

Project Report
On
ART CURATOR

Submitted in partial fulfilment for the award of
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ABSTRACT

Our project is **ArtCurator**. This is a website which helps customers to find and buy all types of art on internet. It is useful in the way that it makes an easier way to buy and sell art online. ArtCurator is an interactive e-commerce solution providing users with an opportunity to buy and sell art. ArtCurator is the first online platform which deals with new and old books of all fields.

In this website we have basically 2 modules. The first module includes the customer module and second module includes seller module.

The customer have to register for any enquiry related to art. The registered customer can view details of art and he/she can buy art of his/her need. He/she has to pay and will get home delivery.

The seller module contains the access of seller page on the website. The seller can change everything related to his art in the website. He has the ability to add, delete, and update any information regarding his art.

1. Introduction of Project:

Art Curator is an interactive e-commerce solution providing users with an opportunity to buy and sell art.

ArtCurator is a part of sample application that provides customers with online shopping. Through a Web browser, a customer can browse the catalog, place items to purchase into a virtual shopping cart, create and sign in to a user account and purchase the shopping cart contents by placing an order with a credit card.

ArtCurator provides users with wide range of artwork according to their budget and get it delivered to their doorsteps.

The development of this new system contains the following activities, which try to develop on-line application by keeping the entire process in the view of database integration approach.

Secure registration and profile management facilities for Customers. Browsing through the ArtCurator to see the items that are there in each category of arts like Abstract, Contemporary, Doodle, Modern etc.

Creating a Shopping cart so that customer can Shoppe 'n' no. of art items and checkout finally with the entire shopping cart. Customers should be able to mail the Shop about the items they would like to see in the Shop.

Art Curator is also a form of electronic commerce where the seller is able to directly sell his new items and also keep a track of his sold and unsold items.

2. Product Overview and Summary

2.1 Purpose:

Our objective was to look at online retail of art from a customer's point-of-view and seller's point-of-view and determine how to provide the best user experience. A secondary aim was to zero in on key trends and identify opportunities for high-impact.

2.2 Scope:

We aim to provide an online service to artists all over the world to put forward their body of work on our site for the whole world to see and for the end users to curate their body of work and also enable a safe and secure transaction of the art. We will further extend the project by adding a vendor service which will enable vendors all over the world to register their services on our system and end users to gather information about a specific service he or she's interested in.

The system is based on a relational database with its art selling and buying functions. Above all, we hope to provide a comfortable user experience along with the best pricing available.

2.3 Overview:

The central concept of the application is to allow the customer to shop virtually using the Internet and allow customers to buy the artworks of their desire from the store. The information pertaining to the products are stores on an RDBMS at the server side (store). The Server process the customers and the artworks are shipped to the address submitted by them. The application was designed into two modules first for the customers who wish to buy the articles. Second is for the seller who maintains and updates the information pertaining to their artwork. The end user of this product is a departmental store where the application is hosted on the web and the administrator maintains the database. The application which is deployed at the customer database, the details of the artworks are brought forward from the database for the customer view based on the selection through the menu and the database of all the products are updated at the end of each transaction. Data entry into the application can be done through various screens designed for various levels of users. Once the authorized personnel feed the relevant data into the system, several reports could be generated as per the security. Number of Modules The system after careful analysis has been identified to be presented with the following modules: 1. Customer. 2. Seller.

2.4 Feasibility Study

Feasibility is determination of whether a projects worth doing or not. Before actually recommending the new system it is important to investigate if it is feasible to develop the new system.

Before developing and implementing a system we have sure that our system is feasible in the following ways:

- 1. Technical Feasibility.**
- 2. Operational Feasibility.**
- 3. Economical Feasibility.**

➤ **Technical Feasibility:**

In the type of feasibility study, the web developer has to check whether it is possible or not to develop the requested system with availability of manpower, software, hardware, etc...The system which we run in multiple web browsers and are suitable for clients.

➤ **Operational Feasibility:**

In this type of feasibility study the operation implementation of the system is considered. Checking is done regarding whether it is feasible for the user department to use the framework. Thus the proposed system is said to be operationally feasible only if the clients are able to understand the system clearly and correctly and can use the system with ease.

➤ **Economical Feasibility:**

In this type of feasibility study, the benefits of the system to the organization are considered by taking into consideration the cost-benefit analysis. The basic software, which is required for the implementation of the system, is angular and java which is easily available. Also with the basic training user can use this software thus reducing the training cost to the organization. Thus, using this system is feasible for the organization and the proposed system is economically feasible for the organization.

3. Overall Description:

3.1 Product Features

This product aims to provide artists/sellers with the ability to add their oeuvre to the system, remove the product/item, view all of his unsold art along with all of his sold arts. We are also developing a buyer module in which end users will be able to curate the arts, and buy the art in a safe and secure manner. There will be a wallet service with which customers can do prepaid payments and artists can be paid directly in their wallets.

3.2 Technology Used

a. Java Programming Language

This is the main programming language used to develop the application. The Java Programming Language was formerly developed by Sun Microsystems as proposed by James Gosling. It was first released in 1995. It runs on Mac OS, Windows, the different versions of UNIX, and other platforms. Java is considered to be secure and robust. Also, it is multithreading and platform independent (unlike C and C++).

b. Java EE

A Java platform is a distinct software environment for running applications written in Java. The four Java programming language platforms are Java Standard Edition (Java SE), Java Enterprise Edition (Java EE), Java Micro Edition (Java ME) and JavaFX. Each of these platforms contains a JVM and an application programming interface (API). An API is a group of software components used for building software applications. /7/ The Java EE platform is a superset of the Java SE platform, and it provides a runtime environment, technologies, and APIs for building and running enterprise web 14 applications. The Java SE platform contains the core APIs of the Java programming language. All of the APIs in Java SE are also contained in Java EE. Some of the core technologies and APIs provided only by the Java EE platform are Servlet APIs, JavaMail API, JDBC, JSP, and JPA.

c. Angular

Angular is an application design framework and development platform for creating efficient and sophisticated single-page apps. These Angular docs help you learn and use the Angular framework and development platform, from your first application to optimizing complex single-page apps for enterprises. Tutorials and guides include downloadable examples to accelerate your projects.

d. MySQL

MySQL is a free, open source relational database management system (RDBMS) that supports Structured Query Language (SQL). An RDBMS is a system used to manage databases, and it is made up of tables containing columns and rows, where the tables are related by keys. MySQL DBMS is the world's most popular open source database system and one of the most commonly used database systems for Java web applications. It is one of the fastest RDBMS and it is easy to use. Also, it runs on almost all platforms, such as Windows, Linux and OS X. /12/

3.3 SOFTWARE TOOLS

a. Eclipse IDE

Eclipse is an open source integrated development environment (IDE) for developing applications in Java and other languages like C++, JavaScript, PHP and C. It is written in Java, and it is the most commonly used IDE for Java applications. Examples of Eclipse development environment are Eclipse IDE for Java, Eclipse PDT for PHP and Eclipse CDT for C/C++. The latest release of Eclipse is Eclipse Oxygen, which was released in June 2017.

b. Visual Studio Code

Visual Studio Code is a free source-code editor made by Microsoft for Windows, Linux and macOS.[8] Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality. Visual Studio Code is a free source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting,

intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality.

c. MySQL Workbench

MySQL Workbench is a unified visual tool for database architects, developers, and DBAs. MySQL Workbench provides data modeling, SQL development, and comprehensive administration tools for server configuration and user administration.

d. Postman

Postman is a collaboration platform for API development. Postman's features simplify each step of building an API and streamline collaboration so you can create better APIs—faster.

3.4.1 SOFTWARE REQUIREMENTS

Operating System : Windows XP/7 or Linux

User Interface : HTML, CSS Client-side

Scripting : TypeScript Programming Language : Java Web Applications : JDBC, Servlets, JSP

IDE/Workbench :Eclipse

Database : MYSQL

Server Deployment : Tomcat 5.x

Frame Work : Struts 1.x

3.5 HARDWARE REQUIREMENTS

Processor : Pentium IV

Hard Disk : 40GB

RAM : 512MB or more

4. METHODOLOGY

4.1 Problem Identification:-

One of the main challenges observed as a developer was introduction to angular for MVC. The major challenge was to establish an efficient front end that shall stand successful in appeal as well as simplicity to interacting user. The extension of the application through use of CSS and bootstrap to add further more appeal as well as adaptability to the web site was further more a challenge. Another challenge was the ability to make code as much community friendly as possible to follow the company guidelines which shall improve induction of new team by making it simpler for them to understand the code and to understand the project in order to scale it up. However, the project motivated us to push ourselves against our limit and improve output inch-by-inch.

4.2 User Classes:-

The system will support two types of users. One type of user aka seller will add their art to the system and will be able to monitor the sold and unsold arts. He or she will be able to be paid directly through the wallet and also can check transaction history.

The other type of user which is the buyer will be able to curate the art and select it according to his choice of category, adding it to the cart and then checking it out. The payment will be made through a wallet.

Seller should be able to,

1. Add his/her art.
2. Remove his/her art.
3. Display all his/her arts.
4. Check all of his/her orders.
5. Check all of his/her transactions.
6. Check personal information.

Buyer should be able to,

1. Display all arts.
2. Add particular art to the cart.
3. Check cart.
4. Check out and place an order.
5. Check his order history.

4.3 System Features:-

a. Customer/Buyer:-

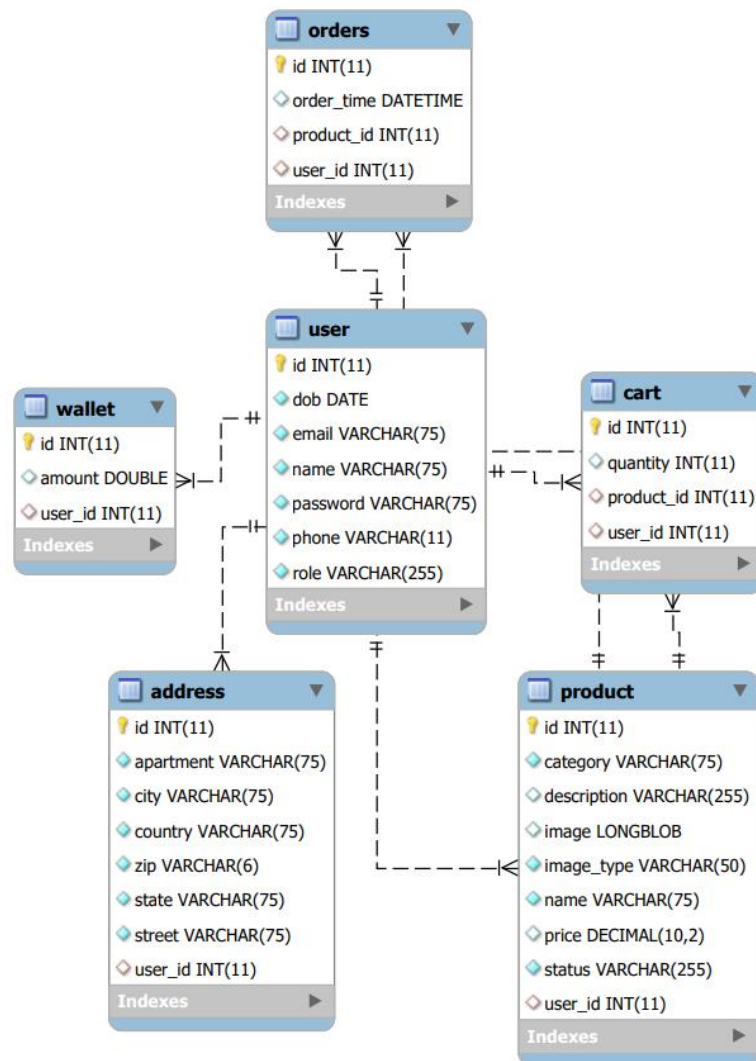
Functionalities:

	FUNCTIONAL REQUIREMENT	DESCRIPTION
1.	Homepage	Displays all the available products
2.	Search bar	Customer can search a particular product
3.	Registration	Customer should be registered before buying
4.	login	If already registered ,customer needs to login using registered credentials
5.	Forgot Password	To retrieve/reset your password
6.	Cart	Display all added order in the cart and their subtotal.
7.	Add to cart	Products can be added in the cart
8.	Remove from cart	Products can be removed from the cart
9.	My Orders	System should display the order history of the user.
10.	Change Password	Customer can change password
11.	Update Address	Customer can change their delivery address
12.	Update Phone	Customer can update his/her registered phone number
13.	Add money	Customer can add money into the account
14.	View money	Customer can check balance amount
15.	View transactions	Customer can view all the money transactions made in this account
16.	Logout	Customers can logout at any time.

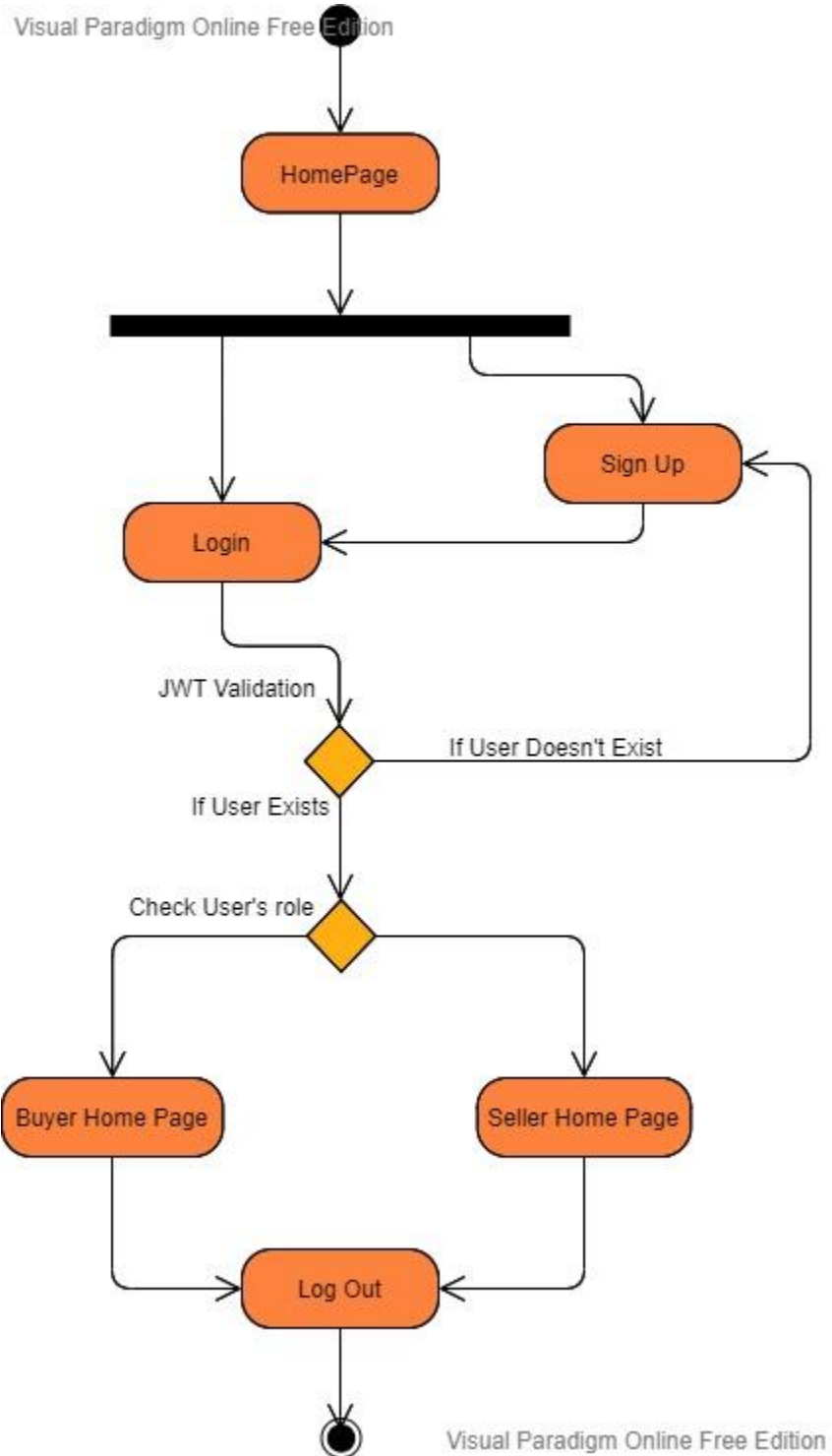
b. Seller/Artist:-**Functionalities:**

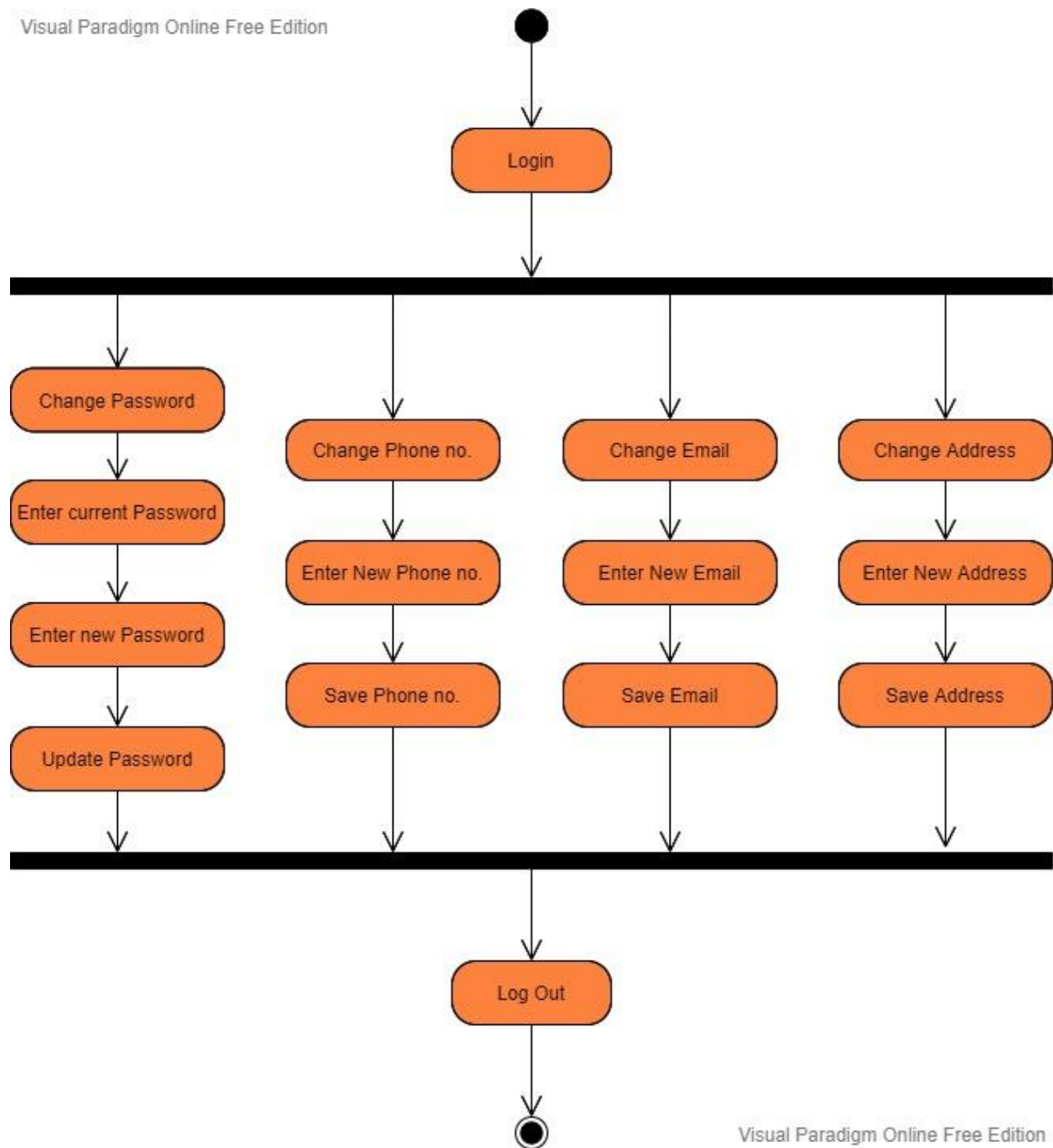
	FUNCTIONAL REQUIREMENT	DESCRIPTION
1.	Homepage	Displays all their available products
2.	Registration	Seller should be registered.
3.	Login	If already registered ,Seller needs to login using registered credentials
4.	Forgot Password	To retrieve/reset your password
5.	My Art	1. Display all the sold and unsold arts. 2. Users can remove any product.
6.	Add to Gallery	Products can be added into the gallery.
7.	Remove from Gallery	Products can be removed from the gallery.
8.	MyInfo	1. Personal information --name,emailId,phone no 2. Account role 3. Address
9.	My Orders	1. Shows all current and previous orders history. 2. The Seller can cancel the current order.
10.	Change Password	Seller can change password
11.	Update Address	Seller can change their delivery address
12.	Update Phone	Seller can update his/her registered phone number
13.	View money	Seller can check balance amount
14.	Logout	Seller can logout at any time.

4.4 ER Diagram

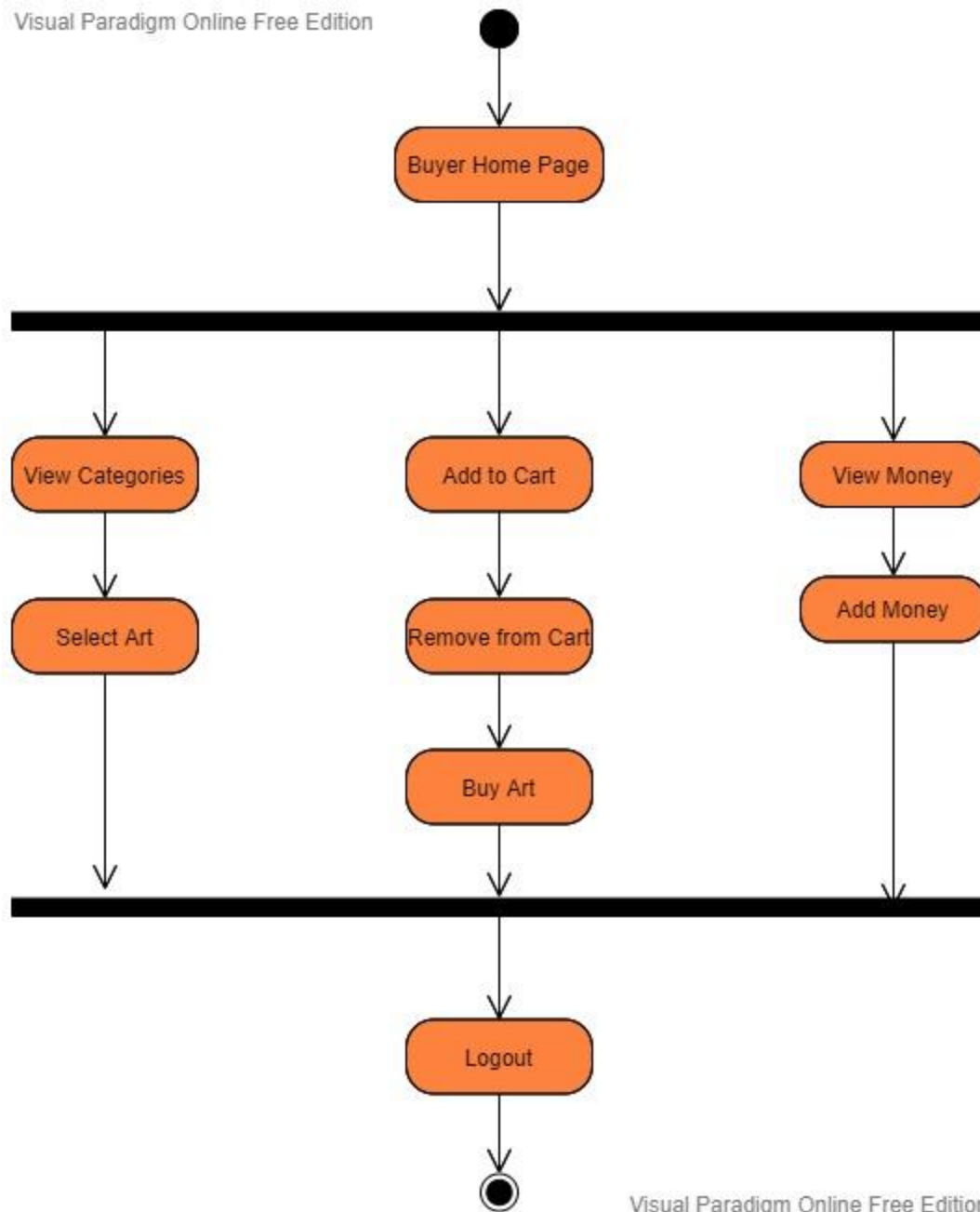


4.5 Uml Diagrams:

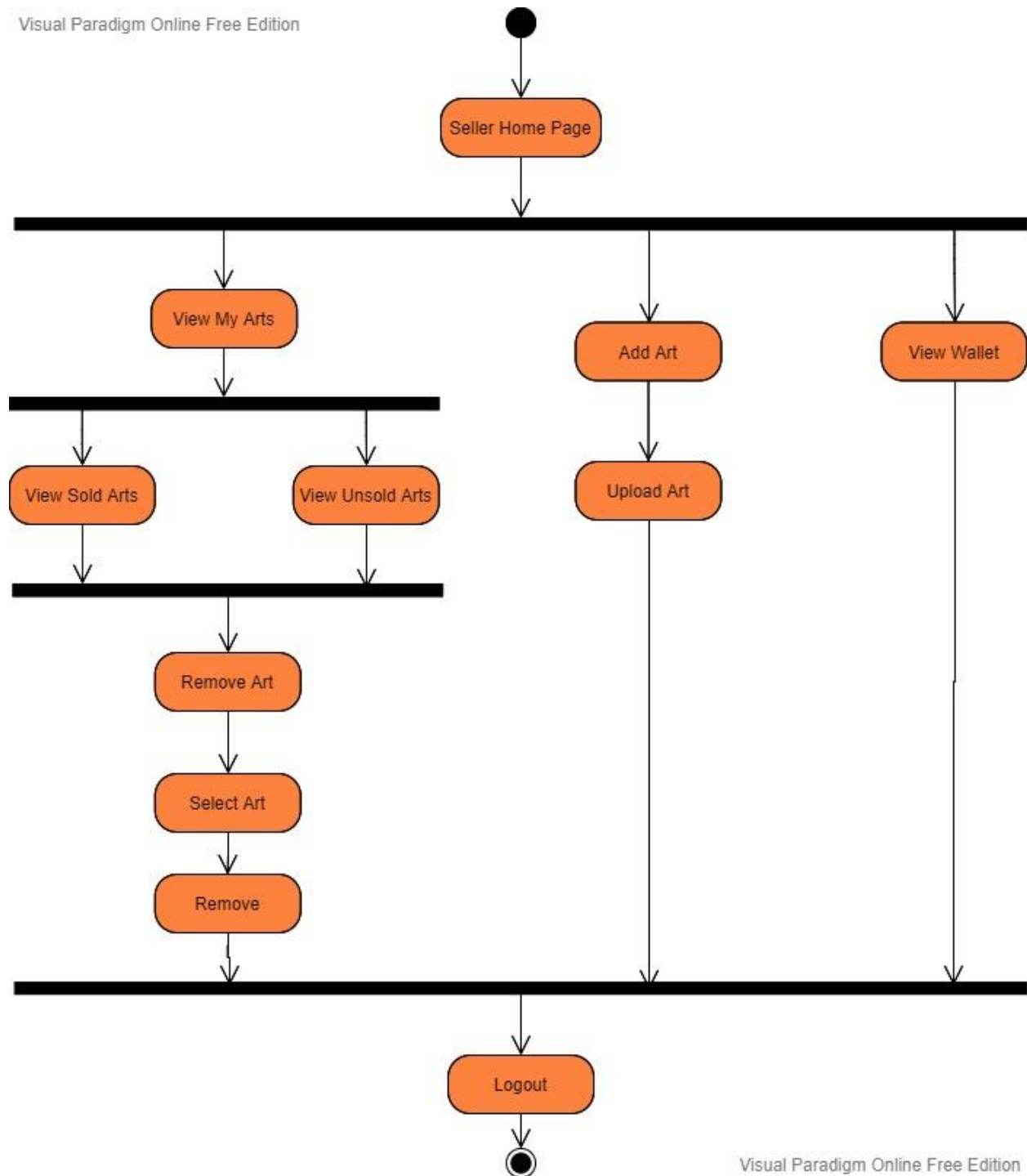




Visual Paradigm Online Free Edition



Visual Paradigm Online Free Edition



5. Demo Screenshots:

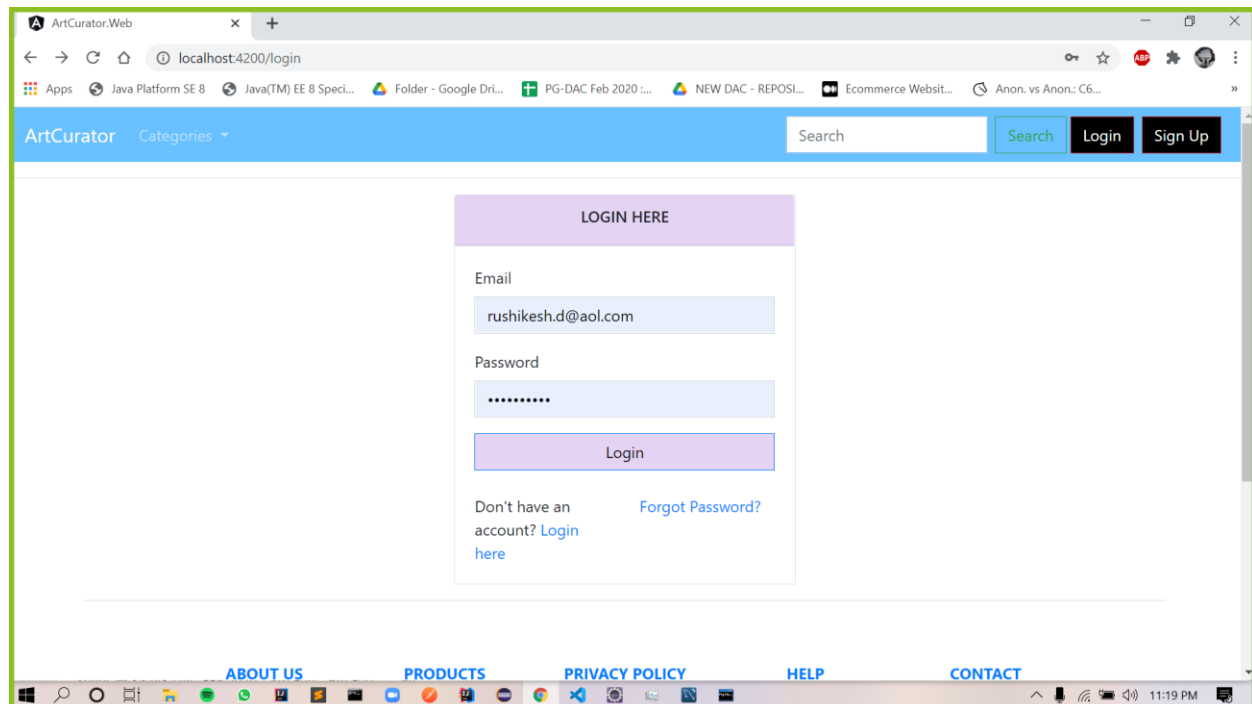


Figure 1 - Login Page

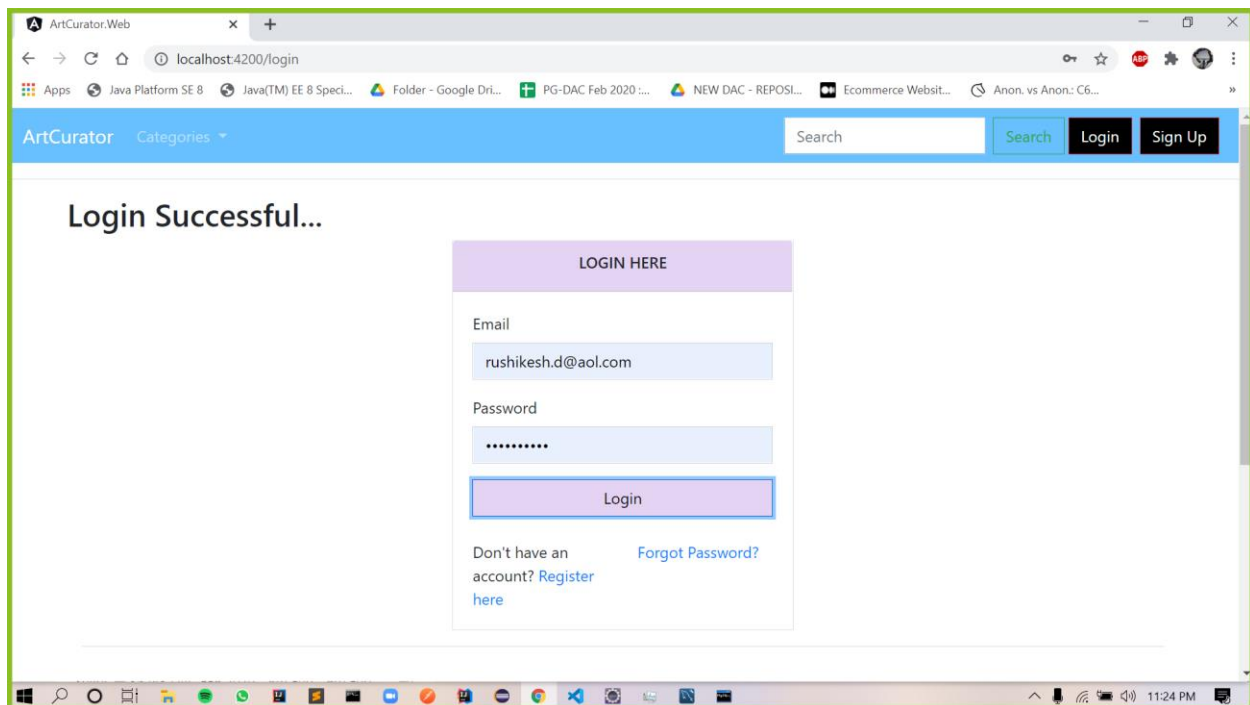


Figure 2 – Login Success

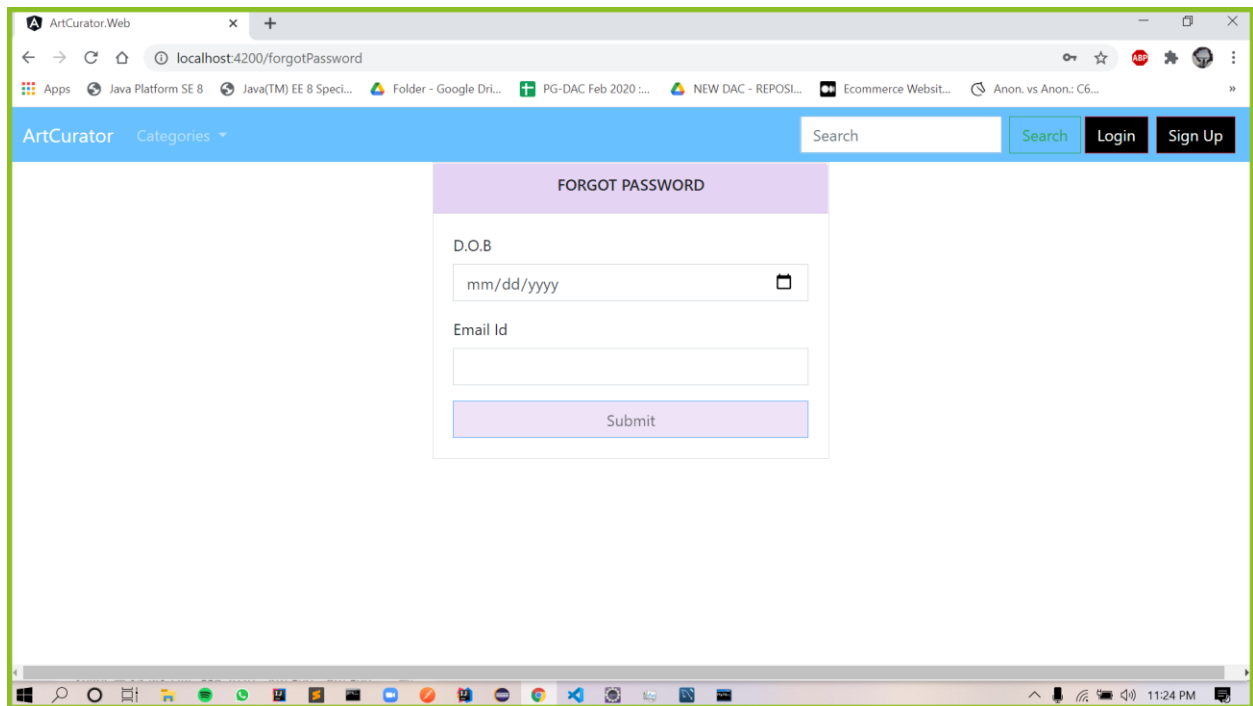


Figure 3 – Forgot Password Page

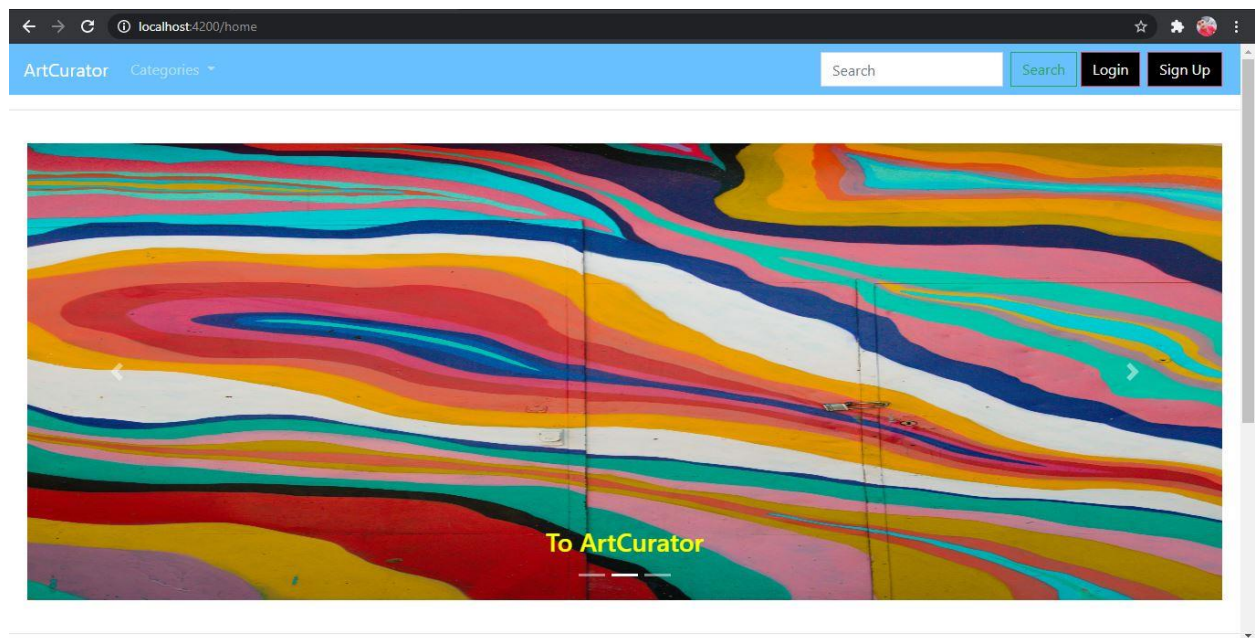


Figure 4 - Starting Home Page

ArtCurator

Rushikesh Dhekare

Settings

Logout

Address updated.

UPDATE ADDRESS

Apartment

Swapnapurti

Street

Yadgar

City

Hinganghat

State

Maharashtra

Zip Code

442301

Country

India

Figure 5 - Update Address Page

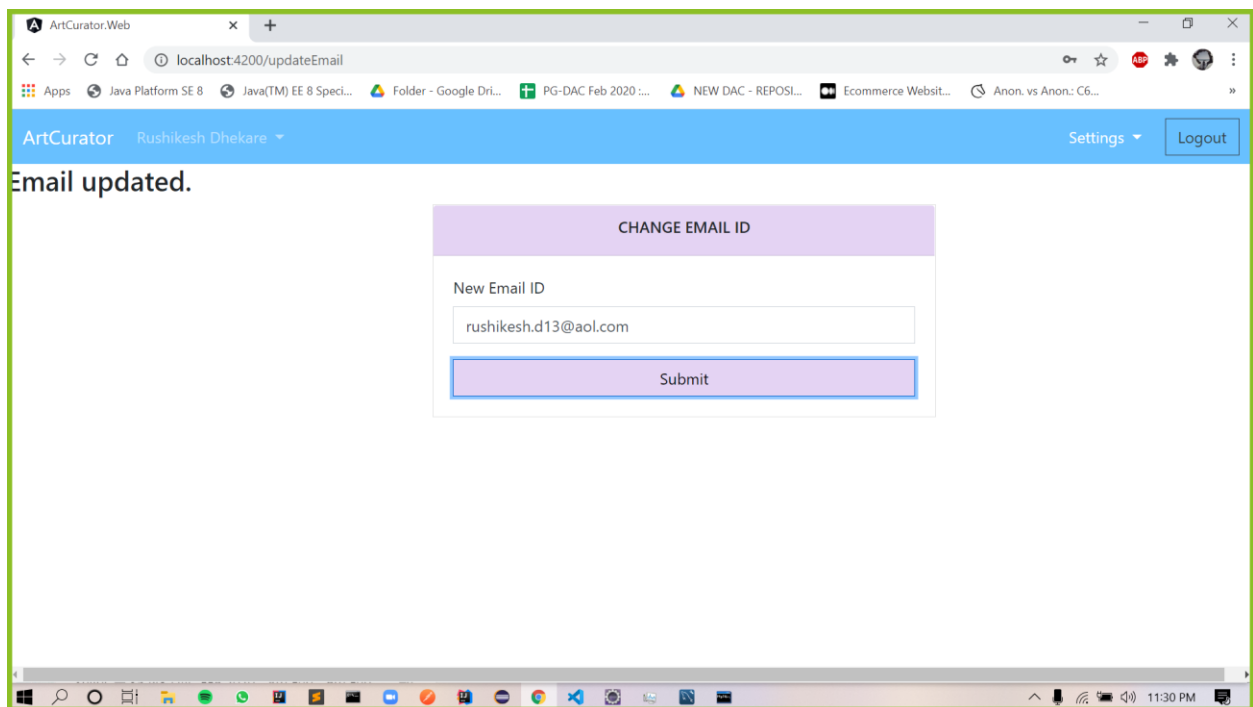


Figure 6 – Update Email Page

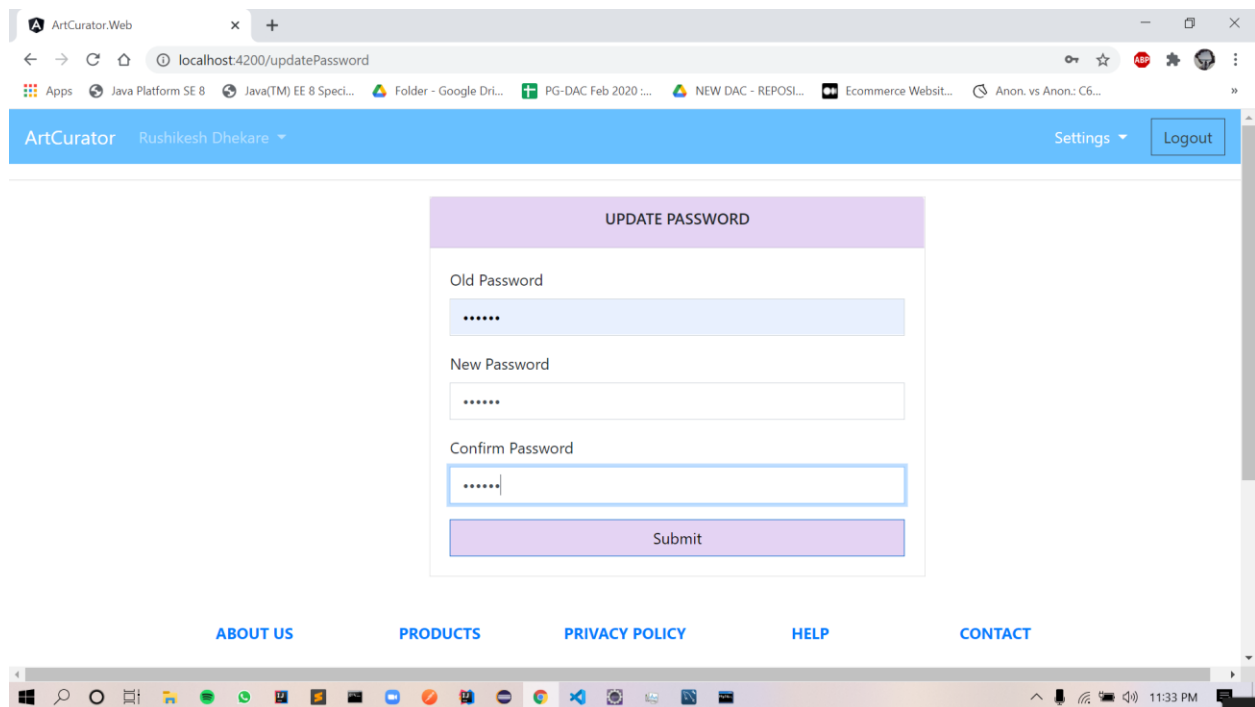


Figure 7 – Update Password Page

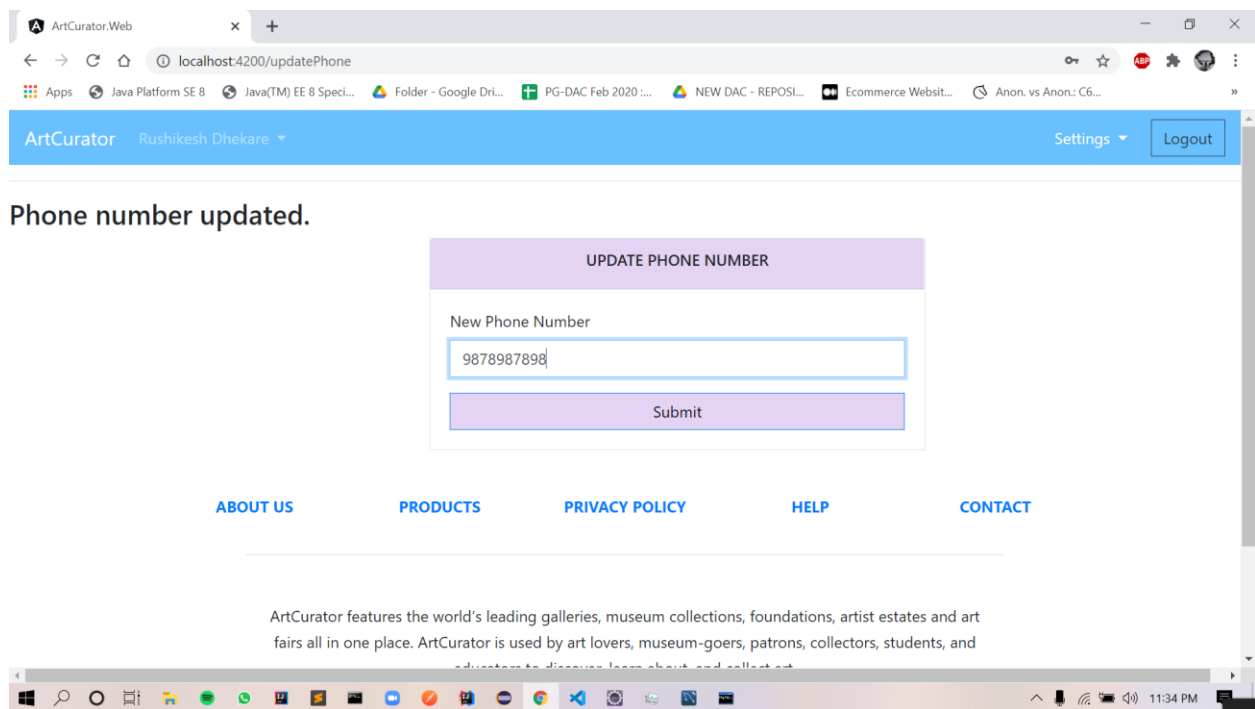


Figure 8 - Update Phone No. Page

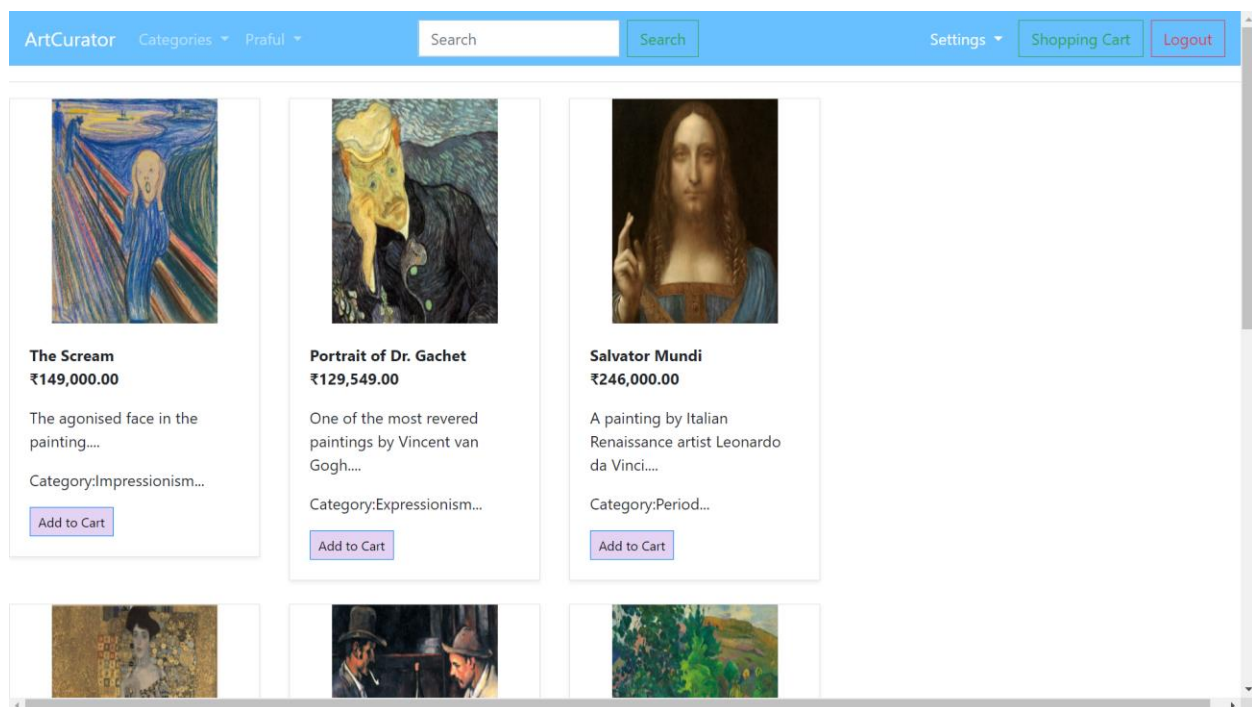


Figure 9 – Buyer Home Page

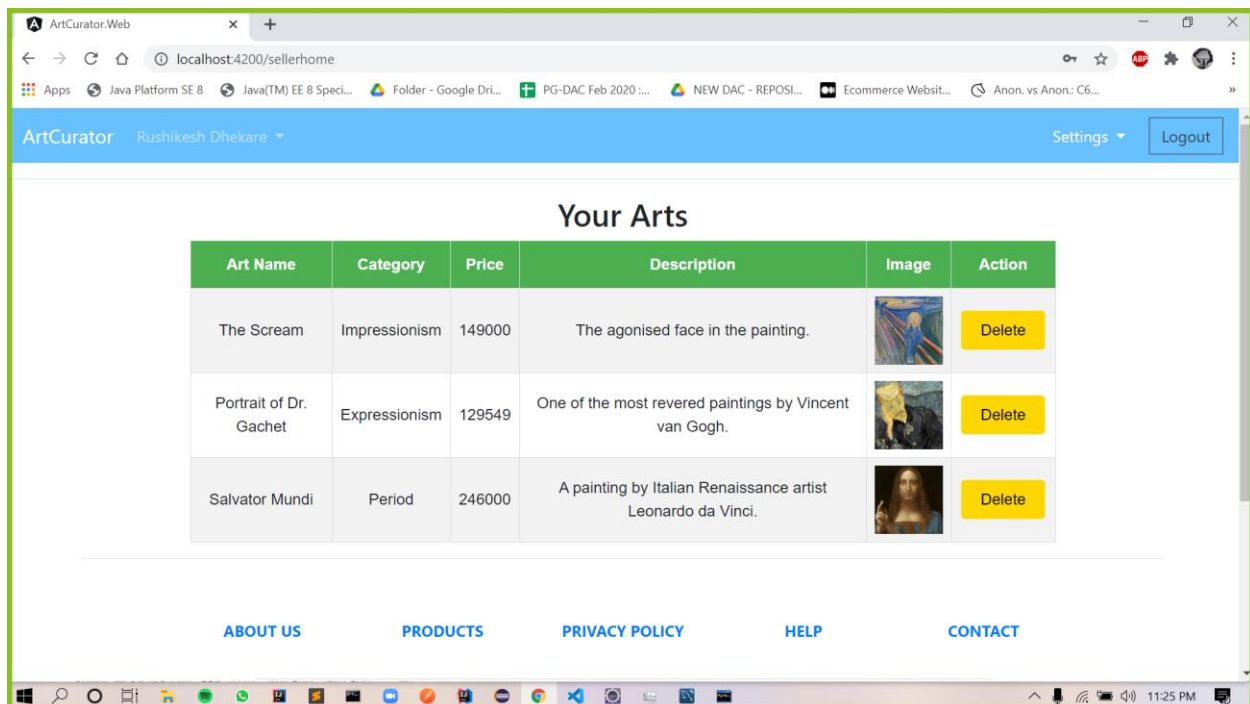


Figure 10 – Seller Home Page

ArtCurator

Rushikesh Dhekare

Settings

Logout

ADD ART

Title

The Scream

Price

₹ 123456

Category

Expressionism

Description

The agonised face in the painting.

Upload Image

Choose FileThe_Scream_Pastel.jpg

Add Art

Figure 11 – Seller Add Art Page

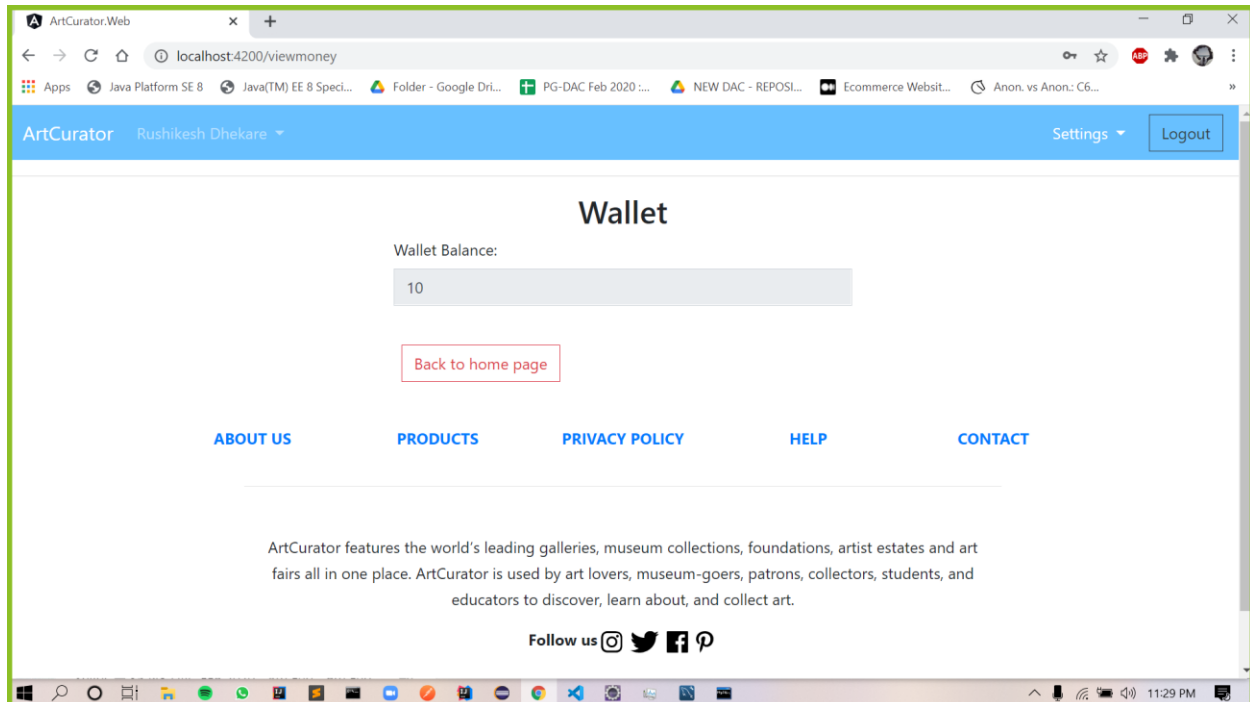


Figure 12 – Wallet Page

Billing Address

Full Name

Cyril Sibi

Email

cyril@gmail.com

Address

Shivshakti,Wagholi

City

Pune

State

Maharashtra,India

Zip

652314

☒ Shipping address same as billing

Confirm

Back to home page

Figure 13 – Billing Page

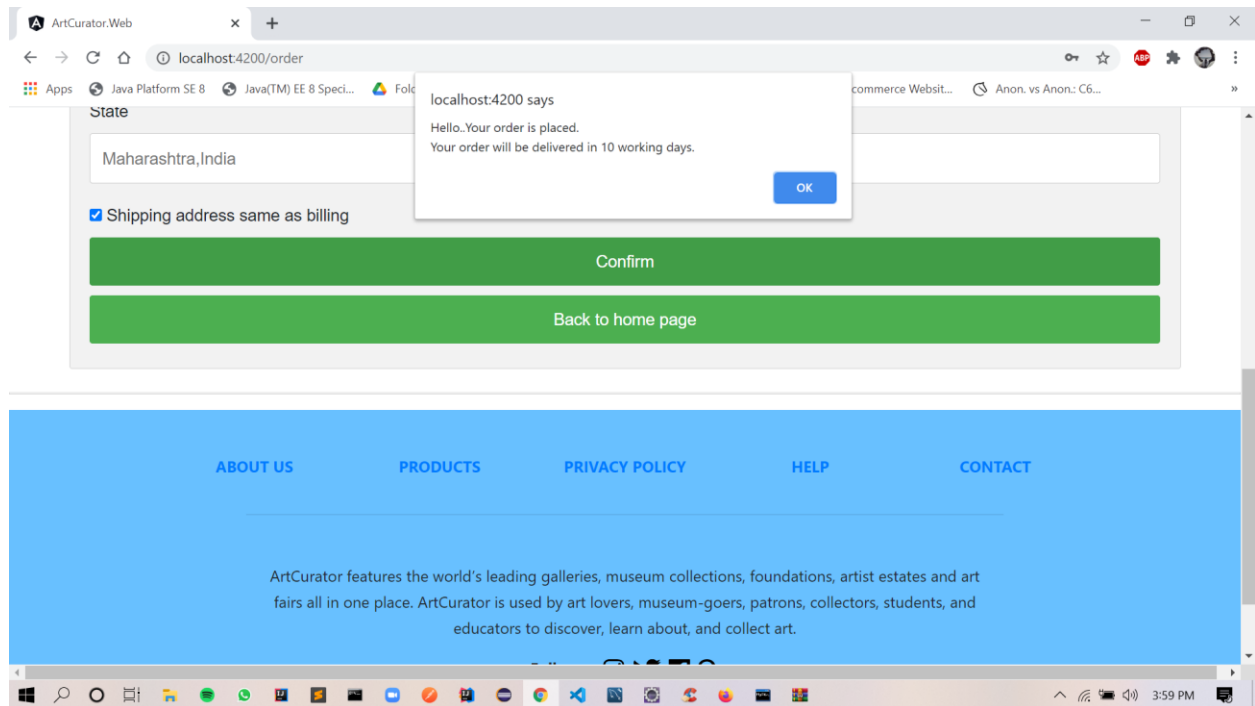


Figure 14 – Order Success Page

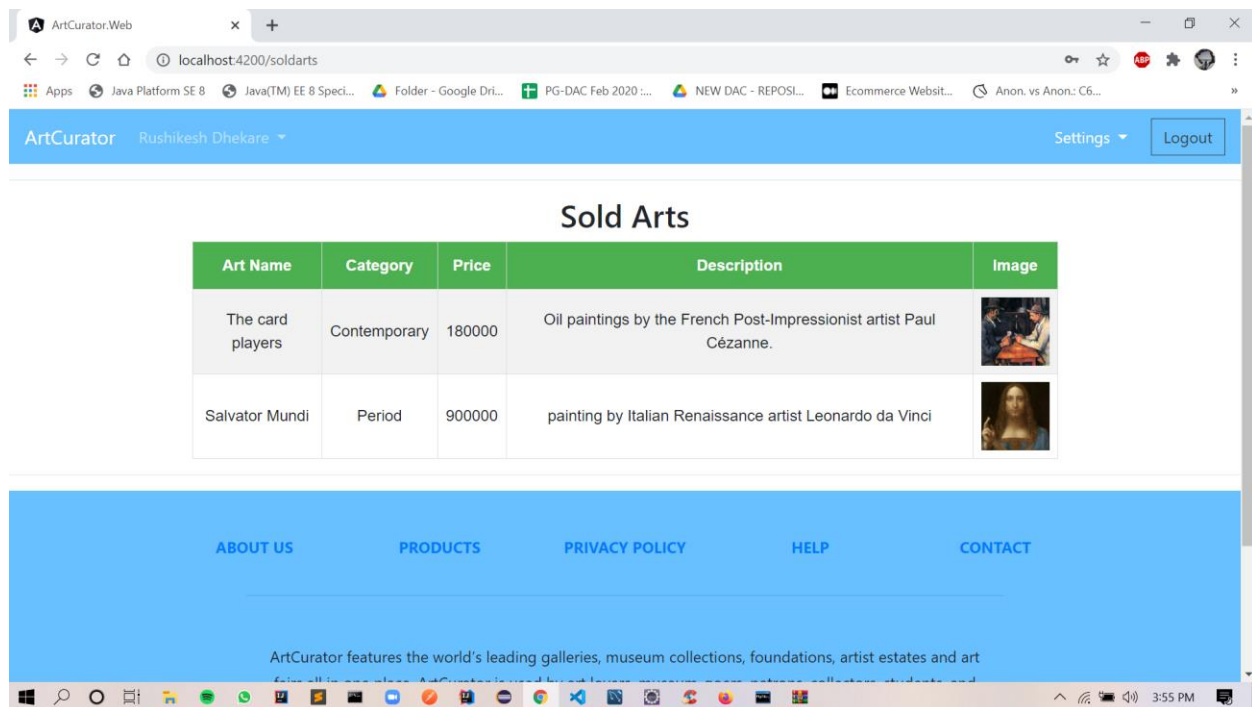


Figure 15 – Sold Arts Page

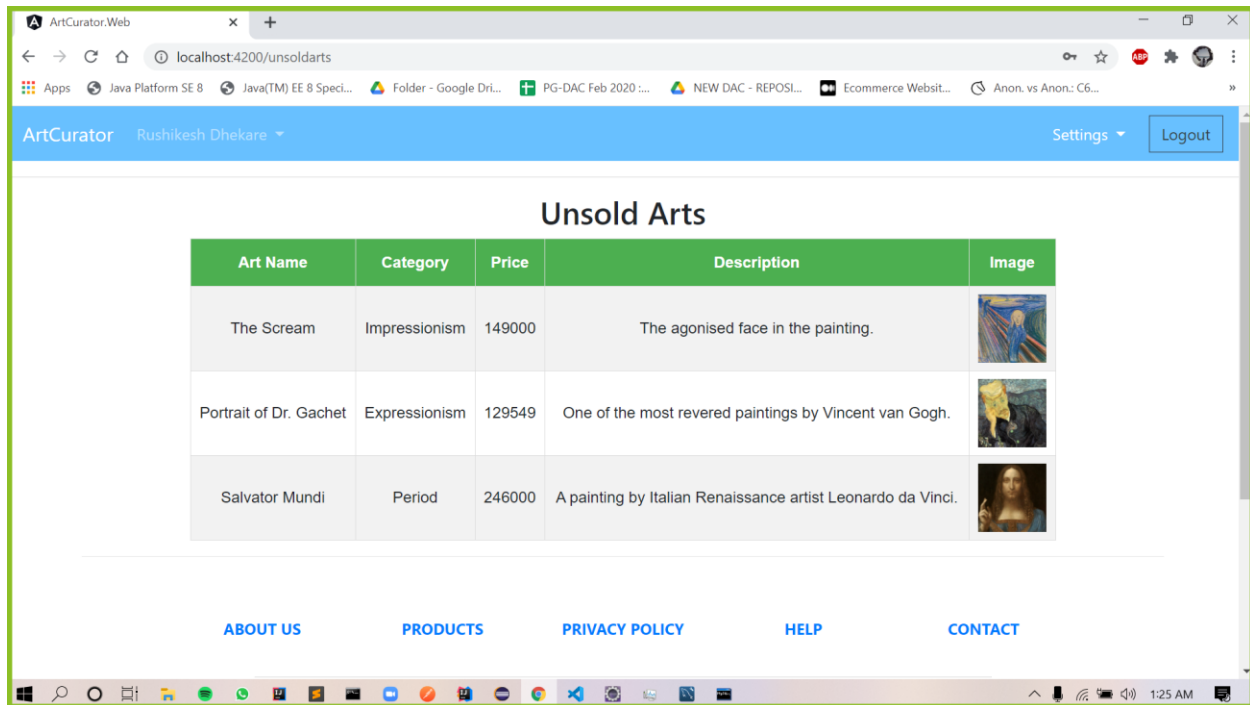


Figure 16 – Unsold Arts Page

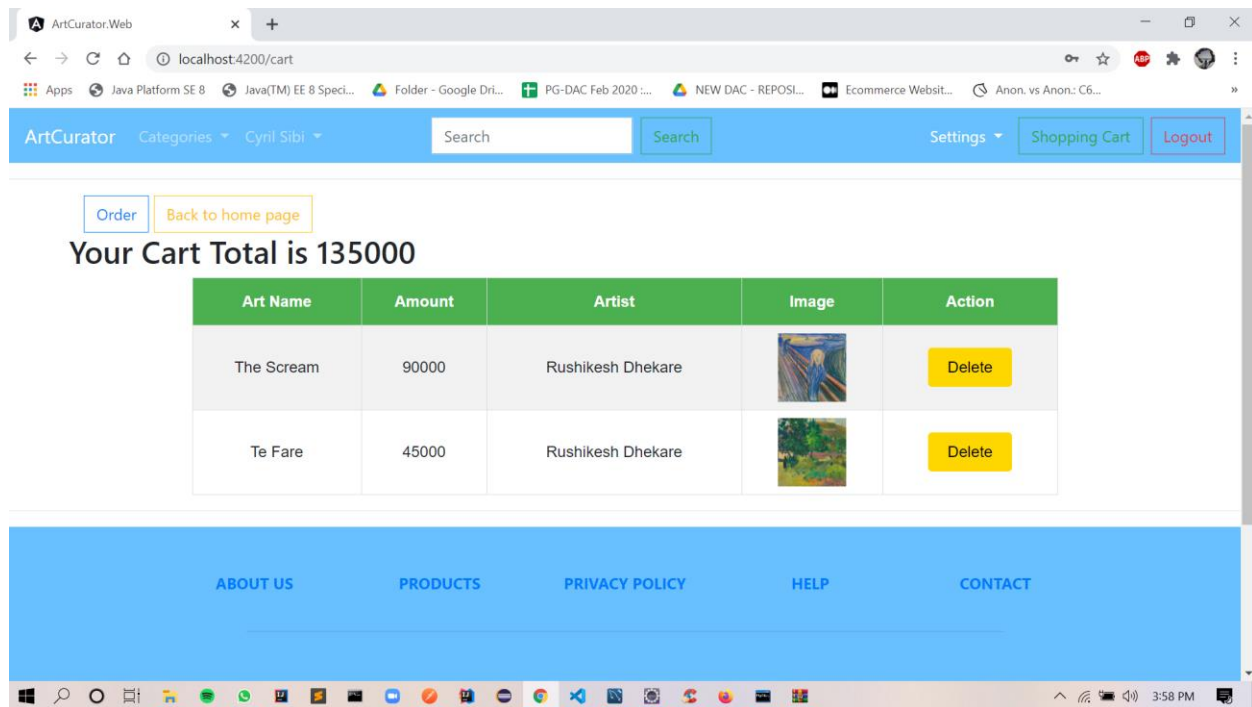


Figure 17 – Shopping Cart Page

6. TESTING

Alpha Testing:-

Alpha Testing is a type of acceptance testing; performed to identify all possible issues and bugs before releasing the final product to the end users. The main goal is to identify the tasks that a typical user might perform and test them.

To put it as simple as possible, this kind of testing is called alpha only because it is done early on, near the end of the development of the software, and before beta testing. The main focus of alpha testing is to simulate real users by using a black box and white box techniques.

Beta Testing:-

Beta Testing is performed by "real users" of the software application in "real environment" and it can be considered as a form of external User Acceptance Testing. It is the final test before shipping a product to the customers. Direct feedback from customers is a major advantage of Beta Testing. This testing helps to test products in customer's environment.

Beta version of the software is released to a limited number of end-users of the product to obtain feedback on the product quality. Beta testing reduces product failure risks and provides increased quality of the product through customer validation.

Whitebox Testing:-

White Box Testing is software testing technique in which internal structure, design and coding of software are tested to verify flow of input-output and to improve design, usability and security. In white box testing, code is visible to testers so it is also called Clear box testing, Open box testing, Transparent box testing, Code-based testing and Glass box testing. It is one of two parts of the Box Testing approach to

software testing. On the other hand, White box testing in software engineering is based on the inner workings of an application and revolves around internal testing. The term "WhiteBox" was used because of the see-through box concept. The clear box or WhiteBox name symbolizes the ability to see through the software's outer shell (or "box") into its inner workings.

- Internal security holes
- Broken or poorly structured paths in the coding processes
- The flow of specific inputs through the code
- Expected output
- The functionality of conditional loops
- Testing of each statement, object, and function on an individual basis

Blackbox Testing:-

Black Box Testing is a software testing method in which the functionalities of software applications are tested without having knowledge of internal code structure, implementation details and internal paths. Black Box Testing mainly focuses on input and output of software applications and it is entirely based on software requirements and specifications. It is also known as Behavioral Testing.

- Initially, the requirements and specifications of the system are examined.
- Tester chooses valid inputs (positive test scenario) to check whether SUT processes them correctly. Also, some invalid inputs (negative test scenario) are chosen to verify that the SUT is able to detect them.
- Tester determines expected outputs for all those inputs.
- Software tester constructs test cases with the selected inputs.
- The test cases are executed.
- Software tester compares the actual outputs with the expected outputs.
- Defects if any are fixed and re-tested.

Grey box Testing:-

Grey Box Testing or Gray box testing is a software testing technique to test a software product or application with partial knowledge of internal structure of the application. The purpose of grey box testing is to search and identify the defects due to improper code structure or improper use of applications.

In this process, context-specific errors that are related to web systems are commonly identified. It increases the testing coverage by concentrating on all of the layers of any complex system.

Gray Box Testing is a software testing method, which is a combination of both White Box Testing and Black Box Testing method.

Gorilla Testing:-

Gorilla Testing is a Software testing technique wherein a module of the program is repeatedly tested to ensure that it is working correctly and there is no bug in that module.

A module can be tested over a hundred times, and in the same manner. So, Gorilla Testing is also known as "Frustrating Testing".

Gorilla Testing is performed on specifically few selective modules with few test cases. Objective of Gorilla testing is to check whether the module is working properly or not.

Monkey Testing:-

Monkey Testing is a software testing technique in which the tester enters any random inputs into the software application without predefined test cases and checks the behavior of the software application, whether it crashes or not. The purpose of Monkey testing is to find the bugs and errors in the software application using experimental techniques.

1. In Monkey Testing the tester (sometimes developer too) is considered as the 'Monkey'
2. If a monkey uses a computer he will randomly perform any task on the system out of his understanding
3. Just like the tester will apply random test cases on the system under test to find bugs/errors without predefining any test case
4. In some cases, Monkey Testing is dedicated to Unit Testing or GUI Testing too.

TEST REPORT:

Sr. No	Description	Steps	Outcome	Result
1	Register a user or a seller.	Enter all the details. Click the Register button.	The user or seller is registered on the database.	Passed
2	Check for empty login data on the login form.	Click the login button with one empty field.	The application displays a prompt message telling the user to enter data in the empty field.	Passed
3	Check for incorrect login credentials on the login form.	Enter the incorrect login details. Click the login button.	The login form with an error.	Passed
4	Check for correct login credentials on the login form.	Enter the correct login details. Click the login button.	The home page is displayed.	Passed
5	Access home page of the application.	Enter the home page URL of the application on a web browser.	The home page of the application is displayed with available products.	Passed
6	View available products by category.	Click any of the category links on the home page.	The products for the clicked category are displayed.	Passed
7	Add product to the shopping cart.	Click the add to cart button on the displayed product on the home page.	The application remains on the home page with the number of items in the	Passed

			cart updated and shown on the top of the home	
8	View the shopping cart.	Click the view cart link on the home page of the application.	The shopping cart of the application is displayed with its items.	Passed
9	Update an item quantity in the shopping cart.	Edit the quantity of an item in the cart and click the add/remove button.	The item quantity, its price and the total price of all items in the cart are updated accordingly.	Passed
10	Remove an item from the shopping cart.	Click the remove button of the item to be removed.	The item is removed from the cart and the total price of all items in the cart is updated accordingly.	Passed.
11	Access the seller art items on the seller page.	Enter seller details and click on login button	The seller home page is displayed.	Passed
12	Add seller art	Enter the required data on the form and submit.	An appropriate page is displayed to show the added art.	Passed
13	Logout from web application	Click on the logout button from the drop down menu on navbar.	The user or seller should logout.	Passed

7. CONCLUSION:

The main objective of this project was to develop an e-commerce web application for buying and selling art where the seller manages his/her art while the customers make orders and pay for products. The application was developed with the above-mentioned features.

One of the biggest challenges faced during the development of this project was how to integrate frontend and backend of this application. Another challenge faced was how to authenticate user and seller during login process. This actually affected the flow of the application development process as much time was used to learn and understand the above mentioned processes.

With these challenges and others not mentioned here, a lot of new experience has been gained during the development process of this application. Although all the requirements set out for the web application have been met, there are still areas to improve on. A mobile version can be developed for the application so that users can have a better access to the application. Also, other online payment methods like credit/debit card and bank payment methods can be implemented for the application.

8. FUTURE SCOPE:

We can add more one more module for services where customers can directly contact various service providers such as home decorators, interior designers, movers and shakers, etc. and get their services.

9. REFERENCES:

1. Angular Documentation
<https://angular.io/>
2. Bootstrap Documentation
<https://getbootstrap.com/>
3. Java Documentation
[https:// docs.oracle.com/javase/7/index.html](https://docs.oracle.com/javase/7/index.html)