A

MINI PROJECT REPORT

ON

“ Musical Instrument System ”

SUBMITTED BY

Mr. Dhananjay Manik Bhagat
(SPPU Exam Seat No. 21714)

D.Y. PATIL INSTITUTE OF MCA AND MANAGEMENT

AKURDI, PUNE-411044

Academic Year 2022-2023

Dr. D. Y. Patil Pratishthan's

D.Y. Patil Institute of Master of Computer Applications And Management

Sector No.29, Behind Akurdi Railway Station, Pradhikaran, Nigdi, Pune – 411044
Tel No: 020-27640998, 202737393, Fax no: 27653054, Website: www.dypimca.ac.in,
Email: director@dypimca.ac.in
(Approved by AICTE, Recognized by DTE, Mah.; Affiliated to SPPU)

Ref: DYPIMCAM/Acad/Note/ 35/23 Date: 16/03/2023

CERTIFICATE

This is to certify that the Project entitled

"Musical Instrument System"

Has been successfully completed

By

Mr. Dhananjay Manik Bhagat

Towards the partial fulfillment of

M.C.A. (Master of Computer Application)
Under
Savitribai Phule Pune University for
Academic Year 2022-2023

Ms. Vanita Patil
Internal Project Guide

Internal Examiner

Dr. Kavita Suryawanshi
HOD-MCA, Vice Principal

Dr. K Nirmala
Director

External Examiner

Acknowledgement

I would take the opportunity to thank **Dr. K. Nirmala, Director, DYPIMCA and Management** for her support, extended to me throughout the course.
I would like to thank **Dr. Kavita Suryawanshi, Vice Principal,** for her scholarly disposition, timely guidance, support and cooperation.

I would like to thank **Ms. Vanita Patil** for her kind guidance, keen interest, continuous encouragement and inspiration throughout the project work.

Finally, I gratefully thank all the faculty members of DYPIMCA and Management for their cooperation and support.

I also thankful to get constant encouragement, support and guidance from all Teaching and Non-Teaching Staff for their timely support which helped us in successfully completion of our project work.

Student Sign:
Student Name : Dhananjay Manik Bhagat
MCA I
Div- C
Roll No : 21714

Index

1. Introduction

- The project “MUSICAL INSTRUMENTS SYSTEM” is an offline windows-based application designed to manage all purchase, sales related operations within an organization.
- The main objective of the application is to automate the existing system of manually maintaining the records of the product, customer, vendor, shop, purchase, sales details etc. In this project once the information is inputted, it will provide quick information regarding data.
- The new system will increase data accuracy, make musical instruments system more secure, effective, convenient and accessible and begin to coordinate information across the system.
- It gives a brief look of the products being purchased from the vendor and the products being sold to the customer and reports are generated accordingly.
- The main scope of our Musical Instrument System is that, it’s a user-friendly application and this project is used to give maximum information to the user about product purchased from vendor and product sold to the customer, purchase and sales details etc.
- This project is very convenient for the user as it minimizes the process work as well as the tedious job.
- Data approach and access made easier and convenient as it provides easy and quick access to particular product and services. Also, time required for accessing any detail will be very less. Hence the system saves time, efforts and cost.

1.1. Project Objective

- Provide the good user interface to ease of use and it also provide the security to the database.
- The System can view the details of any record.
- To allow only authorized user to access various function and processed available in the System.
- Locate any instruments information wanted by the user.
- Reduced clerical work as most of the work done by computer.
- Provide greater speed and reduced time consumption.

1.2 Existing System and Need of System

- Present System is totally depending on manual data management for different activities such as maintaining details of the product, customer, vendor etc.
- They maintain different register for various activities such as storing and searching data which is tedious and time-consuming task.
- In present system all transactions are done manually with pen and paper. So, the frequent updating is not possible also generating reports, accurately is not possible with current system.
- Existing system is lacking in facilities such as searching, deleting, and updating data efficiently and effectively.

1.3 Scope of Work

- Manage online Shopping Easily.
- Secure Registration and Profile management facilities for customer.
- Easy and quick access to particular product and services.
- This system is easy in handle and user friendly.
- Time required for accessing any detail will be very less.
- User can view details of the parts without going anywhere.
- It is convenient for users as this system provides accurate costs and description of the system.
- User can view different categories of product of different brands at a single place.
- This system calculates bill instantly and user can pay online.
- The system calculate bill instantly and user can pay online.

Hence the system saves time, efforts and cost.

1.4 Operating Environment – Hardware and Software

- **Hardware Requirements :**
  - Processor: Intel i3 10th Generation & above.
  - Hard Disk: 25 GB Minimum.
  - RAM: 1 GB Minimum.

- **Software Requirements :**
  - Operating System: Windows 7 and Higher Version.
  - Front – End: Java Servlet/JSP, Bootstrap, HTML, JavaScript.
  - Back - End: Apache Tomcat
  - Database: MySQL.
  - Editor: Eclipse IDE

1.5 Technology Used

- With the advent of latest technology if we do not update our system then our business result in losses gradually with time.
- Here, Java Technology – Servlet/JSP is used for logic and view purpose. For designing HTML/CSS/Bootstrap/JavaScript/jQuery is used.
- For Database MySQL 8.0 version is used.

1.6 Module Specification

- **ADMIN LOGIN MODULE**:

  This module is used to login to the software. The admin has to enter the username and password in order to login to the application.

- **PRODUCT MODULE**:

  This module used to add product details related to purchase and sales.

- **CUSTOMER MODULE**:

  This module contains the details of customer who has purchased the products and details related to it in a systematic way.

- **VENDOR MODULE**:

  This module contains the details of all the vendors from whom the product has been purchased by the shopkeeper.

- **SHOP MODULE**:

  This module contains details of the shop.

- **PURCHASE DETAILS**:

  It deals with purchase like, shopkeeper purchasing the products from vendor.

- **SALES DETAILS**:

  It deals with sales like, shopkeeper selling the products to customer.

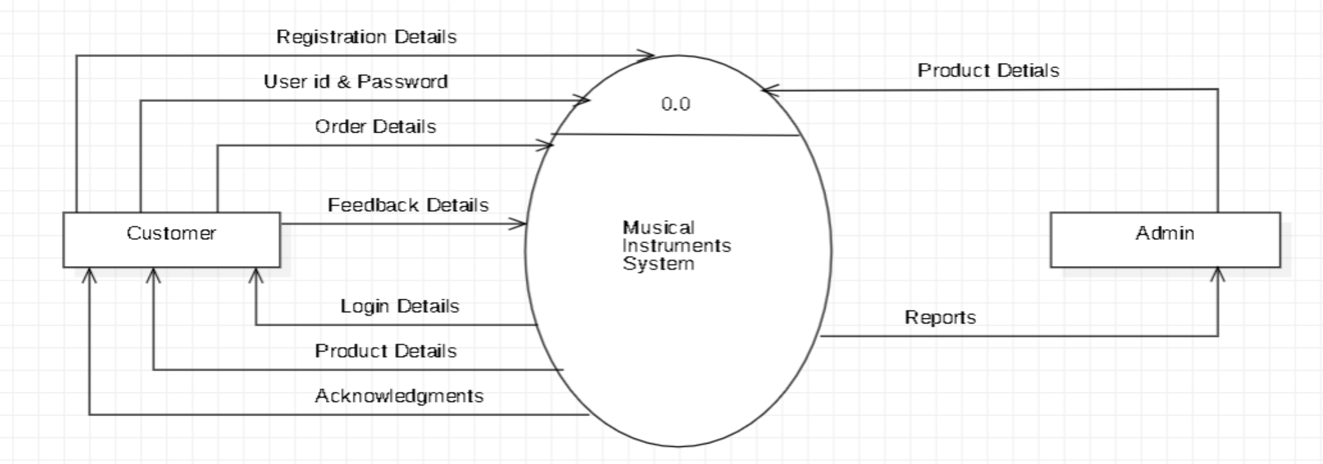
- **REPORT GENERATION**:

  This module provides a way for viewing the data of sales.

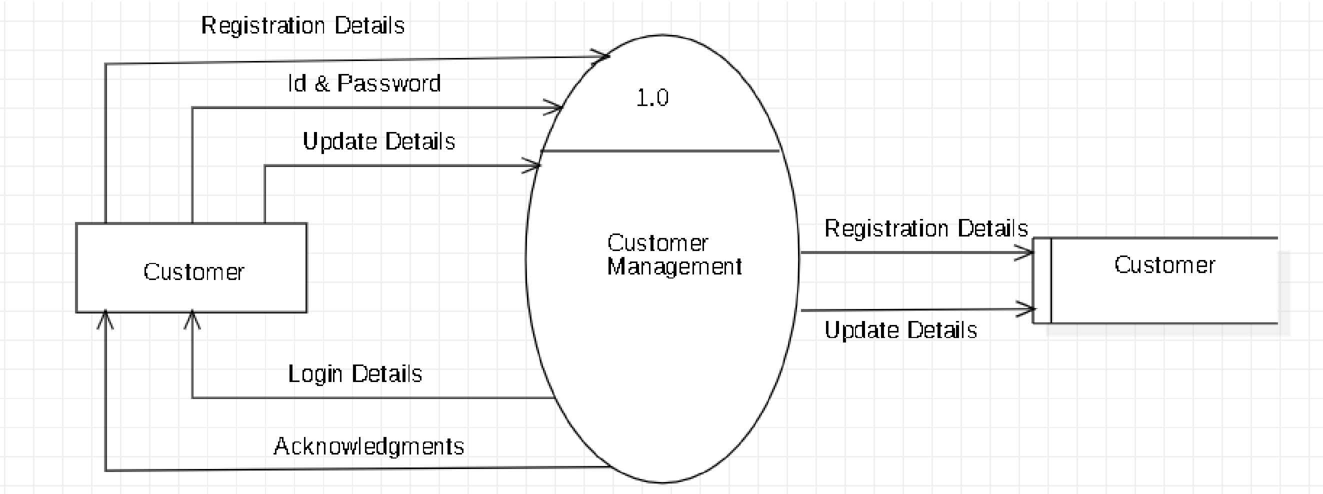
2.Analysis & Design

2.1 Data Flow Diagram

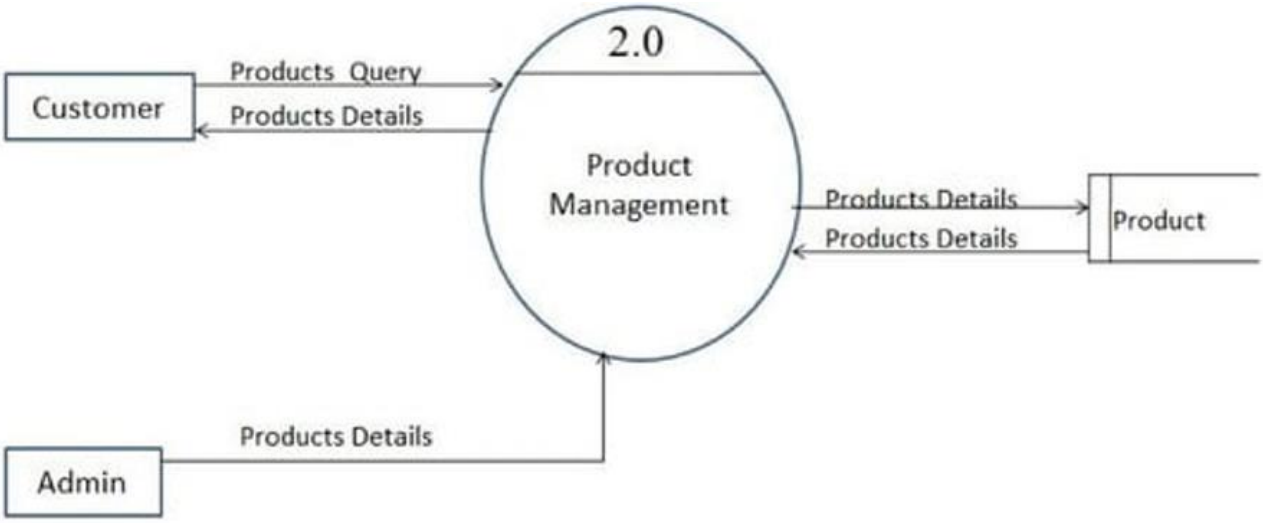
Level 0 :



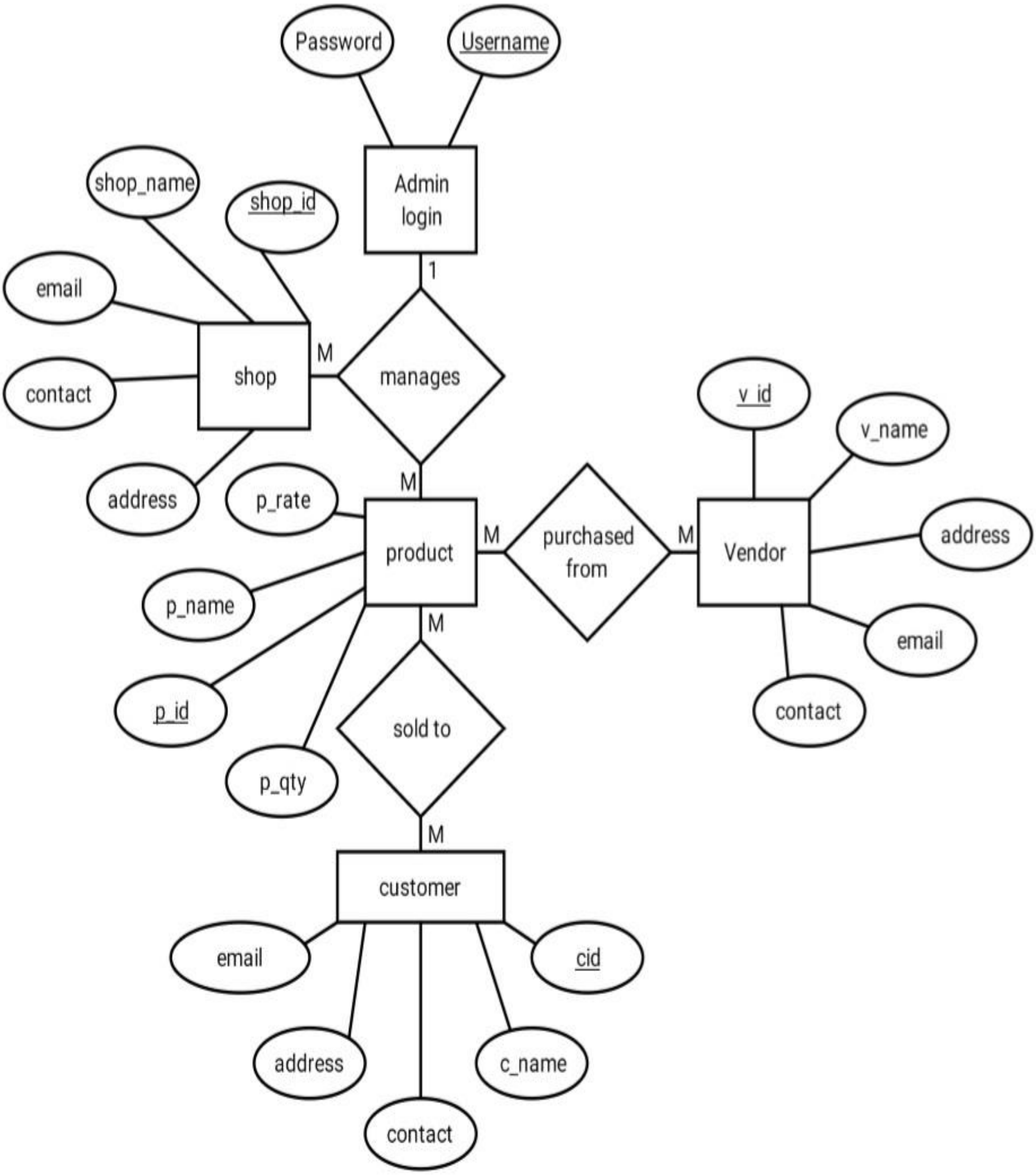
Level 1 :



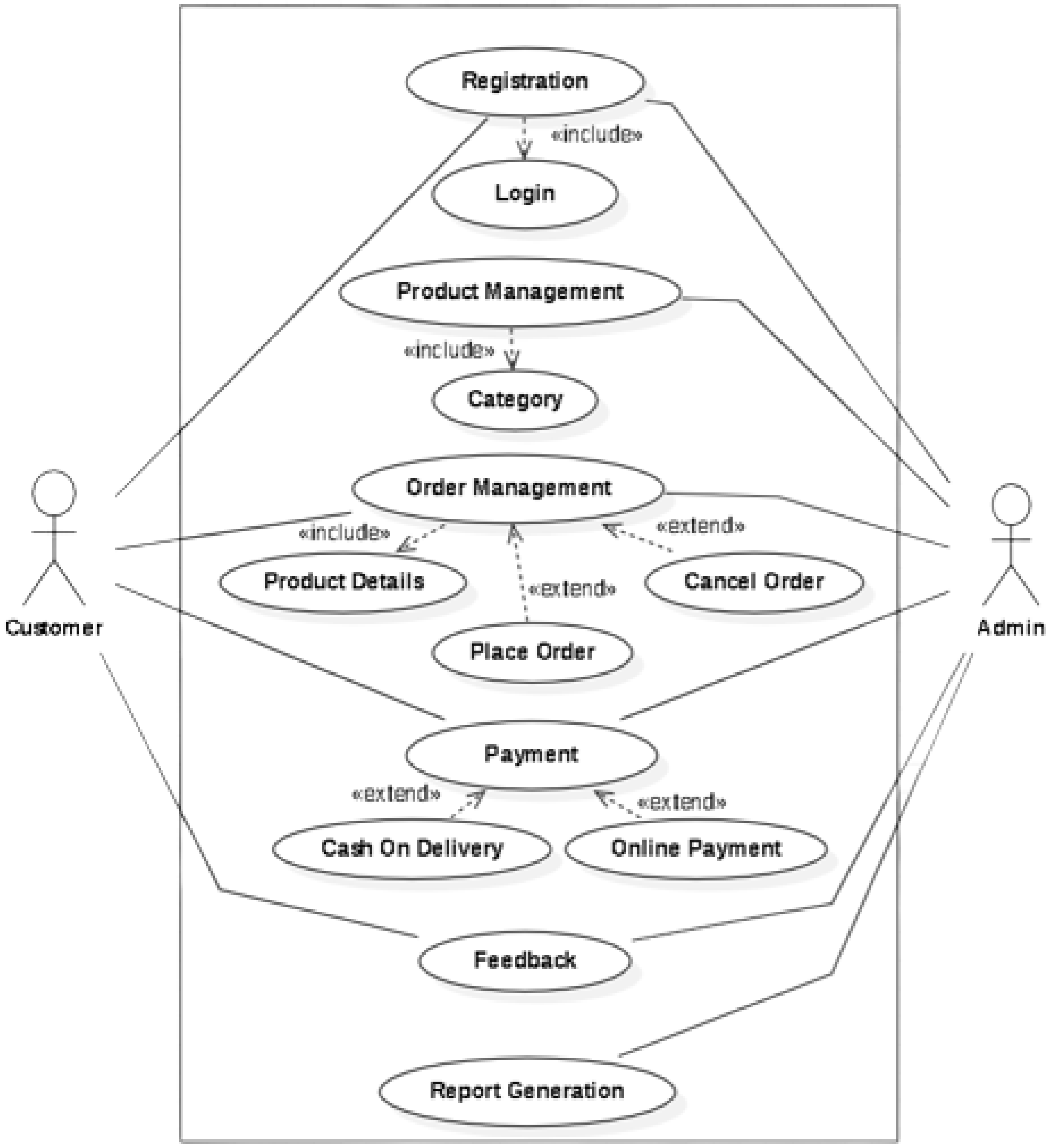
Level 2 :



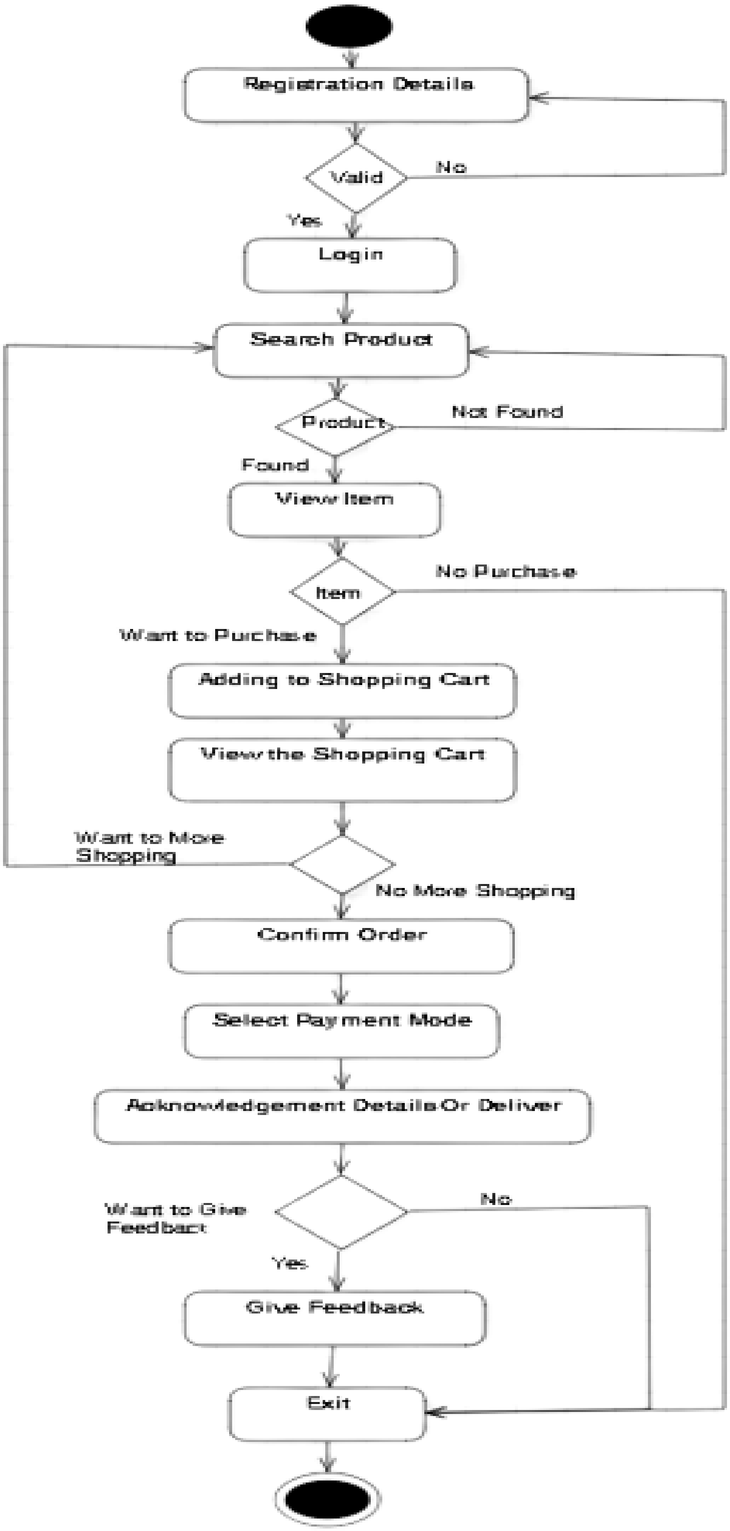
2.2Entity Relationship Diagram



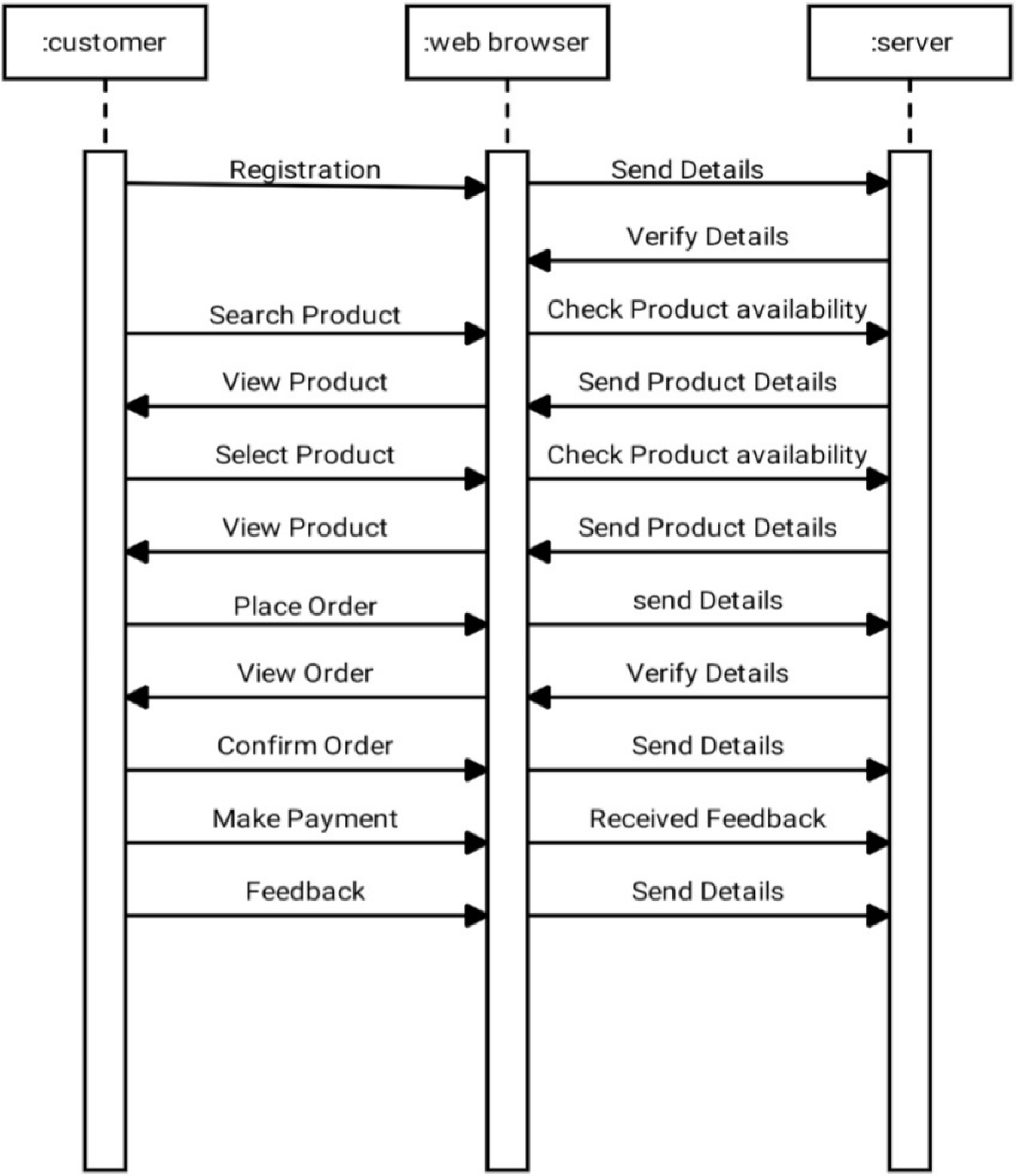
2.3 Use Case Diagram



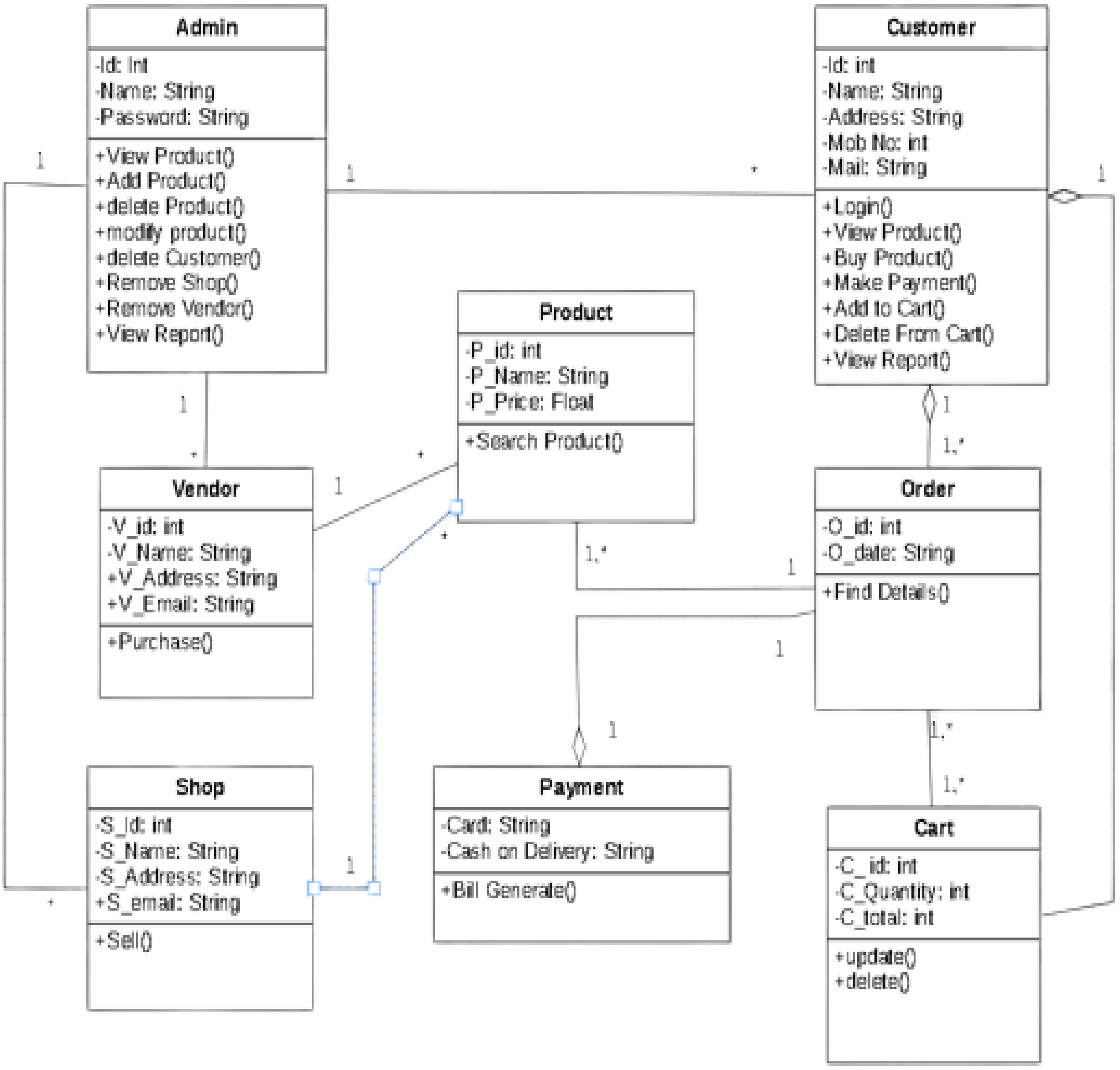
2.4 Activity Diagram



2.5 Sequence Diagram

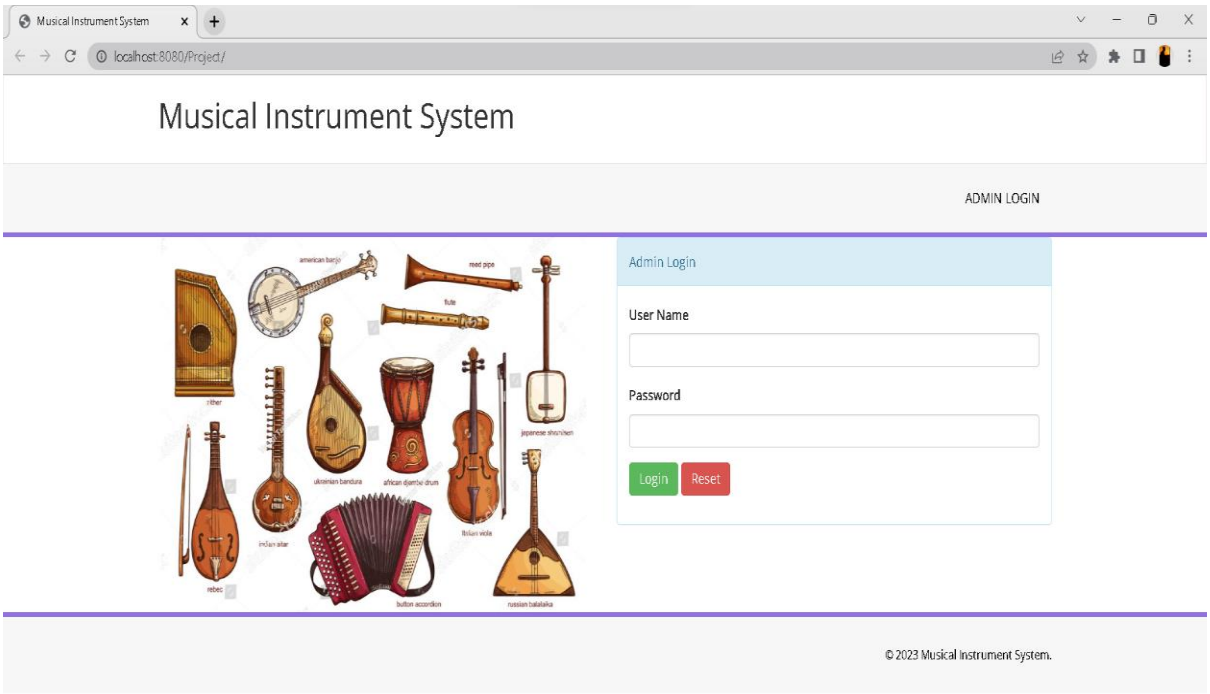


2.6 Class Diagram

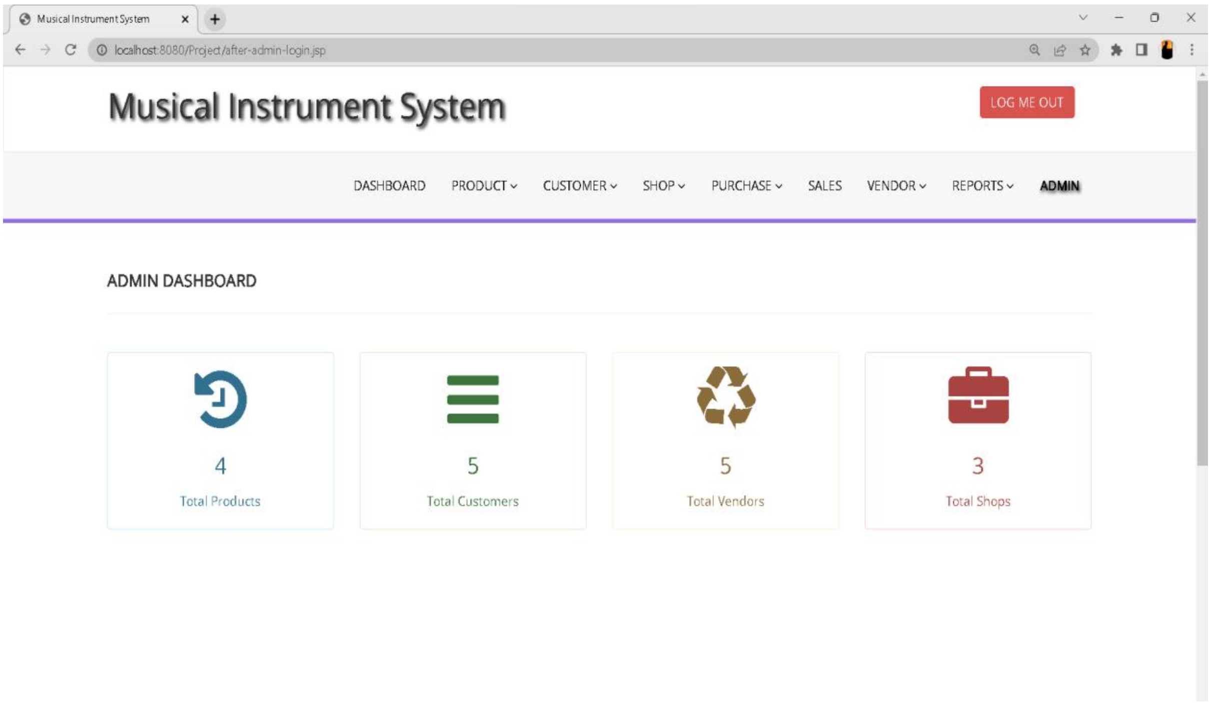


2.7 User Interface Screens

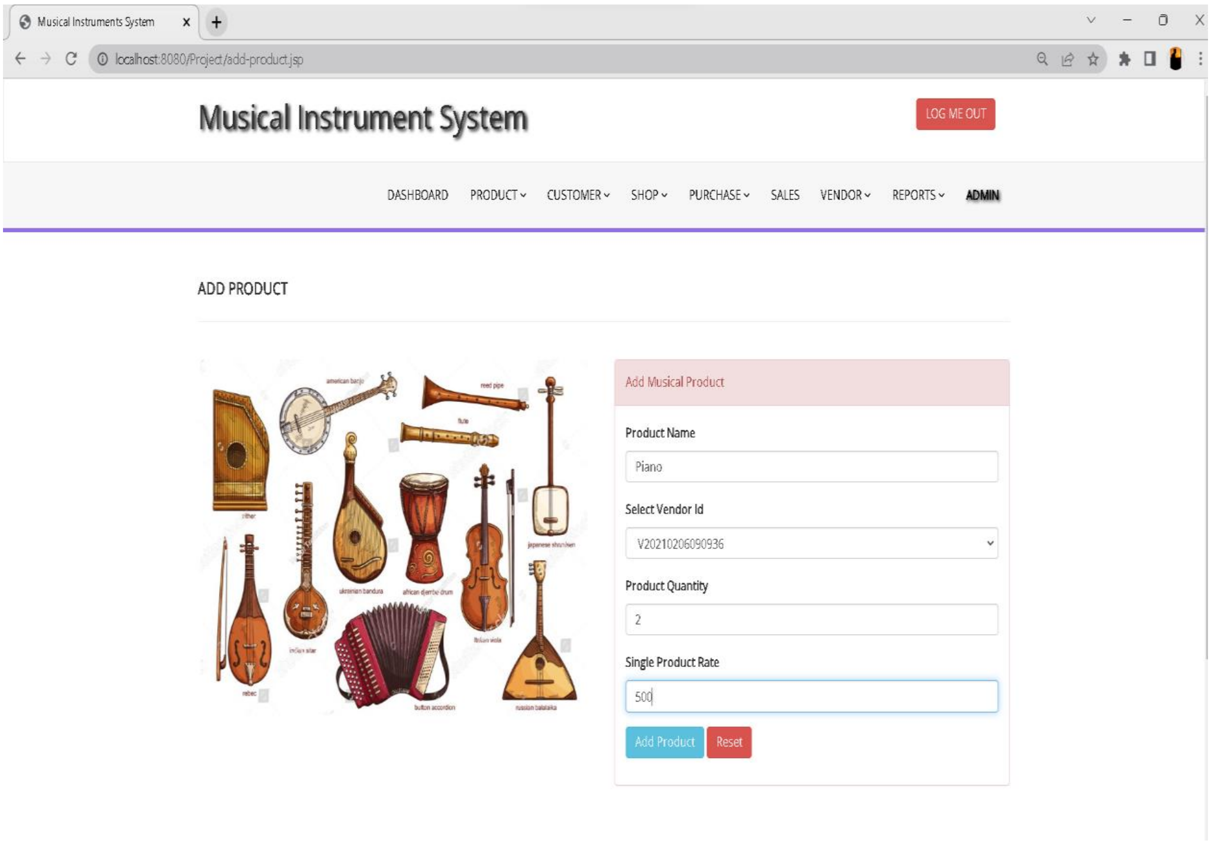
- **Admin Login :**



- **Dashboard :**



- ## Add Product :


Musical Instruments System
localhost:8080/Project/add-product.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT
CUSTOMER
SHOP
PURCHASE
SALES
VENDOR
REPORTS
ADMIN
Add Product
Reset

ADD PRODUCT

Add Musical Product

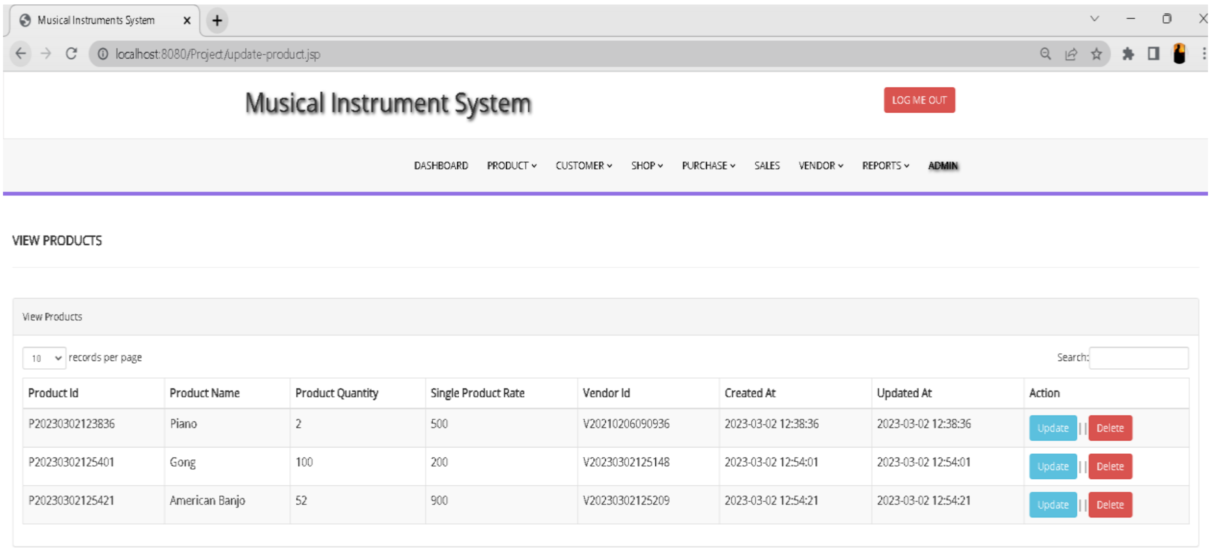
Product Name: Piano

Select Vendor Id: V20210206090936

Product Quantity: 2

Single Product Rate: 500

- ## View Product

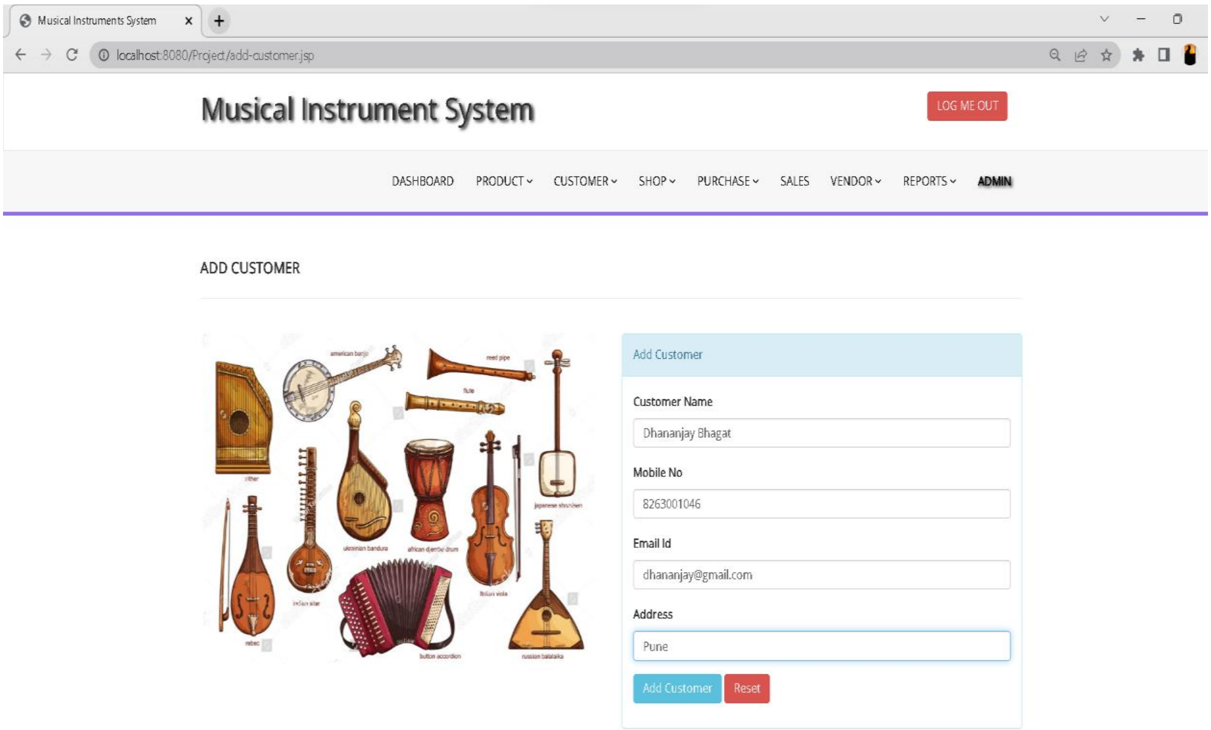


VIEW PRODUCTS

View Products

Product Id	Product Name	Product Quantity	Single Product Rate	Vendor Id	Created At	Updated At	Action
P20230302123836	Piano	2	500	V20210206090936	2023-03-02 12:38:36	2023-03-02 12:38:36	Update || Delete
P20230302125401	Gong	100	200	V20230302125148	2023-03-02 12:54:01	2023-03-02 12:54:01	Update || Delete
P20230302125421	American Banjo	52	900	V20230302125209	2023-03-02 12:54:21	2023-03-02 12:54:21	Update || Delete

➢ Add Customer



Musical Instruments System

localhost:8080/Project/add-customer.jsp

Musical Instrument System

ADD CUSTOMER

Add Customer

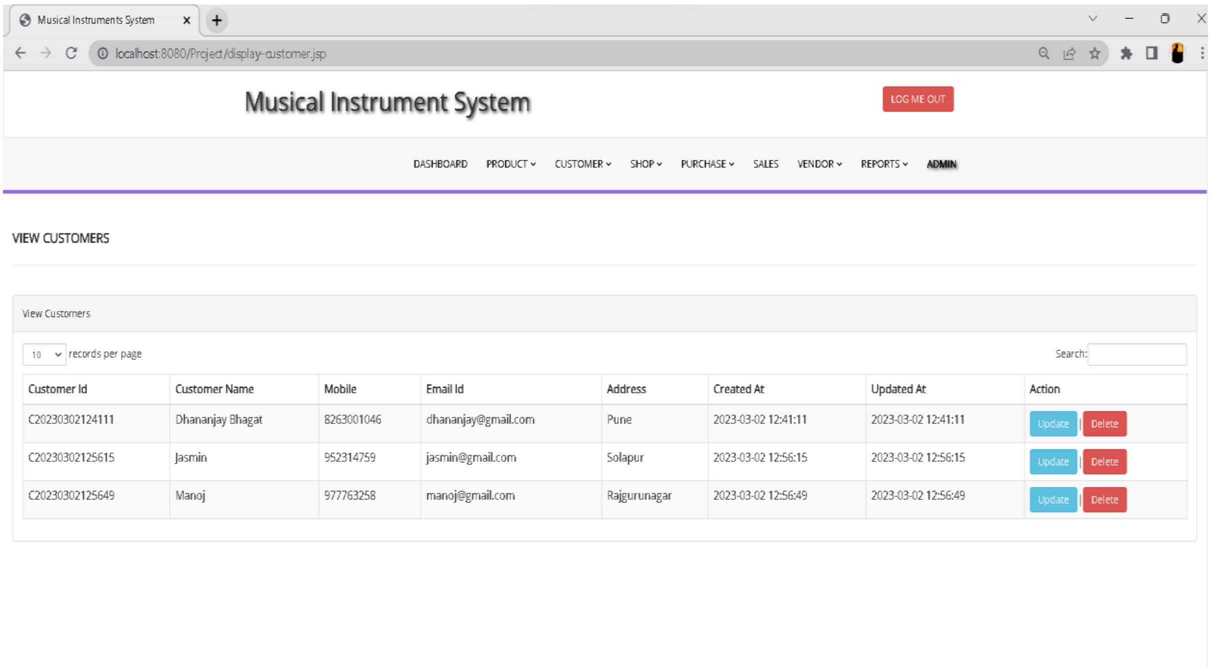
Customer Name: Dhananjay Bhagat

Mobile No: 8263001046

Email Id: dhananjay@gmail.com

Address: Pune

➢ View Customer



Musical Instruments System

localhost:8080/Project/display-customer.jsp

Musical Instrument System

VIEW CUSTOMERS

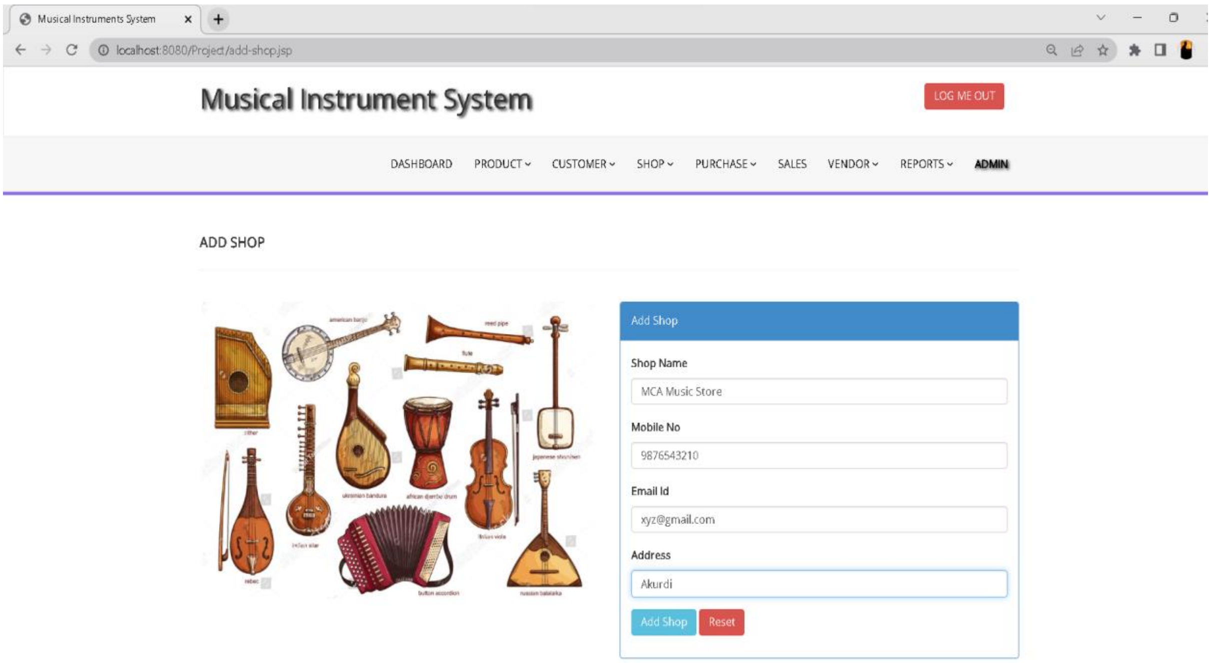
View Customers

10 records per page

Search:

Customer Id	Customer Name	Mobile	Email Id	Address	Created At	Updated At	Action
C20230302124111	Dhananjay Bhagat	8263001046	dhananjay@gmail.com	Pune	2023-03-02 12:41:11	2023-03-02 12:41:11	Update | Delete
C20230302125615	Jasmin	952314759	jasmin@gmail.com	Solapur	2023-03-02 12:56:15	2023-03-02 12:56:15	Update | Delete
C20230302125649	Manoj	977763258	manoj@gmail.com	Rajgurunagar	2023-03-02 12:56:49	2023-03-02 12:56:49	Update | Delete

➢ Add Shop


Musical Instruments System
localhost:8080/Project/add-shop.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT
CUSTOMER
SHOP
PURCHASE
SALES
VENDOR
REPORTS
ADMIN

ADD SHOP

Add Shop

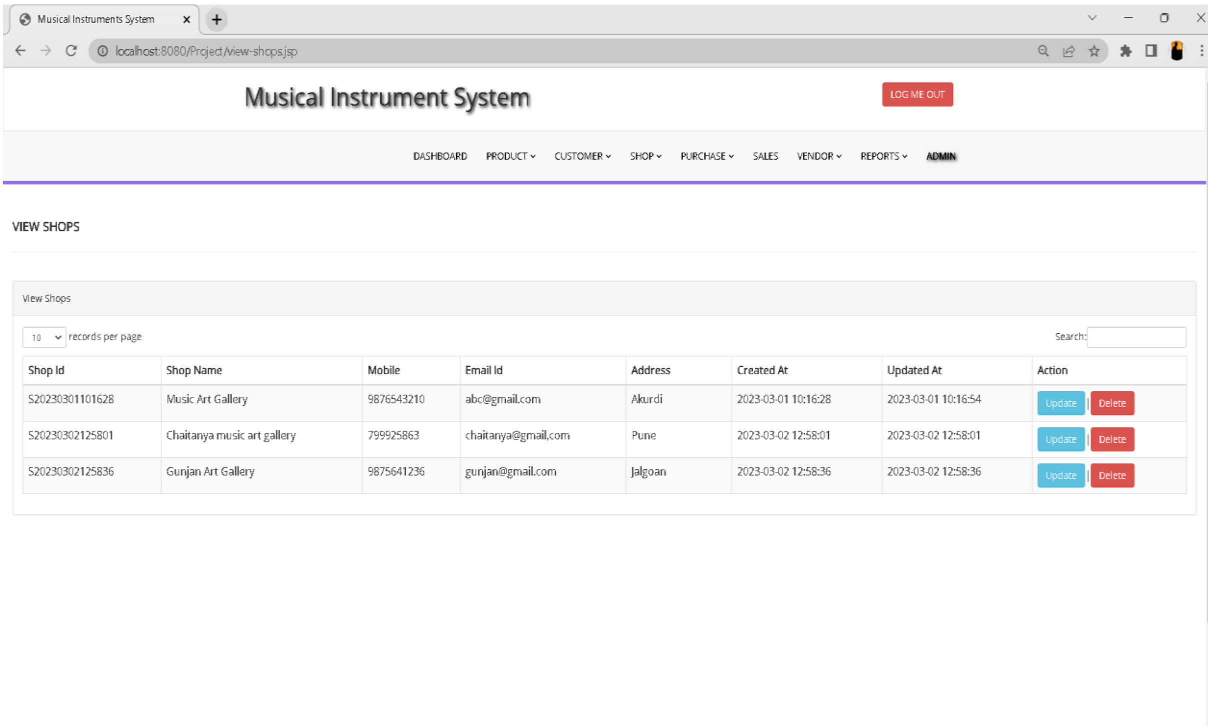
Shop Name: MCA Music Store

Mobile No: 9876543210

Email Id: xyz@gmail.com

Address: Akurdi

➢ View Shop


Musical Instruments System
localhost:8080/Project/view-shops.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT
CUSTOMER
SHOP
PURCHASE
SALES
VENDOR
REPORTS
ADMIN

VIEW SHOPS

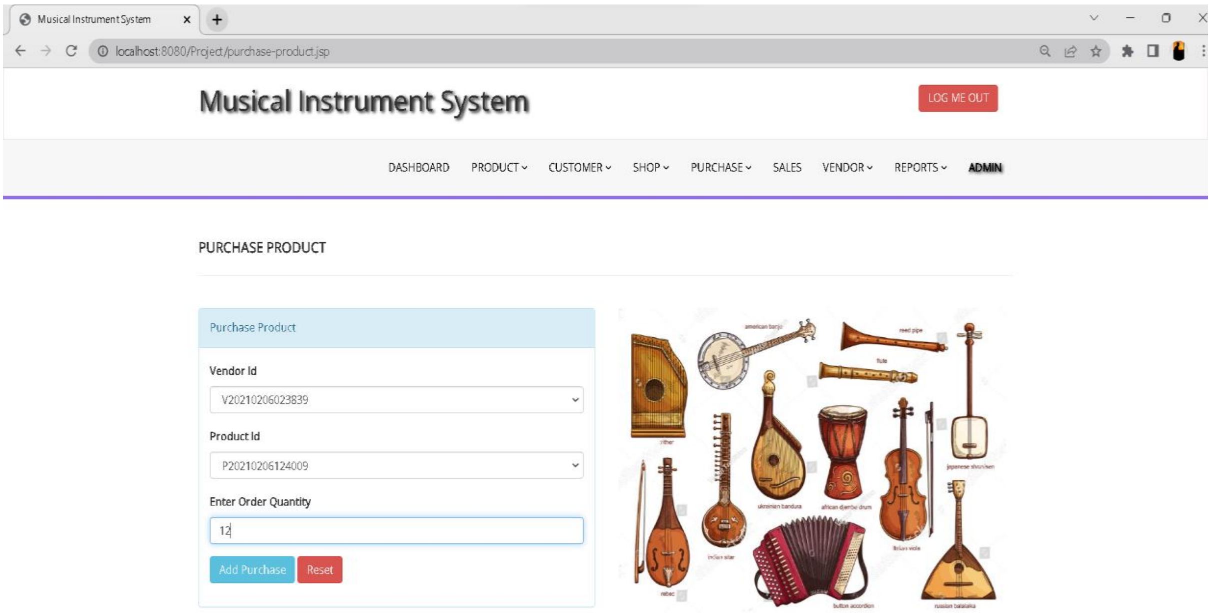
View Shops

10 records per page

Search:

Shop Id	Shop Name	Mobile	Email Id	Address	Created At	Updated At	Action
S20230301101628	Music Art Gallery	9876543210	abc@gmail.com	Akurdi	2023-03-01 10:16:28	2023-03-01 10:16:54	Update | Delete
S20230302125801	Chaitanya music art gallery	799925863	chaitanya@gmail,com	Pune	2023-03-02 12:58:01	2023-03-02 12:58:01	Update | Delete
S20230302125836	Gunjan Art Gallery	9875641236	gunjan@gmail.com	Jalgoan	2023-03-02 12:58:36	2023-03-02 12:58:36	Update | Delete

➢ Purchase Product


Musical Instrument System
localhost:8080/Project/purchase-product.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT
CUSTOMER
SHOP
PURCHASE
SALES
VENDOR
REPORTS
ADMIN
Add Purchase
Reset

PURCHASE PRODUCT

Purchase Product

Vendor Id

V20210206023839

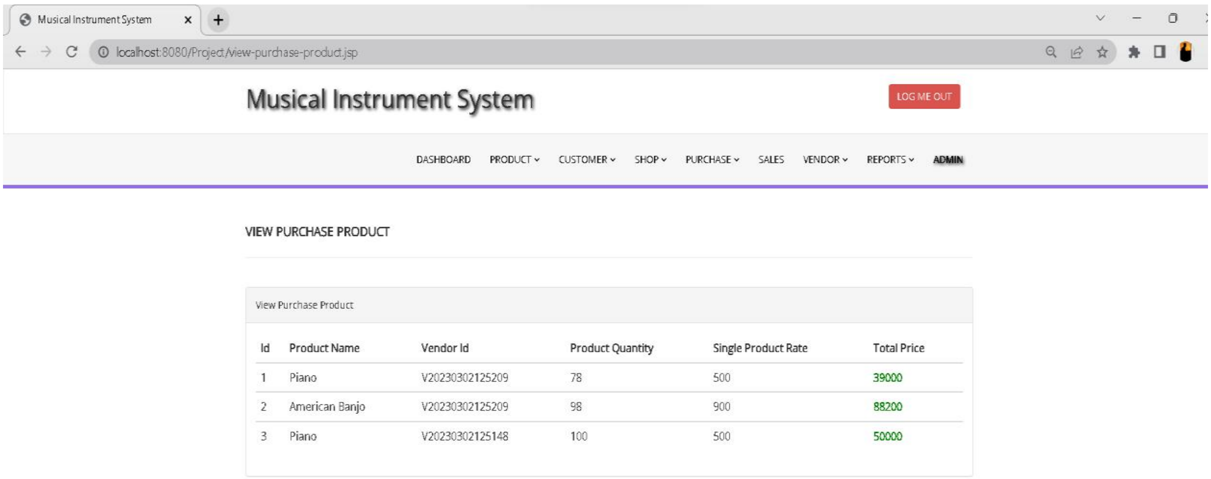
Product Id

P20210206124009

Enter Order Quantity

12

➢ View Purchase Product

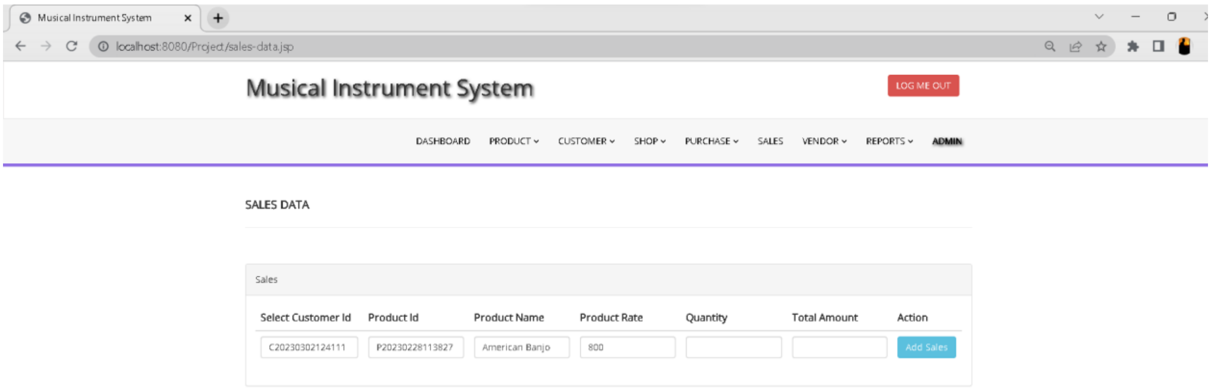

Musical Instrument System
localhost:8080/Project/view-purchase-product.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT
CUSTOMER
SHOP
PURCHASE
SALES
VENDOR
REPORTS
ADMIN

VIEW PURCHASE PRODUCT

View Purchase Product

Id	Product Name	Vendor Id	Product Quantity	Single Product Rate	Total Price
1	Piano	V20230302125209	78	500	39000
2	American Banjo	V20230302125209	98	900	88200
3	Piano	V20230302125148	100	500	50000

➢ Sales Data

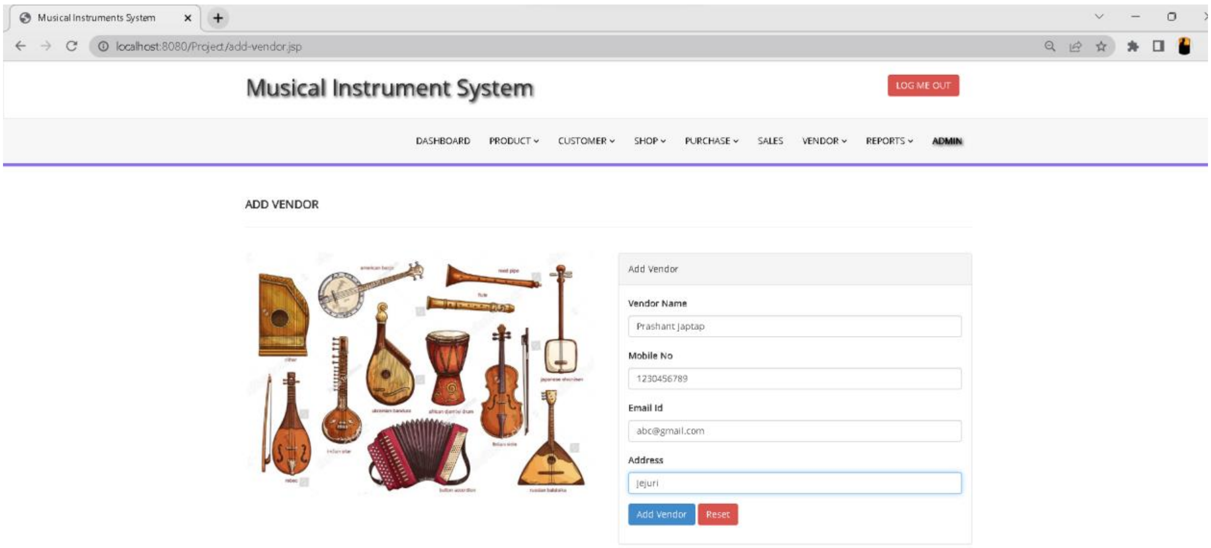

Musical Instrument System
localhost:8080/Project/sales-data.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT
CUSTOMER
SHOP
PURCHASE
SALES
VENDOR
REPORTS
ADMIN

SALES DATA

Sales

Select Customer Id	Product Id	Product Name	Product Rate	Quantity	Total Amount	Action
C20230302124111	P20230228113827	American Banjo	800			Add Sales

➢ Add Vendor


Musical Instruments System
localhost:8080/Project/add-vendor.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT
CUSTOMER
SHOP
PURCHASE
SALES
VENDOR
REPORTS
ADMIN

ADD VENDOR

Add Vendor

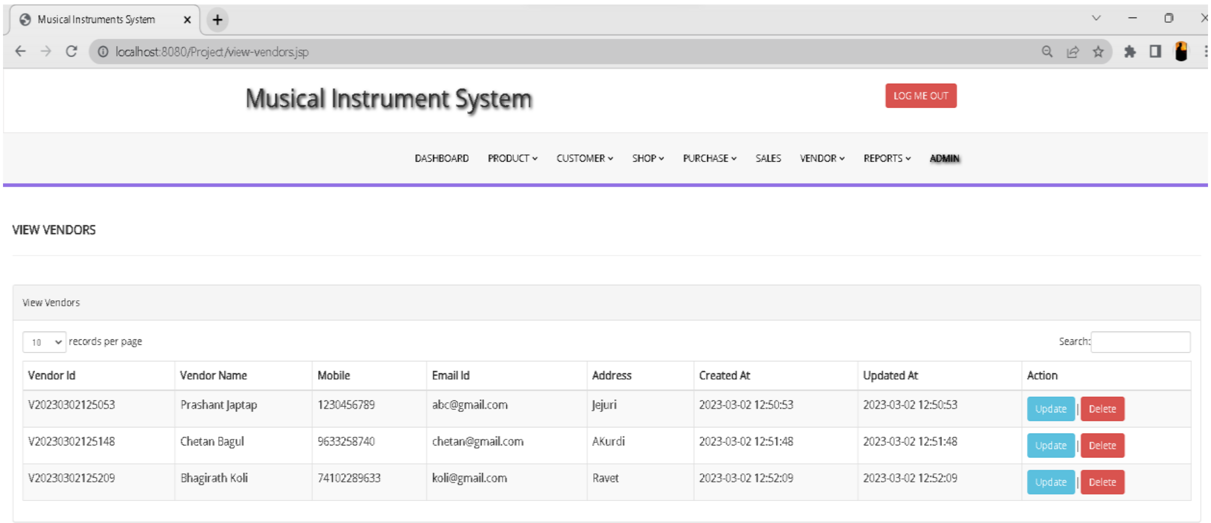
Vendor Name: Prashant Japtap

Mobile No: 1230456789

Email Id: abc@gmail.com

Address: Jejuri

➢ View Vendors



Musical Instruments System
localhost:8080/Project/view-vendors.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT ⌄
CUSTOMER ⌄
SHOP ⌄
PURCHASE ⌄
SALES
VENDOR ⌄
REPORTS ⌄
ADMIN

VIEW VENDORS

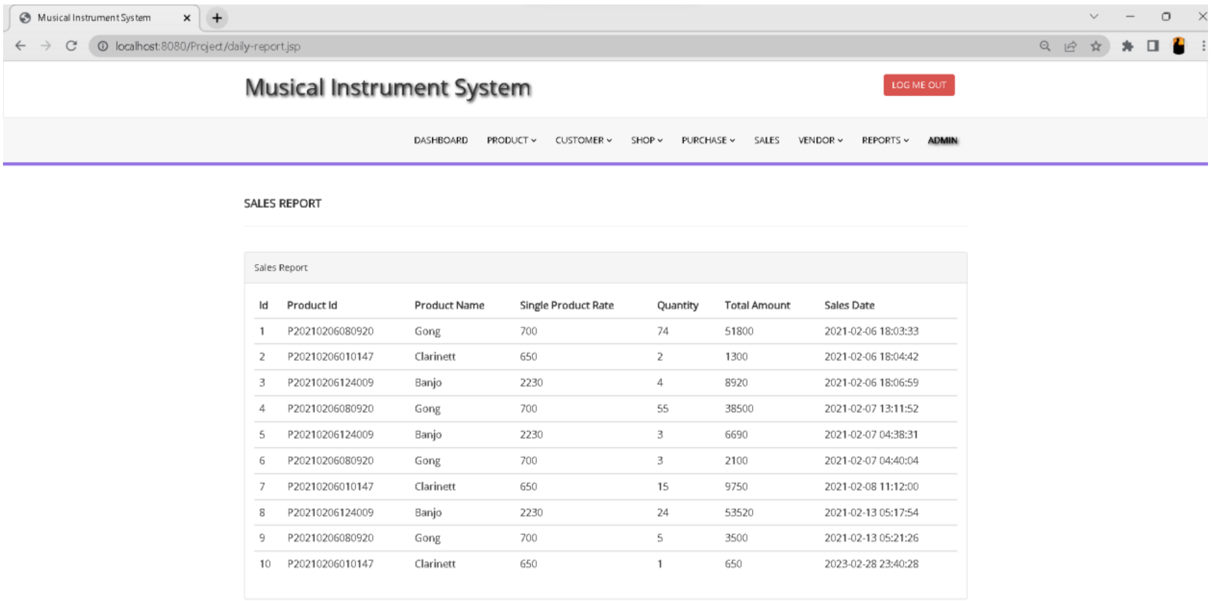
View Vendors

10 records per page

Search:

Vendor Id	Vendor Name	Mobile	Email Id	Address	Created At	Updated At	Action
V20230302125053	Prashant Japtap	1230456789	abc@gmail.com	Jejuri	2023-03-02 12:50:53	2023-03-02 12:50:53	Update | Delete
V20230302125148	Chetan Bagul	9633258740	chetan@gmail.com	AKurdi	2023-03-02 12:51:48	2023-03-02 12:51:48	Update | Delete
V20230302125209	Bhagirath Koli	74102289633	koli@gmail.com	Ravet	2023-03-02 12:52:09	2023-03-02 12:52:09	Update | Delete

➢ Sales Report



Musical Instrument System
localhost:8080/Project/daily-report.jsp
Musical Instrument System
LOG ME OUT
DASHBOARD
PRODUCT ⌄
CUSTOMER ⌄
SHOP ⌄
PURCHASE ⌄
SALES
VENDOR ⌄
REPORTS ⌄
ADMIN

SALES REPORT

Sales Report

Id	Product Id	Product Name	Single Product Rate	Quantity	Total Amount	Sales Date
1	P20210206080920	Gong	700	74	51800	2021-02-06 18:03:33
2	P20210206010147	Clarinett	650	2	1300	2021-02-06 18:04:42
3	P20210206124009	Banjo	2230	4	8920	2021-02-06 18:06:59
4	P20210206080920	Gong	700	55	38500	2021-02-07 13:11:52
5	P20210206124009	Banjo	2230	3	6690	2021-02-07 04:38:31
6	P20210206080920	Gong	700	3	2100	2021-02-07 04:40:04
7	P20210206010147	Clarinett	650	15	9750	2021-02-08 11:12:00
8	P20210206124009	Banjo	2230	24	53520	2021-02-13 05:17:54
9	P20210206080920	Gong	700	5	3500	2021-02-13 05:21:26
10	P20210206010147	Clarinett	650	1	650	2023-02-28 23:40:28

2.8 Table Structure

❖ Admin Table

Sr.No	Field Name	Data Type	Size	Constraints	Description
1	Id	Integer	100	Primary Key	Admin Id
2	Uname	Varchar	100	Not Null	Admin Name
3	Password	Varchar	100	Not Null	Admin Password
4	Created_at	Timestamp	20	Not Null	Current Timestamp

❖ Product Detail Table

Sr.No	Field Name	Data Type	Size	Constraints	Description
1	Prod_id	Varchar	100	Primary key	Product Id
2	Prod_name	Varchar	45	Not Null	Product Name
3	Prod_qty	Integer	45	Not Null	Product Quantity
4	Prod_rate	Integer	45	Not Null	Product Price
5	Vendor_id	Varchar	100	Not Null	Vendor Id
6	Created_at	Timestamp	20	Not Null	Current timestamp
7	Updated_at	datetime	8	Not Null	Updated timestamp

❖ Customer Table

Sr.No	Field Name	Data Type	Size	Constraints	Description
1	C_id	Varchar	100	Primary Key	Customer id
2	C_name	Varchar	45	Not Null	Customer Name
3	C_contact	Varchar	45	Not Null	Customer Contact
4	C_email	Varchar	45	Not Null	Customer Email id
5	C_address	Varchar	45	Not Null	Customer Address
6	Created_at	Timestamp	20	Not Null	Current Timestamp
7	Updated_at	datetime	8	Not Null	Updated Timestamp

❖ Shop Details Table

Sr.No	Field Name	Data Type	Size	Constraints	Description
1	Shop_id	Varchar	100	Primary Key	Shod id
2	Shop_name	Varchar	45	Not Null	Shop Name
3	Contact	Varchar	45	Not Null	Shop Contact
4	Email	Varchar	45	Not Null	Shop Email id
5	Address	Varchar	45	Not Null	Shop Address
6	Created_at	Timestamp	20	Not Null	Current Timestamp
7	Updated_at	datetime	8	Not Null	Update Timestamp

❖ Vendor Table

Sr.No	Field Name	Data Type	Size	Constraints	Description
1	Vendor_id	Varchar	100	Primary Key	Vendor id
2	Vendor_name	Varchar	45	Not Null	Vendor Name
3	Contact	Varchar	45	Not Null	Vendor Contact
4	Email	Varchar	45	Not Null	Vendor Email id
5	Address	Varchar	45	Not Null	Vendor Address
6	Created_at	Timestamp	20	Not Null	Current Timestamp
7	Updated_At	datetime	8	Not Null	Updated Timestamp

❖ Purchase Table

Sr.No	Field Name	Data Type	Size	Constraints	Description
1	Purchase_id	Varchar	100	Primary Key	Purchase id
2	Vendor_id	Varchar	100	Not Null	Vendor id
3	Prod_id	Varchar	100	Not Null	Product id
4	Order_qty	Integer	45	Not Null	Order Quantity
5	Created_at	Timestamp	20	Not Null	Current Timestamp
6	Updated_at	datetime	8	Not Null	Updated Timestamp

❖ Sales Table

Sr.No	Field Name	Data Type	Size	Constraints	Description
1	Sale_id	Varchar	100	Primary Key	Sale id
2	cid	Varchar	100	Not Null	Customer id
3	Prod_id	Varchar	100	Not Null	Product id
4	Prod_name	Varchar	45	Not Null	Product Name
5	Quantity	Integer	45	Not Null	Quantity
6	Prod_rate	Integer	100	Not Null	Product Price
7	Total_amt	Integer	100	Not Null	Total Amount
8	Created_at	Timestamp	20	Not Null	Current Timestamp
9	Updated_at	datetime	8	Not Null	Updated Timestamp

3.Drawbacks And Limitations

- Lack of Physical Interaction: One of the biggest limitations of an online musical instrument selling system is that customers cannot physically interact with the instruments before making a purchase. This can lead to dissatisfaction with the product, as customers may not be able to accurately judge the sound, feel, or quality of the instrument from online images and descriptions.
- Limited Accessibility: Online musical instrument selling systems may not be accessible to all potential customers, particularly those who do not have reliable internet access or who are not comfortable making purchases online.
- Security Concerns: Online transactions can be vulnerable to security breaches, which can lead to customer data being compromised or stolen. This can result in a loss of trust in the system and a decrease in sales.

4.Proposed Enhancement

- Current system is developed according to current requirements which can be added later. In this, system can be merged with another system to make bigger system invoking many functions on it.
- No project is ever complete in itself; there are always minor or major changes in the project according to user requirements.
- This project could be enhanced in the sense that it can overcome its limitations in the future as sample scope for enhancement.
- Latest electronic and software technologies can help to bring in more enhancement which would help to make the system more user friendly and also help to maintain adequate security.
- To make the application as online so that it would be helpful to everyone.

5 . Conclusion

- We have tried to develop a system that can be a great help to the modern technological world to register the requirements and needs from user.
- We have left all the options open so that if there is any other future requirement in the system by the user for enhancement of the system then it is possible to implement them.
- The MUSICAL INSTRUMENTS SYSTEM initiates the objective of providing an organizer with customized and powerful operating operations and management system side is built with all the options like adding customer, vendor, product, shop, with features for updating them whenever necessary, report generation, purchase details, sales details and many more.
- The interface provided is user friendly, flexible. We hope that the project will serve its purpose for which it is developed, by underlining success of the project.

6 . Bibliography

Website Reference

- https://www.w3schools.com
- https://www.javatpoint.com
- https://docs.oracle.com/javase/7/docs/api/java/sql/package-summary.html
- https://www.wikipedia.org/
- www.geeksforgeeks.org

Books Reference

- Core Servlets and JSP, Vol 1 : Core Technologies
- HTML Black Book

ANNEXURE 3 : SAMPLE PROGRAM CODE

1. Coding of Admin Login Page :

```
package com.admin;

import java.io.IOException;

import java.sql.ResultSet;

import jakarta.servlet.ServletException;

import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import jakarta.servlet.http.HttpSession;

import com.connection.DatabaseConnection;

@WebServlet("/AdminLogin")

public class AdminLogin extends HttpServlet {

private static final long serialVersionUID = 1L;

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

String uname=request.getParameter("uname");

String upass=request.getParameter("upass");

HttpSession hs=request.getSession();

try {
```

```
ResultSet resultset=DatabaseConnection.getResultFromSqlQuery("select * from tbladmin where uname='"+uname+"' and password='"+upass+"'");

if(resultset.next()) {

hs.setAttribute("uname", resultset.getString("uname"));

response.sendRedirect("after-admin-login.jsp");

}else {

String message="Invalid credential, Please try again.";

hs.setAttribute("fail", message);

response.sendRedirect("index.jsp");

}

}catch(Exception e) {

e.printStackTrace();

}

}

}
```

2. Coding for Customer Module :

Add Customer :

```
package com.customer;

import java.io.IOException;

import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import jakarta.servlet.http.HttpSession;

import com.connection.DatabaseConnection;

@WebServlet("/AddCustomer")

public class AddCustomer extends HttpServlet {

private static final long serialVersionUID = 1L;

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {

String cid=DatabaseConnection.generateCustomerId();

String cname=request.getParameter("cname");

String mobile=request.getParameter("mobile");

String email=request.getParameter("email");;

String address=request.getParameter("address");

HttpSession hs=request.getSession();

try {

int addCustomer=DatabaseConnection.insertUpdateFromSqlQuery("insert into customer(c_id,c_name,c_contact,c_email,c_address)values('"+cid+"','"+cname+"','"+mobile+"','"+email+"','"+address+"')");

if(addCustomer>0) {
```

```
String message="Customer add successfully.";

hs.setAttribute("customer-add", message);

response.sendRedirect("add-customer.jsp");

}

}catch(Exception e) {

e.printStackTrace();

}

}

}
```

Delete Customer :

```
package com.customer;

import java.io.IOException;

import jakarta.servlet.ServletException;

import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import jakarta.servlet.http.HttpSession;

import com.connection.DatabaseConnection;

@WebServlet("/DeleteCustomer")
```

```
public class DeleteCustomer extends HttpServlet {
private static final long serialVersionUID = 1L;
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
String cid = request.getParameter("cid");
HttpSession hs=request.getSession();
try {
int deleteCustomer = DatabaseConnection.insertUpdateFromSqlQuery("delete from customer where c_id='" + cid + "'");
if (deleteCustomer > 0) {
String message="Customer deleted successfully.";
hs.setAttribute("delete", message);
response.sendRedirect("display-customer.jsp");
} else {
response.sendRedirect("display-customer.jsp");
}
} catch (Exception e) {
e.printStackTrace();
}
}
}
```

3. Coding of Sales Module :

```
package com.sales;
import java.io.IOException;
import java.sql.ResultSet;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;
import com.connection.DatabaseConnection;
@WebServlet("/CreateSales")
public class CreateSales extends HttpServlet {
private static final long serialVersionUID = 1L;
protected void doPost(HttpServletRequest request, HttpServletResponse response)throws ServletException, IOException {
int productQuanity = 0;
int updateProductQuantity = 0;
int addSales = 0;
String salesId = DatabaseConnection.generateSalesId();
String custId = request.getParameter("custId");
String prod_id = request.getParameter("prod_id");

String pname = request.getParameter("pname");

String prate = request.getParameter("prate");

int pquantity = Integer.parseInt(request.getParameter("pquantity"));

String totalAmount = request.getParameter("totalAmount");

HttpSession hs = request.getSession();

try {

ResultSet resultset = DatabaseConnection.getResultFromSqlQuery("select prod_qty from
product_details where prod_id='" + prod_id + "'");

if (resultset.next()) {

productQuanity = resultset.getInt("prod_qty");

}

if (productQuanity > pquantity) {

addSales = DatabaseConnection.insertUpdateFromSqlQuery(

"insert into sales(sale_id,cid,prod_id,prod_name,quantity,prod_rate,total_amt)values('"+ salesId + "','"
+ custId + "','" + prod_id + "','" + pname + "','" + pquantity + "','"+ prate + "','" + totalAmount + "')");

updateProductQuantity = DatabaseConnection.insertUpdateFromSqlQuery("update product_details set
prod_qty=prod_qty-'" + pquantity+ "' where prod_id='" + prod_id + "'");

String message = "Sales data added";

hs.setAttribute("sale", message);

response.sendRedirect("sales.jsp");

} else {
```

```
String message = "Product quantity is not enough to purchase.";

hs.setAttribute("quantity-short", message);

response.sendRedirect("sales.jsp");

}

} catch (Exception e) {

e.printStackTrace();

}

}

}
```

4. Coding for Vendor Module :

Add Vendor :

```
package com.vendor;

import java.io.IOException;

import jakarta.servlet.ServletException;

import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import jakarta.servlet.http.HttpSession;

import com.connection.DatabaseConnection;
```

```
@WebServlet("/AddVendor")

public class AddVendor extends HttpServlet {

private static final long serialVersionUID = 1L;

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {

String vid=DatabaseConnection.generateVendorId();

String vname=request.getParameter("vname");

String mobile=request.getParameter("mobile");

String email=request.getParameter("email");;

String address=request.getParameter("address");

HttpSession hs=request.getSession();

try {

int addCustomer=DatabaseConnection.insertUpdateFromSqlQuery("insert into
vendor(vendor_id,vendor_name,contact,email,address)values('"+vid+"','"+vname+"','"+mobile+"','"+e
mail+"','"+address+"')");

if(addCustomer>0) {

String message="Vendor add successfully.";

hs.setAttribute("vendor-add", message);

response.sendRedirect("add-vendor.jsp");

}

}catch(Exception e) {

e.printStackTrace();
}

}

}
```

Delete Vendor :

```
package com.vendor;

import java.io.IOException;

import jakarta.servlet.ServletException;

import jakarta.servlet.annotation.WebServlet;

import jakarta.servlet.http.HttpServlet;

import jakarta.servlet.http.HttpServletRequest;

import jakarta.servlet.http.HttpServletResponse;

import jakarta.servlet.http.HttpSession;

import com.connection.DatabaseConnection;



@WebServlet("/DeleteVendor")

public class DeleteVendor extends HttpServlet {

        private static final long serialVersionUID = 1L;

        protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {

                String vid = request.getParameter("vid");
                HttpSession hs=request.getSession();

                try {

                        int deleteVendor = DatabaseConnection.insertUpdateFromSqlQuery("delete
from vendor where vendor_id='" + vid + "'");

                        if (deleteVendor > 0) {

                                String message="Vendor deleted successfully.";

                                hs.setAttribute("delete", message);

                                response.sendRedirect("view-vendors.jsp");

                        } else {

                                response.sendRedirect("view-vendors.jsp");

                        }

                } catch (Exception e) {

                        e.printStackTrace();

                }

        }

}
```