

## PHARMASYS: ENHANCING PHARMACY OPERATIONS WITH MANAGEMENT SYSTEM

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### ABSTRACT

A pharmacy management system project is a software application that automates the management of pharmacy operations, including prescription filling, inventory management, and billing. It is designed to improve efficiency, reduce errors, and enhance patient safety in pharmacies.

The pharmacy management system project developed using VB.NET provides an easy-to-use interface that allows pharmacists to manage prescriptions, maintain inventory levels, and generate reports for analysis. The system is developed using VB.NET and is based on the .NET framework, which is a powerful development platform that provides an extensive library of pre-built components and tools.

**Keywords:** Management, Inventory, Billing, .Net Framework.

### I. INTRODUCTION

This project is insight into the design and implementation of a Pharmacy Management System. This is done by creating a database of the available medicines in the shop. The primary aim of pharmacy management system is to improve accuracy and enhance safety and efficiency in the pharmaceutical store.

The database is then connected to the main program by using interconnection of the Visual Basic program and the database already created. Pharmacy management system is useful to maintain correct database by providing an option to update the drugs in stock. This is pharmacy management system; it is used to manage most pharmacy related activities in the pharmacy.

It is a computer-based system which helps the Pharmacist to improve inventory management, cost, medical safety etc. The software can print invoices, bills, receipts etc. It can also maintain the record of supplies sent in by the supplier. It also involves manual entry upon arrival of new batches of drugs and upon drug movement out of the pharmacy for a certain period. Pharmacy management system is being build. Pharmacy management system deals with the maintenance of drugs and consumables in the pharmacy unit. This pharmacy management system is user friendly.

We used the System. Data.OleDb namespace to interact with an Access database. The OleDb data provider allows us to connect to and manipulate data in an Access database through an OleDb Connection object.

To connect to an Access database in VB.NET, we need to provide a connection string that specifies the location of the database file, as well as any additional options such as a username and password.

### II. REQUIREMENTS

**Table 1.** Hardware Requirements

Sr. No.	Name of Resources /Material	Specifications
1	Processor	Intel i3 or AMD Ryzen3
2	RAM	2 GB
3	Hard Disk	256 GB





**Table 2.** Software Requirements

Sr. No.	Name of Resources /Material	Specifications
1	Operating Systems	Windows, Linux, Mac, etc.
2	Front-End	.Net Framework4.5 and later
3	Back-End	MS Access

### III. TOOLS AND CONTROLS

**Table 3.** Tools and controls used

Image	Control Name	Description	Methods	Events	Properties
	Button	This Control triggers an action when accessed.	Perform Click, Focus, Select, To String	Click, DoubleClick, Mouse Down, Mouse Up, Mouse Leave, Got Focus, Lost Focus, Enabled Changed, Visible Changed	Text, Back Color, Enabled, Visible, Size, Location, Font, Tag
	Check Box	Control that has values either true or false	Check, Uncheck, Toggle	Checked Changed, Check State Changed, Click	Checked, Text, Enabled, Visible, Appearance, Auto Check, Checked Changed
	Combo Box	A combination of list and text box controls that enables to select as well as edit text.	Add Item, Remove Item, Clear, Find String Exact, Begin Update	Selected Index Changed, Drop Down, Drop Down Closed, Drop Down Style Change, Enter, Leave, Text Update, Validating, Validated	Items, Selected Index, Selected Item, Drop Down Style
	Label	Displays a label text.	Focus, Refresh, To String, Dispose	Click, DoubleClick, Mouse Down, Mouse Up, Mouse Move, Mouse Enter, Mouse Leave	Text, Back Color, Fore Color, Font, Auto Size, Text Align
	Progress Bar	Display the progress of a task.	Increment, Perform Step, Reset, Update	Value Changed, Mouse Hover, Mouse Leave, Click, DoubleClick, Mouse Down, Mouse Up	Maximum, Minimum, Step, Value
	Radio Button	Allows to choose a choice from a group of choices.	Checked Change, Perform Click, To String	Checked Changed, Click, Got Focus, Lost Focus	Checked, Auto Check, Text, Appearance, Text Align, Name
	Data Grid View	The Data Grid View reads in the Data Table and displays all its contents on	Clear Selection, End Edit, Refresh, Sort, Select All	Cell Click, Cell Double Click, Cell Value Changed, Column Header Mouse Click, Row Header Mouse	Allow User To Add Row, Column Header Visible, Data Source, Row Headers Visible,

		the screen in grid form.		Click, Data Error, Row Validating, Cell Begin Edit, Cell End Edit	Selected Rows, Read Only, Row Count, Column Count
	Text Box	Control used to input or display text.	Clear, Copy, Cut, Paste, Select All	Text Changed, Validating, Validated, Key Down, Key Press, Key Up, Got Focus, Lost Focus, Mouse Click, Mouse Double Click, Mouse Enter, Mouse Leave	Text, Enabled, Read Only, Multiline, Max Length, Text Align
	Print Document	Print a document using the Print Document control.	Print, Print Page	Begin Print, End Print, Print Page, Query Page Settings	Default Page Settings, Printer Settings, Document Name, Origin At Margins, Print Controller
	Print Preview Dialog	Built-in dialog box that allows users to preview the contents of a document before printing.	Show Dialog, Dispose	Document Completed, Form Closed, Form Closing, Load, Paint, Resize	Document, Zoom, Print Preview Control, Use AntiAlias, Show Location, Use EX Dialog
	Timer Control	The Timer control is a component that allows you to create an event at specified intervals.	Start, Stop, Restart, Dispose, Interval	Tick, Enabled Changed, Disposed, Handle Created, Handle Destroyed, Resize, Visible Changed	Enabled, Interval, Auto Reset, Tag, Site

#### IV. USE CASE DIAGRAM

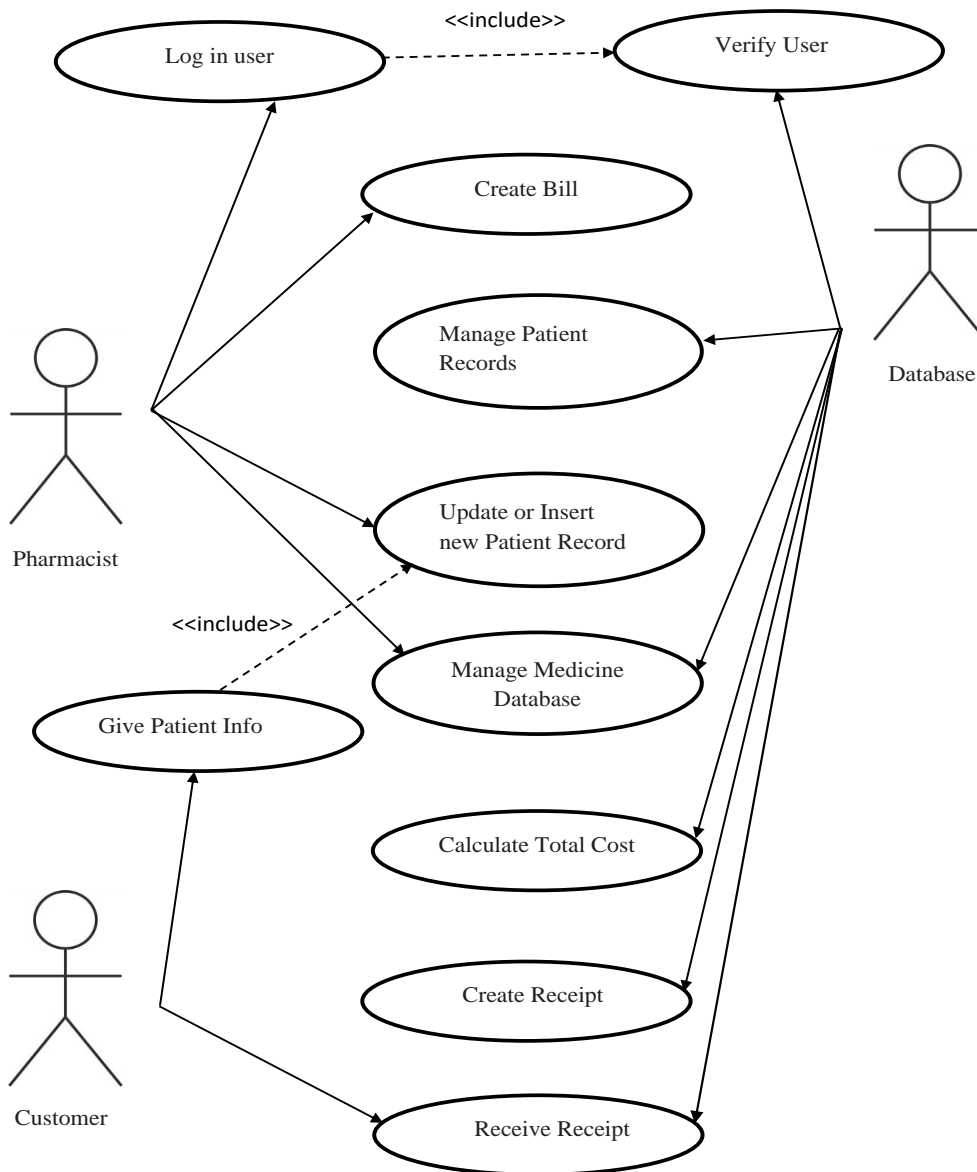


Figure 1: Use Case Diagram of Pharmacy Management System

#### V. RESULTS

Resulted Output Images:

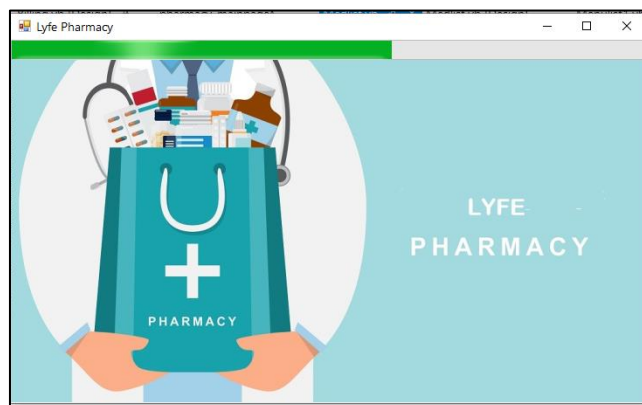


Figure 2: Pharmacy Management System



Figure 3: Login in Page

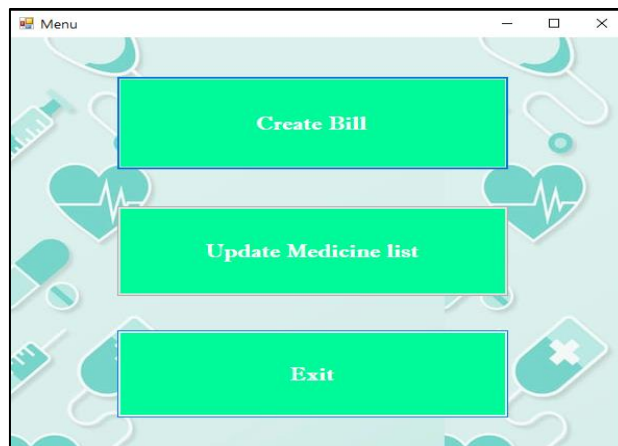


Figure 4: Menu

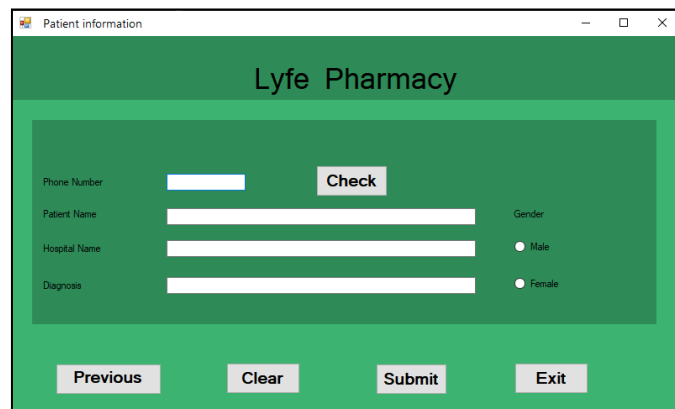


Figure 5: Patient's Page

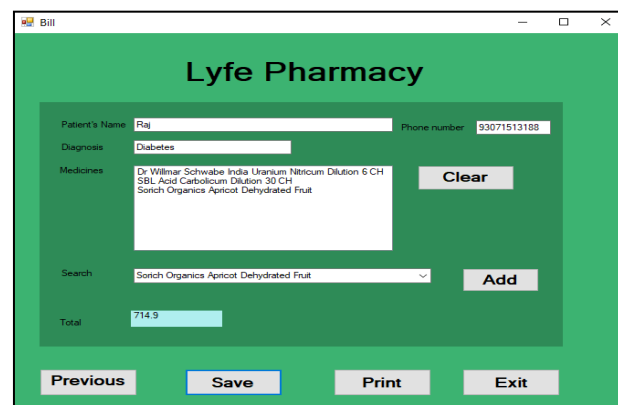


Figure 6: Billing

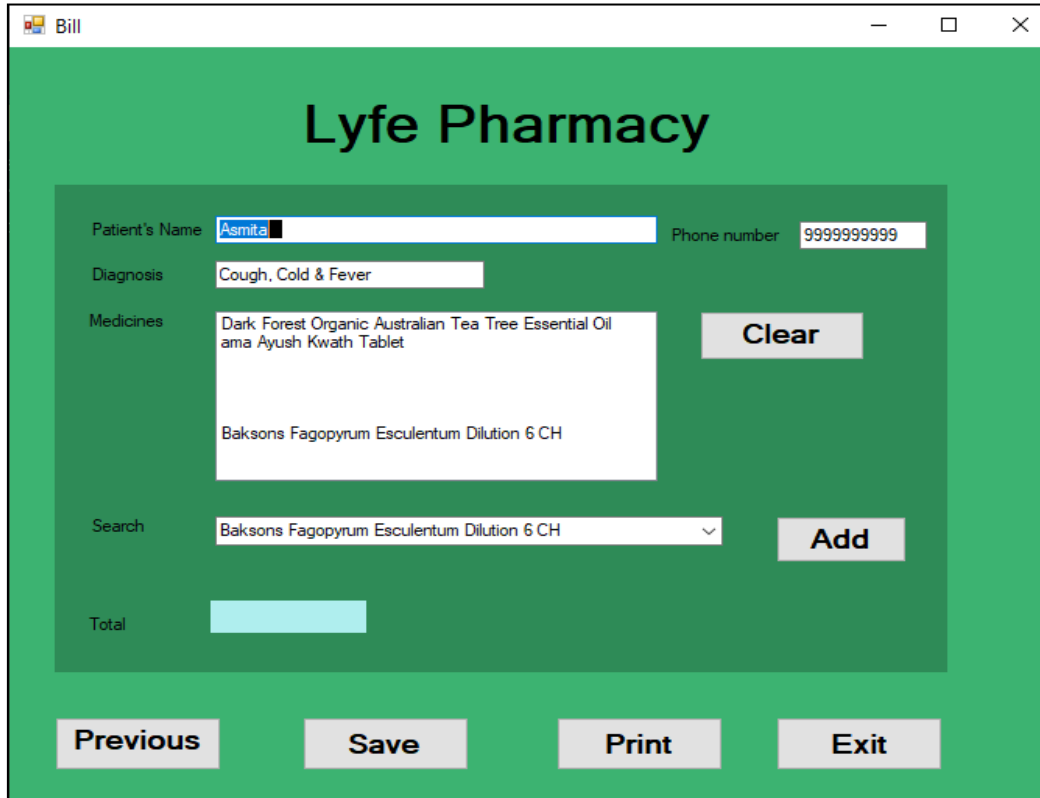
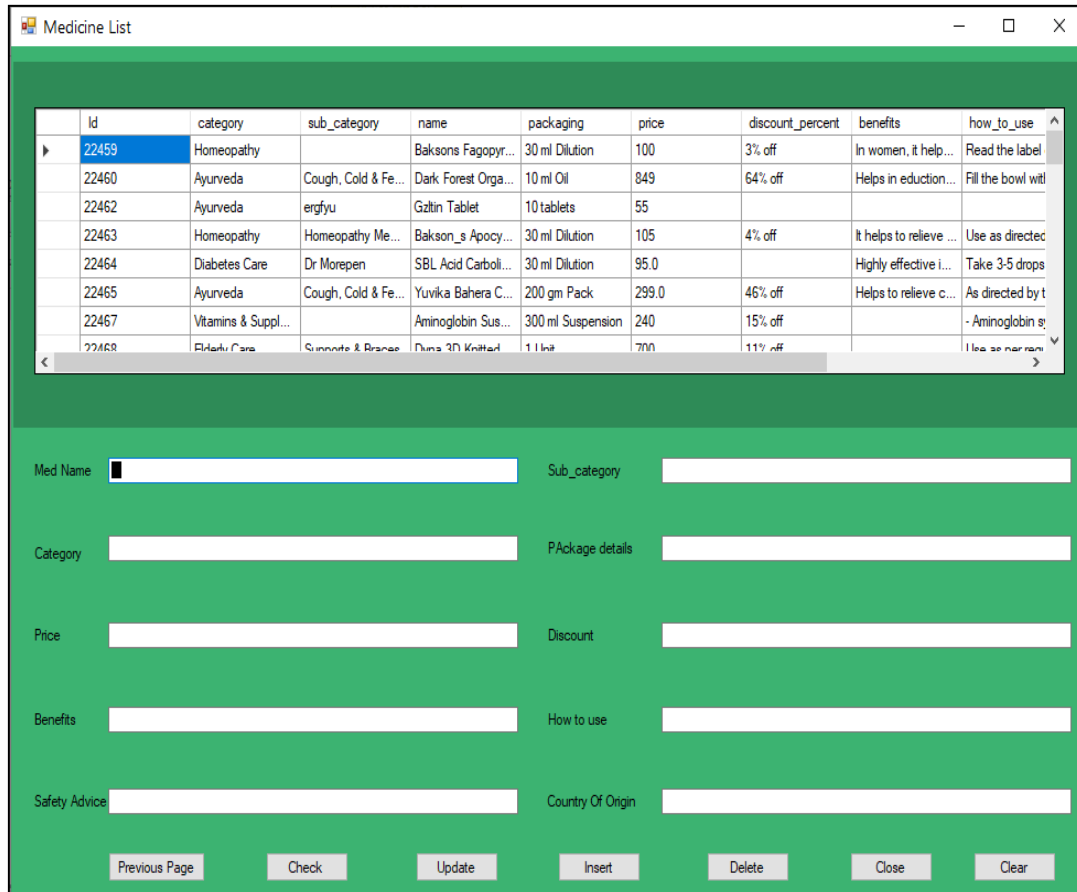


Figure 7: Existing Bill of registered patient



Id	category	sub_category	name	packaging	price	discount_percent	benefits	how_to_use
22459	Homeopathy		Baksons Fagopyr...	30 ml Dilution	100	3% off	In women, it help...	Read the label
22460	Ayurveda	Cough, Cold & Fe...	Dark Forest Orga...	10 ml Oil	849	64% off	Helps in education...	Fill the bowl witl
22462	Ayurveda	ergfyu	Gzftin Tablet	10 tablets	55			
22463	Homeopathy	Homeopathy Me...	Bakson_s Apocy...	30 ml Dilution	105	4% off	It helps to relieve ...	Use as directed
22464	Diabetes Care	Dr Morepen	SBL Acid Carboli...	30 ml Dilution	95.0		Highly effective i...	Take 3-5 drops
22465	Ayurveda	Cough, Cold & Fe...	Yuvika Bahera C...	200 gm Pack	299.0	46% off	Helps to relieve c...	As directed by t
22467	Vitamins & Suppl...		Aminoglobin Sus...	300 ml Suspension	240	15% off		- Aminoglobin e
22468	Elderly Care	Support & Branc...	Dura 3D Knitted	1 Unit	700	11% off		Use as per man

Figure 8: Medicine List

Lyfe Pharmacy		
Contact Details: 9552577607	Email: samadhikary345@gmail.com	
Name: Raj		
Diagnosis: Diabetes		
Medicines:	Price	Discount
SBL Acid Carbolicum Dilution 30 CH	95	0%
Dr Willmar Schwabe India Uranium Nitricum Dilution 6 CH	90	4%
Sorich Organics Apricot Dehydrated Fruit	550	3%
Total:		Rs.714.9/-

Figure 9: Receipt generation

## VI. ADVANTAGES AND DISADVANTAGES

### Advantages:

- Streamlined processes: Pharmacy management systems automate processes such as prescription filling, inventory management, and billing, which reduces errors and improves efficiency.
- Better inventory control: Pharmacy management systems can track inventory levels, manage stock levels, and reorder medications automatically, which reduces waste and ensures that patients can get the medication they need when they need it.
- Efficient billing: Pharmacy management systems automate billing processes, reducing errors and saving time for both pharmacists and patients.
- Cost Efficient: The Pharmacy Management System is budget Friendly and does not require any hardware to run the program. As well as, the entire system can run on minimum software configuration available in the market.

### Disadvantages:

- Steep learning curve: Pharmacy management systems can be complex, and it can take time for staff to learn how to use them effectively.
- Security concerns: Pharmacy management systems store sensitive patient information, which makes them a target for cybercriminals. It is essential to ensure that the system has robust security measures in place to protect patient data.
- Maintenance and support costs: Pharmacy management systems require regular updates, maintenance, and support, which can be expensive and time-consuming.
- Dependence on technology: Pharmacy management systems rely heavily on technology, which can be a disadvantage if there is a system outage or other technical issue.

## VII. FUTURE SCOPE

- Mobile accessibility: The future pharmacy management systems could be made accessible through mobile applications, allowing pharmacists to manage their work on-the-go.
- Artificial intelligence: The integration of artificial intelligence could improve drug interactions analysis, as well as help predict future inventory needs.
- Online prescription management: An online prescription management system can make the process of filling and renewing prescriptions more convenient for patients.
- Integration with wearables: The integration of wearable technology could make it easier for patients to track their medication schedules and provide real-time health data to their pharmacists.

## VIII. CONCLUSION

This pharmacy management system can provide many benefits to pharmacies as well as to pharmacists. It can streamline processes, store medicine and store patient's record. We developed the project using the extensive library of pre-built components and tools available in VB.NET along with MS access for database Connection

## ACKNOWLEDGEMENTS

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## IX. REFERENCES

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