**INTRODUCTION**

* 1. *PROJECT AIMS AND OBJECTIVES*

The project aims and objectives that will be achieved after completion of this project are discussed in this subchapter

The aims and objectives are as follows:

* Billing Interface
* Drug Management
* Report Analysis

* 1. *BACKGROUND OF THE PROJECT*

Our pharmacy billing and inventory management system - SED Pharma is a system that can be used for keeping track of pharmaceutical items that we currently have in stock, manually update them, get reports periodically as well as fully working command line interface for purchasing items by prescription or as a bulk order. We have built a beautiful tabular UI that makes it very easy to display large amounts of data systematically.

There are modules which can be used for checking purchase history or any other logs. This system eliminates the need to use manual work such as manual logging, manually updating excel sheets etc. and implements an all in one solultion which is tightly incorporated into our billing system and works flawlessly with exceptionally good error handling.

**SYSTEM ANALYSIS**

In this section, we would be discussing and analyzing about the developing process of Pharmacy Billing and Inventory Management System including software requirement specification (SRS) and comparison between existing and proposed system.

The functional and nonfunctional requirements are included in SRS part to provide complete description and overview of system requirement before the developing process is carried out. Besides that, existing vs proposed provides a view of how the proposed system will be more efficient than the existing one.

* 1. *SOFTWARE REQUIREMENT SPECIFICATION*

Pharmacy billing and inventory management system is a computerized system which helps the user (Pharmacist) to manage the daily activities in the pharmacy in an electronic format. It reduces the risk of paper work such as loss of registers, damage of registers and other time consuming activities in the library. It can help user to manage the transaction or record more effectively and in a time saving manner.

PROBLEM STATEMENT:

The problem occurred before having computerized system includes:

* Loss of registers

If computerized system is not implemented, records are always under the threat of mishandling. There is a high chance of human error which can cause loss of records.

* Damaged records

If a computerized system is not in existence, there is high risk of losing the records due to spilling of water by some members accidentally. Also natural disasters are a high threat to hard copy of records.

* Difficult to search record

When hard copy of records are stored for a very long time it would become very difficult to search some particular record.

* Space Consuming

When number of records start increasing, hard copy of those records could be space consuming.

* Cost Consuming

When records are stored as hard copy, the hard copy records/ registers would be required every year. This will increase the cost for management of a Pharmacy.

* 1. *EXISTING vs PROPOSED*

Existing System:

Early day pharmacies are managed manually. It was time consuming as it needs a lot of time to record or retrieve the details. The pharmacist had to take their jobs very seriously as a small mistake could create a lot of problems. Also security of information is very less. Maintenance of Pharmacy catalogue and arrangement of books to the catalogue is a very complex task. In addition to its maintenance of member details, issue dates and return dates etc. manually is a complex task.

Proposed System:

To solve the inconveniences as mentioned in the existing system, a Digital Library is proposed. The proposed system contains the following features :

* Get medicine information
* Check total medicines available
* Update medicine details
* Produce medicine reports, etc,.
  1. *SYSTEM SPECIFICATIONS*

HARDWARE SPECIFICATION

The following is the hardware specification of the system on which the software has been developed:

Operating System : Windows 7/10/11

Windows 7 is used as the operating system as it is stable and supports more features and is more user friendly.  
Machine: Pentium Dual Core Processor 2.6 GHz or above,  
 2 GB RAM or above ,   
 500 GB Hard Disk or above  
  
 We used Intel core i5 2nd generation based system, it is fast than other processors and provide reliable and stable performance and we can run our pc for longtime. By using this processor, we can keep on developing our project without any worries. 4GB RAM is used as it will provide fast reading and writing capabilities and will support in processing.

SOFTWARE SPECIFICATIONS  
  
Front End Used : PYTHON 3.8.0 or above  
Backend Used : Data Files

**SYSTEM DESIGN**

3.1 DATA FILE / TABLE DESIGN

Data Files Design˚

3.2 Menu Structure

**Billing:**

(The staff at the billing counter can use this to generate an order.)

**Customer name** :

(asks the customer’s name and store the data in .data file)

**Bulk order:**

(asks whether the order bulk or individual order)

- Individual: Order for a single person, has final order edit option as well as logging.

- Bulk: Bulk orders can be done by using a csv file with order details, file import option is available as it scans all files in a folder and processing bulk order files. Also supports final order edit options.

**Search:**

(Has option to search for avaiable drugs (using sequence matching)

**Bill generation:**

( generates bill for all order options.)

**Inventory:**

(Access inventory specific tools. (requires admin privileges))

**Search and edit:**

(Manual search and update of items in stock)

**View inventory:**

(view inventory of all current items)

**Bulk add:**

(updates the current stock by importing items. The provider has to supply a csv file including details of items (name, qty, expiry etc.) and our system can access files within our user interface and can import and process it to update stock.

**Expired:**

(Extract and discard expired items currently in stock.)

**Management:**

(Contains various submodules for updating global values such as tax, logs etc.. (requires admin privileges))

**Edit tax value:**

**(**Changes the tax value )

**Change access password**

(change password )

**User history:**

(Periodic user logs which includes bill, date/time, order details etc..)

**Search by name:**

(returns all transaction(s) made by the customer by his name)

**Search by date**:

(return all transaction(s) made by customer(s) by their date)

**Reports:**

(Statistical reports on sales. (requires admin privileges))

**Drug sales chart**

(Item wise, Periodic(weekly/monthly/yearly), overall sales reports.)

**Sales report**

(Graph generation: Graph generation based on the above sales reports.)

## SYSTEM TESTING

Software Testing is an empirical investigation conducted to provide stakeholders with information about the quality of the product, with respect to the context in which it is intended to operate. Software Testing also provides an objective, independent view of the software to allow the management to appreciate and understand the risks during the implementation of the software.

The aim of the system testing process was to determine all defects in our project. The program was subjected to a series of trial operations with test inputs and various observations were made and based on these observations, changes were made and again tested for better results. Our Project went through two levels of testing

* + 1. Unit testing 2. Integration testing
  1. UNIT TESTING

Unit testing was undertaken when a module has been created and successfully reviewed. In order to test a single module, we need to provide a complete working environment.

* 1. INTEGRATION TESTING

After integrating the entire modules developed, we performed various checks by providing different set of test input. The primary objective is to test all the modules in order to ensure that no errors are occurring when one module invokes the other module.