

ACKNOWLEDGEMENT

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In our present project we have chosen the topic- "Supermarket Management System". This report contains the complete computerized management of Supermarket. This system reflects standard structure so that any inventory management system can implements this system easily in the existing system. This system works to reduce the human efforts. Due to totally computerized occurrence of error is less. This system works smoothly when used.

We are also thankful to the persons who are indirectly involved in the project completion. We are also thankful to friends who have supported us in the successful completion of this project.

ABSTRACT

The project is on Supermarket Management and Billing systems. The supermarket is a huge shop where we all can find a lot and lots of products may whether grocery or fashion or utensils and etc in the various categories in different departments. Also, there is a huge number of staff in different positions. It has to keep all the records of its staff so that the employee management would be effective. So, to make such problem easier to handle we have developed this system that not only keeps authentic data may that be of transactions into and out of the supermarket or that be the information of its employee. The manager module in the software helps to keep information of employees and the cashier and the data entry operator module helps to keep records of transaction inside and out of the supermarket. The barcode scanning system in the software help to run the transaction process fast and effectively.

This supermarket management system has realized the transmission and control of large goods, so as to facilitate the management and decision of sales, and reduce a big burden for supermarkets and supermarket managers. It also can help to improve the work efficiency of supermarket. Its requirements are to provide the basic information maintenance function of employees, memberships and products so that managers can go through the function to add, delete, and modify the basic information of employees and the employees can go through it to add, modify and delete the basic information of memberships and goods.

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Chapter 1

INTRODUCTION

1.1 Introduction to the Supermarket

Supermarket management system is very convenient for manage, input, output, and find the data so as to make the messy supermarket data to specific, visualizations, rationalization. In the aspect of software, the supermarket management system using Java language and Oracle as the background database. In the aspect of software, various configurations in computer including input and output capacity, internal memory and external memory capacity can meet the requirements of users.

The Supermarket Management and Billing System, a desktop application, is developed to provide all the facilities and services required in various shops like shopping centres mini-mart, fancy shops, etc. The main objective of the system is to provide efficient transactions with minimal error. Bar code scanning technology helps cashiers with faster and more efficient billing. Cashier, manager, and data entry operator are provided with their own authorization account so that only the authorized person can perform their respective jobs.

1.2 Potential of the problem

1.2.1 PROBLEM STATEMENT

- Too many product, difficult to manage

Every supermarket stocks hundreds of different items. As a result, it is difficult for business owners to recall all of the accessible products. However, you can control all elements of your business using a barcode scanner and receipt printer that syncs with the software. Many consumers no longer have to rely on supermarket sales books for income and loss information because of advances in technology. Create barcodes and QR codes on products automatically with the most complete barcode system from Hash Micro!

- System is build for fast data processing

This software project is a traditional supermarket billing system with some added functionality. This system is built for fast data processing and bill generation for supermarket customers. The billing system consists of an SQL database and effective front end designed in Asp.net. The billing database is a vast collection of product name, price and other product name, price and other product.

1.2.2 EXISTING SYSTEM

- Existing system has basic operations such as employee names, product names, adding new product and deleting it.
- It do not contain a detailed information about employee and also about the product purchased by the customer.
- It has lack of security.

1.2.3 PROPOSED SYSTEM

- Our Proposed System has its own logo, name, slogan.
Name – SATTVA GROCITERIA
Slogan – The Quality of Goodness.
- It has advanced facilities to make it more user friendly.

- If customers have any query, we can get their details just by entering their names and solve their problem.
- It maintains the detailed information about the product purchased by customer such as Name, Phone number and we assign them with unique id.
- Our proposed system overcomes the drawbacks of the existing system.

1.3 Objectives of the present work

1.3.1 OBJECTIVES AND SCOPE

- To provide an efficient and effective billing methodology.
- To keep a record of every business transaction.
- To maintain the stock and the billing system. It have an in-depth knowledge of the customer needs and preferences.
- Reduce the time consumption for every process in the buying and selling of goods.

1.4 Platform and tools used

- Tools: Netbeans
- External Library: PHP
- DBMS: MySQL database
- Browser: Any

Chapter 2

SYSTEM ANALYSIS

2.1 How is the Analysis done? – Literature Survey



Figure 2.1 Literature Survey

2.2 Findings of analysis

Our team visited “Malnad Shopping Zone” and collected the information which helped us to develop mini project on Supermarket management system.

As per our survey the customers visit the supermarket and purchase items, and the cashier bills the invoice of products purchased. But they didn't maintain database of any customer details who purchased the products. It would be more convenient if the details of customer who purchased is stored in database.

2.3 System Requirements Specification

System Requirements means a detailed description of a what system should do and it sets out the system's functions, services and operational constraints in details. The system requirements specification should be precise. It should define exactly what is to be implemented.

2.3.1 FUNCTIONAL REQUIREMENTS

A functional requirement defines a function of a system or its component, where a function is described as specification of behaviour between output and inputs. These are statements of services the system should provide, how the system should behave in particular situation.

1. The employees of this management system has unique name, id and password.
2. Customer action is to purchase, view and select the required product.
3. Employee actions are to add, delete, update and cancel the product ordered by customer.
4. Cashier action is to bill the product purchased by customer.
5. Admin actions are to view the product and accept the product.

2.3.2 NON-FUNCTIONAL REQUIREMENTS

These are constraints on the services or function offered by the system. A non-functional requirement (NFR) is a requirement that specifies criteria that can be used to judge the operation of the system, rather than specific behaviour. They include timing constraints, constraints on the development proposes and standards. It includes hardware and software requirements.

Software requirements

- JAVA(JFRAMES) in Netbeans:
Netbeans is an integrated development environment (IDE) for Java Netbeans allows applications to be developed from a set of modular software components called modules.
- MYSQL:
Mysql is a RDMS (relational database management system) developed by oracle, that is based on structured query language (SQL). A database is a structured collection of data.
- XAMPP:

XAMPP stands for X-operating System, Apache, Mysql, Php, Perl. It is an open resource platform which includes attributes like supporting Perl, Mercury mail, and also Filezilla and so on.

Perl – It is a script programming language like C.

Mercury mail – It is mail server.

Filezilla – It is used to exchange the files.

- Adobe illustrator:

It's a computer-graphics application that allows users to creates refined drawings, designs and layouts.

- Adobe Photoshop CC:

Photoshop CC is an advanced imaging software used by video editors and photographers to alter or manipulate digital images. Photoshop is primarily used to edit 2D images, although it does offer some 3D image editing functionality.

- Canva:

It is a graphic design tool that allows users to create professional designers for print and web.

Hardware requirements

- Processor: Intel Pentium i5 or more
- RAM: 6 GB or more
- Hard disk: 500 GB or more
- General: Mouse, Keyboard, Colour monitor etc.

Chapter 3

DESIGN

3.1 Data Flow Diagram

It describes the flow of data and the process that changes data throughout a system. It is constructed using a set of symbols that do not imply physical implementation.

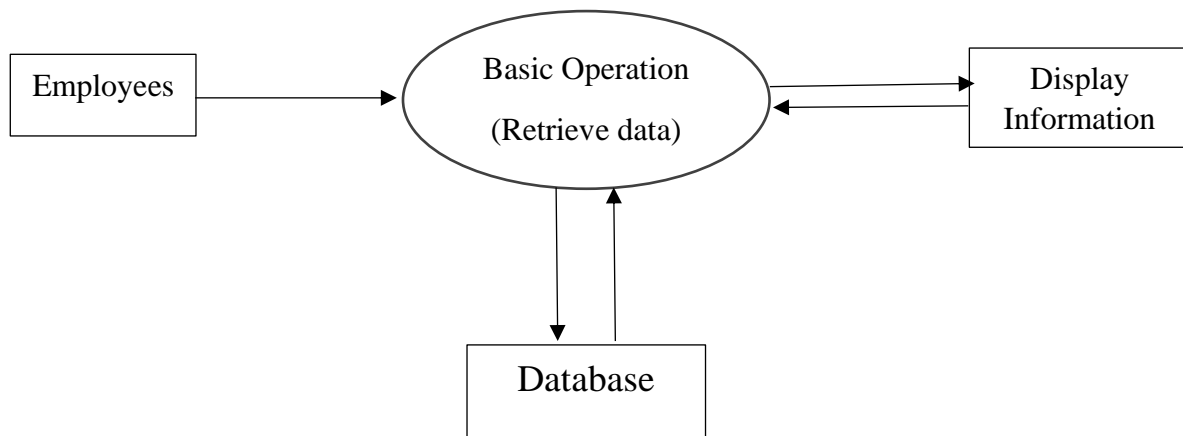


Figure 3.1 Data flow diagram

3.2 Entity Relationship Diagram

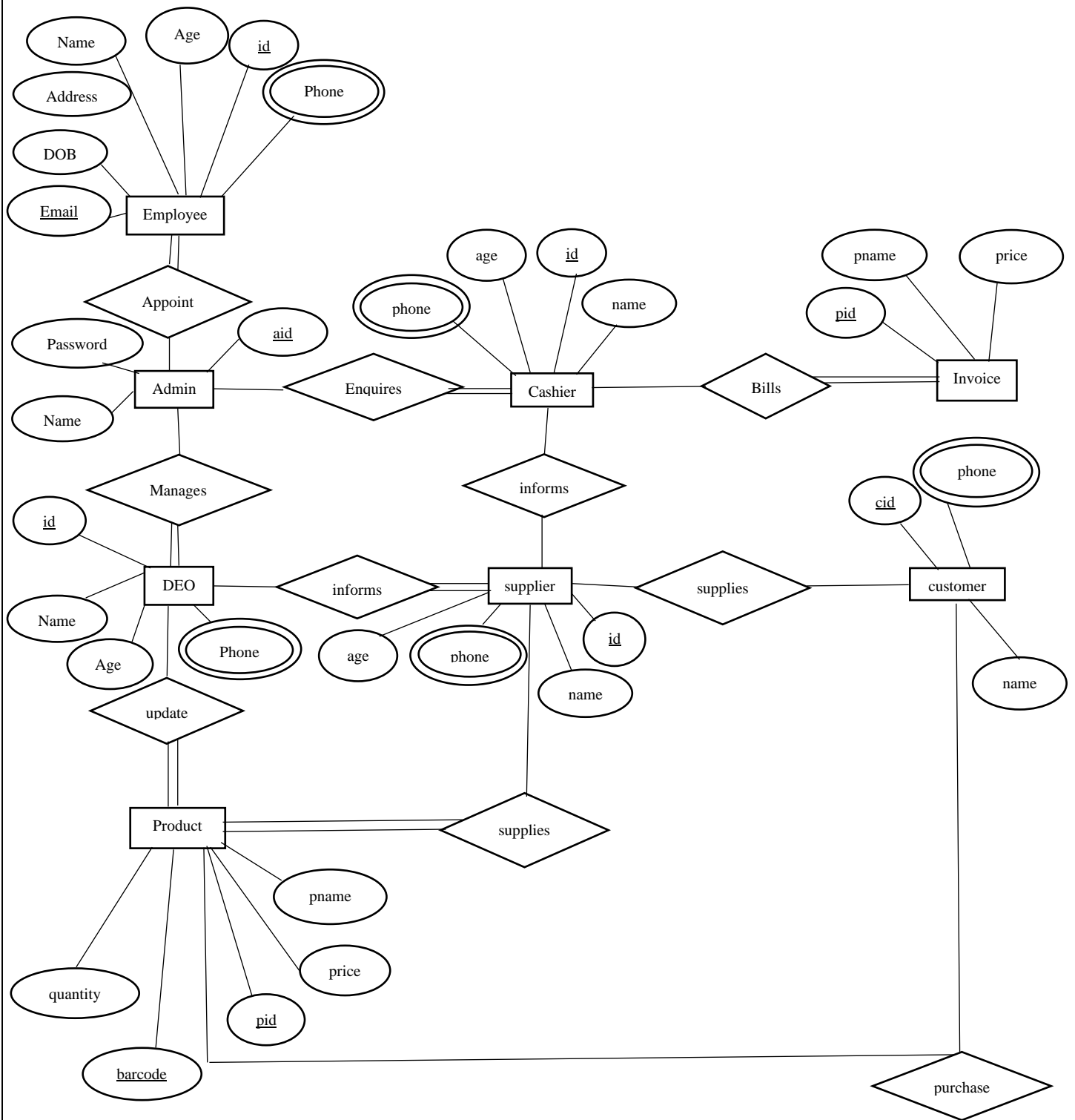


Figure 3.2 ER Diagram of Supermarket System

3.3 Schema Diagram

Employee

name	<u>id</u>	Address	DOB	email	age	phone
------	-----------	---------	-----	-------	-----	-------

DEO

name	<u>id</u>	age	phone
------	-----------	-----	-------

Cashier

name	<u>id</u>	age	phone
------	-----------	-----	-------

Supplier

name	<u>id</u>	age	phone
------	-----------	-----	-------

Product

Pname	<u>Pid</u>	Quantity	barcode	price
-------	------------	----------	---------	-------

Invoice

Pname	<u>Pid</u>	Price
-------	------------	-------

Customer

Cname	<u>Cid</u>	Price
-------	------------	-------

Figure 3.3 Schema Diagram of Supermarket System

Chapter 4

IMPLEMENTATION

It is the important stage where the defined procedures are transformed into control specifications with the help of computer language. Its primary goal is to write the source code supporting documentation.

4.1 Functional Modules

- a. Admin: A person who supervise all the activities going on in the firm.
- b. Cashier: A person who handles the transaction
- c. Data entry operator: A person who enter the products imported into the store as well as to update the details.
- d. Supplier: A person who supplies the products to customer.

4.2 Relevant Codes

1. Code to fetch event information from database:

```
try {  
    Connection con=ConnectoinProvider.getCon();  
    Statement st=con.createStatement();  
    ResultSet rs=st.executeQuery("select * from product where pid='"+pid+"' and  
pname='"+pname+"' ");
```

2. Code to connect Java and MySQL:

```
try {  
    Class.forName("com.mysql.jdbc.Driver");  
  
    con=DriverManager.getConnection("jdbc:mysql://localhost:3307/sattvagroceteria","root",  
"123456");  
  
    return con;  
  
}
```

4.3 Tables

Field	Type	Null	Key	Default	extra
a_name	varchar(20)	No	Primary key	none	
password	varchar(10)	No		none	

Table 4.3.1 Admin Login

Field	Type	Null	Key	Default	extra
user_name	varchar(20)	No	Primary key	none	
Password	varchar(10)	No		none	

Table 4.3.2 Employee Login

Field	Type	Null	key	Default	extra
Eid	int(10)	No	Primary key	none	Auto increment
Ename	varchar(20)	No		none	
gender	varchar(20)	No		none	
Age	varchar(20)	No		none	
Address	varchar(50)	No		none	
type	varchar(20)	No		none	
phone	varchar(10)	No		none	

Table 4.3.3 Employee db

Field	Type	Null	key	Default	extra
Sid	int(10)	No	Primary key	none	Auto increment
Sname	varchar(20)	No		none	
Address	varchar(50)	No		none	
type	varchar(20)	No		none	
phone	varchar(10)	No		none	

Table 4.3.4 Supplier db

Field	Type	Null	key	Default	extra
cid	int(10)	no	Primary key	none	Auto increment
Cname	varchar(20)	no		none	
Address	varchar(50)	no		none	
type	varchar(20)	no		none	
phone	varchar(10)	no		none	

Table 4.3.5 Customer db

Field	Type	Null	key	Default	extra
Pid	int(10)	no	Primary key	none	Auto increment
Pname	varchar(20)	no		none	
Bar_code	varchar(20)	no	Primary key	none	

Cost_price	varchar(10)	no		none	
Sell_price	varchar(10)	no		none	
Qty	varchar(10)	no		none	
Sid	int(11)	no		none	
Sname	varchar(20)	no		none	

Table 4.3.6 Product db

Field	Type	Null	key	Default	extra
In_id	int(10)	no	Primary key	none	Auto increment
cid	int(10)	no		none	
Bar_code	varchar(20)	no	Primary key	none	
Cname	varchar(20)	no		none	
Total_Qty	int(10)	no		none	
Total_bill	int(10)	no		none	
Status	int(11)	no		none	
Balance	varchar(20)	no		none	

Table 4.3.7 Invoice db

Chapter 5

TESTING

5.1 Tests Cases Results

Test ID	Test Case Title and Condition	System Behaviour	Expected Result	Observed Result
T01	Primary Key Integrity Constraint	When Primary key is given Duplicate value	Duplication not permitted	Dialog box Indicating corresponding Error message
T02	Null Values for attribute except primary key	When all attribute of a given row are null except primary key	Primary key cannot be null	The rows get inserted
T03	Insertion	When a valid values are given to a row and insert type	One row inserted	Information inserted successfully
T04	Search	When a valid search is given	Search successful	Result of the search key is given
T05	Display	When search is successful	Successful	Details of employees are displayed
T06	Click Exit	Application should get closed	Successful	Closes the application

Table 5.1 Testing

Chapter 6

USER MANUAL

6.1 Snapshots of User Interfaces



Snapshot 6.1.1 Loading page



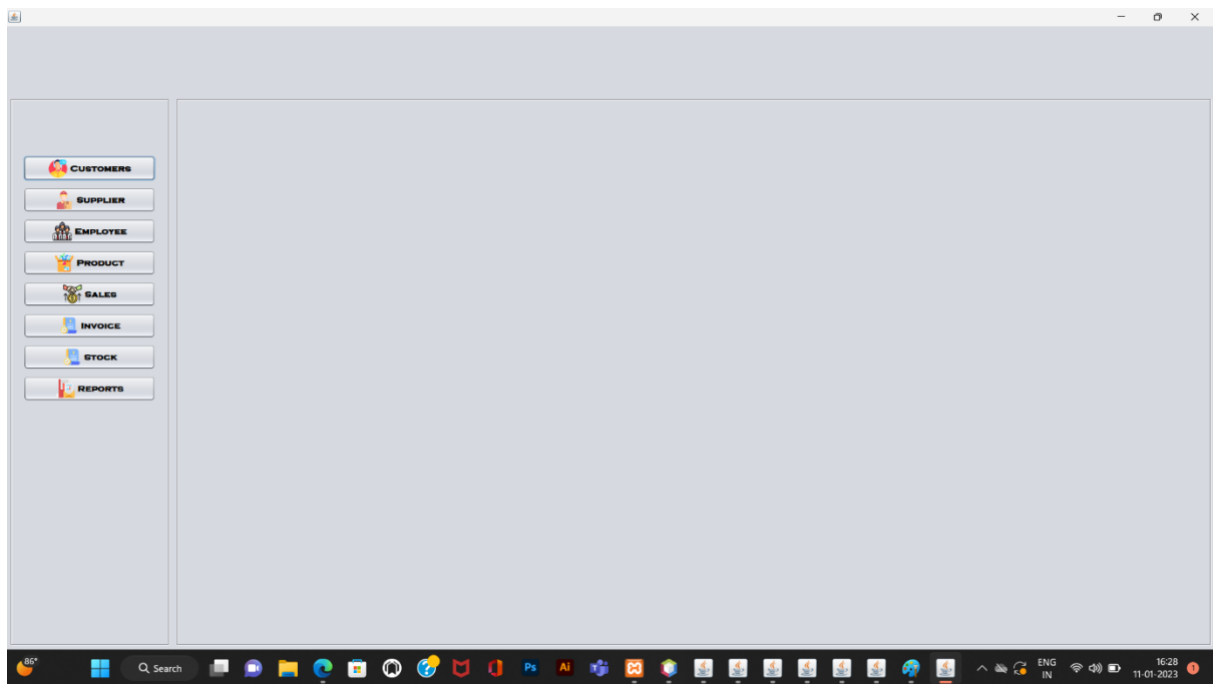
Snapshot 6.1.2 Login page



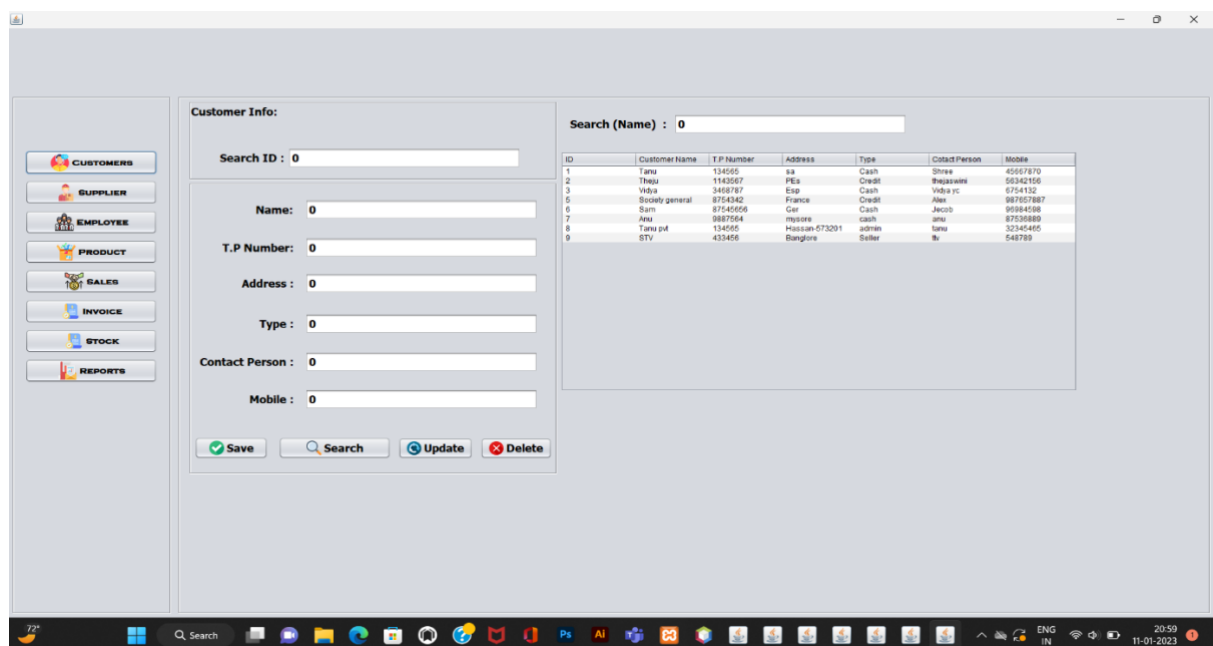
Snapshot 6.1.3Admin Login Page



Snapshot 6.1.4 Employee Login Page



Snapshot 6.1.5 Home Page



Snapshot 6.1.6 Customer Page

CUSTOMERS

SUPPLIER

EMPLOYEE

PRODUCT

SALES

INVOICE

STOCK

REPORTS

Supplier Info:

Search ID : 0

Name : 0

T.P Number : 0

Address : 0

Type : 0

Contact Person : 0

Mobile : 0

Save

Search

Update

Delete

Search (Name) : 0

ID	Supplier Name	T.P Number	Address	Type	Contact Person	Mobile
2	Theju	6734211	Hassan	credit	Thejaswini	435467
3	Indira	98765432	mysore	cash	indira.jc	98574512
5	Tanu	23456787	bangalore	credit	shree	34545665
6	ABC	1234564	usa	cash	john	9897653
8	Haris	8753256	France	credit	John	6242354

72°

Search

ENG IN

20:59 11-01-2023

Snapshot 6.1.7 Supplier Page

CUSTOMERS

SUPPLIER

EMPLOYEE

PRODUCT

SALES

INVOICE

STOCK

REPORTS

Product Info:

Search ID : 0

Name : 0

Bar Code : 0

Cost Price : 0

Sell Price : 0

Qty : 0

Supplier ID : 0

Supplier Name : Theju

Save

Search

Update

Delete

Search (Name) : 0

ID	Product Name	Bar Code	Cost Price	Sell Price	Qty	ID	Supplier Name
14	Mini-book	100100	200	250	10	8	Haris
15	Pen	100200	10	20	30	5	Tanu
16	Pencil-Box	100500	200	250	12	6	ABC
17	Mouse	12354	300	350	12	2	Theju
18	Paint	100900	50	150	12	8	Haris

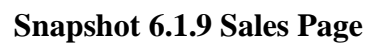
72°

Search

ENG IN

21:01 11-01-2023

Snapshot 6.1.8 Product Page



Snapshot 6.1.10 Invoice Page

Chapter 7

CONCLUSION

7.1 Conclusion and future scope

Supermarket Management and Billing System are developed for the professional handling of the supermarket's sales and buying as well as the management of the whole supermarket. It is very easy and useful application software that increases the productivity of the business.

- Building sales and profits.
- Increasing customer traffic.
- Improving department ratings.
- Types of measurable deliverables.

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