A MINOR PROJECT REPORT
ON
JAVA BASED BILLING SOFTWARE

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University Polytechnic

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Aligarh Muslim University

Certificate

This is to certify that the work embodied in the project report entitled "Billing system in JAVA" which is being submitted by Lakshmendra Singh, Akshay Dubey, Ashar Parvez and Hritick Goyal in partial fulfilment of requirement for the awards of the "DIPLOMA IN COMPUTER ENGINEERING" of UNIVERSITY POLYTECHNIC, ALIGARH MUSLIM UNIVERSITY, ALIGARH. This is a record of their cumulative effort carried out under my supervision and guidance. They completed this work unflagging zeal, interest and enthusiasm.

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ACKNOWLEDGEMWNT

With immense pleasure and great sense of satisfaction we acknowledge those without whom, the completion of this project couldn't have been achieved. It is great privileges that I take this opportunity to express my heartfelt regards and gratitude to my teacher "Mohd Naved Qureshi", University Polytechnic, Aligarh Muslim University, Aligarh for his inspiring guidance, constant encouragement and help which was always forthcoming.

This affectionate attitude and constructive made this works easy and interesting

ABSTRACT

Billing System automation involves the digitalization and increasing proficiency of bill generation process at any regular store. The JAVA based Billing System is installed on computer and is used for all processes related to bill generation, record keeping and record editing.

This project demonstrates a Billing software basically designed to reduce paperwork, save time and money of the shopkeeper. The user can keep a record of his/her customers and items. The basic objective of this project is to provide simple, fast, reliable, and proficient bill generation process for the customer as well as the shopkeeper.

Contents

1. Introduction

- The project "Billing system" is an application to automate the process of ordering and billing of a "Shop/ Store" .This desktop application is designed considering the chain of Stores which is located in various cities. This application also administrates its users and customers.

- To develop software named **Billing System** .It will be developed for individual. It will have following features-

  1. It will contain list of users along with their bill details.

  2. It will maintain request of a user.

  3. It will be able to add or remove any entry.

  4. It will also generate printed bill.

- The proposed system either does not require paper work or very few paper works is required. All the data is feted into the computer immediately and various bills and reports can be generated through computers. Since all the data is kept in a database no data of the organization can be destroyed. Moreover work becomes very easy because there is no need to keep data on papers.

- Computer operator control will be there no errors. Moreover storing and retrieving of information is easy. So work can be done speedily and in time.

2. Need of Billing Systems

✓ Avoids a lot paperwork in generation of bills and keeping records.

✓ Performing automated calculations and addition of new records.

Six Major Benefits of Automation-
The primary benefits of operations automation are:

Cost reduction,
Instant updates,
Notifications and remainders,
Instant Invoices
Accessibility, and
Performance

Cost reduction:
Not having a billing software can make tiny extra costs appear. You have to keep record of all details using a manual way that can cost you as well, as time is money. But with billing software you can save it all in the system and in the software without having write it down and keep wasting money on pens and notebooks to keep everything recorded. It helps you to do more work rather than doing billing so you can give more time to your business.

Instant updates:
Automated billing software updates you about all the daily sold products and integrates with inventory and accounting software. This way you remain updated about the accounts and business that is happening and the inventory level remains under check. As the billing happens the sold items get updated along with the required information **Notifications and remainders:**

It helps you make professional approach towards the payment overdue and bills that are yet to be paid.

Instant invoices:

Be it related with the online payments or billing it will help you print or send invoices to the customers instantly. This helps the customers and clients get the information of transactions and purchased item immediately which results in customer satisfaction. This also acts as a proof hence clients and customers have a complete satisfaction as it is instant as well.

Accessibility:

The accessibility makes it simple for the business owners to get the updates anywhere and this way the business remains in the palm of the owner. Even when you might be away on a trip you will remain aware of what is happening in your business all you will require is an internet connection.

Performance:

Making a queue in a supermarket is one of the most irritating situations we experience and that makes us lose our patience and manners. But with a billing software your customers and employees will have a more relaxed experience as a billing software helps in faster billing. In manual manner we enter the price, the information and each product separately and then calculate them. This time consuming process becomes a task of few mins as the billing software reads the barcode with the help of barcode reader and enters all the details and then calculates it with a printed invoice in the end and boom you have it all in just few minutes with no one forcing you to wait in a line for several minutes.

3. Hardware Used

Desktop/Laptop computer with following minimum requirements:-

➢ 2 GB RAM

➢ Intel Based processor

➢ Windows 7 OS or higher.

➢ Intel HD Graphics Driver or higher.
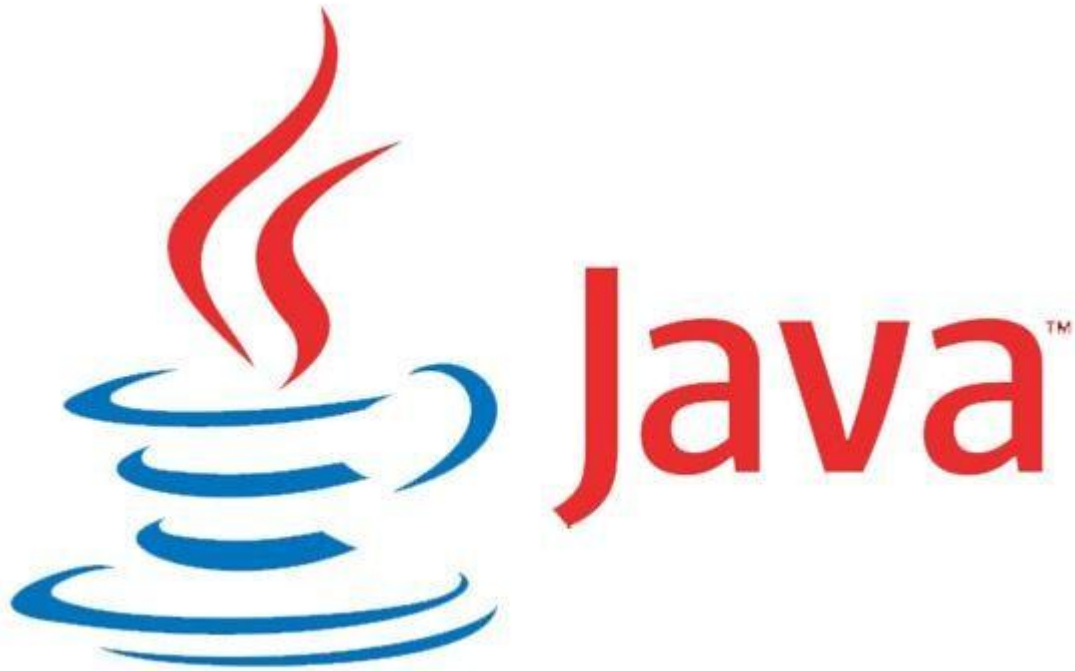

Computer System

Additional Hardware used:

➢ Printer

PRINTER

4. SOFTWARES/APPLICATIONS USED:

1. Application – JAVA
2. Database – Microsoft Access
3. Languages used – JAVA
4. Development tools – NetBeans, JAVA Development Kit, Notepad++

JAVA

NetBeans

SOFTWARE

Front End

    1. Language used: JAVA. We use this language is supports event
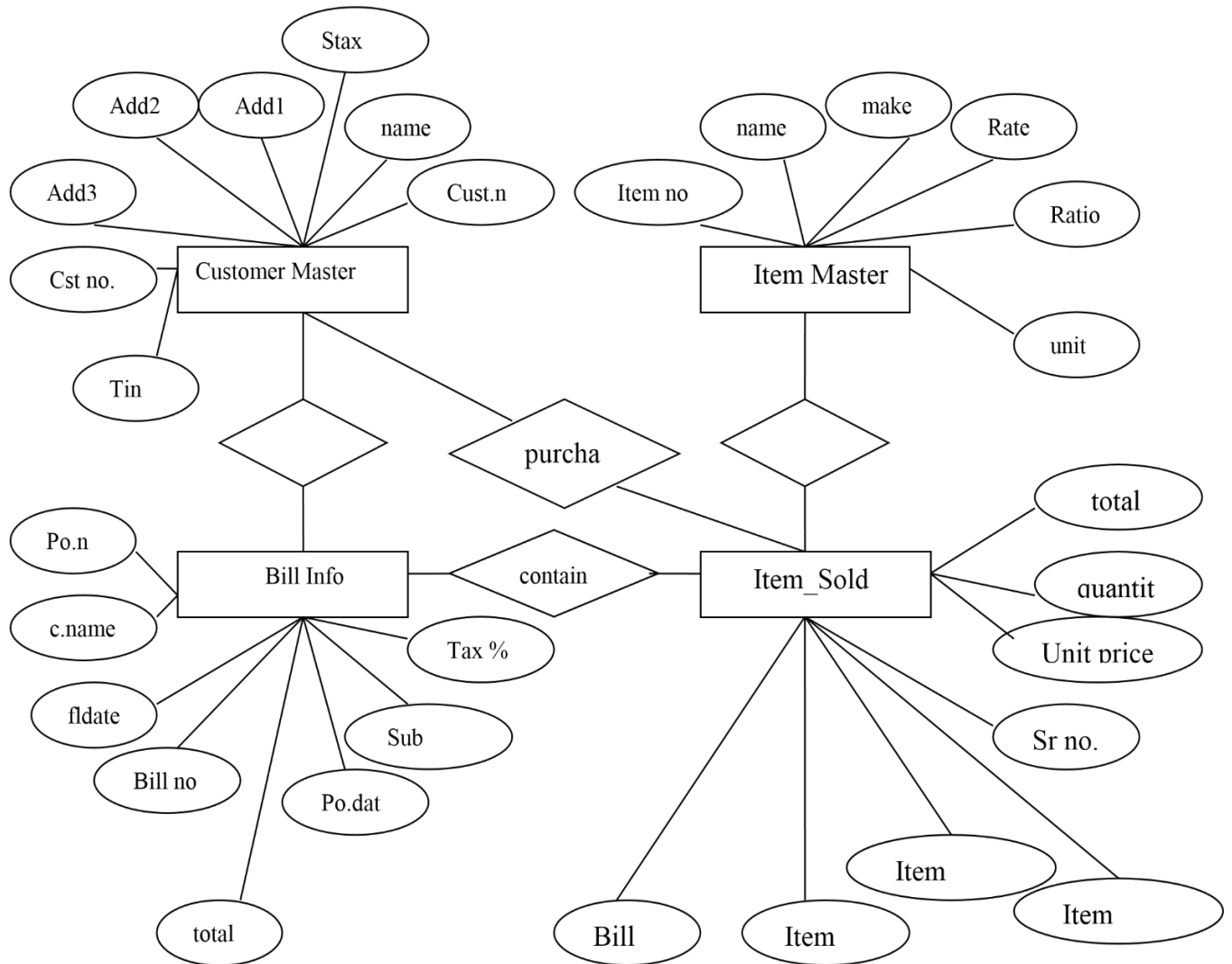   driven programming feature.

Back end

Supporting Software: MS ACCESS. This is used to storing data in the
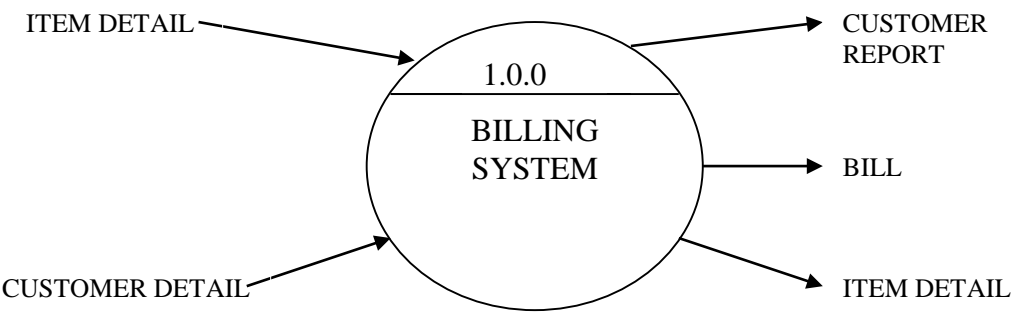form of tables. It is easy to use.

Microsoft Access
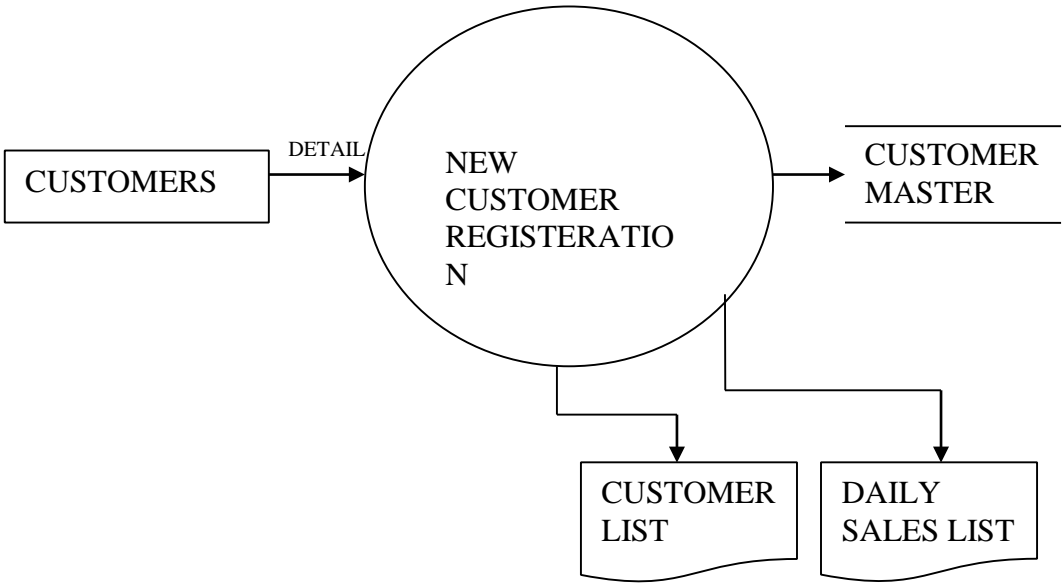
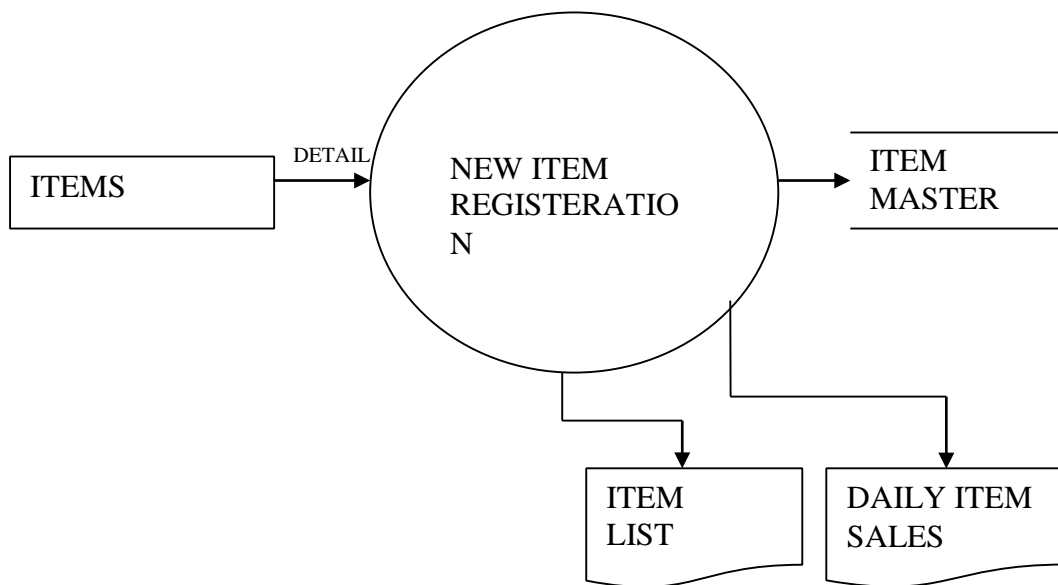# 5. Entity Relationship (E-R) Diagram

CONTEXT LEVEL

ITEM DETAIL

CUSTOMER
REPORT

1.0.0

BILLING
SYSTEM

BILL

CUSTOMER DETAIL

ITEM DETAIL

6. Data Flow Diagram

FIRST LEVEL

⬜ PROCESS 1

CUSTOMERS

DETAIL

NEW
CUSTOMER
REGISTERATIO
N

CUSTOMER
MASTER

CUSTOMER
LIST

DAILY
SALES LIST

☐ PROCESS 2

```
ITEMS ───DETAIL──▶ ( NEW ITEM REGISTERATION ) ──▶ ITEM MASTER
                                │         │
                                ▼         ▼
                            ITEM LIST   DAILY ITEM SALES
```

☐ PROCESS 3

```
                                          ──▶ BILL INFO
CUSTOMERS MASTER ──DETAIL──▶ ( BILL GENERATION ) ──▶ BILL INVOICE
ITEM MASTER ──DETAIL──▶                        ──▶ ITEM SOLD
```
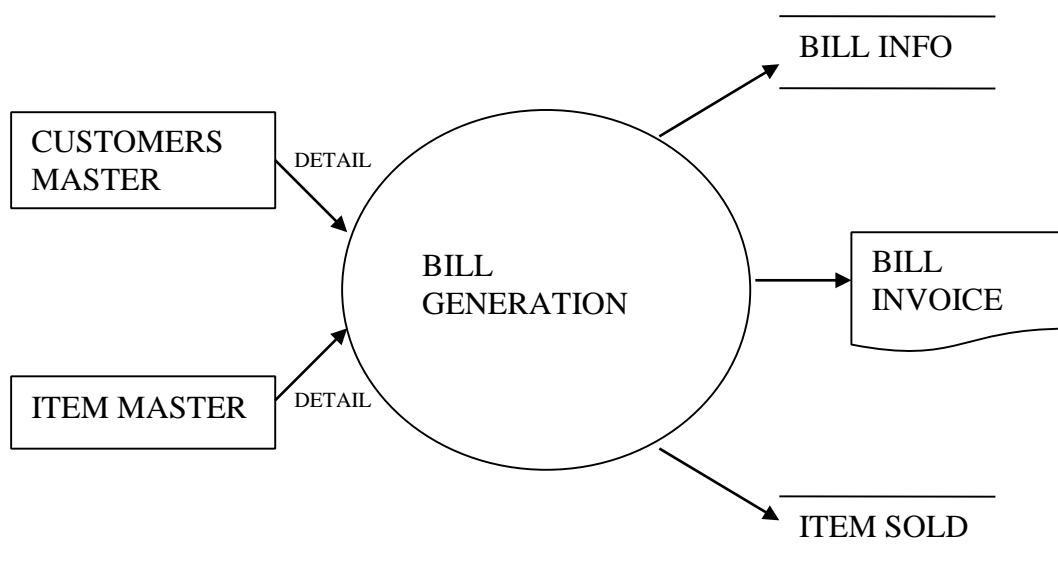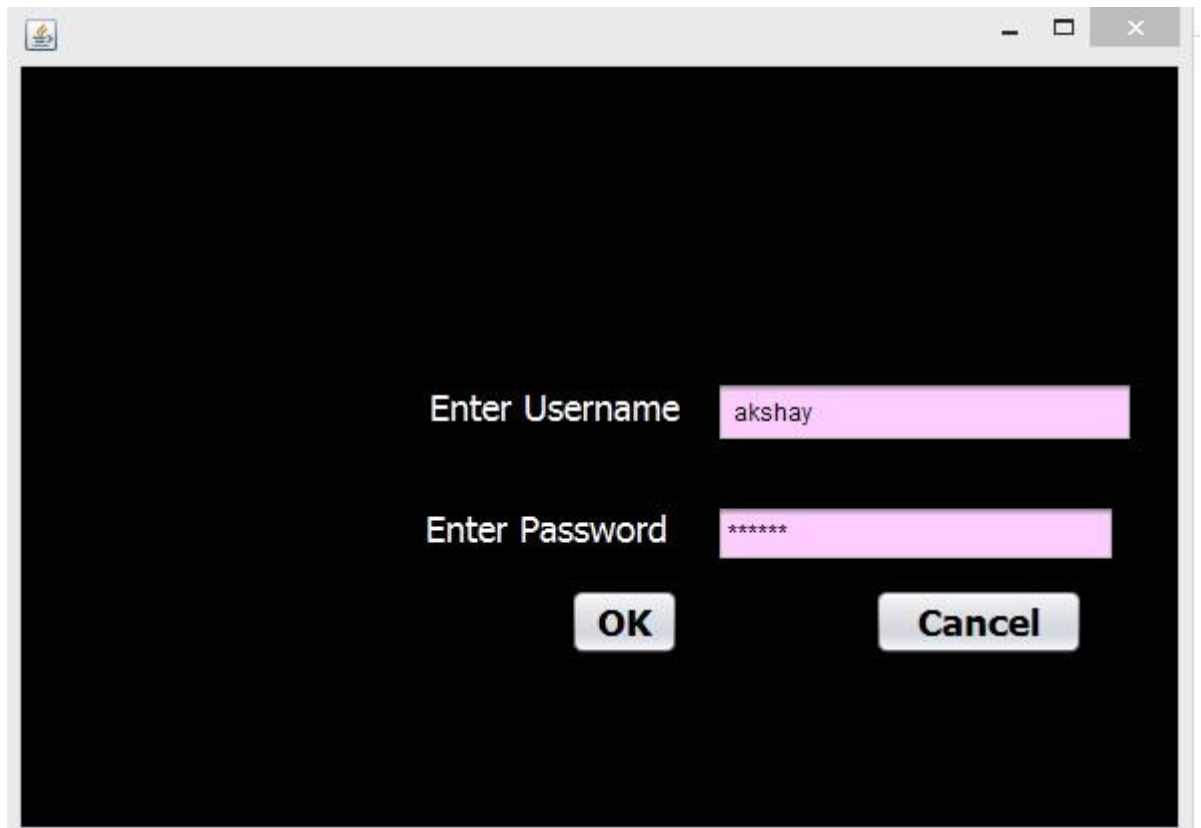
7. BILLING SYSTEM DETAILED INFORMATION
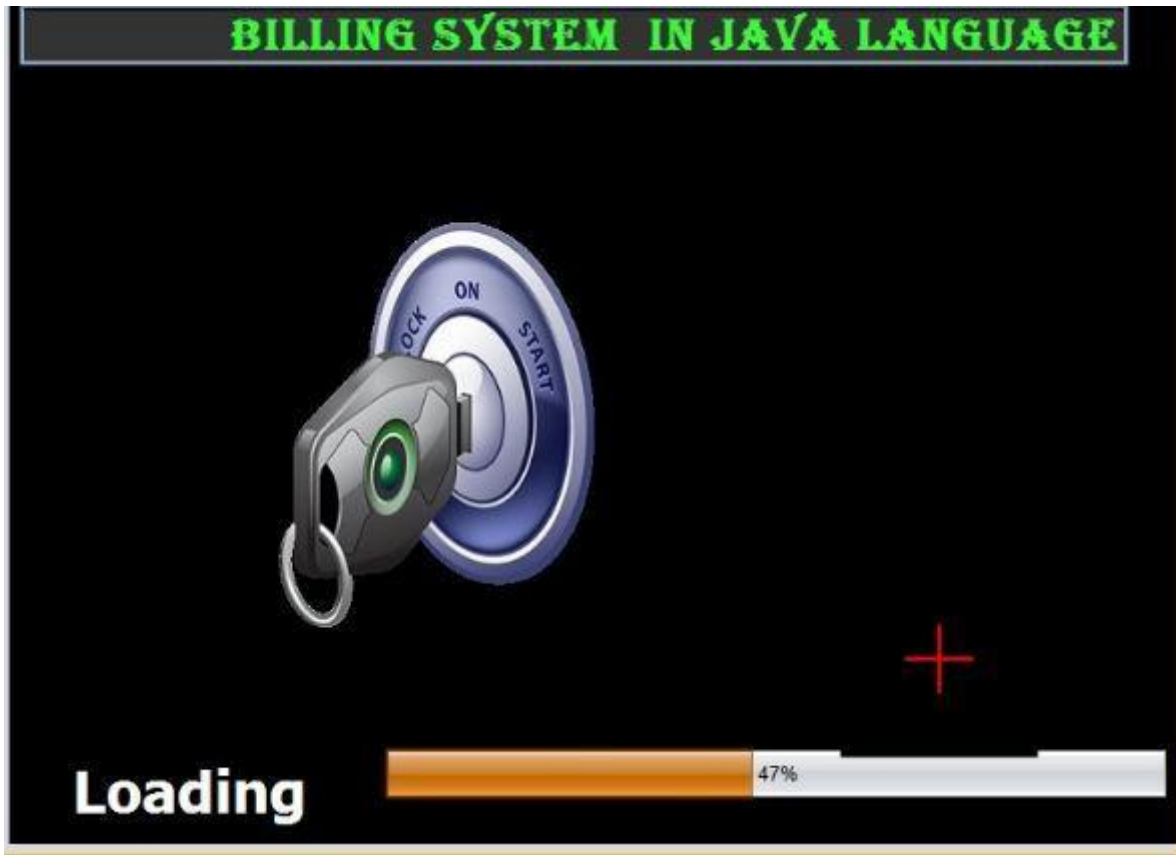
(A) LOGIN PAGE

This page is the first page on project start up. User enters his/her username and password and then this page directs the user to main menu through "**splash form**". However if the username/password is incorrect then an error message is displayed.
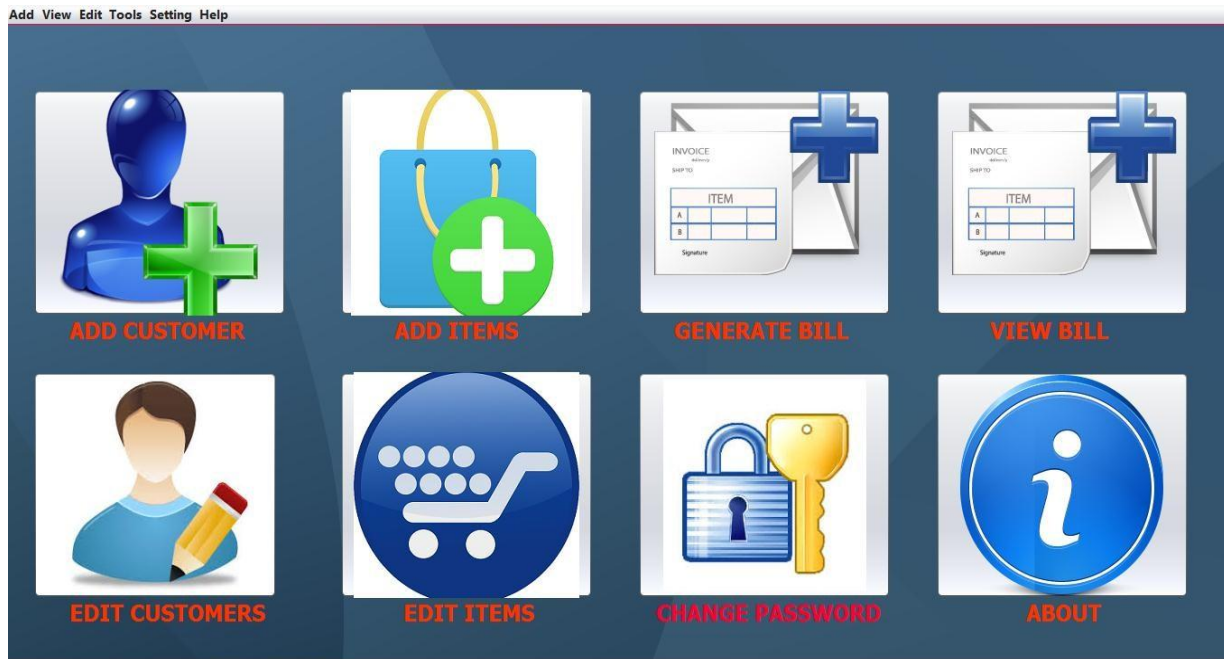
(B) Splashform

(C) Main Menu

There are several options for each link in the menu. These options are:-

- Add- Add customer, Add item, Billing

- View- Customers, Items, and Search options
- Edit- Edit customers, Edit items
- Tools- Calculator, Notepad
- Setting- Change username, Change password
- Help- About
- Report- All customers and All items

Add View Edit Tools Setting Help

ADD CUSTOMER   ADD ITEMS   GENERATE BILL   VIEW BILL

EDIT CUSTOMERS   EDIT ITEMS   CHANGE PASSWORD   ABOUT

(D)ADD CUSTOMER PAGE

- The add customer page allows the user to add new customer in database.
- Customer id field is automatically generated and other fields are provided by user.
- User can add a new customer by pressing "SAVE" button.
- When the records are entered in database, a message displaying "Record inserted successfully" appears

(E) ADD ITEMS PAGE

- The add item page allows the user to add new item in database.
- Item No. field is automatically generated and other fields are provided by user.
- User can add a new item by pressing "SAVE" button.
- When the records are entered in database, a message displaying "Record inserted successfully" appears.

(F) BILLING PAGE

- This page generates the bill.
- Bill no. field is automatically generated, user just has to enter the customer no. all other corresponding fields are automatically generated.
- Now, user has to enter product serial no. and quantity to generate subtotal.
- Then, user enters tax percentage and the grand total is generated.
- Finally user can print the bill or save the bill in the database.

BILLING

bill no [1]

cust no [   ]

date [11/12/17]

bill to [-SELECT CUSTOMER- ▾]

contact [   ]

Gstin [   ]

Purchase order No [   ]

purchase order date [   ]

p no	product	make	serial no	unit	ratio	unit price	quantity	TOTAL

[ADD]

SEARCH [   ]

item no	item Name	make

item no	item Name	make	srno	unitprice	quantity	total

[REMOVE]

SUB TOTAL [   ]

TAX [   ] [   ]

TOTAL [   ]

[PRINT]   [SAVE]   [NEW]   [EXIT]

Billing Management System

Invoice No. [   ] [*Retrive*]

GSTIN_NO. [   ]

DATE [   ]

BILL TO [   ]

CUST_NO. [   ]

CONTACT NO. [   ]

LIST OF PRODUCT BOUGHT

SUB_TOTAL [   ]

TAX [   ] [   ]

[Print]   [Exit]

TOTAL [   ]

(G)EDIT CUSTOMERS PAGE

- This page can be used to edit various customer details such as address, contact no., e-mail etc.
- A customer is selected from the list.
- The corresponding details of the customer are automatically displayed.
- User can edit single or multiple fields.
- Finally update button is pressed to edit the details of that customer.

(H) EDIT ITEMS PAGE

- This page can be used to edit various item details such as rate, make, unit etc.
- An item is selected from the list.
- The corresponding details of the item are automatically displayed.
- User can edit single or multiple fields.
- Finally update button is pressed to edit the details of that item.

EDIT ITEMS DETAILS

Item NO		Item Name	
Item Make		Item Rate	
Item Ratio		Item Unit	

item no	item Name	make	rate	ratio	unit

EXIT

UPDATE

(I) SEARCH CUSTOMERS PAGE

- This page enables the user to search for any customer in the database.
- Two fields are provided here.
- User can search the customer by name.
- User can also search the customer by serial no.

(J) SEARCH ITEMS PAGE

- This page enables the user to search for any item in the database.
- Two fields are provided here.
- User can search the item by name.
- User can also search the item by serial no.

(K) CHANGE USERNAME PAGE

- Using this page user can change/update an existing username.
- User has to enter the old username.
- Then user has to enter the new username and re-enter it for conformation.
- Finally "OK" button is clicked to change/update username.

(L) CHANGE PASSWORD PAGE

- Using this page user can change/update an existing password.
- User has to enter the old password.
- Then user has to enter the new password and re-enter it for conformation.
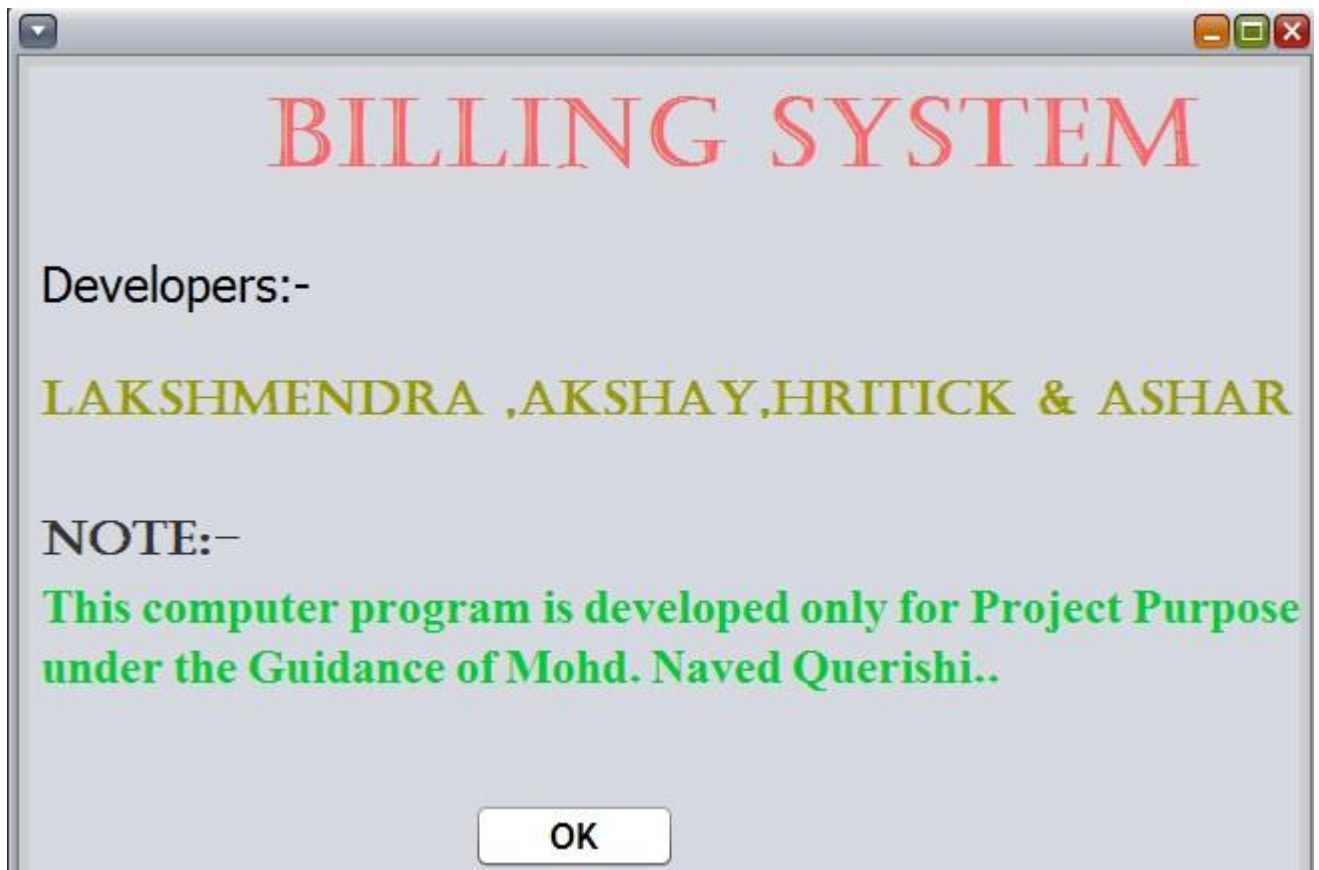- Finally "OK" button is clicked to change/update password.

(M) ABOUT PAGE

- The about page is provides a description about the version, developers etc.

(N) DATABASE

- The database of this project is MS ACCESS based.
- The database contains 5 tables:-
- 1. "**Customer_Master**" – for details of customers.
- 2. "**Item_Master**" – for details of items.
- 1. "**Login**" – for details of users/admin.
- 1. "**Billinfo**" – for details of bills generated.
- 1. "**Item_Sold**" – for details of items sold by the store.

All Tables

Customer_Master

- Customer_Master : Table

Item_Master

- Item_Master : Table

Login

- Login : Table

Billinfo

- Billinfo : Table

Item_Sold

- Item_Sold : Table

8. Skills we used

1. Hardware
2. Programming
3. App designing on Netbeans.
4. JAVA APP development using JDK.
5. Database development on access.

9. Its Future Advancement

1. The Billing System can be developed for online purposes in future
2. In the online version, the front end will be HTML, CSS based.
3. The middle part will be JAVA based.
4. And the rear end will be MySQL/ Oracle based.

10. References

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- ➤ www.wikipedia.org
- ➤ www.youtube.com
- ➤ www.oracle.com
- ➤ www.javatutorialpoints.com
- ➤ www.w3schools.com