

## Billing Management System

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### ABSTRACT

Billing Management System is an automated software application that helps businesses manage their billing process efficiently. The system automates the billing process, allowing companies to create invoices, payments, and manage customer accounts easily.

The Billing Management System provides a user-friendly interface that allows businesses to manage their billing process with ease. The system allows businesses to create and manage invoices, set up payment reminders, and generate reports to track revenue and expenses.

The system is designed to be flexible and can be customized to meet the specific needs of a business. The software can integrate with existing accounting systems to ensure accurate financial reporting.

The Billing Management System also provides a secure platform for businesses to manage customer information and financial data. The system is designed with security features such as encryption, firewalls, and access controls to ensure the confidentiality and integrity of data.

The implementation of the Billing Management System can help businesses streamline their billing process and improve their overall financial management. The system can save time and reduce errors associated with manual billing processes, allowing businesses to focus on core activities and improve their bottom line.

**Keywords—** Billing System, bill payment, Authentication, Security.

### I. INTRODUCTION

A bill serves as a record of a statement and monetary transaction. A bill is used to document transactions when someone buys products or anything of value. We require a billing system to maintain efficient use of the bill from creation to analysis to printing to handle the entire process. When people first started buying products in the mediaeval era, the billing system was established. The store owner used to keep track of all the products that were sold to the customer and how much inventory they had on hand. All the records must be manually entered in a record book [3]. The bill serves a variety of different functions in addition to serving as a record of transactions. They use the information from the bills to reduce unnecessary spending, allocate funds more wisely, and enhance their companies.

As technology advanced, written bill management began to transition to digital. They started off by introducing a straightforward billing management system. The bill was created and printed using software on computers. Only the administrator is permitted to use database features to record and bill for all purchased items,

personnel information, and change prices. In the database, the products are categorised [1]. Software was created to manage time and bill tracking and to inform clients of their purchases of products and services. The amount of things produced, the number of hours worked by personnel, and any costs associated with customers or projects can all be tracked by billing software.

Most billing software applications are capable of creating billing reports. These reports can display information such as hours worked, expenses incurred, how much to bill customers, and which customers owe how much money for which goods, total investment, and total income of the month.

Few examples of the billing management systems are: -

1. Sage Time slips
2. QuickBooks Time by Intuit
3. Billing and Billing Tracker.

## II. BILLING SYSTEM WITH GST

This System is aimed to provide information to the customer about the product, its GST values & its calculation of the country. [4]

### 2.1. Proposed System: -

The proposed system is intended to provide the facility of automating the inventory tasks such as Item management and customer billing with GST for the Shop or market. To reduce the bottlenecks of the existing system there is a need to develop a new system. The new system should concern the requirements of the customer and the sellers. This project is designed with a goal to making the existing system more informative, reliable, fast and easier. There are many reasons for the starting of the project because in the selling of items through the manual system of salesperson faces a lot of inefficiencies. It requires handling of large items that consist of both irrelevant and important information's thus making it difficult to find out the required information as per necessity. To overcome these problems in existing system we develop "Inventory Maintenance & Billing with GST".

## III. IMPLEMENTATION

This project is based on the sales transaction and billing of items in a supermarket. The first activity is based on adding the items to the system along with the rate which are present in the supermarket and the name of the items which the supermarket will agree to sell [2]. The models provide four basic types of functionality, that is, create, read, update, and delete the resources.

We use Java to build the functionality of the application and graphics user interface (GUI). We use the SQLite database to store the application data and transaction data. Using this database, we add, update, delete, and keep track of the transactions. We make use of different libraries of java, like Itextpdf-5.4.0.jar, rs2xml.jar, Sqlite-jdbc-3.21.0.jar Sqlite to Build the Application

Overview of steps Using Libraries and Tools

- First, the layout of the system is made by netbeans framework.
- Then, the store's database is created using SQLite

- Connection between database and the GUI is created using Java.
- Using the security first we login the system.
- Using Java, we created cart module where we add products.
- Then we want to add gst we can add gst on bill.
- Then, we create module to generate the bill.

#### A. Working of System

- First, the user can login the module.
- Then, we can add product, rate, price, Quantity, etc
- Upadte the product details in update product module.
- Then, the products get added to the product list.
- Add regular buyer details, to get esay to create bill.
- Then, we create the the bill on billing module.
- Then we can create the bill then they can print
- We can see the Bill history.
- Create PDF to show the Bill.
- Creation of bill then send the message to the Registered customer

#### B. Architecture and Modules

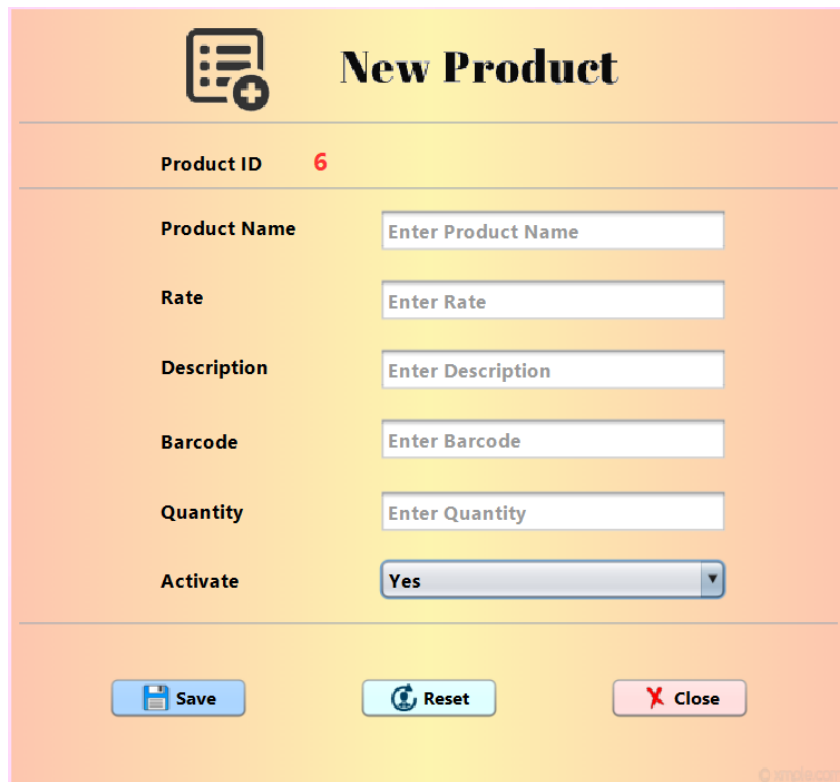
##### a. Modules

- 1) **Login:** First login the System we can Secure The databse on the System.



Figure 1. Login Page

- 2) **Add New product:** These Module is Use to add new Product to store the database. User needs to enter the data about the Product before adding, and then add it to the database. For Ex. price, Rate, Description, Quantity, Activaton.



The 'New Product' form features a header with a list icon and a plus sign, followed by the title 'New Product'. Below the header, the 'Product ID' is displayed as '6'. The form contains six input fields: 'Product Name', 'Rate', 'Description', 'Barcode', 'Quantity', and 'Activate'. The 'Activate' field is a dropdown menu currently set to 'Yes'. At the bottom, there are three buttons: 'Save' (with a floppy disk icon), 'Reset' (with a circular arrow icon), and 'Close' (with a red X icon).

Figure:New Product

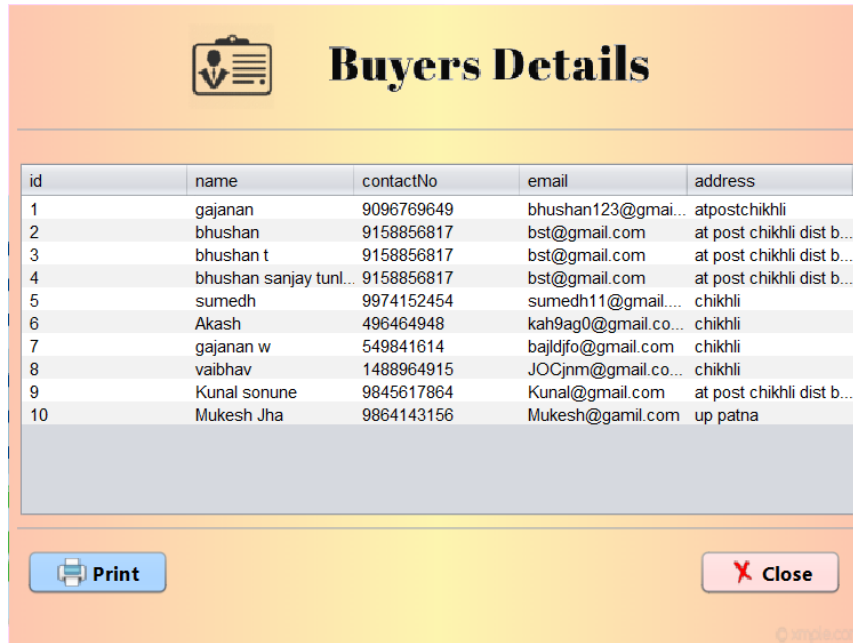
3) **Update new product:** these module is usxd to update the new product.



The 'Update Product' form has a header with a circular arrow icon and the title 'Update Product'. Below the header, there are input fields for 'PID' and 'Barcode', followed by a 'Search' button with a magnifying glass icon. The main section contains six input fields: 'Product Name', 'Rate', 'Description', 'Activate', 'Barcode', and 'Quantity'. At the bottom, there are three buttons: 'Update' (with a floppy disk icon), 'Reset' (with a circular arrow icon), and 'Close' (with a red X icon).

Figure:Update Proiduct

- 4) **Show added Buyer:** A buyer details to access a data easily, and we can create a bill invoice.



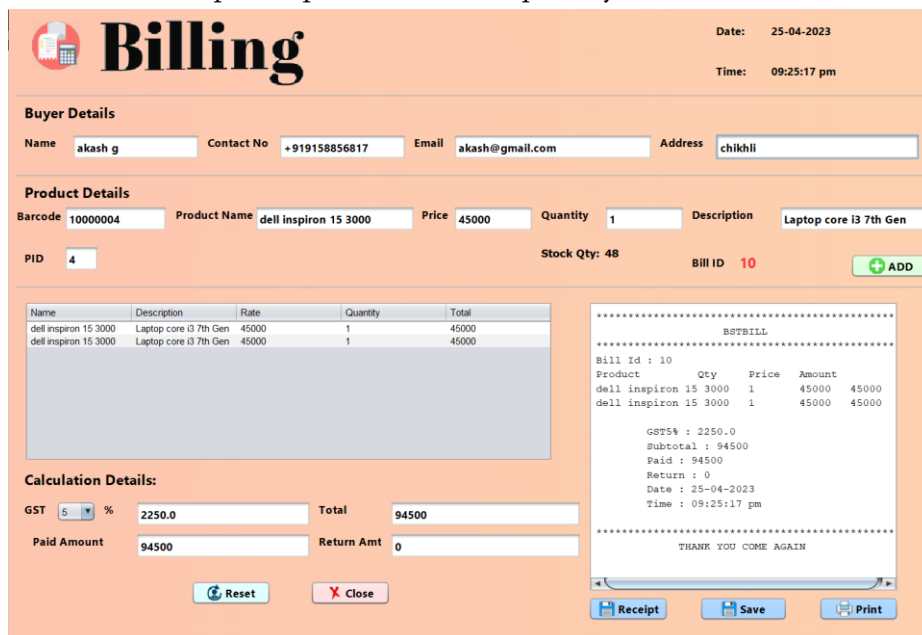
**Buyers Details**

id	name	contactNo	email	address
1	gajanan	9096769649	bhushan123@gmail...	atpostchikhli
2	bhushan	9158856817	bst@gmail.com	at post chikhli dist b...
3	bhushan t	9158856817	bst@gmail.com	at post chikhli dist b...
4	bhushan sanjay tunl...	9158856817	bst@gmail.com	at post chikhli dist b...
5	sumedh	9974152454	sumedh11@gmail....	chikhli
6	Akash	496464948	kah9ag0@gmail.co...	chikhli
7	gajanan w	549841614	bajldfo@gmail.com	chikhli
8	vaibhav	1488964915	JOCjnm@gmail.co...	chikhli
9	Kunal sonune	9845617864	Kunal@gmail.com	at post chikhli dist b...
10	Mukesh Jha	9864143156	Mukesh@gamil.com	up patna

**Print** **Close**

Figure:Buyer Details

- 5) **Billing:** we can create a bill to print a product amount, quantity, GST, etc



**Billing**

Date: 25-04-2023  
Time: 09:25:17 pm

**Buyer Details**

Name: akash g Contact No: +919158856817 Email: akash@gmail.com Address: chikhli

**Product Details**

Barcode: 10000004 Product Name: dell inspiron 15 3000 Price: 45000 Quantity: 1 Description: Laptop core i3 7th Gen

PID: 4 Stock Qty: 48 Bill ID: 10 **ADD**

Name	Description	Rate	Quantity	Total
dell inspiron 15 3000	Laptop core i3 7th Gen	45000	1	45000
dell inspiron 15 3000	Laptop core i3 7th Gen	45000	1	45000

**Calculation Details:**

GST: 5% Total: 94500

Paid Amount: 94500 Return Amt: 0

**Reset** **Close**

**Receipt** **Save** **Print**

**Receipt Preview:**

```

*****
BSTMILL
*****
Bill Id : 10
Product Qty Price Amount
dell inspiron 15 3000 1 45000 45000
dell inspiron 15 3000 1 45000 45000

GST5% : 2250.0
Subtotal : 94500
Paid : 94500
Return : 0
Date : 25-04-2023
Time : 09:25:17 pm
*****
THANK YOU COME AGAIN
  
```

Figure.Billing

6) **Bill History:** We can see a bill history in Bill History.

7)

rID	cname	pName	qty	price	tamount	GST%	GSTTotal	subtotal	paid	returnam...	date	time
1	Mukesh ...	redmi not...	1	16000	16000	5%	800.0	16800	16800			

**Figure:Bill History**

8) **PDF:** - To show the saved bill in our PC. These is the Final result of the System.

BST(Billing Manaagement System)  
Contact Number:(+91)9158856817

Date & Time: 25-04-2023 09:25:17 pm

Buyer Details:  
Name: akash g  
Contact No: +919158856817  
Email: akash@gmail.com  
Address: chikhli

Product Details:

Bill Id	Name	Description	Rate	Quantity	GST5%	Total
10	dell inspiron 15 3000	Laptop core i3 7th Gen	45000	1	2250.0	45000
10	dell inspiron 15 3000	Laptop core i3 7th Gen	45000	1	2250.0	45000

SubTotal: 94500  
Paid Amount: 94500  
Return Amount: 0

Thank you for Visiting  
!Please Come Again.  
BST

**Figure:PDF(invoice)**

- 9) show the bill in the form of message on the customer mobile. it will be use third party gate-way twilio is a free trail version now.

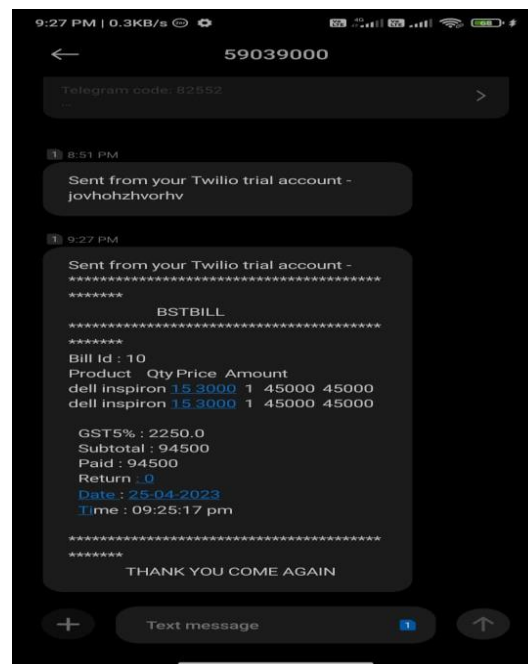


Fig:-Bill in the form of message

### C. Architecture

The software architecture of an application or system is an illustration of the system application that helps in understanding how it works and behaves. The architecture is presented as the blueprint for the system and the project developed in the system, defining how the work must be carried through designing and implementation of project. The architecture is the first carrier of system qualities. These qualities are performance, modifiability and security [5]. These cannot be achieved without combining the architectural vision of system and team. Architecture is a useful way of early analysis to make sure that a design approach will produce a well designed and acceptable system. By building an effective architecture, you can find out design risks and eliminate them early in the development process of system.

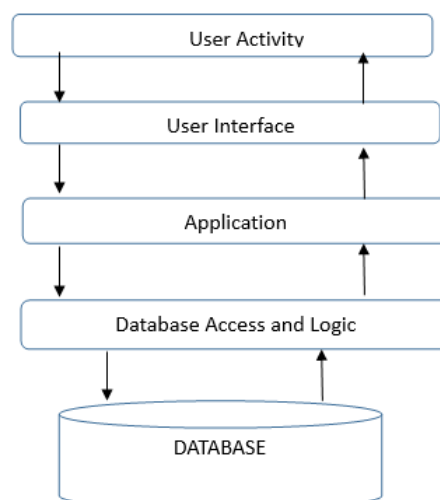


Figure: General architecture

#### IV. CONCLUSION

- Benefits of implementing a Billing Management System
- Improved accuracy and efficiency of billing processes
- Reduction in billing errors and disputes
- Enhanced customer satisfaction
- Streamlined financial reporting and analysis
- Increased revenue and profitability
- Improved compliance with regulatory requirements
- Cost savings and return on investment
- Future scope and potential for scalability
- Key considerations for successful implementation of a Billing Management System

#### V. FUTURE SCOPE

- Integration with advanced analytics tools to provide more detailed insights into billing data and customer behavior.
- Integration with emerging technologies like artificial intelligence and machine learning to automate billing processes and improve accuracy and efficiency.
- Incorporation of blockchain technology to enhance security and transparency in billing transactions.
- Expansion into new markets and industries, such as healthcare, utilities, and telecommunications, where billing management is a critical function.
- Development of mobile and cloud-based billing systems to provide greater flexibility and accessibility to users.
- Integration with customer relationship management (CRM) systems to provide a more comprehensive view of customer interactions and billing history.
- Adoption of new payment methods, such as cryptocurrencies and digital wallets, to provide more convenient and secure billing options for customers.

Overall, the future scope of a Billing Management System is vast, and its potential for innovation and growth is significant. As businesses continue to prioritize efficiency, accuracy, and customer satisfaction, the demand for advanced billing management solutions will only continue to increase.

#### VI. REFERENCES

- [1]. Manzini Takavingofa, Great Zimbabwe University, "Manzlee Retail Management System", May 2006
- [2]. Olumide Obikoya, Yaba College of Technology, "Design and Implementation of Supermarket Management System".
- [3]. Syed Hasan, "POS System (Shoe Retail System)Documentation", November 2015
- [4]. Dr. V. Ilango, Dr. S. Mohan Kumar, Factors For Improving The Research Publications And Quality Metrics, International Journal of Civil Engineering & Technology, April 2017.
- [5]. Apurva Rewatkar, Akshata Birelliwari, Hemlata R. Kosare, "GST Billing System" (International Conference on Emanations in Modern Engineering Science & Management)2018