



## Medical Store Management System

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### ABSTRACT

This particular project deals with the problems on managing a medical shop and avoids the problems which occur when carried manually. The Medical Management System is a windows-based software designed for registration and management of patient's records and easy access of the records. The system will be used to assist the register, doctors, lab technicians to store and manage patient records in a hospital or clinic for easier access and reference. All these activities are done routinely and would be cumbersome on the employees if done manually hence need of an efficient easy to use management software that will help ease the work load on employees in clinic/hospital.

Keywords: Register, Manage, Access, Reduced Workload.

### 1. Introduction

The main objective of the Medical Store Management System is to replace the current manual system with computerized tools and comprehensive software. This automated system aims to meet the requirements of medical stores by efficiently storing and managing their valuable data and information. By utilizing readily available and user-friendly software and hardware, the system can offer error-free, secure, reliable, and swift management capabilities. With this system in place, users can focus on their core activities instead of being burdened with record-keeping tasks. Consequently, the organization can optimize its resource utilization and maintain computerized records without unnecessary duplication. Relevant information can be accessed easily, without being distracted by irrelevant data. The ultimate goal is to enhance performance and provide better services to clients by automating the existing manual processes.

#### 1.1 Methodology

The methodology for implementing the Medical Store Management System involves several key steps to ensure its successful development and deployment. The following is a general outline of the methodology:

##### 1. Methodology:

###### Requirement Analysis:

The first step is to thoroughly analyze the requirements and needs of the medical store. This includes understanding the current manual system, identifying pain points, and determining the desired features and functionalities of the MSMS.

###### System Design

Based on the requirements analysis, a detailed system design is created. This includes designing the database structure, user interfaces, data flow, and system architecture. The design should address the specific needs of the medical store and incorporate industry best practices.

###### Development

The actual development of the MSMS begins in this phase. The software developers use the system design as a blueprint to create the necessary modules, functions, and features of the system. This may involve programming, integration with hardware devices (such as barcode scanners), and testing of individual components.

###### Testing

Once the development is complete, thorough testing of the system is performed. This includes unit testing of individual modules, integration testing to ensure proper communication between modules, and system testing to validate the overall functionality and performance of the MSMS. Bugs and issues are identified and fixed during this phase.

### **Deployment**

After successful testing, the MSMS is deployed in the medical store environment. This involves installing the necessary hardware, setting up the software, and configuring the system according to the store's requirements. Data from the existing manual system may need to be migrated to the new system during this phase.

### **Maintenance and Support**

Once the MSMS is operational, ongoing maintenance and support are provided. This includes regular updates and bug fixes, addressing user queries and issues, and ensuring the system remains secure and reliable. Continuous improvements and enhancements may be made based on user feedback and changing requirements.

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## **2.SYSTEM TESTING AND IMPLEMENTATION**

### **TESTING**

Testing is a series of different tests that whose primary purpose is to fully exercise the computer based system. Although each test has a different purpose, all work should verify that all system element have been properly

integrated and performed allocated function. Testing is the process of checking whether the developed system works according to the actual requirement and objectives of the system.

The philosophy behind testing is to find the errors. A good test is one that has a high probability of finding an undiscovered error. A successful test is one that uncovers the undiscovered error. Test cases are devised with this purpose in mind. A test case is a set of data that the system will process as an input. However the data are created with the intent of determining whether the system will process them correctly without any errors to produce the required output.

#### **Types of Testing**

- 1.1.1. Unit testing
- 1.1.2. Integration testing
- 1.1.3. Validation testing
- 1.1.4. Output testing
- 1.1.5. User acceptance testing

#### **Unit Testing**

All modules were tested and individually as soon as they were completed and were checked for their correct functionality.

#### **Integration Testing**

The entire project was split into small program; each of these single programs gives a frame as an output. These programs were tested individually; at last all these programs where combined together by creating another program where all these constructors were used. It give a lot of problem by not functioning is an integrated manner.The user interface testing is important since the user has to declare that the arrangements made in frames are convenient and it is satisfied. When the frames where given for the test, the end user gave suggestion. Based on their suggestions the frames where modified and put into practice.

#### **Validation Testing**

At the culmination of the black box testing software is completely assembled as a package. Interfacing errors have been uncovered and corrected and a final series of test i.e., Validation succeeds when the software function in a manner that can be reasonably accepted by the customer.

##### **Benefits of validation:**

Validation Testing ensures that the product actually meets the client's needs. It can also be defined as to demonstrate that the product fulfills its intended use when deployed on appropriate environment.

#### **Output Testing**

After performing the validation testing the next step is output testing of the proposed system. Since the system cannot be useful if it does not produce the required output.Asking the user about the format in which the system is required tests the output displayed or generated by the system under consideration.

Here the output format is considered in two ways. One is on screen and another one is printed format. The output format on the screen is found to be corrected as the format was designed in the system phase according to the user needs. And for the hardcopy the output comes according to the specifications requested by the user.

### White box testing

White box testing (also known as Clear Box Testing, Open Box Testing, Glass Box Testing, Transparent Box Testing, Code-Based Testing or Structural Testing) is a [software testing method](#) in which the internal structure/design/implementation of the item being tested is known to the tester. The tester chooses inputs to exercise paths through the code and determines the appropriate outputs. Programming know-how and the implementation knowledge is essential. Whitebox testing is testing beyond the user interface and into the nitty-gritty of a system. This method is named so because the software program, in the eyes of the tester, is like a white/transparent box; inside which one clearly sees.

### Test coverage Analyzer

Records the control paths followed for each test case.

### Timing Analyzer

Also called a profiler, reports the time spent in various regions of the code and areas to concentrate on to improve system performance.

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## 2. SYSTEM IMPLEMENTATION

The medical management System begins with the following involves various activities performed together. These are the System Development Life Cycle

### Recognition of need

It is the first stage of information system development cycle. The preliminary investigation must define the scope of the project and the perceived constraints, opportunities and directives that triggered the project. As for Clinical Management System, I collected the system requirements through questionnaires and interviewing student and the staff and the problem they face when they visit the universities Clinic. I happen to find the following:

The preliminary investigation include the following tasks:

- Listing problems, opportunities and directives.
- Assess project worth.
- Plan the project.
- Present the project and plan.

### Feasibility study

The goal of a feasibility study is to evaluate alternative system and to purpose the most feasible and desirable system for development.

It consist of the following:

- Statement of the problem
- Summarizing of findings and recommendations
- Details of findings
- Recommendations and conclusions

I addressed five types of feasibility study in my research, they include the following.

### Operational Feasibility

The system is operationally feasible.

### Time Feasibility

Being a small system and given the period of three months of development, it is timefeasible.

### Economic Feasibility:

A network-based system requires a lot of equipment such as cables, hubs etc. This requires a lot of initial capital to install the network. On the other hand, it allows sharing of resources and information and centralized administration hence cheaper.

### 1. Technical Feasibility

Since it is not a complex system, we have the technical feasibility of developing the system.

## 2. Time Feasibility

The system is a small one and hence the time frame of three months allocated for development is enough hence there is time feasibility. From the above we choose to use a network based database system because as compared to the other strategies, it more feasible. It will contain an interface that is distributed in the network and is connected to a central data-base. Feasibility study involve cost/benefit analysis. In the process , the cost and benefits are estimated with greater accuracy. If cost and benefit should be quantified to make a good system that is affordable.

## 2. Illustrations

Model and Material which are used is presented in this section. Table and model should be in prescribed format.

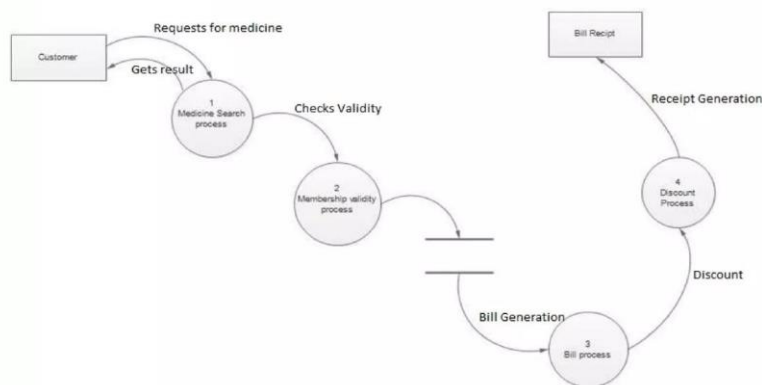


Figure 1: Architectural Diagram

### 1. SYSTEM STUDY

#### 1. EXISTING SYSTEM

- In existing system, the customer goes to the shop and purchases the medicine required. so a lot of time is wasted and the person gets tired.
- If he/she wants to exchange, once again he/she goes to store and replace them.
- The complete process depends on the physical interactions.

#### 2. PROPOSED SYSTEM

- In order to avoid the limitation in the existing system is being developed.
- In proposed system, we introduced medical store management system.
- It is easy to view the presence of products and confirm billing.
- Daily updates on medicine are updated by the administrator side and the medical record of the customer will be safe and secure.
- It is to maintain the record and for the safety of the customer.
- After billing, it will be stored in report module so it can be viewed.
- Within a minute, medicines will be delivered in the delivery area.

#### 3. ADVANTAGES OF PROPOSED SYSTEM

- User friendly interface
- Less error
- Fast access to database

- More Storage Capacity

## 2. SYSTEM DESIGN

System design is the process of planning a new system to complement or altogether replace the old system. The purpose of the design phase is the first step in moving from the problem domain to the solution domain. The design of the system is the critical aspect that affects the quality of the application. System design is also called top-level design. The design phase translates the logical aspects of the system into physical aspects of the system.

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### INPUT DESIGN:

The data, which is input to a computer based information system, must be correct. If data is carelessly input and errors enter the system, it will lead to incorrect results whose consequences will be expensive and embarrassing to the designer. In data processing, the data entry operator often makes errors. This can be controlled by input design by using menu, interactive dialogue, consistent format etc. In this system the users are provided with user friendly pages to give the input and if the user gives any wrong input validations are done and message boxes are provided in the necessary places. The message specified in the message box is specified in a polite and in an informative manner. System is interactive dialogue, which simplifies the data entry or access, instead of remembering what to enter. User can choose from a list of options and type it in the cursor position. This will reduce the number of corrections while entering the data.

### DATABASE DESIGN

The database design involves creation of tables that are represented in physical database as stored files. They have their own existence. Each table constitute of rows and columns where each row can be viewed as record that consists of related information and column can be viewed as field of data of same type. The table is also designed with some position can have a null value. The database design of project is designed in such a way values are kept without redundancy and with normalized format. Refer the appendix for screen shots of database design.

### OUTPUT DESIGN

The proposed system is a web oriented system and hence it does not provide any reports. The output results are viewed in the web pages itself. Outputs from the computer system are required primarily to communicate the result of processing to users. They are also used to override a permanent copy of the results for later consultation. The output reports and input documents should be documented in terms of data content.

## 3. SOFTWARE FEATURES

### About PHP

PHP is a powerful server-side scripting language for creating dynamic and interactive websites. PHP widely used; free and efficient alternative to competitors such as Microsoft's ASP. PHP is perfectly suited for Web development and can be embedded directly into the HTML code. The PHP syntax is similar to perl and C.

PHP is open source that it is readily available and absolutely free. Stability, flexibility and speed are chief qualities that attract to choose PHP. PHP have multiple extensions and is extremely scalable.

#### Server-side scripting

This server-side scripting is the most traditional and main target field for PHP. Programmer needs three things to make this work. Programmer need to run the web server, with a connected PHP installation. Programmer can access the PHP program output with a web browser, viewing the PHO page through the server. All these can run on your home machine if programmers are just experimenting with PHP programming.

#### Command line scripting

Programmer can make a PHP script to run it without any server or browser. Programmers only need the PHP parser to use it this way. This type of usage is ideal for scripts regularly executed using cron (on \*nix or Linux) or Task Scheduler

(on Windows). These scripts can also be used for simple text processing tasks.

#### Features of PHP

- PHP runs on different platforms (Windows, Linux, UNIX, etc.)
- PHP is compatible with almost all servers used today.

- PHP is free to download from the official PHP resource: [www.php.net](http://www.php.net).

### About MYSQL

MYSQL is an open-source relational database management system (RDBMS) is developed, distributed and supported by MYSQL AB. MYSQL is a popular choice of database for use in web applications MYSQL can be scaled by deploying it on more powerful hardware, such as a multi-processor server with gigabytes of memory. MYSQL is easy to use, yet extremely powerful, secure, and scalable. And because of its small size and speed, it is the ideal database solution for Web sites.

### MYSQL is a database management system

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amount of information in a corporation network. To add, access and process data stored in a computer database we need a database management system such as MYSQL server. Since computers are very good at handling large amount of data, database management system plays a central role in computing.

### MYSQL is a relational database management system

A relational database stores separate data in separate tables rather than putting all the data in one big storeroom. This adds speed and flexibility. The SQL part of "MYSQL" stands for "Structured Query Language". SQL is the most common standardize language used to access database and is defined by the ANSI/ISO SQL standard. The SQL standard has been evolving since 1986 and several versions exist.

### MYSQL software is open source

Open source means that it is possible for anyone to use modify the software. Anybody can download the MYSQL software uses the GPL (GNU General Public License), to define what we may and may not use do with the software.

### MYSQL Server works in Client/ Server or embedded systems

The MYSQL database software is a client/server system that consists of a multi- threaded SQL server that supports different backend, several different client programs and libraries, administrative tools and a wide range of Application Programming Interface(APIs). A large amount of contributed MYSQL software is available:

Modern day websites seem to be relying more and more on compel the Structured Query Language is a very popular database language, and its standardization makes it easy to store, update and access data. One of the most powerful SQL servers out there is called MYSQL and surprisingly enough, it's free.

### Features of MYSQL

**Client/server Architecture:** MYSQL is a client/server system. There is a database server (MYSQL) and arbitrarily many clients (application programs), which communicate with the server. The clients can run on the same computer as the server or on another computer.

**SQL Compatibility:** As before said SQL is a standardized language for querying and updating data and for the administration of a database. Through the configuration setting sol-mode we can make the MYSQL server behave for the most part compatibly with various database systems.

**Stored procedures:** Stored procedures (SPs for short) are generally used to simplify steps such as inserting or deleting a data record.

**Triggers:** Triggers are SQL commands that are automatically executed by the server in certain database operations INSERT, UPDATE, and DELETE, MYSQL has supported triggers.

### MODULE DESCRIPTION

The system is made of a combination of modules that work in collaboration with eachother and make it beneficial to accomplish the main aim of the system.

#### Login:

In login phase ,the admin login with the username and password in order to view their medical store.

#### Inventories:

Once the customer gave the medicine ,admin checks for the available medicine and picks the medicine from the database and set it up for billing.

#### Medicines:

The medicines are kept in the proper place so that they can be taken out fast as soonas they get the order and it moves to the database to check whether the medicine is available or not .It's been acknowledged by the staffs to the admin so it helps the admin to manage the medical stocks.

#### Payment:

After the billing phase, admin acknowledge the shop staffs to make the delivery to the customer through home delivery or by direct delivery at delivery area.

#### Admin:

Admin has the official powers to control the flow of the data from one part of the system to the other. He has the power to manipulate the access of the users to the data. Hence all the data will be reflected with clean and well data in the interfaces.

#### FROM DESIGN:

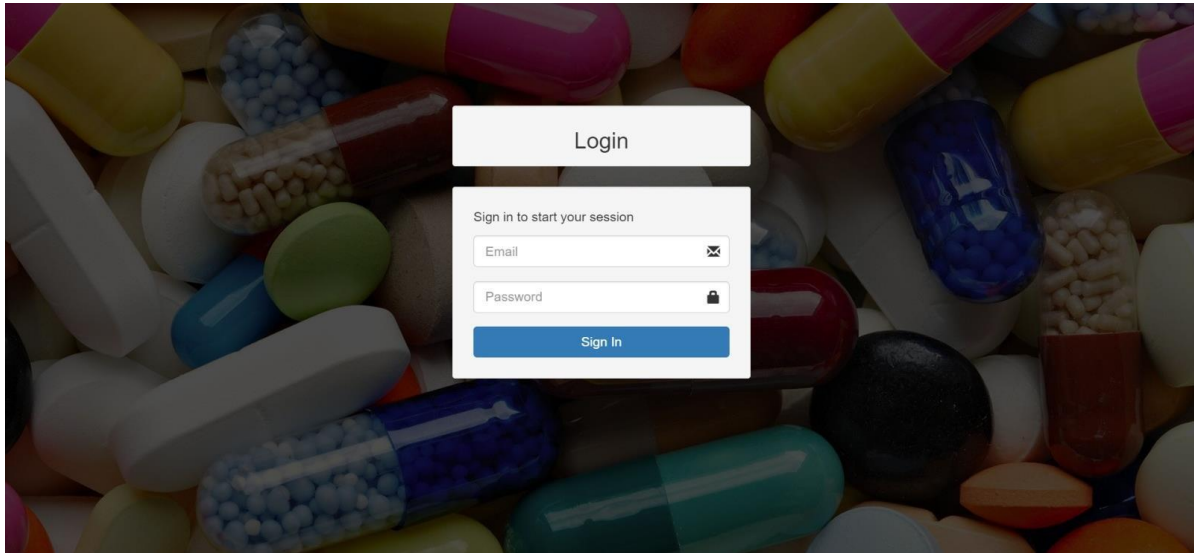


Figure 2: Login Page

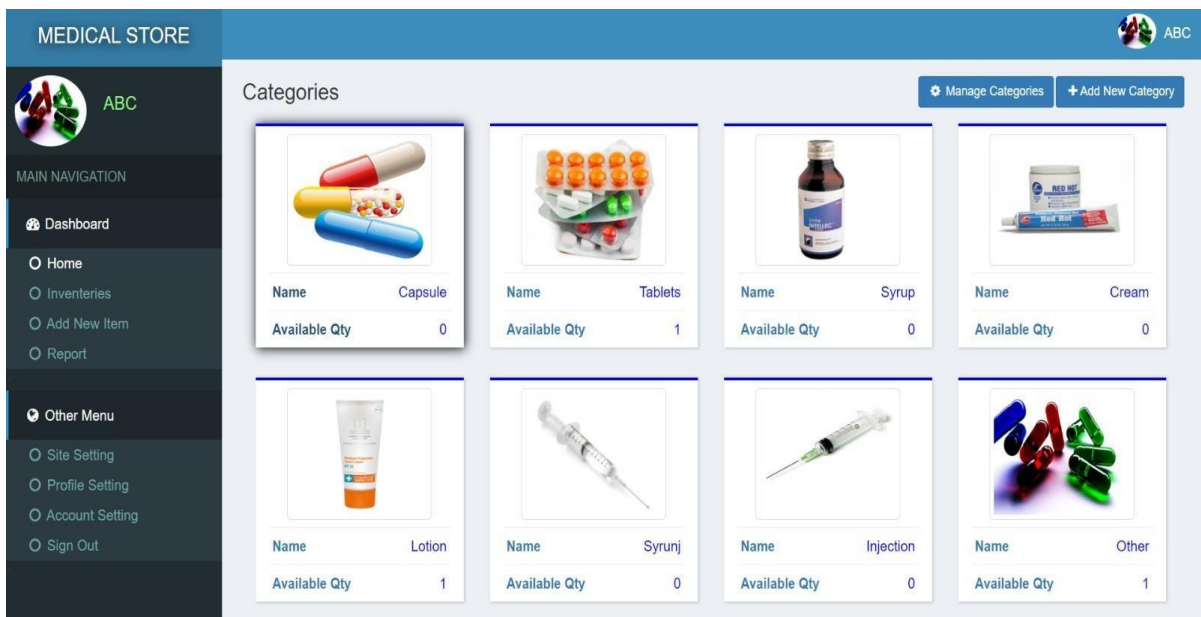


Figure 3: Home page

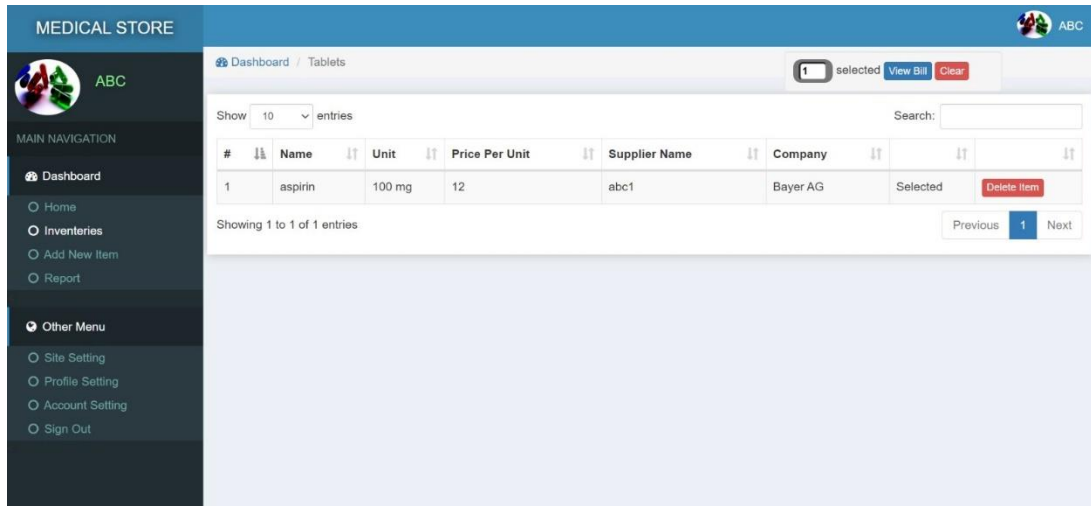


Figure 4: Dash Borad

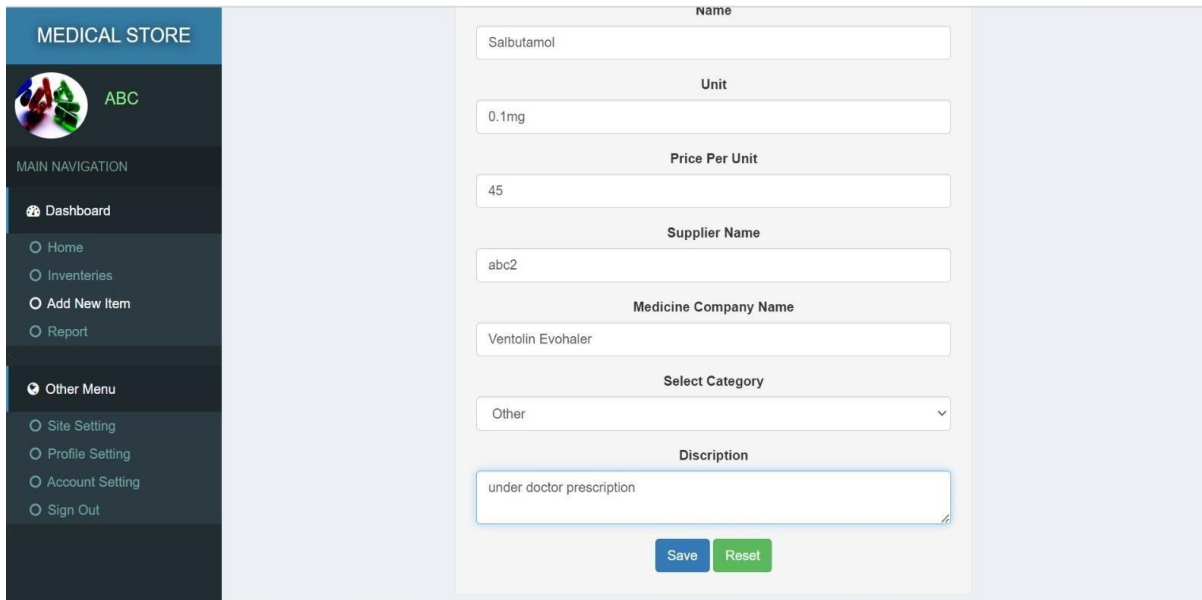


Figure 5: Add New item

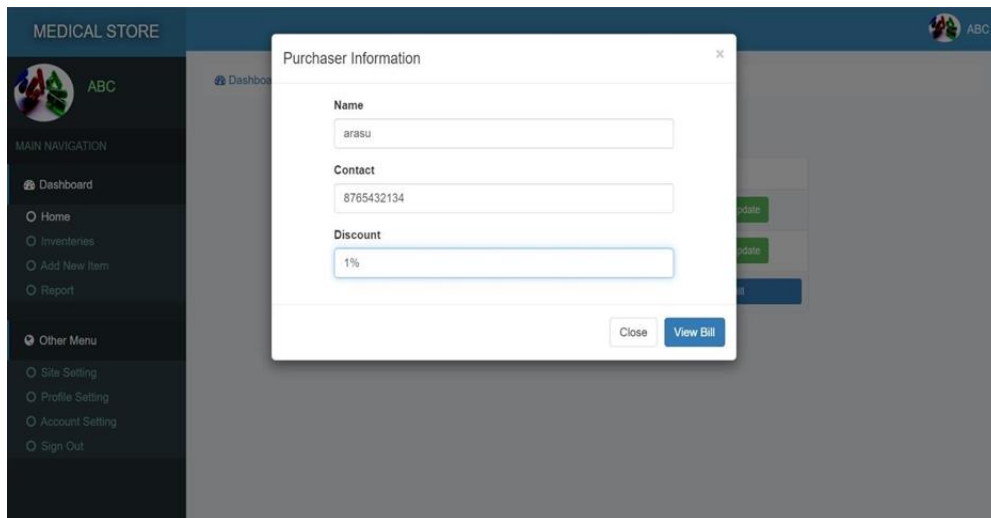


Figure 5: Purchaser Information



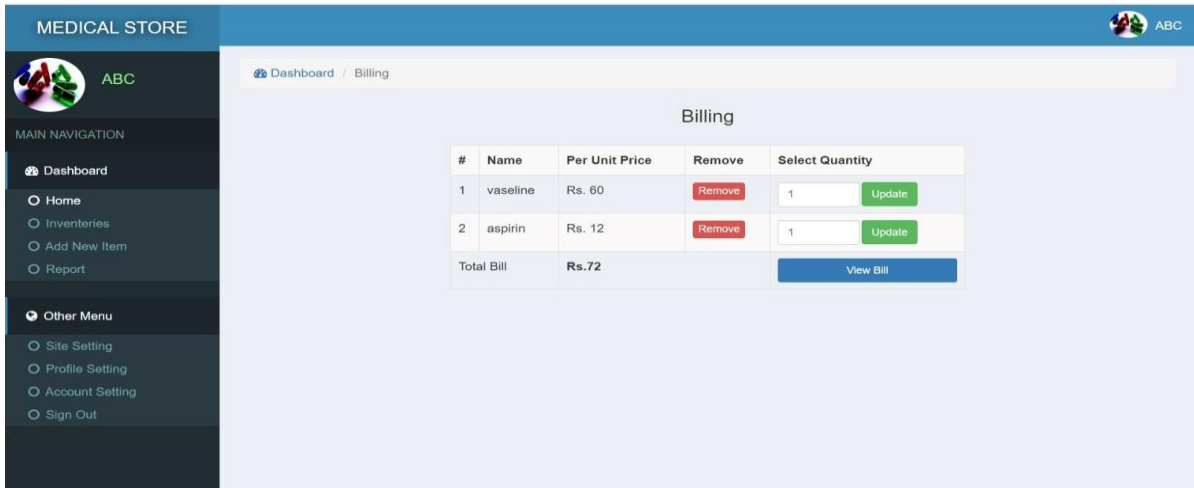


Figure 6: Billing

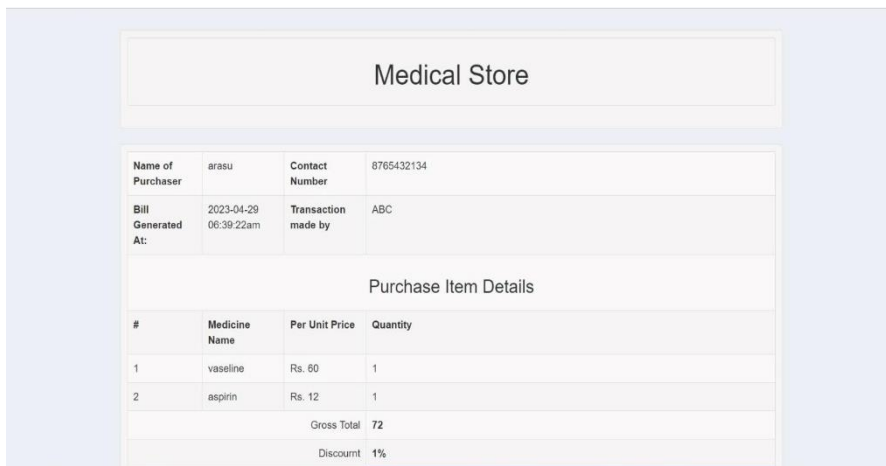


Figure 7: Bill Generation

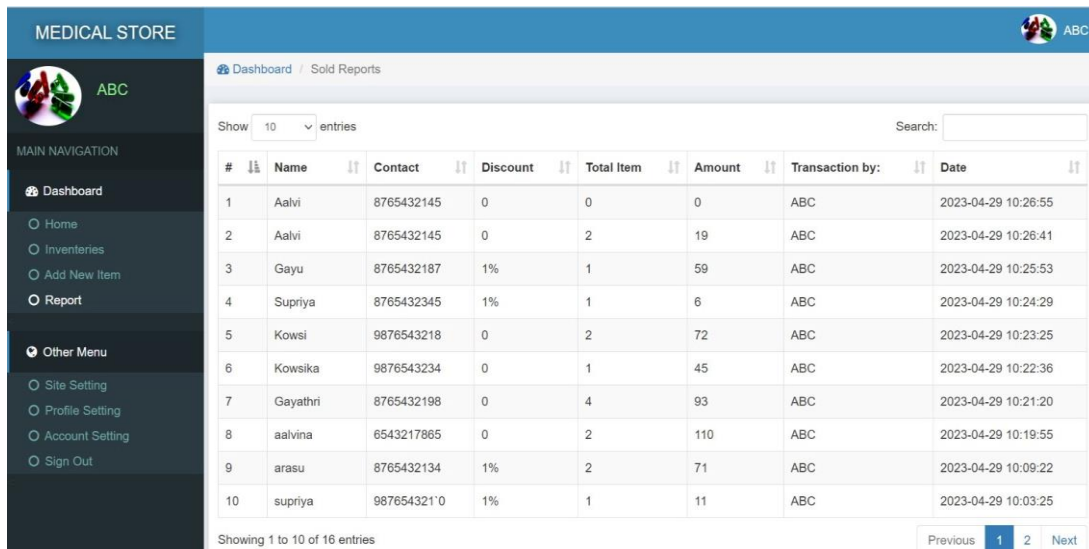


Figure 8: Dashborad/Report

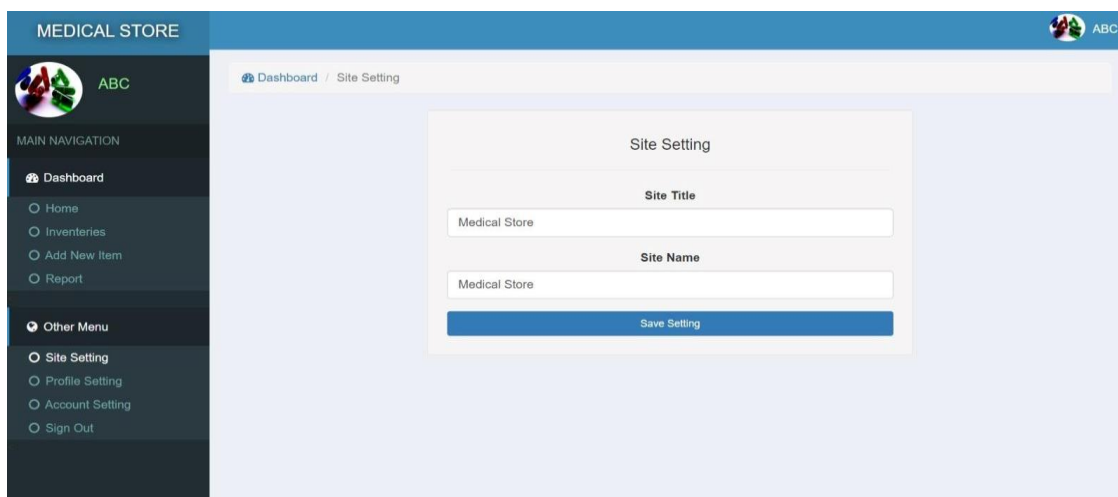


Figure 9: Site Setting

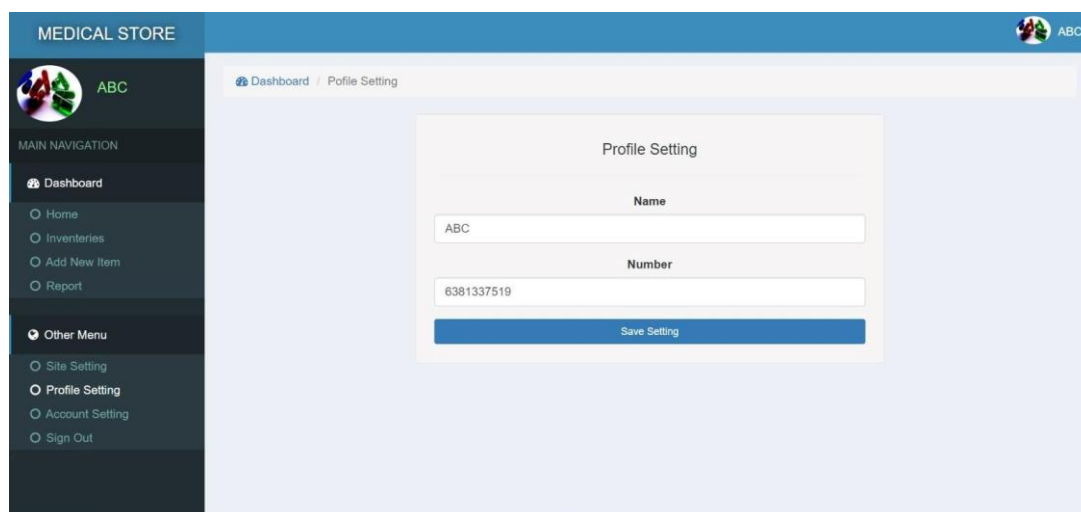


Figure 10: Profile Setting

## CONCLUSION

I believe I have done enough research on the Project and am ready to start and complete the project over the period specified and also make the delivery. A lot of research and survey, as well as the documentation analysis need to be done in order to make sure that the information are accurate and the system is more efficient and also systematic. The research that had been done is concluding in the Literature Review. Analysis is done to make sure that the data can be used as a guideline for developing this system. There are existing systems which involve in this chapter. The existing system tells about how they work and what the requirements that need from their users are. This kind of information is gathered and an analysis is done to select the appropriate features to be developed to the new system (Development of clinic Management System for School Clinic).

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