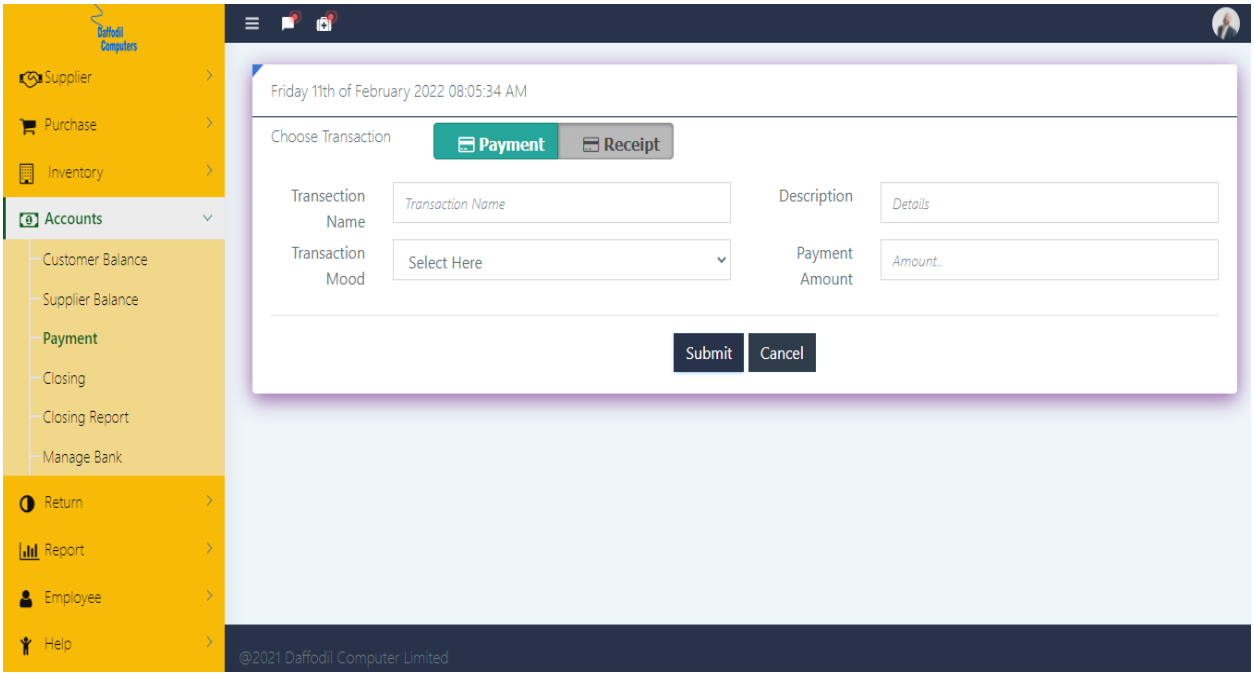

Figure 19: Add payment process.

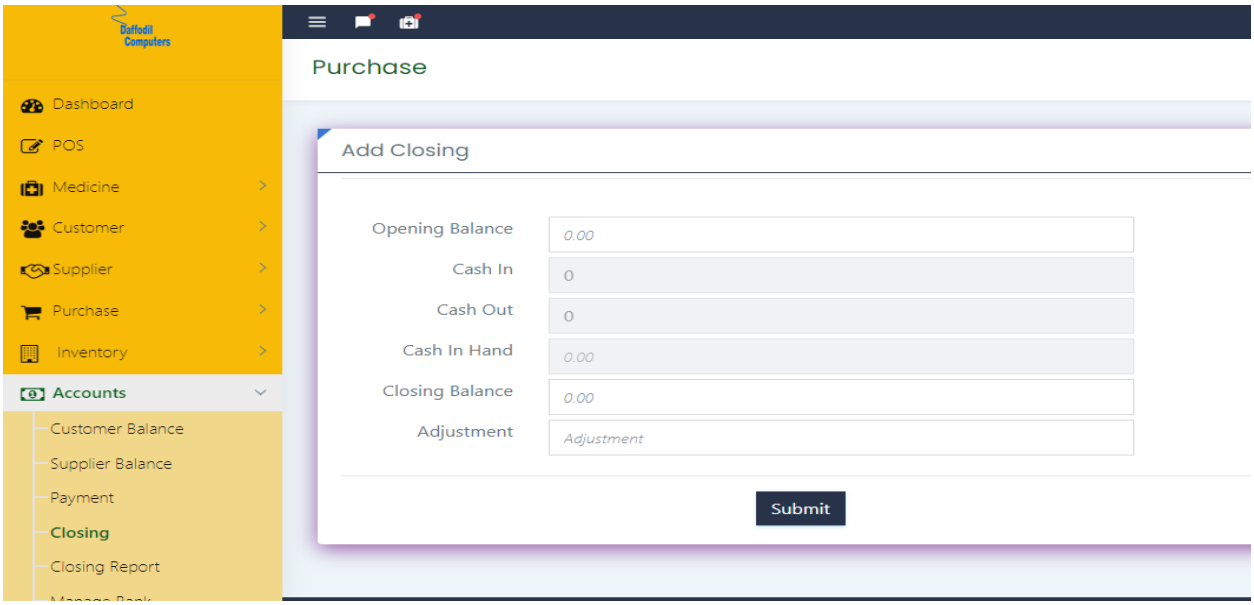

Figure 20: closing balance entry.

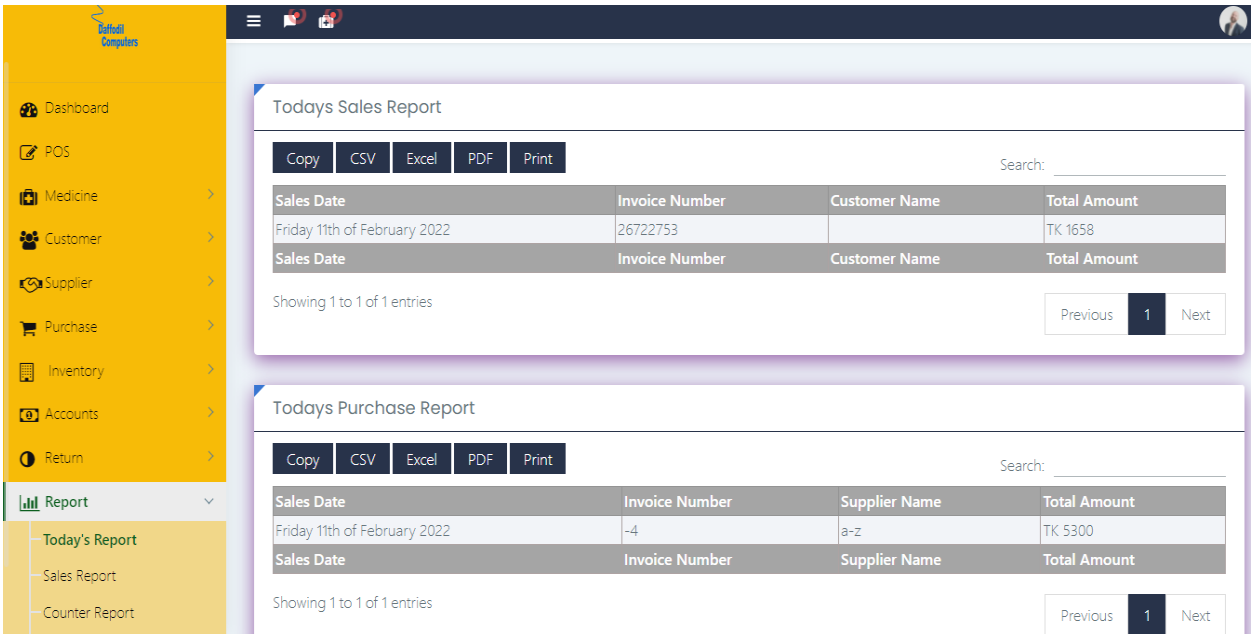

Figure 21: today all reports.

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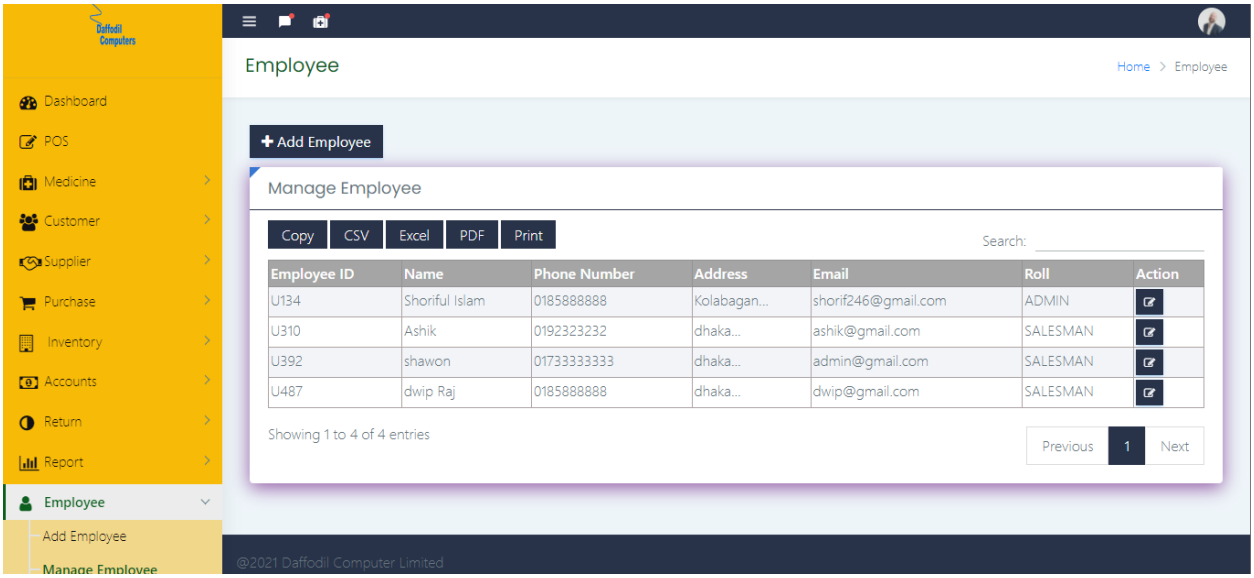


Figure 22: manage employee list

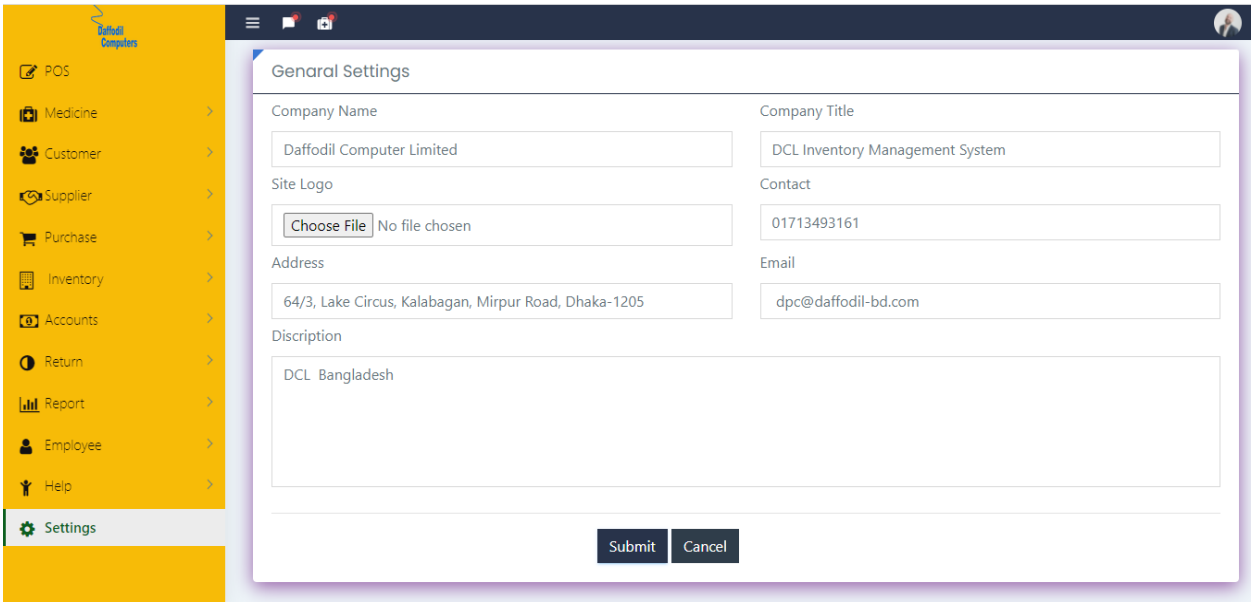


Figure 23: admin and manager setting pharmacy management system

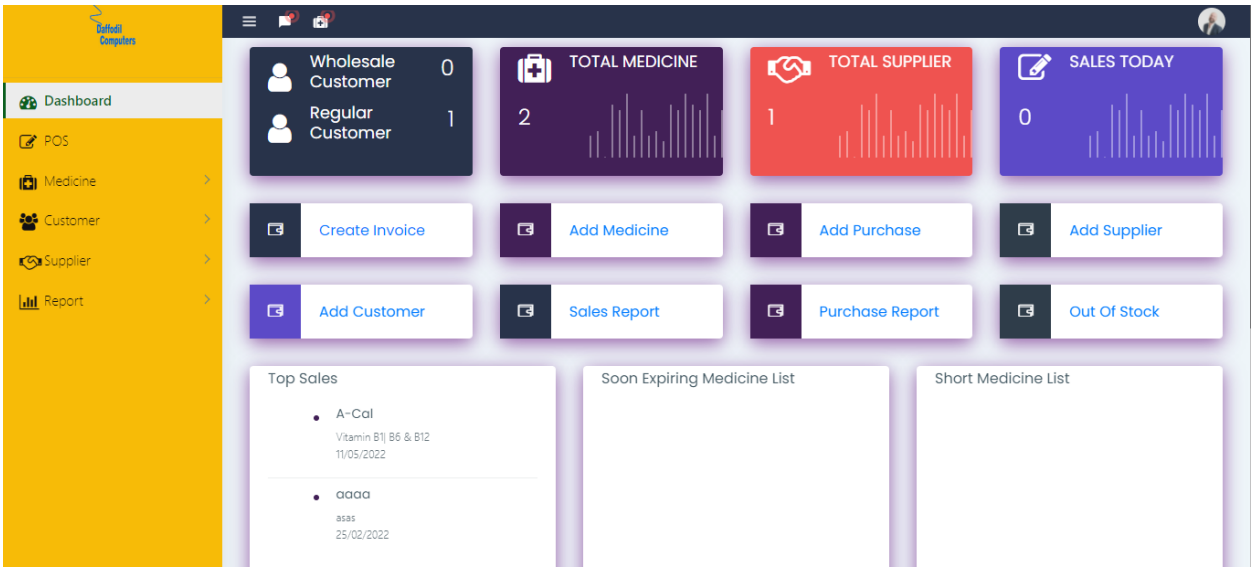
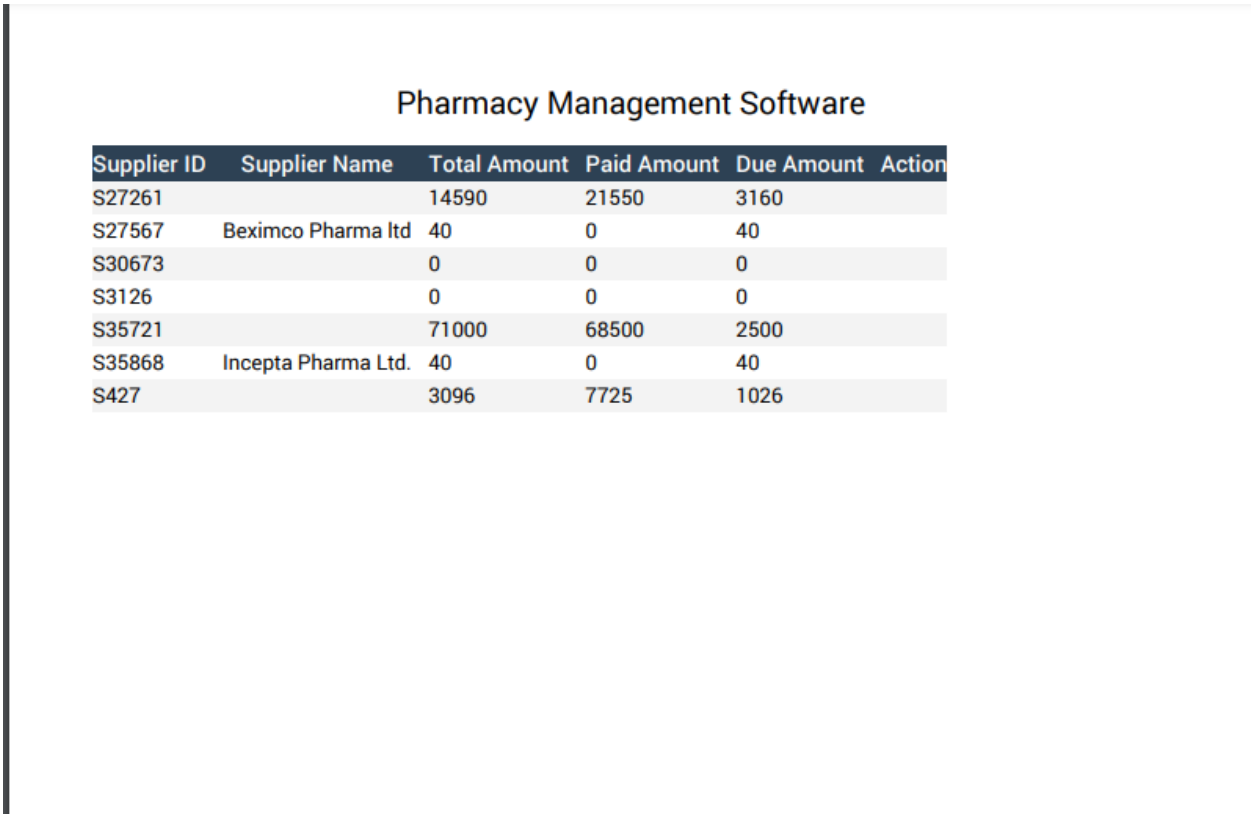


Figure 24: salesman dashboard look.



Pharmacy Management Software

Supplier ID	Supplier Name	Total Amount	Paid Amount	Due Amount	Action
S27261		14590	21550	3160	
S27567	Beximco Pharma ltd	40	0	40	
S30673		0	0	0	
S3126		0	0	0	
S35721		71000	68500	2500	
S35868	Incepta Pharma Ltd.	40	0	40	
S427		3096	7725	1026	

Figure 25: Supplier Balance report download in PDF file

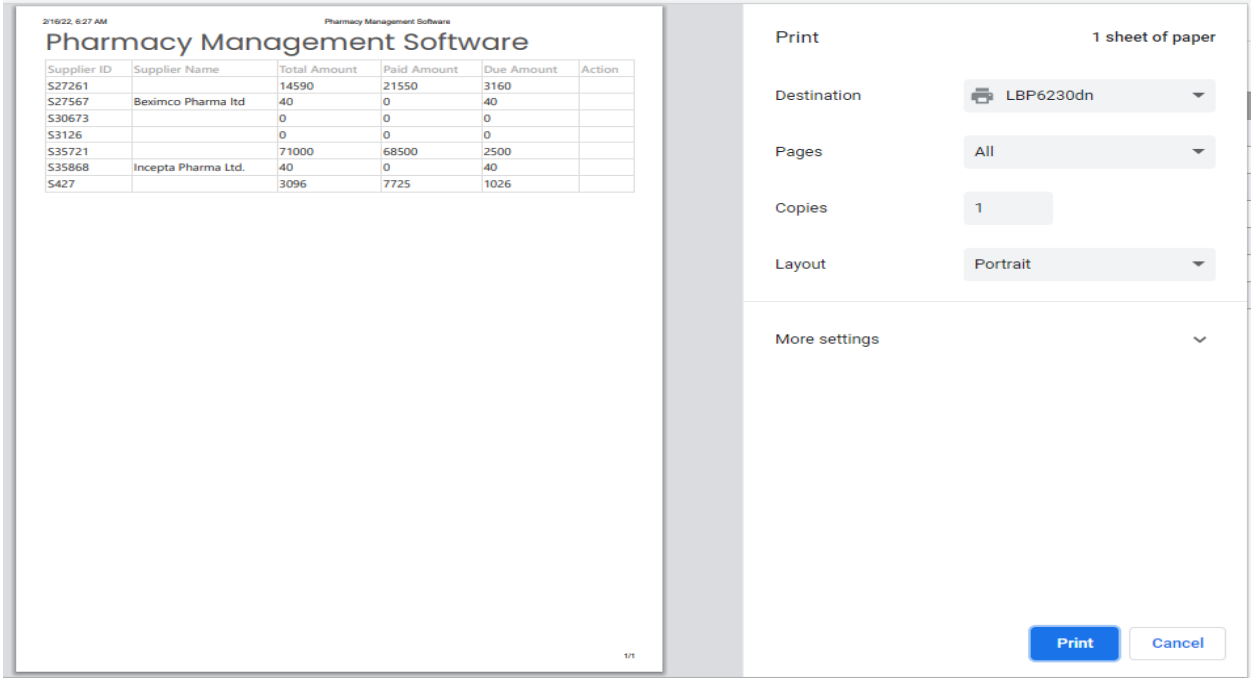


Figure 26: Supplier Balance report print

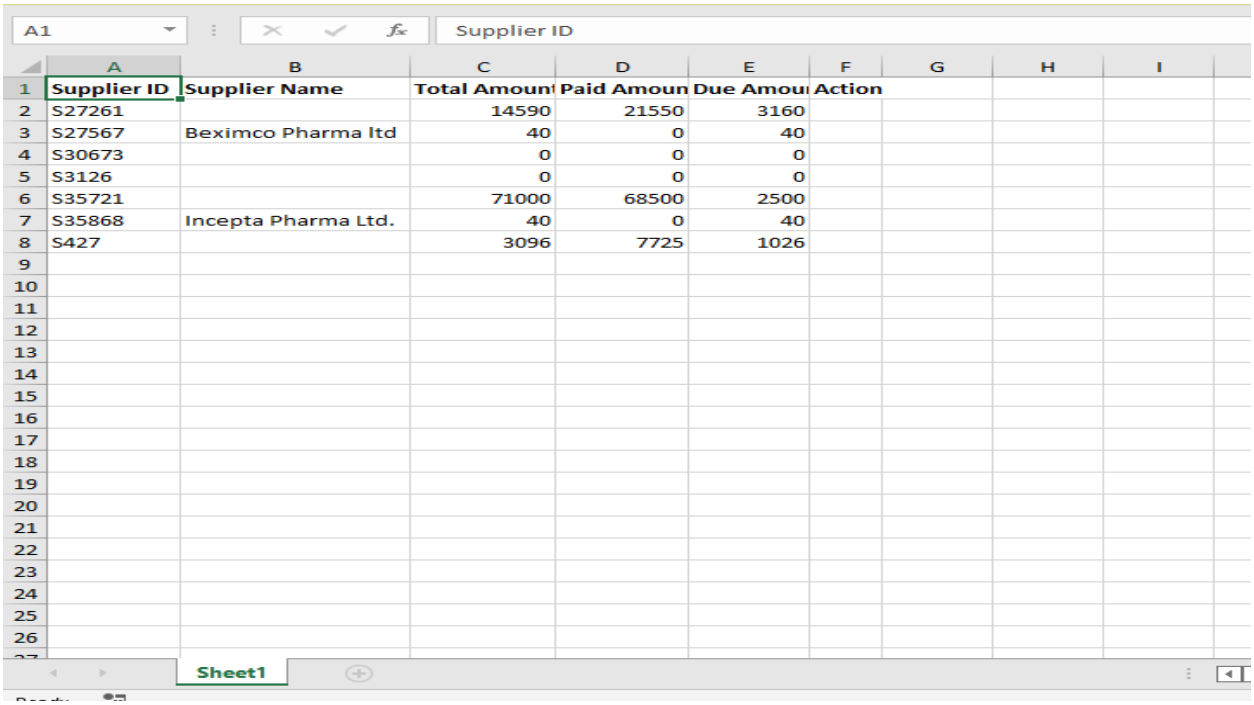


Figure 27: Supplier Balance report download Excel file

Chapter-9: Engineering

9.1 Class Diagram of the "Pharmacy Management System"

The class diagram is used to make a link between the project's classes, where different things in the system are introduced. This diagram also shows the table-to-table link as well as a primary key that allows each user or project to be readily identified in the system. The diagram shows the information of each class and entity that is linked to the others.

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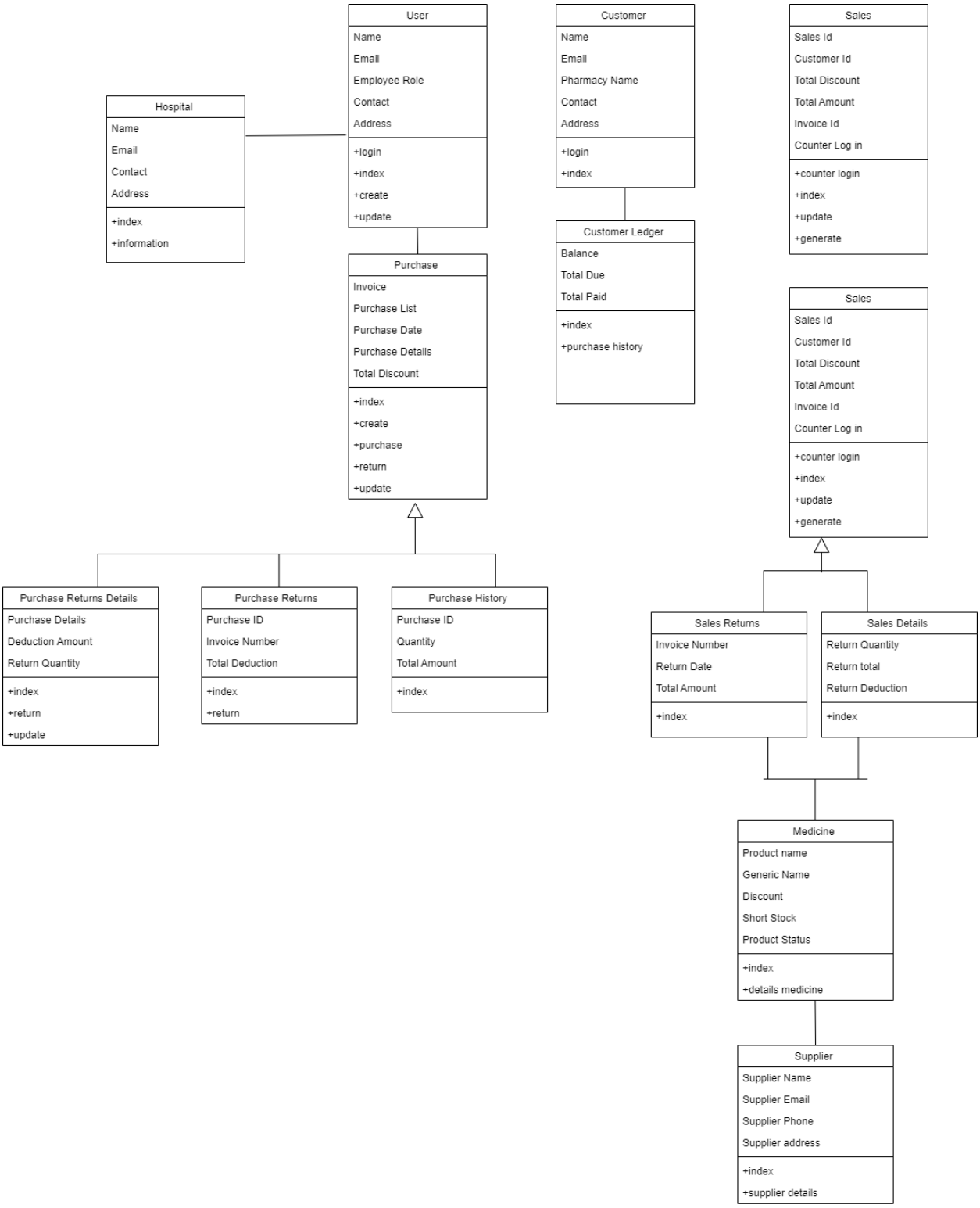

Figure 28: Class Diagram of the "Pharmacy Management System"

9.2 ERD Diagram of the "Pharmacy Management System"

The Entity-Relationship Diagram (ERD) is a graphical representation of how data is conceptually hidden and related. This diagram is used to illustrate the project's whole database management system and to aid in the discovery of relationships from the system table. Now, I've drawn an ERD diagram of the "Pharmacy Management System" as follows:

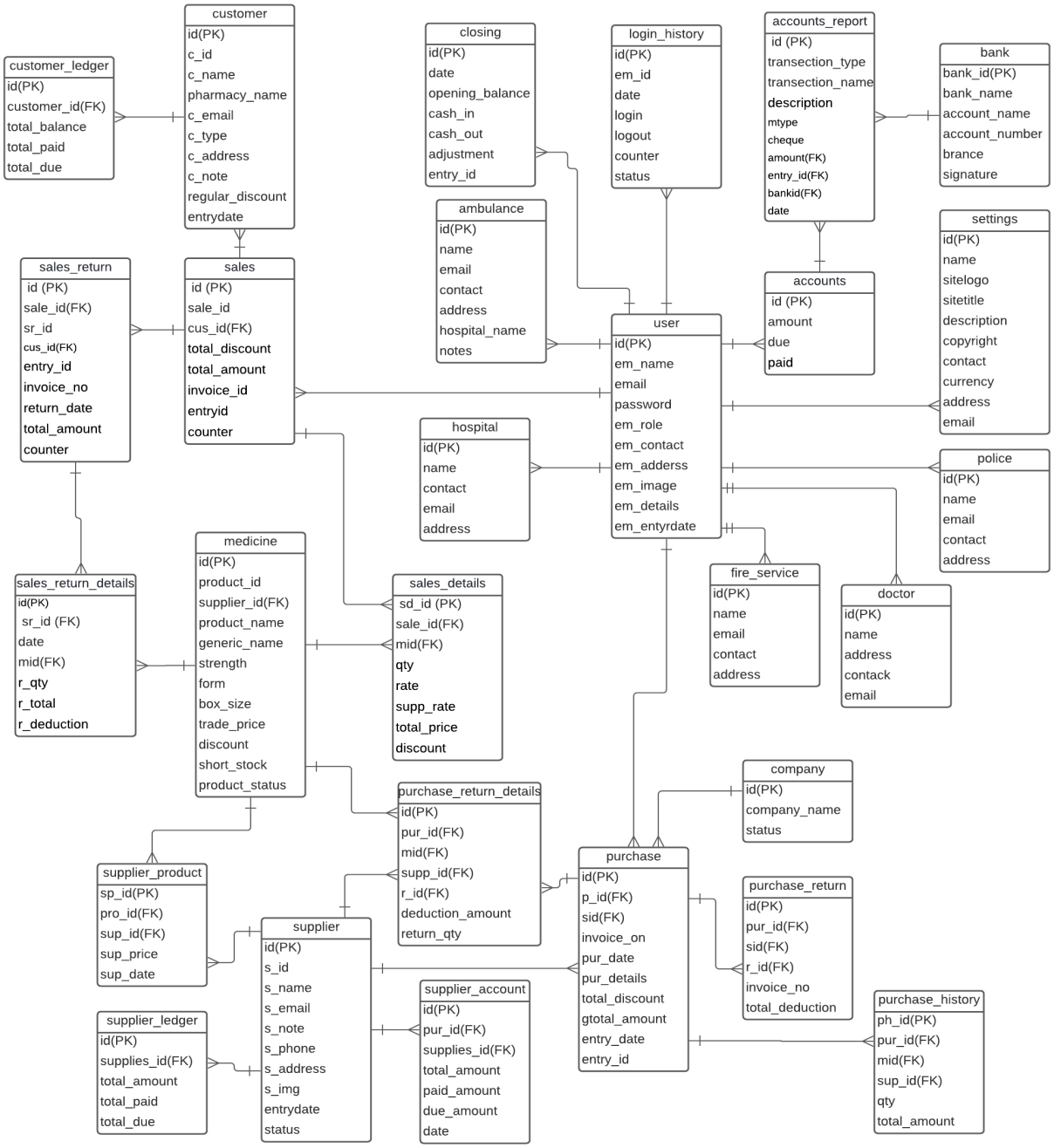

Figure 29: ERD Diagram of the "Pharmacy Management System"

9.3 Component Diagram "Pharmacy Management System"

The component diagram, in which every component of the project is considered as related, is used to represent the user's visual presentation of the system. This diagram supports in the implementation of the proposed system's functional requirements, as well as the verification of each validation. Now I've drawn a component schematic of the "Pharmacy Management System" on the figure below:

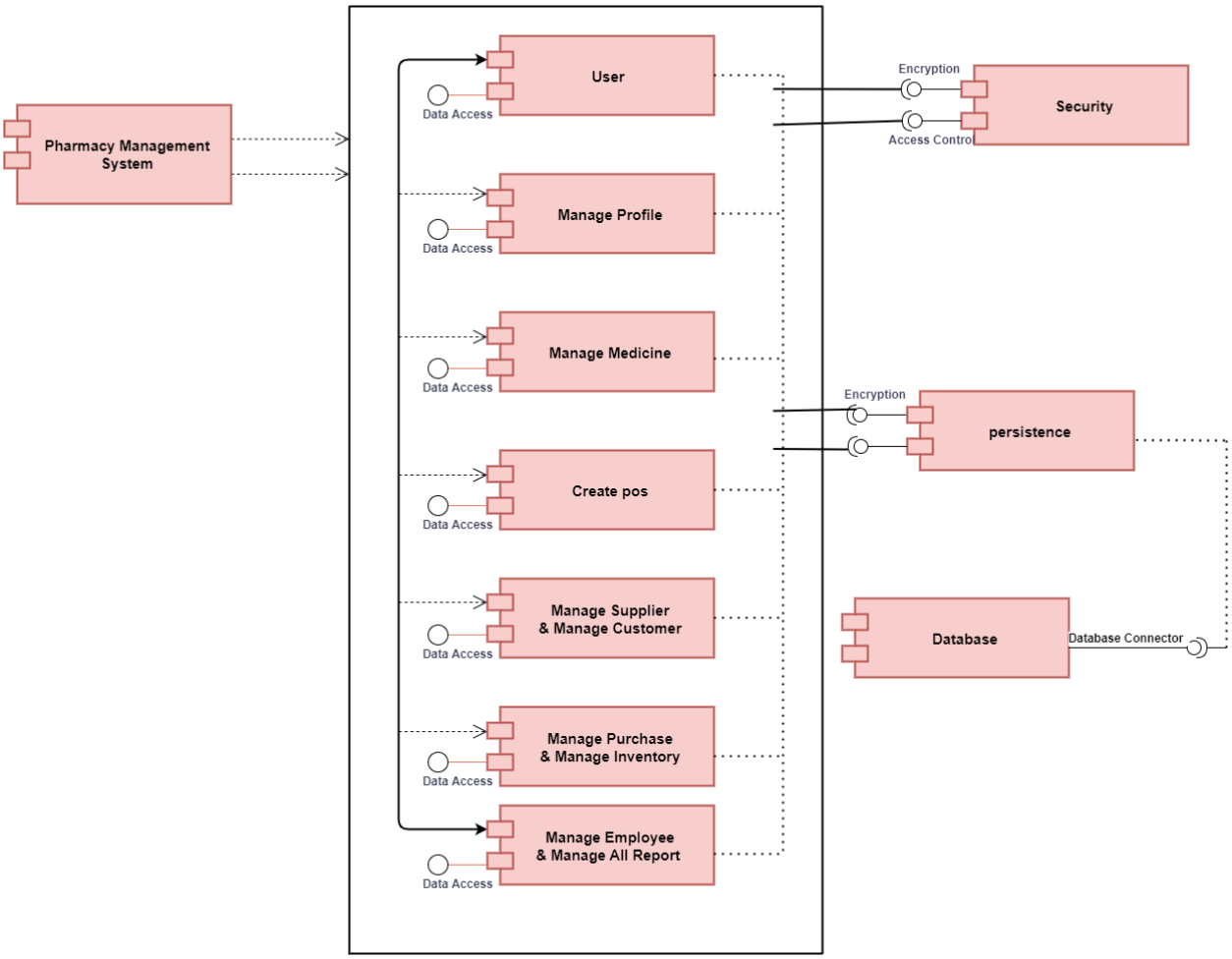

Figure 30: Component Diagram of Pharmacy Management System

9.4 Deployment Diagram of "Pharmacy Management System"

Deployment diagram, which illustrates the architecture of the planned system, is used as a structural diagram. I utilized the MVC web design pattern, which combines model, view, and

controller to create a web application. Now I've depicted the "Pharmacy Management System" deployment diagram below:

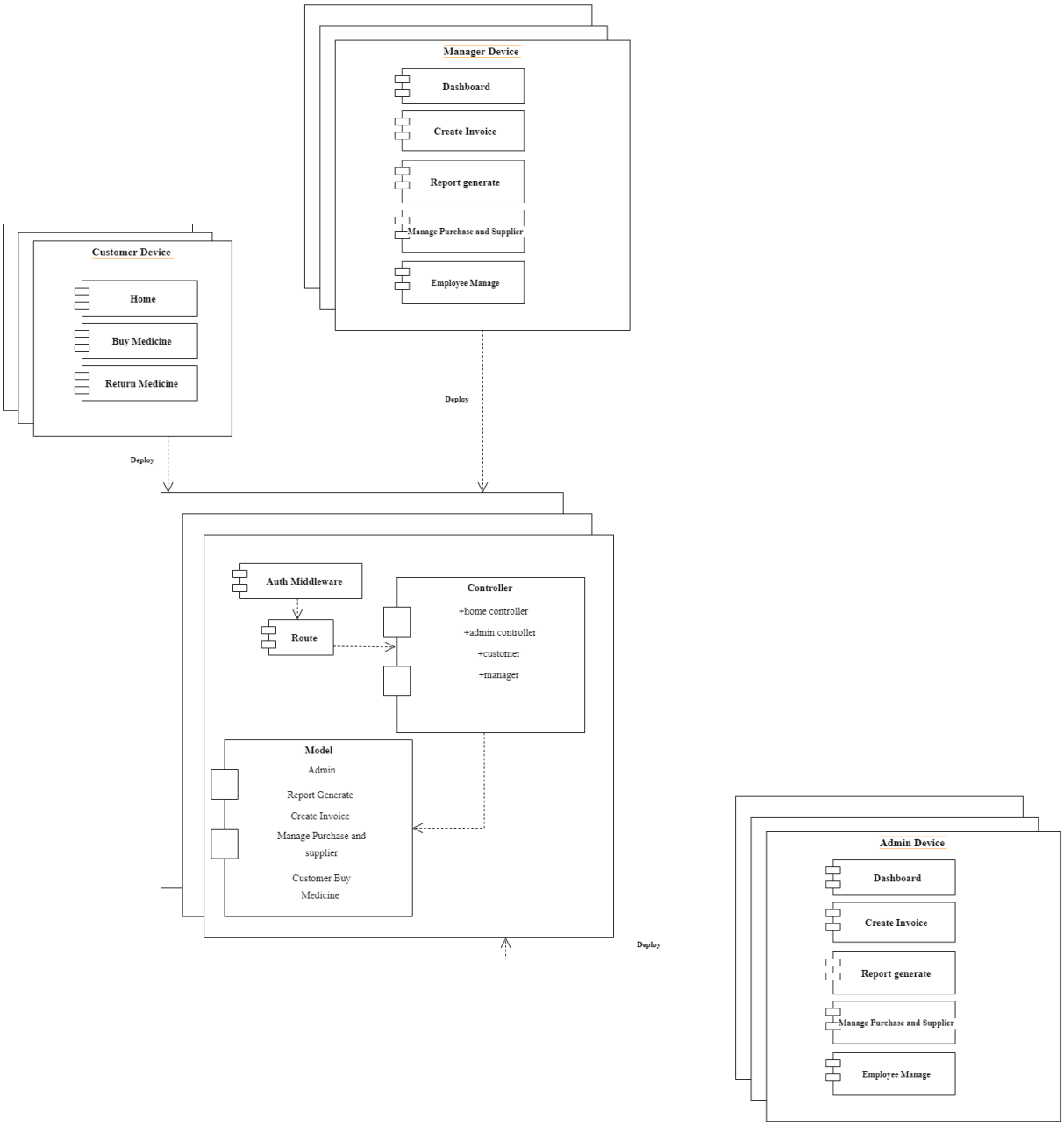

Figure 31: Deployment Diagram of "Pharmacy Management System"

9.5 Sequence Diagram of "Pharmacy Management System"

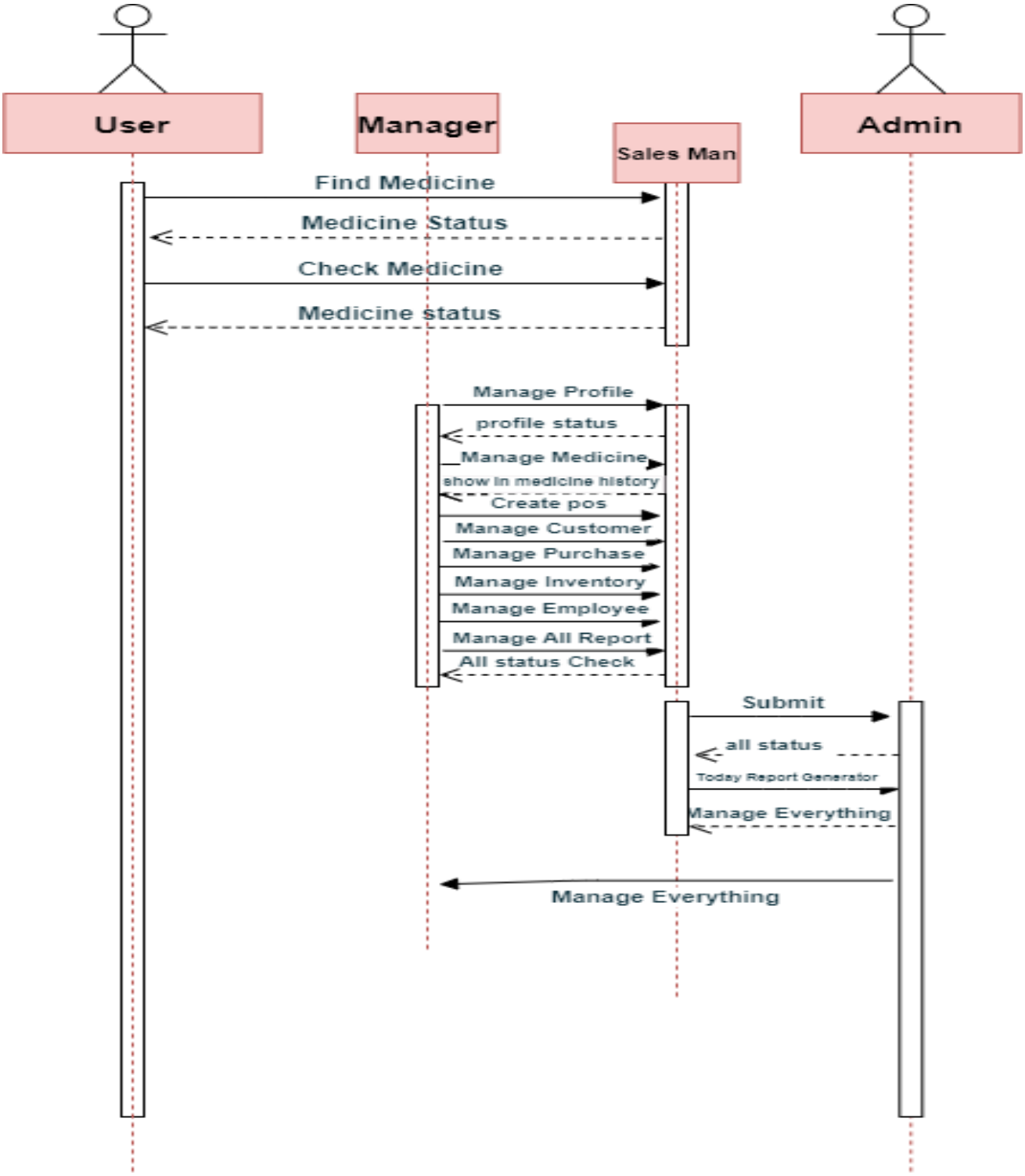

Figure 32: Sequence Diagram of Pharmacy Management System

Chapter 10 – Deployment

Development is regarded as one of the most critical stages. It enables us to obtain the actual system based on our study. Steps in the development process include deciding on a programming language and framework, among other things, to affect the development.

10.1 Breaks down Possible problem

New requirements must be introduced to the system as time passes. As a result, the system must be able to adapt to changes over time. To do so, I had to split down my system into a few key components. as an example:

10.1.1 Database creation

- For the pharmacy management system, I created a database.
- To create tables and relationships between them,
- I used mad pharma files from the CodeIgniter framework.
- The table and field in the database were established using the mad-pharma command.

10.1.2 Front end design

- To create the elegant-looking user interface, write HTML and CSS code.
- To reuse code effectively, I used the CodeIgniter framework for templating.
- Attached is enticing material, an image, and a symbol.

10.1.3 Admin management

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- Manages supplier, purchase, customer.
- Add medicine, add employee, create invoice, report generating
- Choose the best company medicine
- Showing notify medicine
- Manage employee activity
- Setting overall system.

10.1.4 Prioritizing while developing

- UI design
- Database creation
- Admin employee management
- Medicine add and purchase management
- Create invoice
- Search medicine management
- Regular customer discount process
- Report generating process

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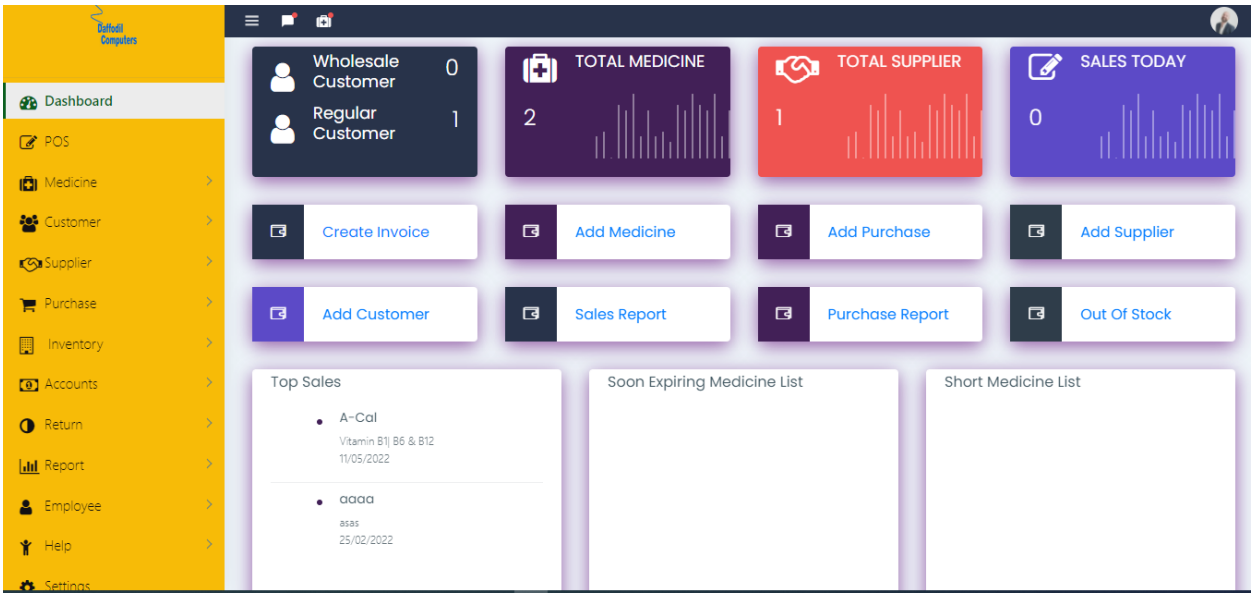
10.2 Core Module sample coding

System dashboard




```
:lass="container-fluid">
!iv class="row">
   <div class="col-lg-3 col-md-12 batch-d d-flex">
       <div class="card card-inverse card-info d-flex" style="flex: 1 1 100%;">
           <div class="card-body" style="position: relative;">
               <div class="d-flex">
                   <div class="m-r-20 align-self-center">
                       <h1 class="text-white"><i class="fa fa-user float-right"></i></h1>
                   </div>
                   <div class="mr-auto">
                       <h4 class="card-title">Wholesale <br /> Customer</h4>
                   </div>
                   <h2 class="font-light text-white">
                       <?php
                           $this->db->where('c_type', 'Wholesale');
                           $query = $this->db->get('customer');
                           echo $query->num_rows(); ;
                       ?>
                   </h2>
               </div>
               <div class="d-flex">
                   <div class="m-r-20 align-self-center">
                       <h1 class="text-white"><i class="fa fa-user float-right"></i></h1>
                   </div>
                   <div class="mr-auto">
                       <h4 class="card-title">Regular <br /> Customer</h4>
                   </div>
                   <h2 class="font-light text-white">
                       <?php
                           $this->db->where('c_type', 'Regular');
                           $query = $this->db->get('customer');
                           echo $query->num_rows();
```

Figure 33: Dashboard customer module code

```
application > controllers > Invoice.php
293        $product = $this->invoice_model->SpecificMedicine($pid);
294        $date = date('Y-m',strtotime('-1 month'));
295        $balance = $this->customer_model->GetCustomerMonthlyIncome($cid,$date);
296        $to= 0 ;
297        foreach($balance as $value){
298            $to += $value->total_amount;
299        }
300        $totalsales = $to;
301        $target = $customer->target_amount;
302            if($product->discount =='YES'){
303            if($totalsales > $target){
304                $totall = ($mrp * $qty);
305                $percent = ($customer->regular_discount + $customer->target_discount)/100;
306                $discount = $totall*$percent;
307                $total = $totall - $discount;
308            } else{
309                $totall = ($mrp * $qty);
310                $percent = $customer->regular_discount/100;
311                $discount = $totall*$percent;
312                $total = $totall - $discount;
313            }
314            } else if($product->discount =='NO'){
315                $totall = ($mrp * $qty);
316                $discount = 0;
317                $total = ($mrp * $qty) - $discount;
318            }
319                echo "          <tr class='premove'>
320                                  <td><input type='hidden' class='pid' value='$pid' name='pid[]'><input type='
321                                 <td><input type='text' class='qty' value='$qty' name='qty[]' readonly><input t
322                                  <td><input type='hidden' class='total' value='$total' name='total[]' readonl
323                                  <input type='hidden' class='discount' value='$discount' name='discount[]'>
324                                  <input type='text' class='totall' value='$totall' name='totall[]' readonly><
325                                  <td class='text-nowrap'>
```

Figure 34: Regular customer discount process

```
application > views > backend > List_medicine.php
218
219         <div class="col-md-6">
220
221             <div class="form-group row">
222
223                 <label class="control-label text-right col-md-3">Form</label>
224
225                 <div class="col-md-9">
226                     <select name="form" class="select2" id="form" value="" style="width:100%">
227                         <option>Select Here</option>
228                         <option value="Tablet">Tablet</option>
229                         <option value="Capsules">Capsule</option>
230                         <option value="Injection">Injection</option>
231                         <option value="Eye Drop">Eye Drop</option>
232                         <option value="Suspension">Suspension</option>
233                         <option value="Cream">Cream</option>
234                         <option value="Saline">Saline</option>
235                         <option value="Inhaler">Inhaler</option>
236                         <option value="Powder">Powder</option>
237                         <option value="Spray">Spray</option>
238                         <option value="Paediatric Drop">Paediatric Drop</option>
239                         <option value="Nebuliser Solution">Nebuliser Solution</option>
240                         <option value="Powder for Suspension">Powder for Suspension</option>
241                     </select>
242
243                 </div>
244
245             </div>
246
247         </div>
248
249         <div class="col-md-6">
250
```

Figure 35: List of medicine type

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```
<div class="row">
  <div class="col-12">
    <div class="card card-outline-info" style="border-radius: none;">
      <div class="card-body" style="padding-top: 15px;">
          <div class="row">
            <div class="col-md-10">
              <div class="pos_inputs">
                <form action="" method="post"  class="SalesForm" id="SalesForm" enctype="multipart/fo
                 <div class="row m-b-5">
                   <div class="col-md-3">
                     <input name="customer_type" value="WalkIn" type="radio" id="WalkIn_customer" tab
                     <label for="WalkIn_customer">Walk In Customer</label>
                   </div>
                   <div class="col-md-3">
                     <input name="customer_type" value="Regular" type="radio" id="regular_customer"
                     <label for="regular_customer">Regular Customer</label>
                   </div>
                   <div class="col-md-3">
                     <input name="customer_type" value="Wholesale" type="radio" id="wholesale_custome
                     <label for="wholesale_customer">Wholesale Customer</label>
                   </div>

                   <div class="col-md-2" style="margin-left: -20px;">
                       <a href="<?php echo base_url();?>Customer/Create" target="_blank" class="btn b
                   </div>

                   <div class="col-md-1"style="margin-left: -20px;">
                       <a href="<?php echo base_url();?>Invoice/manage_Invoice" target="_blank" class
                   </div>
                 </div>
                 <div class="row m-b-5">
                   <div class="col-md-3 p-r-5">
```

Figure 36: Select customer to create pos (point of sales)*

application > views > backend > Add_Employee.php

```
28   iv class="flashmessage"></div>
29   iv class="row">
30     <div class="col-lg-12">
31           <div class="card-header">
32               <h4 class="m-b-0 ">Add Employee <span class="pull-right"><?php date_default_timezone_set("As
33           </div>
34           <div class="card-body">
35               <form action="Save" method="post" class="form-horizontal" enctype="multipart/form-data" accep
36                   <div class="form-body">
37                       <hr class="m-t-0 m-b-40">
38                       <div class="row">
39                           <div class="col-md-6">
40                               <div class="form-group row">
41                                   <label class="control-label text-right col-md-3">Employee Name</label>
42                                   <div class="col-md-9">
43                                       <input type="text" name="emname" class="form-control" placeholder=""
44                                   </div>
45                               </div>
46                           </div>
47                           <div class="col-md-6">
48                               <div class="form-group row">
49                                   <label class="control-label text-right col-md-3">Phone Number</label>
50                                   <div class="col-md-9">
51                                       <input type="text" name="emphone" class="form-control" minlength="10"
52                                   </div>
53                               </div>
54                           </div>
55                           <div class="col-md-6">
56                               <div class="form-group row">
57                                   <label class="control-label text-right col-md-3">Email </label>
58                                   <div class="col-md-9">
59                                       <input type="email" name="ememail" class="form-control" placeholder="
60                                   </div>
```

Figure 37: Add employee to use the system

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```
52
53                      <h4 class="m-b-0 text-white"> Todays Sales Report</h4>
54                  </div>
55                  <div class="card-body">
56                     <div class="table-responsive ">
57                         <table id="myTable" class="display nowrap table table-hover table-strip
58                             <thead>
59                                 <tr>
60                                     <th>Sales Date</th>
61                                     <th>Name</th>
62                                     <th>Invoice Number</th>
63                                     <th>Customer Name</th>
64                                    <th>Total Amount</th>
65                         </thead>
66                             <tfoot>
67                                 <tr>
68                                     <th>Sales Date</th>
69                                     <th>Name</th>
70                                     <th>Invoice Number</th>
71                                     <th>Customer Name</th>
72                                     <th>Total Amount</th>
73                                 </tr>
74                             </tfoot>
75                             <tbody>
76                                <?php foreach($todaysreport as $value): ?>
77                                 <tr>
78                                     <td><?php echo date('l dS \o\f F Y', $value->create_date)?>
79                                      <td><?php echo $value->em_name; ?></td>
80                                     <td><?php echo $value->invoice_no; ?></td>
81                                     <td><?php echo $value->c_name; ?></td>
82                                     <td>
83                                         <?php echo 'TK '.$value->total_amount; ?>
84                                     </td>
```

Figure 38: Today sales report generate process

Chapter 11: Testing

Testing is a collection of operations performed to determine a system's specific functionality, and it is an important aspect of the system development lifecycle. This section will allow the development of a stable and integrated system while also reducing the danger of factors. Testing during and after development is an excellent technique to ensure a bug-free system.

There are two types of testing:

- Functional testing
- Non-functional testing

11.1 Functional testing

Three types of functional testing are

- Unit testing
- Module teasing
- Integration testing

11.2 Non-functional testing

Types of non-functional testing are

- Security Testing
- Usability Testing

11.3 Test case

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A test case may contain the related data to testing like the actual result, expected result and it also added the explanations of the process of the proposed project. (Pharmacy Management System Thesis, 2020)

Unit testing – test case

Test Case Name	Unit Test		
Unit Class			
Test Description			
Data Source	Test Step	Expected Result	Actual Result

Table 11: Unit testing – test case

Module testing – test case

Test Case Name	Unit Test		
Unit Class			
Test Description			
Data Source	Test Step	Expected Result	Actual Result
User Entity			

Table 12: Module testing – test case

Integration testing – test case

Test Case Name	Unit Test		
Unit Class			
Test Description			
Data Source	Test Step	Expected Result	Actual Result
User Entity			

Table 13: Integration testing – test case

11.3.1 Unit test – test case

Unit Test -1

Test Case Name	Unit Test		
Unit Class	Employee Controller		
Test Description	Manager and salesman name and email validation		
Data Source	Test Step	Expected Result	Actual Result
User Entity	1. Except for employee fields without image and note, all required fields have been completed. 2. Submit the form.	The employee field must not be empty, according to the error notice.	A message is showing successfully created.

Table 14: Unit Test -1

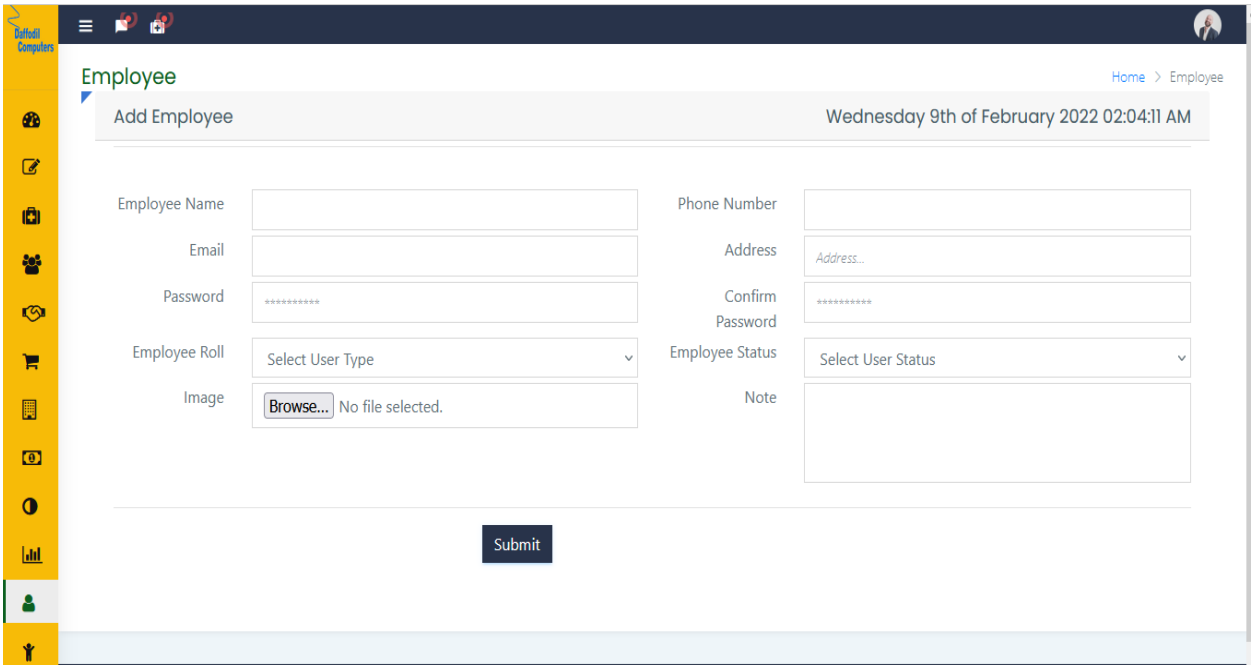

Figure 39: Unit Test -1 emample

Unit Test -2

Test Case Name	Unit Test		
Unit Class	Medicine list Controller		
Test Description	Medicine Searching list		
Data Source	Test Step	Expected Result	Actual Result
User Entity	1. Showing to manage medicine. 2. click on the search medicine.	Whenever press a key the list should be updated.	The result is as expected. The search result is updated.

Table 15: Unit Test -2

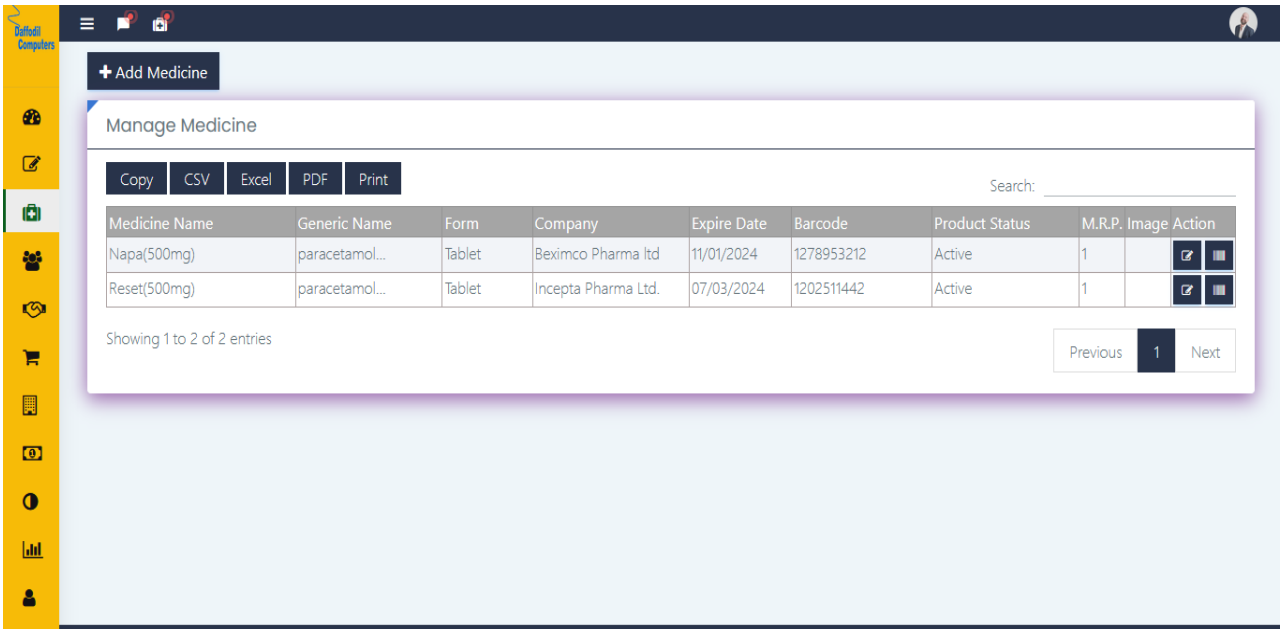

Figure 40: Unit Test -2 example

Unit Test -3

Test Case Name	Unit Test		
Unit Class	Medicine Controller		
Test Description	Medicine update to the medicine list		
Data Source	Test Step	Expected Result	Actual Result
	1. click medicine list action and update a particular field. 2. Submit the form.	The update field must not be empty, according to the error notice.	A message is showing a successfully updated.

Table 16: Unit Test -3

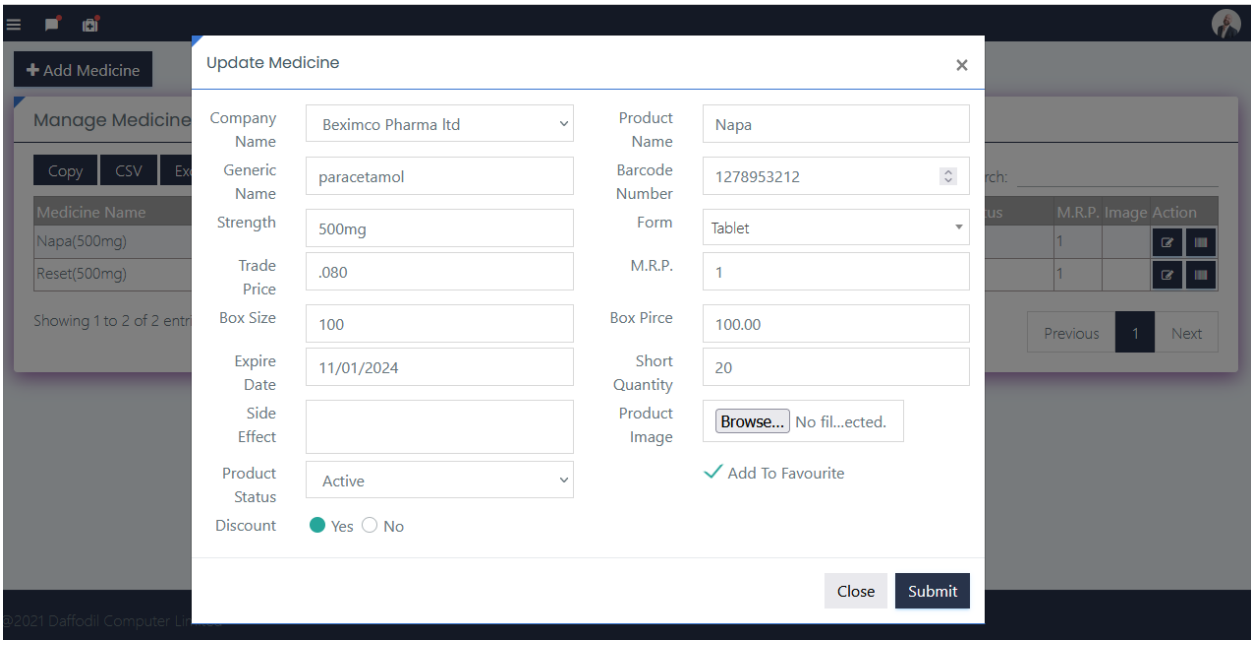

Figure 41: Unit Test -3 example

11.3.2 Module Test -1

Test Case Name	Module Test		
Module Class	Customer Controller		
Test Description	Manager regular and wholesale customer name and email validation.		
Data Source	Test Step	Expected Result	Actual Result
Admin/Manager add customer	1. Except for customer fields without image and note, all	The customer field must not be empty, according to the error notice.	A message is showing a successfully create.

	required fields have been completed. 2. Submit the form.		

Table 17: Module Test -1

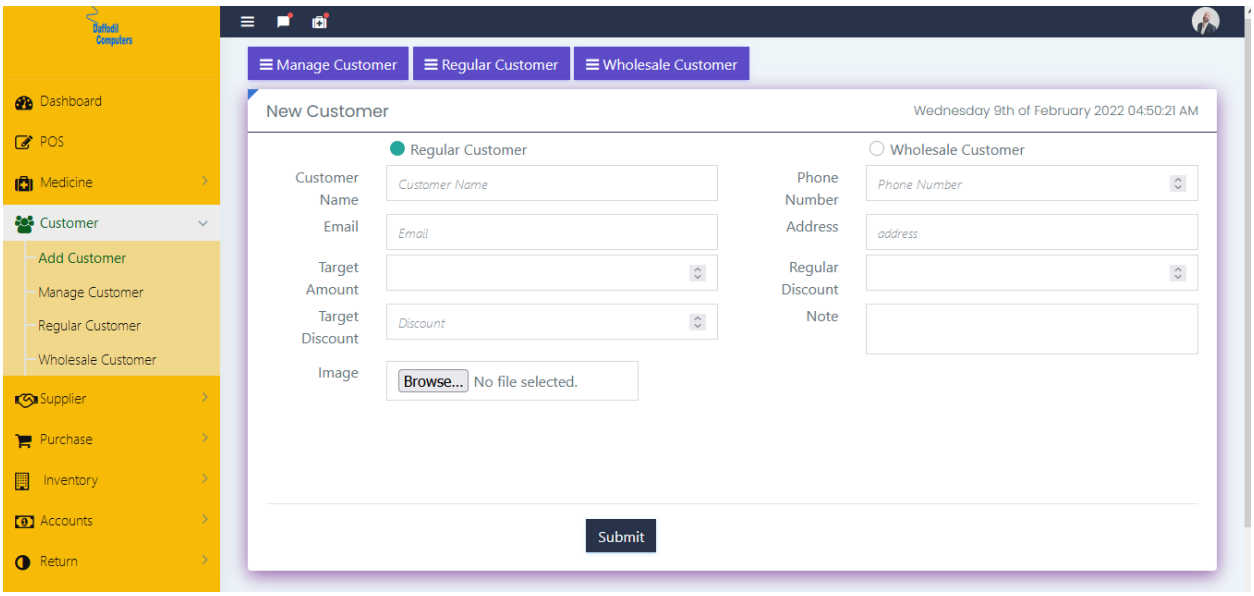

Figure 42: Module Test -1 example

Module Test -2

Test Case Name	Module Test
Module Class	Purchase controller
Test Description	Manage Purchase throw the company name validation.

Data Source	Test Step	Expected Result	Actual Result
Admin/Manager Purchase	1. Must be fulfilled company field and invoice number than purchase medicine. 2. Add amount 3. Submit the form.	The company field must not be empty, according to the error notice.	All requirements right then generate an invoice.

Table 18: Module Test -2

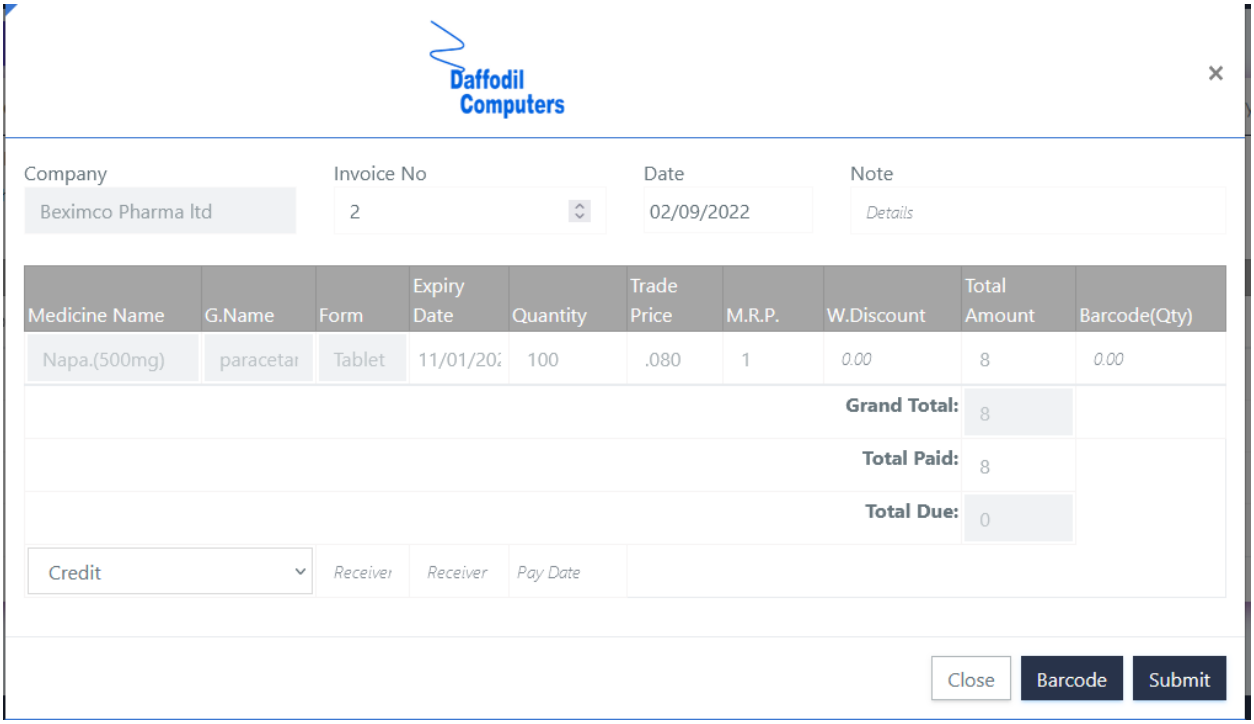

Figure 43: Module Test -2 example

11.3.3 Integration Test -1

Test Case Name	Integration Test		
Module Class	Manager and salesman login controller		
Test Description	Manager and salesman login system process counter login controller.		
Data Source	Test Step	Expected Result	Actual Result
Manager and salesman login system	1. Must be selected counter option. 2. Click the login button.	The counter option must not be empty.	Showing the system dashboard.

Table 19: Integration Test -1

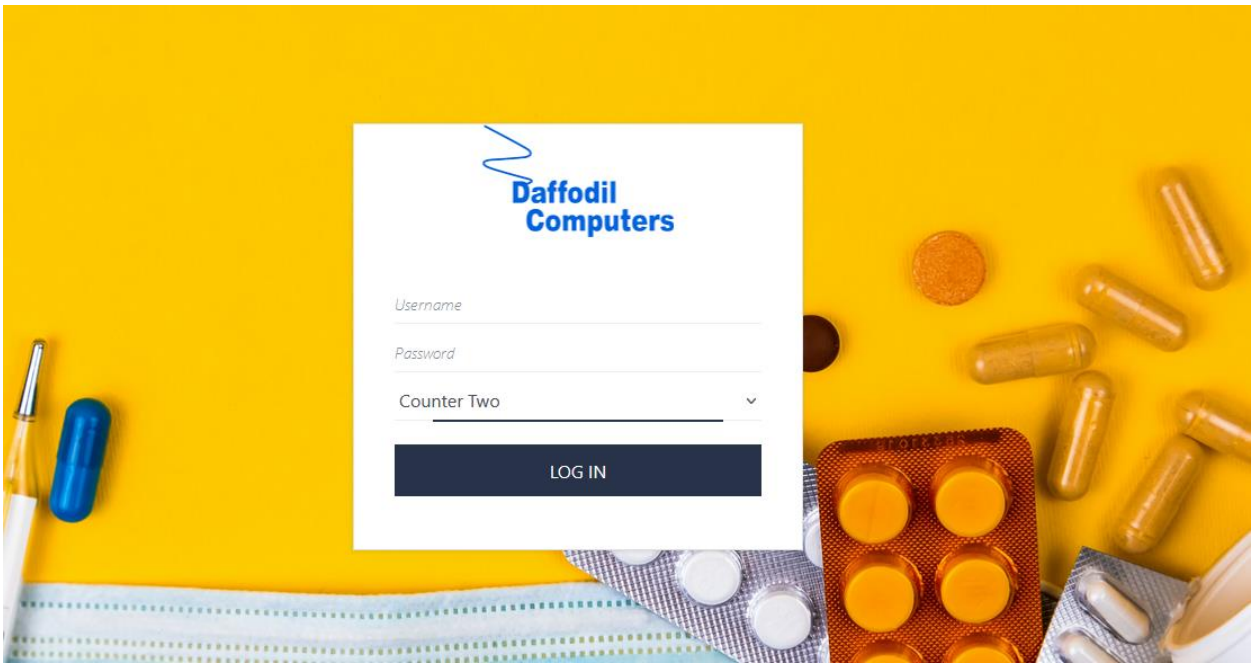

Figure 44: Integration Test -1 example

11.2.1 Security Testing

Security Testing -1

Test Case Name	Security Test		
Security Class	Employee controller		
Test Description	The employee's name field must be 5 characters.		
Data Source	Test Step	Expected Result	Actual Result
The security system in employee name	1. Go to the add employee page 2. When fill-up the employee field at least 5 characters.	The name field at least 5 characters.	A message is showing a successfully create.

Table 20: Security Testing -1

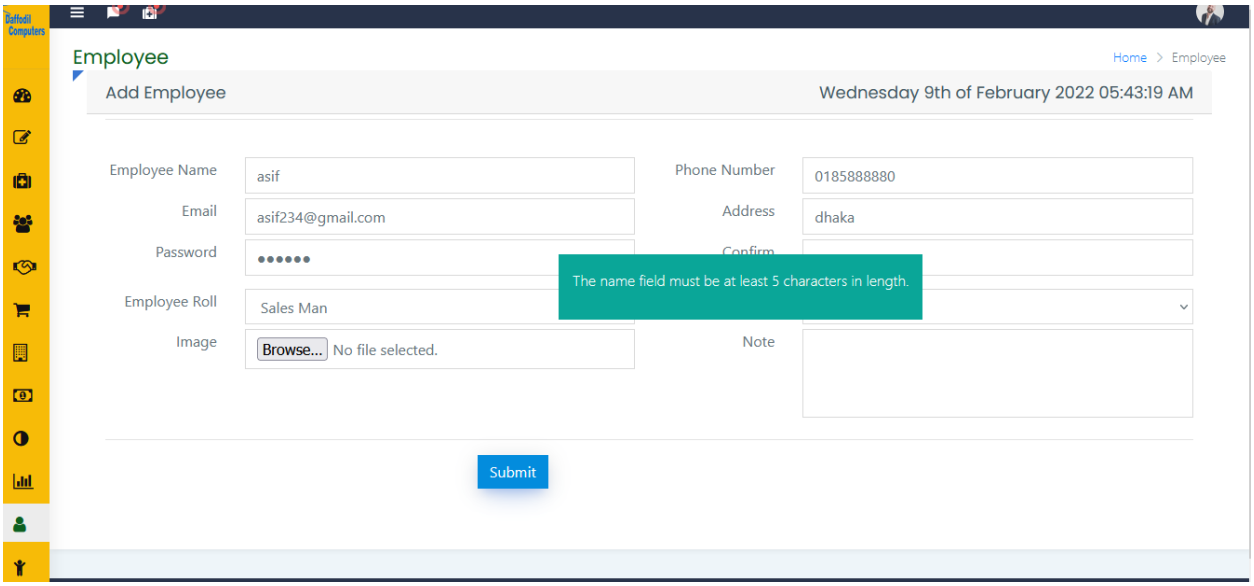

Figure 45: Security Testing -1 example

11.2.2 Accessibility Testing

Accessibility Testing -1

Test Case Name	Accessibility Test		
Accessibility Class	Admin Controller		
Test Description	User-friendliness testing.		
Data Source	Test Step	Expected Result	Actual Result
Admin	admin use the system.	The system is user-friendly	The system is user-friendly.

Table 21: Accessibility Testing -1

Chapter-12: Implementation

Following the DSDM astern, this chapter explains how to implement the suggested system step by step. Project-specific training, seminars, and administrative grooming are required for properly implementing the suggested system. On the following pages, I've broken out the entire implementation process step by step.

12.1 Training

Training is a vital aspect of any type of system that must be maintained if anybody expects the greatest potential performance from the system's employees. Someone must properly train them for them to get sufficient information. They could attempt to rehearse their processes and system procedures as easily as possible. As a result, excellent practices necessitate thorough

training to familiarize personnel with the system and how to run each function properly. The training section consists of a comprehensive plan for giving training to users.

SL. No	Training Title	Description
1	Admin and Manager	How to maintain an entire system as like as how to add employee, phrases medicine, report generate, add medicine, create invoice, and update medicine and employee.
2	Salesman	how to add medicine, the report generates, create invoice, and update medicine.

Table 22: training users description

12.2 System Implementation

After the testing phase is completed, the system needed to be implemented. There are several processes in the implementation section, some of which are more closely related to the system pharmacy management system. The following is a concise description of the main features of implementation schemes:

12.3 Big Bang Implementation

This system will be provided to the firm by me. There is no need to remove the system because there is no old system like the "pharmacy management system." In this part, a new system is utilized to replace the previous system, however, it is a bit dangerous. If the new system is integrated with the old system, the new system may be crushed, or users may have difficulties since they are unfamiliar with it. As a result, data loss is a possibility if the system crashes at any point. (Ibitoye, 2020)

12.4 Parallel Implementation

It is not allowed to replace an old system in the process implementation with a new system at the same time. Because the old system is still operational at the institute or company, while the new system is also operational. While there is less risk of data loss, it is more expensive for a company running two systems at the same time.

12.5 Pilot Implementation

In the pilot implementation system, it is not possible to implement a new system fully at once, and small parts are frequently new systems introduced in the company. Users can completely replace the new system with an old system in any organization if they wish it. In comparison to other implantation methods and procedures in software development, pilot implementation is less dangerous.

12.6 Justification of Implementation

There is no need to replace it with another system because there is no equivalent system for the project and it is completely new in our nation. The Big Bang implementation strategy is the best and is obvious from the previous discussion for the "pharmacy management system" project.

12.7 Load Balancing

Load balancing is the process of determining how many medicines should be injected into the system. A cloud server will be required to maintain the load. When traffic is strong, more data is created, necessitating more storage and processing power during the day. We can easily and quickly scale up our resources at that time, but at night, when traffic is low, less data is created, consuming less processing power and storage, allowing us to simply scale down our system resources. This guarantees the most efficient use of our resources while also lowering expenses in cases when the load can be monitored in the system.

Chapter-13: Critical Appraisal and Evaluation

13.1 Objective Could be Met

The objectives which are initially declared are listed below.

- Login system for admin, manager, salesman
- Employee and medicine management
- Searching and medicine record management
- Invoice and report generate.

13.1.1 Objective-1

Achievement rate and others

The counter login and login system are implemented successfully for all the user types. organizations can process login systems and after that, they can go into the system. After login the user is directed to their intended dashboard and can only access pages they are allowed to ace. I have used the CodeIgniter official authentication system for authenticating and authorizing the users to the system. The success rate is 100 percent.

The login system is implemented successfully for all the user types. The admin, manager, the salesman can process login into the system. after login the admin/manager is setting pharmacy management system. Add employees to maintain the system.

13.1.2 Objective-2

Achievement rate and others

Employee and medicine management can add employees and update the role. On the other side, medicine can update. Also, they can set price, Expire Date, shortlist and notification system.

13.1.3 Objective-3

Achievement rate and others

After all the system can record their medicine. Also, they can search for their medicine. Generate the invoice and report. So, the work has to be done by 100 percent.

Chapter-14: Lessons Learned

Finally, throughout the construction of the "pharmacy management system" project, I learned more information and encountered various issues that assisted me in finding answers and correctly developing my skills. So, I can confidently state that I have learned a great deal throughout the course of this project's development, and I will attempt to convey some of them in this chapter.

14.1 Pre Project-Review Closing

Before designing a "pharmacy management system," I came up with some concepts and considered how to put them into practice in a real-world project. To complete the project, I improved my technical abilities and gathered various types of information from various elements of the project's progress. In terms of developing projects, I've made myself and gained more confidence in terms of evaluating, planning, executing, and testing. So I'm fairly delighted, and I'm convinced that the abilities and experiences I've gained will aid me in my future jobs and career.

14.2 What I have learned

Opportunity to absorb information in a short period of time. Completing this project in a short amount of time was a struggle for me due to the project's extensive requirements. After that, I needed to figure out which technique would work best for the projects' characteristics. In the

project planning phase, make a good plan for project stages, testing, and management. Because I'm not flawless in all aspects of development expertise, several issues arose when I just worked on this project in one area at a time, such as coding, design, security planning, and database design. Finally, I was taught how to construct a project in a short amount of time, and my lack of understanding in some areas allowed me to learn a lot.

14.3 Professional Knowledge Gained

Since this project is built on a web platform, it incorporates several languages such as PHP, JavaScript, J-Query, MySQL, and Bootstrap, all of which help in professional understanding. I've learned a lot about new technology and frameworks that a professional developer needs to know. In this assignment, I also learned about MVC design patterns and how they were applied. So, I can confidently state that I am enhancing my understanding of the Codeigniter framework technology, as well as learning how to design an enterprise web application utilizing it.

14.4 Project development methodology Learned

For the first time, I learned a lot about different types of methodology in preparation for this project's methodology selection. I've depicted comparisons between four approaches to determine which is best for this project. Although this is an academic endeavor, no approach is immediately applicable. I created a hybrid methodology for "pharmacy management system" after examining methodology, and I gained or acquired a lot of knowledge and also understood how to create a hybrid methodology for a professional project.

14.5 Testing Knowledge

In this project, I utilized a variety of testing methodologies and learned a lot, particularly about how systems are organized by checking via the test procedure. As a result, I believe it is the most crucial step once the project has been implemented.

14.6 What I have faced problems to implementing the project

Despite the fact that I worked on a third-year final project as well as previous projects, I lack sufficient project development knowledge. In this circumstance, I've had some difficulties with the project's development. Now I've shown several major issues from the project that I've adequately retrieved, which are listed below:

14.6.1 Number One Problem

I don't have enough time to complete this project, and I've already completed all development processes. I found that implementing a professional project in a short period of time, containing all of its essential elements, is pretty challenging.

14.6.2 Number Two Problem

Because this is a medical and medicine project, gathering needed information is challenging due to a lack of time and a restricted number of users. My colleagues, on the other hand, assist me in gathering project-related data. As a result, I believe it was fairly difficult to obtain accurate information from those users.

14.6.3 Number Three Problem

Because I had critical difficulty maintaining it earlier, simple activities like basic reporting and making invoices were a little difficult for me because time was limited.

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14.7 What I can do solution those problems

I've needed some of the processes stated below to solve a problem that occurred throughout the project, and I've represented them as follows:

14.7.1 Number One Solution

To solve such issues, I assess and divide my project, which consists of many tasks and my colleagues help me a lot. I solved this challenge by time-boxing and making a suitable strategy to do this project on time.

14.7.2 Number Two Solution

I don't all phases alone, colleagues helped me I have to work properly. I have made scheduling properly for all phases that help me to play a different role in different solve the problem.

14.7.3 Number Three Solution

To fix this problem, I looked into several pharmacies and went to some users to ask them some related questions so that I could collect the proper information.

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Chapter- 15: Conclusion

This chapter contains an overview of all of the projects as well as a summary of all of the projects that will be visible in the chapter. Some unique qualities, such as project goals, value, and success, will be described in detail on the following pages.

15.1 Summary of the project

This proposed system has many features and functionalities which are enough for the pharmacist to grow their creating invoice, keeping customer information, the report generates, generate supplier activity, showing medicine status and notify expire date medicine and short medicine list, etc.

15.2 The goal of the proposed project

The project's key goals are statements that indicate what the project will achieve or the business value it will provide. The project's purpose is to introduce certain unique characteristics such as income, cost savings, efficiency, productivity, and information. my project's main goal is to create a software for pharmacy management system where the pharmacist to grow their creating invoice, keeping customer information, the report generates, generate supplier activity, showing medicine status and notify expire date medicine and short medicine list. Now I have explained those project goals describe the below:

- Pharmacy management system filly automation
- Pharmacists keeping their medicine record
- Pharmacists can generate invoices throe the system
- Pharmacists can generate today, monthly report
- Pharmacists keep customer information and they can offer their regular customer
- All expire date medicine should be notified throw pharmacy management system

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- All short medicine should be notified throw pharmacy management system
- Pharmacists showing which product is demandable in the market
- All the information of the suppliers is known
- All the purchase record is known.

15.3 The success of the Project

The aims of the proposed project are fully performed according to the project proposal where users can able to create invoices to their needed information and also generate reports. All users can easily create invoices and report generate. The salesman and manager may be able to contact with admin if they face any problem. Admin must have the opportunity to take legal action or update information if any salesman and manager will do it properly through the system. In Our country, there are many online platforms like this which will be used pharmacy shops which demand is good now.

15.4 What I have done in this document

The whole document of the pharmacy management project has been completed, and there are several sorts of works, phases, activities, diagrams, and plans.

In the first step, I had to perform an initial analysis of the project, which included the project proposal, the issues that the project solves, and how the project recoveries those problems. Then, in the literature review, I had to talk about the product's scope. What's more, it'll retrieve what others have failed to do. After that, I needed to figure out which technique would work best for the projects' features. In the project planning phase, make a good plan for project stages, testing, and management.

Analyze the project to see if any aspects are economically, technically, or operationally viable. To acquire information and identify needs specified in the documentation, I had to use a variety of data-gathering methodologies, and I puritanized the requirements using the MoSCoW technique. I had to explain the system using a different diagram that I generated as a visual representation of

the system. Following that, I added the project's development with example code and various testing results with visual images or photographs. At the end of the project, I had to detail how I would implement the project and provide a system evaluation. Finally, I've included what I was learning at the time I was working on the project.

15.5 My Experience

After finishing the pharmacy management system, I am more confident in PHP technology, which will help me get a career in PHP technology in the future. Before the of the project, I had little experience with PHP web programming and had a small understanding of PHP standard editions such as ISP, Servlets, and how they interact, the CodeIgniter framework and how to translate it to SQL, and how to create a project using the MVC design pattern. How to get information from medical, how to plan successfully for the development of a project, and how to test to ensure that the project is efficient and secure. During the implementation of the project, I learned a lot, and I worked with limited resources and time constraints, which put me under a lot of stress. Working under such duress was an entirely new experience for me. I believe that my professional work experience, as well as my personal experiences, will enable me to function in a variety of settings on the employment market.;

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