CHAPTER 1

INTRODUCTION

This document aims at defining the overall about Art Gallery Management System site. This helps the owner of the art gallery to maintain the details of the artists and details about their paintings. The details of the artists will be kept by the owners and the details of the paintings will be recorded through the pen-paper mode. The artists can display their paintings and many other forms of art works in the art gallery, With the help of Art Gallery Management System, an artist will be able to host and access their paintings on their own application.

❖ Art-Gallery Site divided into two modules

- ➢ Admin
- ➢ User

❖ Admin Features

- ➢ Admin Dashboard
- ➢ Admin can add paintings
- ➢ Admin can post a news about artist / paintings

❖ User Features

- ➢ User can order products from various ways.
- ➢ User can search for products from the search box
- ➢ User can add products to cart and checkout
- ➢ User are also given a chance to comment on paintings

1.1 Purpose

This specification document describes then capabilities that will be provided by the Art Gallery Management Site. It provides a platform to exhibit and sell their creations online in affordable rates and it reduces manual work for managing the arts.

1.2 Scope

The Application will manage an online shop that sells paintings of an artist, Art gallery management system is to manage details of arts, art gallery and customers and it promotes artists working on different themes and ideas.

CHAPTER 2

SYSTEM ANALYSIS

The Software Requirements Specification is a document that describes the external requirement for any system. The Requirement analysis has to identify the Requirements by taking to the clients and understanding their needs. The inputs are to be gathered from different resources, these inputs may be inconsistent. The Requirement phase translates the ideas in the minds of the clients into a formal document.

2.1 SOFTWARE REQUIREMENTS

- Visual Studio Code
- Xampp
- Front End: HTML, CSS.
- Back End: JAVA Script, PHP.
- Chrome / Fire Fox.

2.2 HARDWARE REQUIREMENTS

- Intel Core i5 Processor
- 8GB RAM
- 150 MB of Hard Disk Storage
- Active Internet Connection

CHAPTER 3

FEASIBILITY STUDY

Feasibility study is conducted once the problem is clearly understood. Feasibility study is a high level capsule version of the entire system analysis and design process. The objective is to determine quickly at a minimum expense how to solve a problem. The purpose of feasibility is not to solve the problem but to determine if the problem is worth solving.

The system has been tested for feasibility in the following points.

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

3.1 Technical Feasibility

The project entitles “Art Gallery Management System Site” is technically feasibility because of the below mentioned feature. The project was developed in php which Graphical User Interface. It provides the high level of reliability, availability and compatibility. All these make PHP an appropriate language for this project. Thus, the existing software PHP is a powerful language.

3.2 Economical Feasibility

The computerized system will help in automate the selection leading the profits and details of the organization approximately. The costs incurred of not creating the system are set to be great, because precious time can be wanted by manually. With this software, the machine and manpower utilization are expected to go up by 80-90%.

3.3 Operational Feasibility

In this project, the management will know the details of each product that have been sold and can help them to keep track of data and store it decentralized. If there are any enquiries that particular contract can be known as per their requirements and necessaries.

CHAPTER 4

DATABASE MODELS

4.1 Single Tier Architecture

In a single tier the server and client are the same in the sense that a client program that needs information (client) and the source of this type of architecture is also possible in java, in case flat files are used to store the data. However, this is useful only in case of small applications. The below figure 4.1 shows Single Tier Architecture. The advantage with this is the simplicity and portability of the application developed.

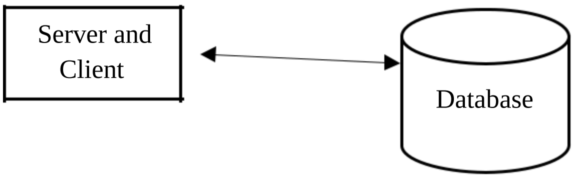


Fig 4.1: Single Tier Architecture.

4.2 Two Tier (Client-Server) Architecture

In two tier architecture the database resides in one machine and client in different machine they are connected through the network. In this type of architecture, a database management takes control of the database and provides access to clients in a network. This software bundle is also called as the server. The below figure 4.2 shows Two Tier Architecture. Software in different machines, requesting for information are called as the clients.

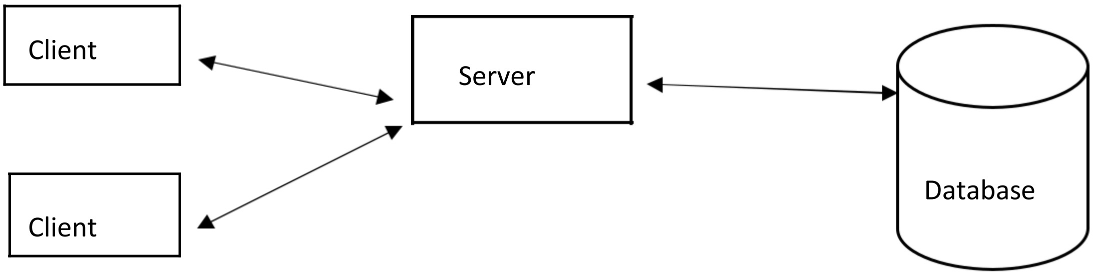


Fig 4.2: Two Tier Architecture.

4.3 Three Tier and N Tier Architecture

In the three-tier architecture, any number servers can access the database that resides on server. Which in turn serve clients in a network. For example, you want to access the database using java applets, the applet running in some other machine, can send request only to the server from which it is down loaded. For this reason, we will need to have an intermediate server which will accept the requests from applets and them to the actual database server. This intermediate server acts as a two-way communication channel also. This is the information or data from the database is passed on to the applet that is requesting it.

CHAPTER 5

SYSTEM DESIGN

System Design is the process of designing the architecture, components, and interfaces for a system so that it meets the end-user requirements. It's a wide field of study in Engineering and includes various concepts and principles that will help you in designing scalable systems. These concepts are extensively asked in the Interview Rounds for SDE 2 and SDE 3 Positions at various tech companies. These senior roles demand a better understanding of how you solve a particular design problem, how you respond when there is more than expected traffic on your system, how you design the database of your system and many more. All these decisions are required to be taken carefully keeping in mind Scalability, Reliability, Availability, and Maintainability

5.1 Context Diagram of Art Gallery Site

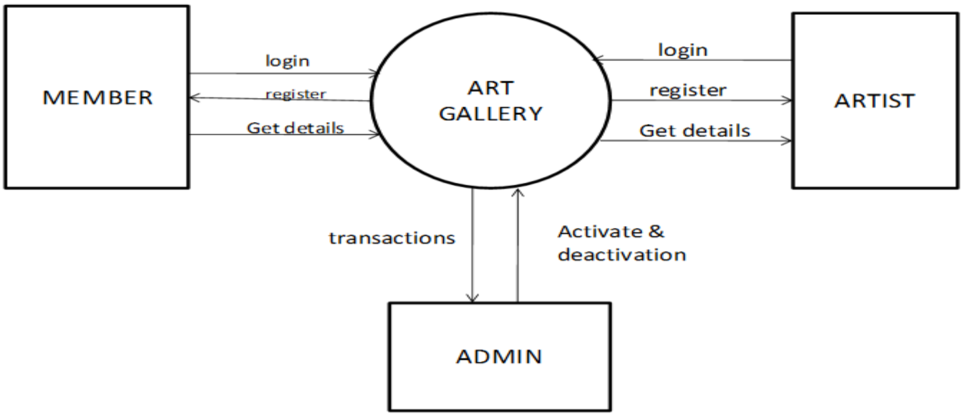


Fig 5.1.1: Context Diagram of Art Gallery Site

The Fig 5.1 shows the how art gallery manages the details and response to Member, Artist and Admin and their connection between art gallery database.

5.2 Use Case Diagram of Art Gallery Site

The below figures shows lists of activities performed by admin and user.

- The Fig 5.2.1 is the use case diagram for user which shows the list of all activities that he can perform till the logout.
- The Fig 5.2.2 is the use case diagram for admin which shows the list of all activities he can perform till he logout.

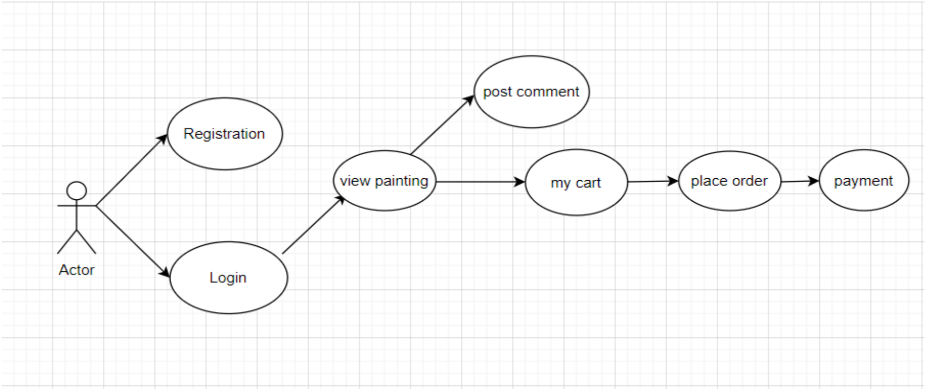


Fig 5.2.1: Use Case Diagram for User

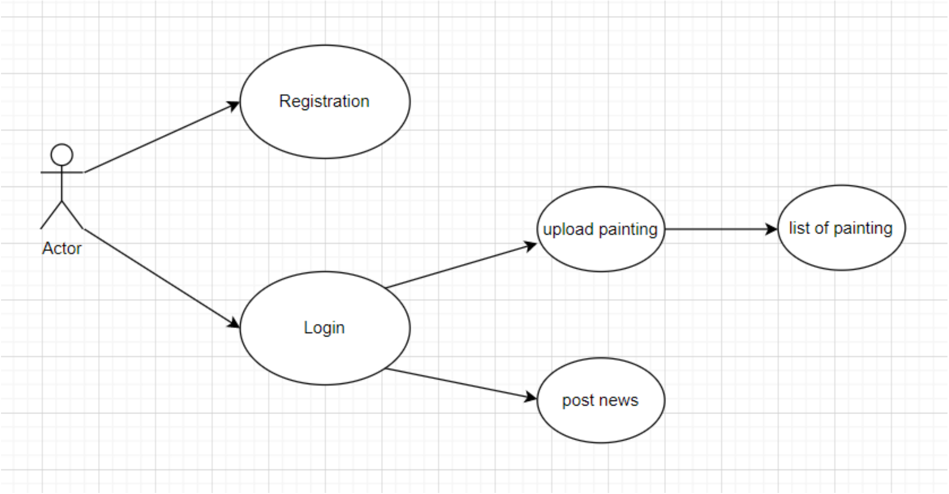


Fig 5.2.2: Use Case Diagram for Admin

5.3 Entity-Relationship Diagram of Art Gallery Site

An Entity may be an object with a physical existence a particular person, car, house, or employee or it may be an object with a conceptual existence a company, job, universe course. An Entity is an object of Entity Type and a set of all entities is called an entity set. Example: E1 is and entity having Entity Type and a set of all students is called Entity Set.

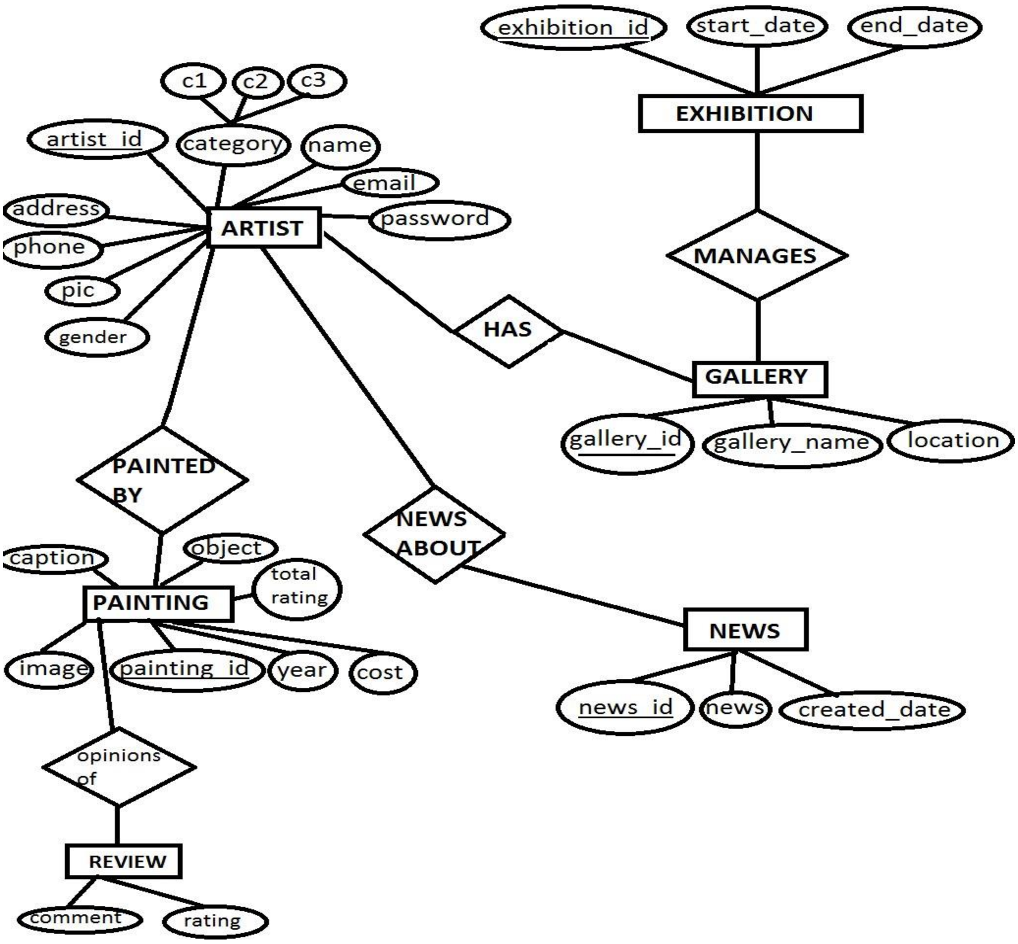


Fig 5.3.1: ER Diagram of the art gallery site

The Fig 5.3.1 is the Entity-Relationship diagram and lists all the categories used in this project.

5.4 Schema Diagram of Art Gallery Site

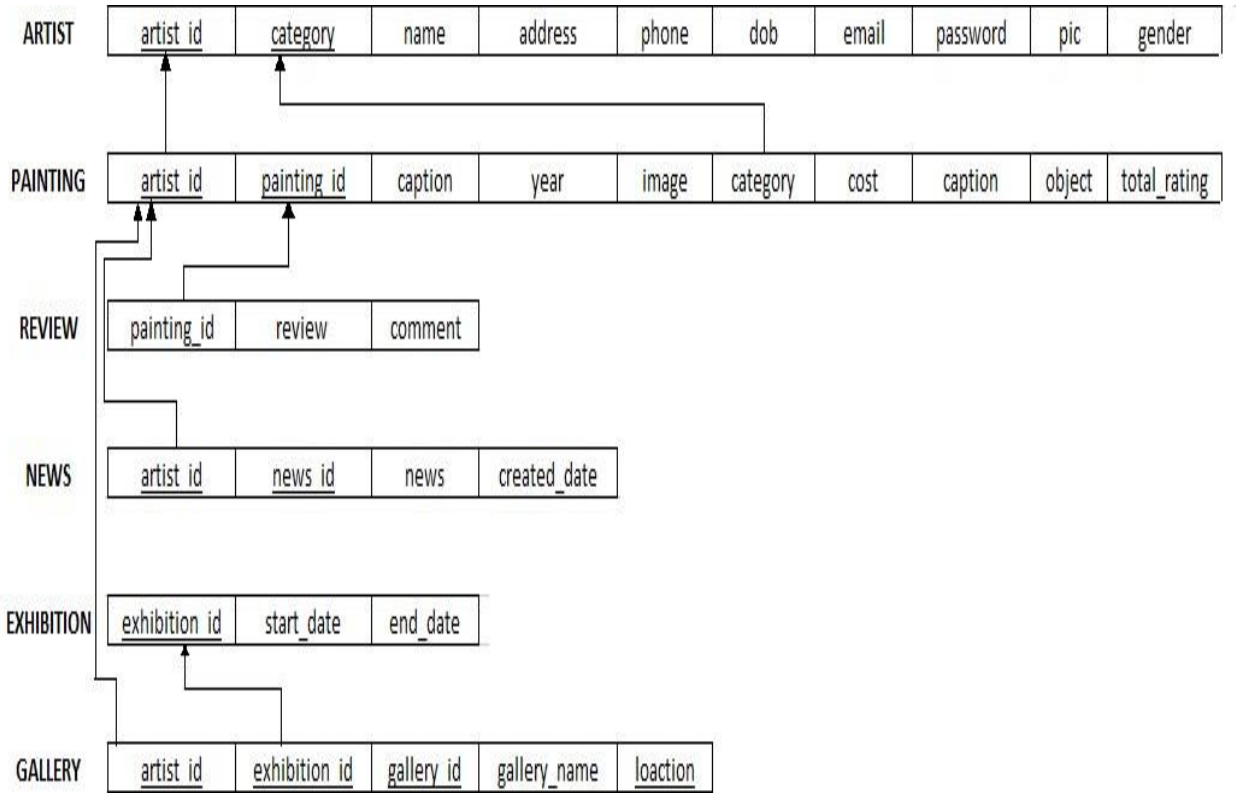


Fig 5.4.1: Schema Diagram of Art Gallery Site

The fig 5.4.1 is the Schema Diagram for the project that displays all the tables used along with their referential integrity constraint.

5.5 ALGORITHMS

❖ <u>STORED PROCEDURE</u>

```
Step1: BEGIN
Step2: DECLARE AVG, PID INT;
Step 3: DEFINE A CURSOR FOR RETRIVING
        SELECT AVG (R. RATING) ASAVG, R. PIDASPID FROM REVIEW R;
Step 4: OPEN CURSOR.
Step 5: UNTILL NO RECORDS FOUND REPEAT THE FOLLOWING STEP 6 & STEP 7.
Step 6: FETECH CURSOR INTO AVG, PID;
Step 7: UPDATE PAINTING table to set TOTAL_RATING as avg.
Step 8: CLOSE CURSOR;
Step 9: END.
```

Description: The stored procedure is basically storing the values in procedure which is in buy table. When the user executes a proceed checkout, it shows the number of painting buyed in an Artist painting table.

❖ TRIGGER

```
Step 1: BEGIN
Step 2: BEFORE INSERT ON PAINTING
Step 3: IF (NEW.COST<999)
THEN
DISPLAY ERROR MESSAGE AS “'WARNING: The price should be more

than 1000!”;
 END IF;
Step 4: END.
```

Description: The trigger keeps track of the action performed on the painting table. It performs, if the cost is less than 999, it shows the price should be more than 1000.

5.6 SYSTEM ARCHITECTURE

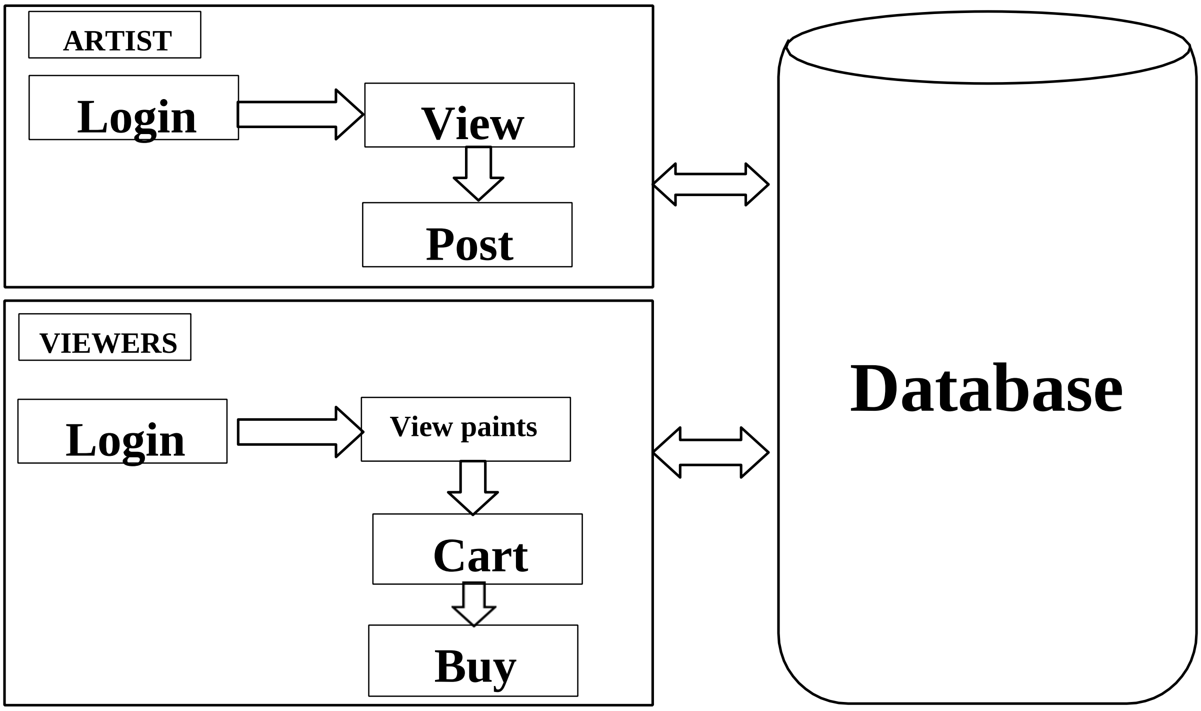


Fig 5.6.1: System Architecture of Art Gallery.

The fig 5.6.1 is the System architecture of the project that displays all activities. The architecture consists of a centralized database, which will be accessed by 2 types of users namely: artists and the customers. Administrative access is required for the artist, which is implemented through login module with which the artist can login with their registered username and password. Once login is successful, the artists can upload their painting and also can view the painting uploaded by them. Suppose the artist fails to login, the artist will be asked to enter the username and password again.

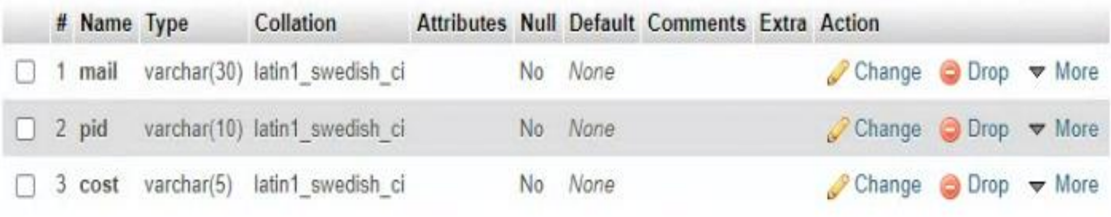
Customers can access the database only to fetch and view the paintings uploaded by the artists. Customers can also comment on the paintings and give feedback, which shall be considered by the artists in the future. With the help of the Art Gallery Management System, an artist would be able to schedule an exhibition by setting the start date and the end date of the exhibition. The project includes a stored procedure that calculates the average of ratings by various customers on a work of art. It displays the average rating for each painting on a scale of 1 to 10.

5.7 Database Tables

A table is a collection of related data held in a table format within a database. It consists of columns and rows. In relational databases and flat file databases, a table is a set of data elements (values) using a model of vertical columns (identifiable by name) and horizontal rows, the cell being the unit where a row and column intersect. A table has a specified number of columns but can have any number of rows.

A **Database** is defined as a structured set of data. So, in SQL the very first step to store the data in a well - structured manner is to create a database. The **CREATE DATABASE** statement is used to create a new database in SQL.

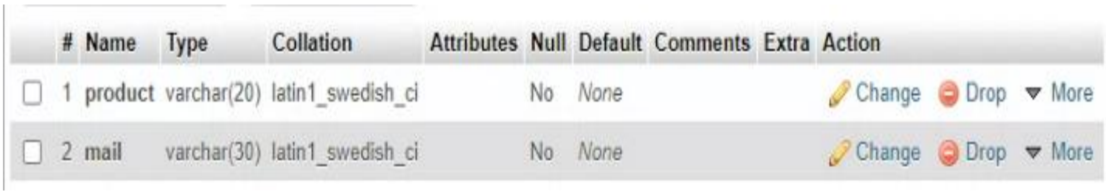
Table 5.7.1: Buy Details Table



	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	**mail**	varchar(30)	latin1_swedish_ci		No	*None*			Change Drop More
□	2	**pid**	varchar(10)	latin1_swedish_ci		No	*None*			Change Drop More
□	3	**cost**	varchar(5)	latin1_swedish_ci		No	*None*			Change Drop More

The Table 5.7.1 gives the attributes and their type and constraints of buyer.

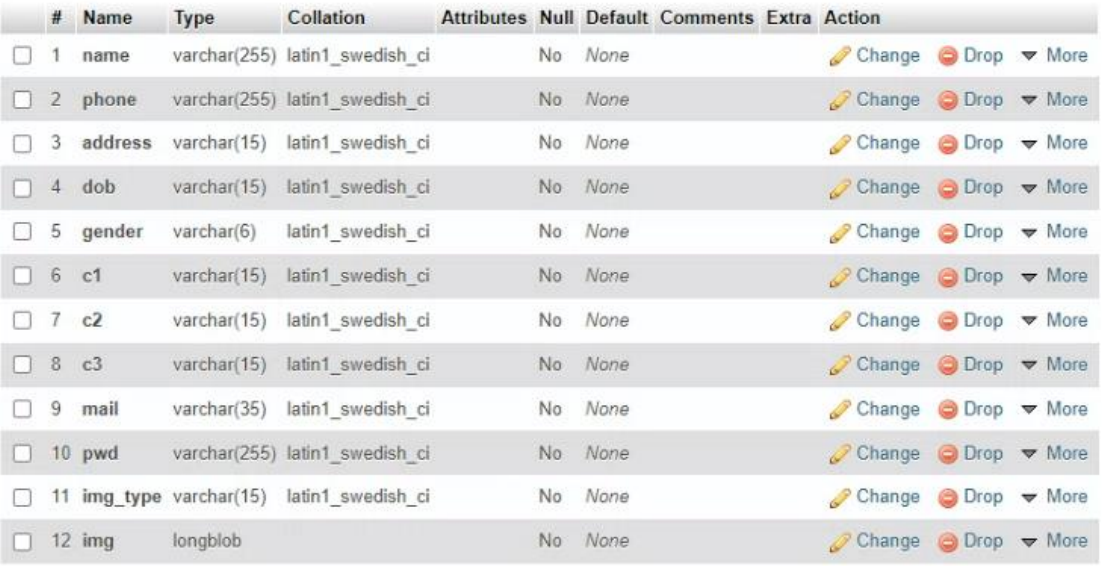
Table 5.7.2: Cart Details Table



	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	product	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	2	mail	varchar(30)	latin1_swedish_ci		No	None			Change Drop More

The Table 5.7.2 displays the attributes and their type and constraints used in cart.

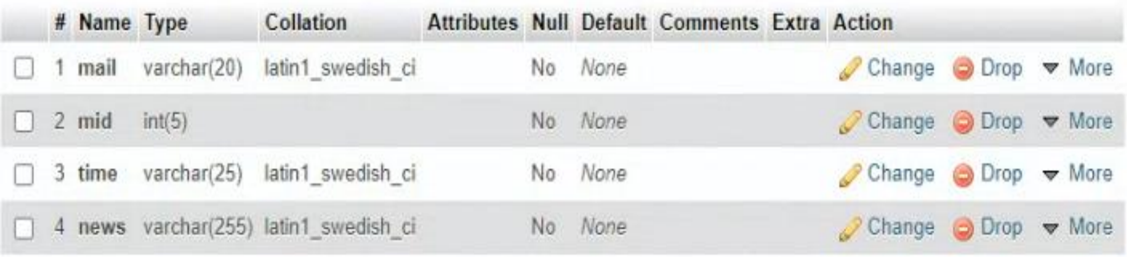
Table 5.7.3: Insert Details Table



	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	name	varchar(255)	latin1_swedish_ci		No	None			Change Drop More
□	2	phone	varchar(255)	latin1_swedish_ci		No	None			Change Drop More
□	3	address	varchar(15)	latin1_swedish_ci		No	None			Change Drop More
□	4	dob	varchar(15)	latin1_swedish_ci		No	None			Change Drop More
□	5	gender	varchar(6)	latin1_swedish_ci		No	None			Change Drop More
□	6	c1	varchar(15)	latin1_swedish_ci		No	None			Change Drop More
□	7	c2	varchar(15)	latin1_swedish_ci		No	None			Change Drop More
□	8	c3	varchar(15)	latin1_swedish_ci		No	None			Change Drop More
□	9	mail	varchar(35)	latin1_swedish_ci		No	None			Change Drop More
□	10	pwd	varchar(255)	latin1_swedish_ci		No	None			Change Drop More
□	11	img_type	varchar(15)	latin1_swedish_ci		No	None			Change Drop More
□	12	img	longblob			No	None			Change Drop More

The Table 5.7.3 displays all attributes filled by admin to create new account in art gallery site.

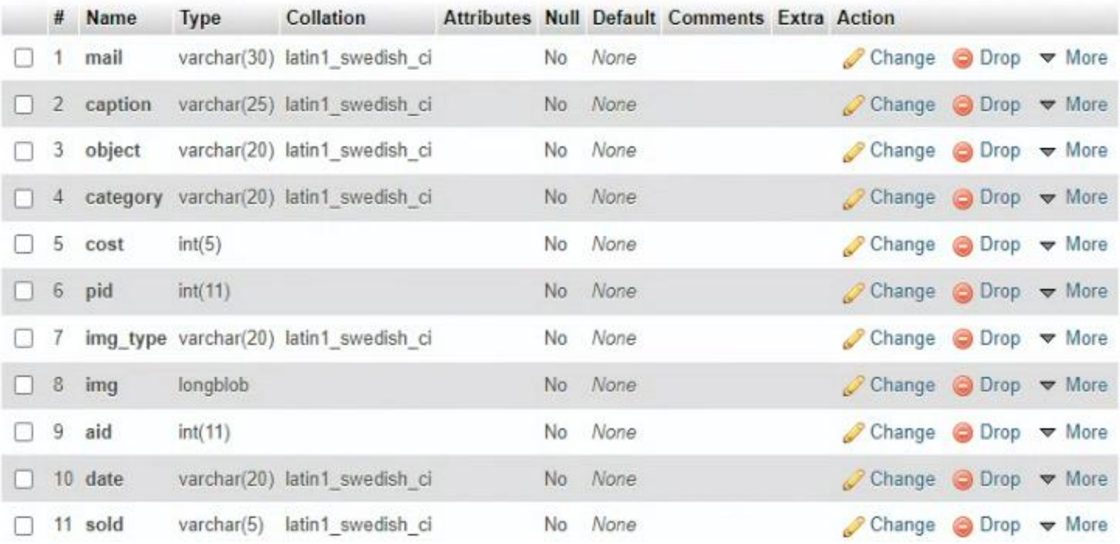
Table 5.7.4: News Details Table



	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	mail	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	2	mid	int(5)			No	None			Change Drop More
□	3	time	varchar(25)	latin1_swedish_ci		No	None			Change Drop More
□	4	news	varchar(255)	latin1_swedish_ci		No	None			Change Drop More

The Table 5.7.4 displays all attributes filled by admin to post a news about painting / artist.

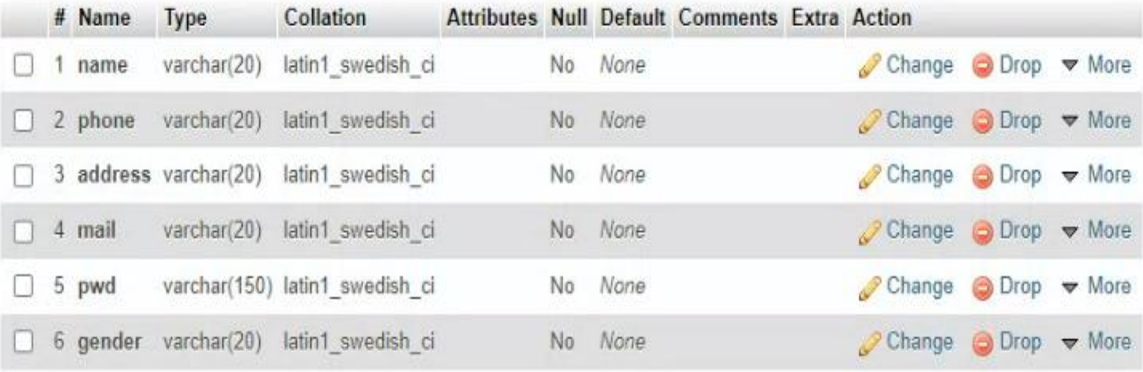
Table 5.7.5: Painting Details Table



	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	mail	varchar(30)	latin1_swedish_ci		No	None			Change Drop More
□	2	caption	varchar(25)	latin1_swedish_ci		No	None			Change Drop More
□	3	object	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	4	category	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	5	cost	int(5)			No	None			Change Drop More
□	6	pid	int(11)			No	None			Change Drop More
□	7	img_type	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	8	img	longblob			No	None			Change Drop More
□	9	aid	int(11)			No	None			Change Drop More
□	10	date	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	11	sold	varchar(5)	latin1_swedish_ci		No	None			Change Drop More

The Table 5.7.5 displays all attributes filled by admin to upload a picture into art gallery site.

Table 5.7.6: User Log Table



	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
□	1	name	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	2	phone	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	3	address	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	4	mail	varchar(20)	latin1_swedish_ci		No	None			Change Drop More
□	5	pwd	varchar(150)	latin1_swedish_ci		No	None			Change Drop More
□	6	gender	varchar(20)	latin1_swedish_ci		No	None			Change Drop More

The Table 5.7.6 displays all attributes filled by user to create a new account in art gallery site .

\

CHAPTER 6

IMPLEMENTATION

To implement the art gallery management system, MYSQL is used for backend and HTML5, CSS3, Bootstrap 3 is used for frontend (Web Application) creation.

6.1 MODULE DESCRIPTIONS

The modules included in this project are:

- ❖ **Login**

INPUT:

Input: Username and the password.

OUTPUT:

A successful login, shall take the artist to the respective profile page, else if the login attempt fails, an error message will be displayed.

DESCRIPTION:

Front end is designed using HTML5, CSS3, and PHP.

Login page provides 2 textboxes to enter username and password, on entering the artist shall click on submit button, on clicking submit button, an Event Handler will call the associated method.

If the entered username and password matches with registered details, the artist will be taken to login page, otherwise error message will be displayed in the same page, user will be asked to enter username and password again.

- ❖ **Uploading painting**

INPUT:

Input: painting image, caption, category, object and cost of the painting.

OUTPUT:

A successful painting upload, shall take the painting to the respective artist page.

DESCRIPTION:

Front end is designed using HTML5, CSS3, and PHP.

Uploading painting page provides 2 textboxes to enter caption and cost, 2 combo box to select category and object, one spinner to choose a year and one browse button to browse image from desktop for uploading, once the artist chooses an image, it will be appeared in label on entering the artist shall click on upload button, on clicking upload button, an Event Handler will call the associated method.

If the entered cost with more than 100, the artist can upload their painting, otherwise error message will be displayed in the same page, ‘WARNING: The price should be more than 1000!’, from trigger.

- ## Artist painting view.

INPUT:

Artist id.

OUTPUT:

A list of painting of particular artist shall be displayed in respective artist painting page.

DESCRIPTION:

Front end is designed using HTML5, CSS3, and PHP.

Artist painting page provides table tag, which list out the details of painting with descripting of the particular artist, on clicking previous page button, an Event Handler will call the associated method.

- ## User view painting.

INPUT:

Caption, Categories, Object.

OUTPUT:

A list of all the painting of the entire artist shall be displayed in respective user page and storing comments on rating of the painting.

DESCRIPTION:

Front end is designed using HTML5, CSS3, and PHP.

User view page provides textbox to enter based on any one from object, caption, category of painting, on click on search button; an Event Handler will call the associated method.

If the entered input matches, it lists the all the painting, artist name, cost of painting, published year, and user will have selected any painting and the user have the permission to give comment and review of that painting, otherwise if entered input no matches, no list will be appeared in the table.

- ## Gallery.

INPUT:

Artist id and Exhibition id.

OUTPUT:

A successful gallery event has been fixed, shall take the even to the respective gallery Page

DESCRIPTION:

Front end is designed using HTML5, CSS3, and PHP.

Gallery page provides combo box to choose exhibition date, 2 text field to the enter gallery name and location, entering the gallery shall click on add gallery button, on clicking button, an Event Handler will call the associated method.

CHAPTER 7

SYSTEM TESTING

7.1 System Testing Objectives

- System Testing is a type of software testing that is performed on a complete integrated system to evaluate the compliance of the system with the corresponding requirements. In system testing, integration testing passed components are taken as input. The goal of integration testing is to detect any irregularity between the units that are integrated together. System testing detects defects within both the integrated units and the whole system. The result of system testing is the observed behavior of a component or a system when it is tested.

- System Testing is carried out on the whole system in the context of either system requirement specifications or functional requirement specifications or in the context of both. System testing tests the design and behavior of the system and also the expectations of the customer. It is performed to test the system beyond the bounds mentioned in the software requirements specification (SRS).

- System Testing is basically performed by a testing team that is independent of the development team that helps to test the quality of the system impartial. It has both functional and non-functional testing.

7.2 System Testing Process

System Testing is performed in the following steps:

- **Test Environment Setup**: Create a testing environment for better quality testing.

- **Create Test Case:** Generate test cases for the testing process.

- **Create Test Data**: Generate the data that is to be tested.

- **Execute Test Case**: After the generation of the test case and the test data, test cases are executed.

- **Defect Reporting**: Defects in the system are detected.

- **Regression Testing**: It is carried out to test the side effects of the testing process.

- **Log Defects:** Defects are fixed in this step.

- **Retest**: If the test is not successful then again, the test is performed

Test Cases:

ID	TEST CASE	USER INPUT	PASS CRITERIA
U_REG_2	User Registration	User selects already existing user name	Display message to choose different user name
U_REG_2	User Registration	User enters different password in password confirm field	Display message that password and confirm password fields don’t match
U_REG_3	User registration	User forgets to enter a particular required field	Display message the value in the field is required
U_REG_4	User registration	User enters all the details successfully	User account created

Table 7.2.1: Registration Test Cases

ID	TEST CASE	USER INPUT	PASS CRITERIA
U_LOG_1	User login	User enters a wrong username	Display message login or password is incorrect
U_LOG_2	User login	User enters a wrong password	Display message login or password is incorrect
U_LOG_3	User login	User enters correct username and password	User logs in successfully

Table 7.2.2: login Test Cases

CHAPTER 8

CONCLUSION AND FUTURE ENHANCEMENT

8.1 Conclusion

This system is a humble venture to satisfy all the needs of an artist to manage his/her art work. Several user-friendly codes have been adopted. Art gallery management system shall prove to be a powerful package which satisfies all the requirements of an artist.

8.2 Future Enhancement

- The project shall host the platform on online servers to make is accessible worldwide.
- The project shall integrate multiple load balancers to distribute loads on system.
- The project shall include a master-slave database structure to reduce overload on databases on regular basis on different servers.

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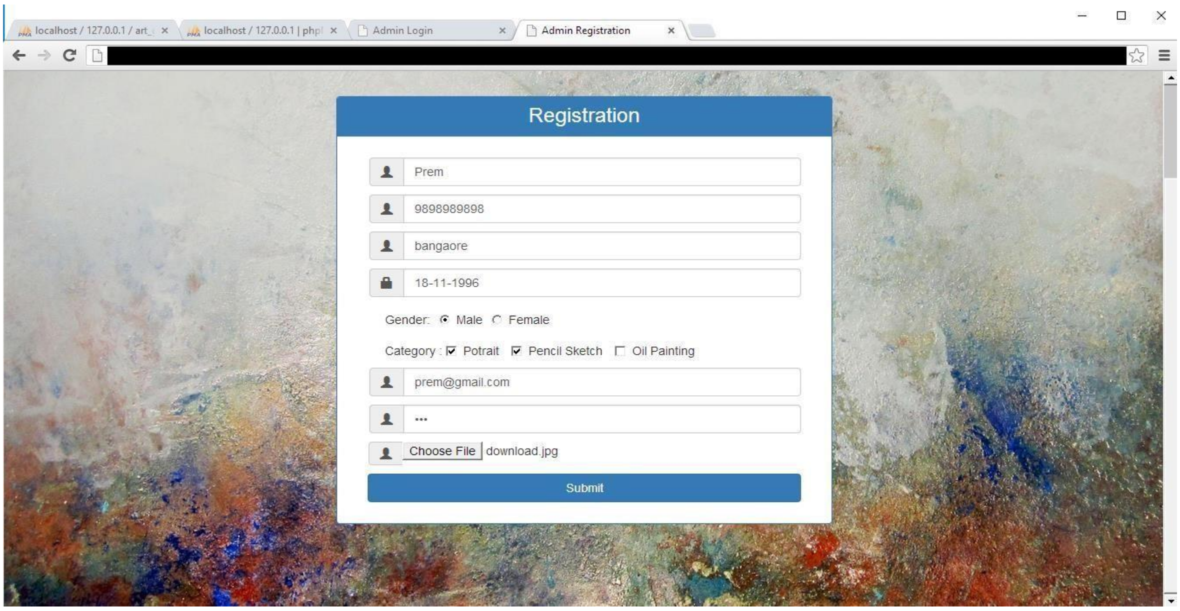
APPENDIX

APPENDIX A: SNAPSHOTS

❖ Admin Sign-up Page



[redacted]

Registration

Prem

9898989898

bangaore

18-11-1996

Gender: ● Male ○ Female

Category : ☑ Potrait ☑ Pencil Sketch □ Oil Painting

prem@gmail.com

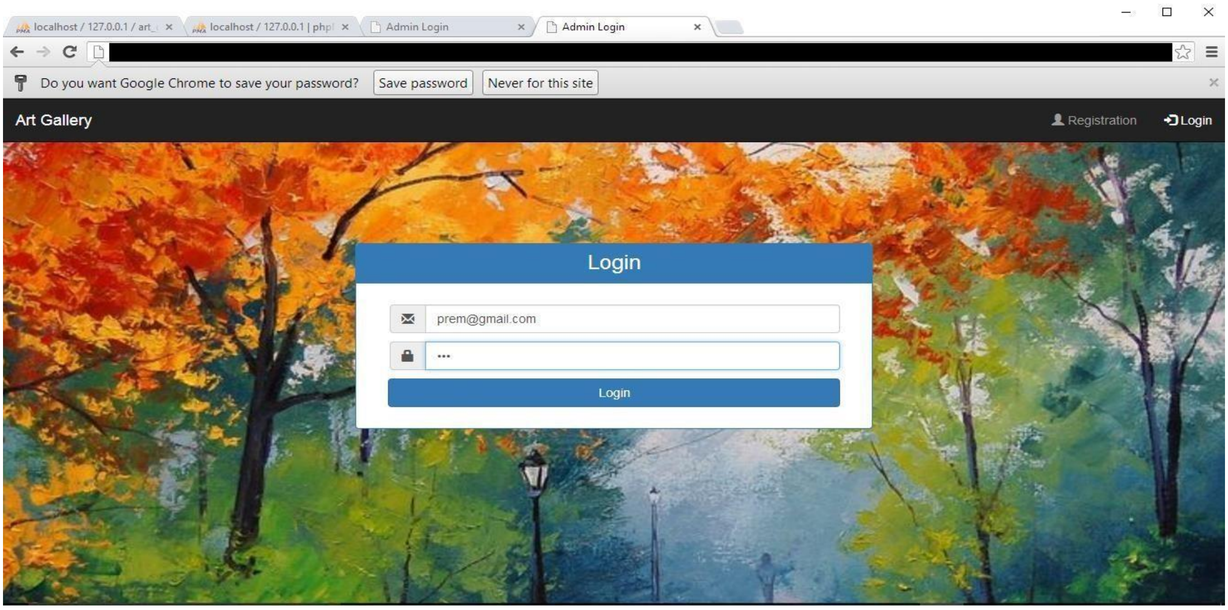
•••

Choose File download.jpg

Submit

Figure: A1 Artist Registration.

The above Figure A1 consists of Name, Phone No, City, Date-of-Birth, Gender, Category E-Mail Id, Password and Choose Image file for Artist Registration Page to create a new account in site.



[redacted]

Do you want Google Chrome to save your password? Save password Never for this site

Login

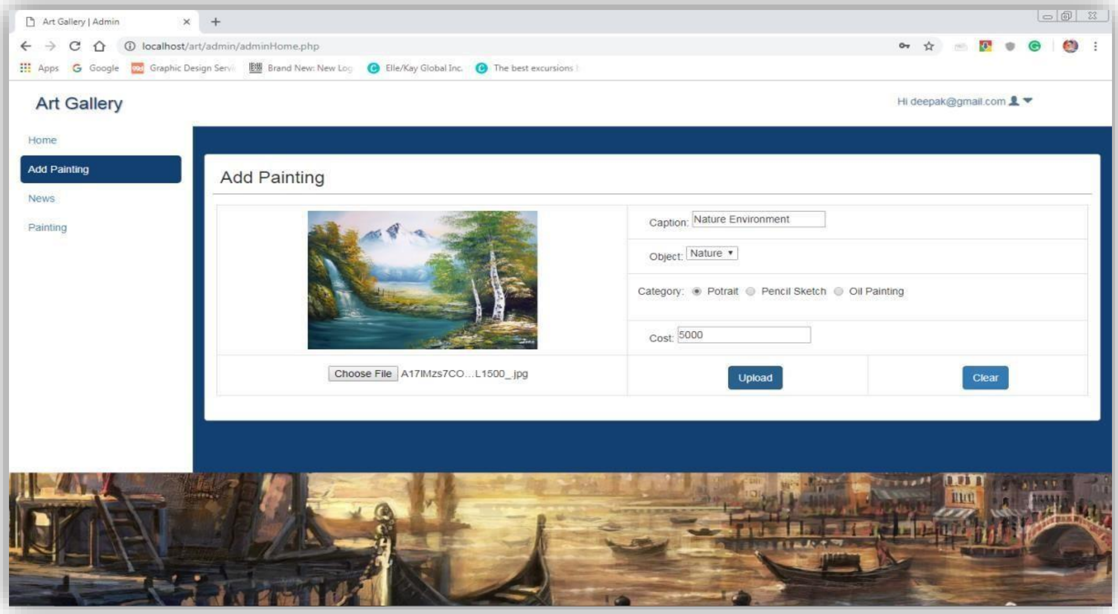
prem@gmail.com

•••

Login

Figure: A2 Artist Login.

The above Figure A2 consists of Email-Id and password of an Artist Login page to login into site.



Caption: Nature Environment

Object: Nature

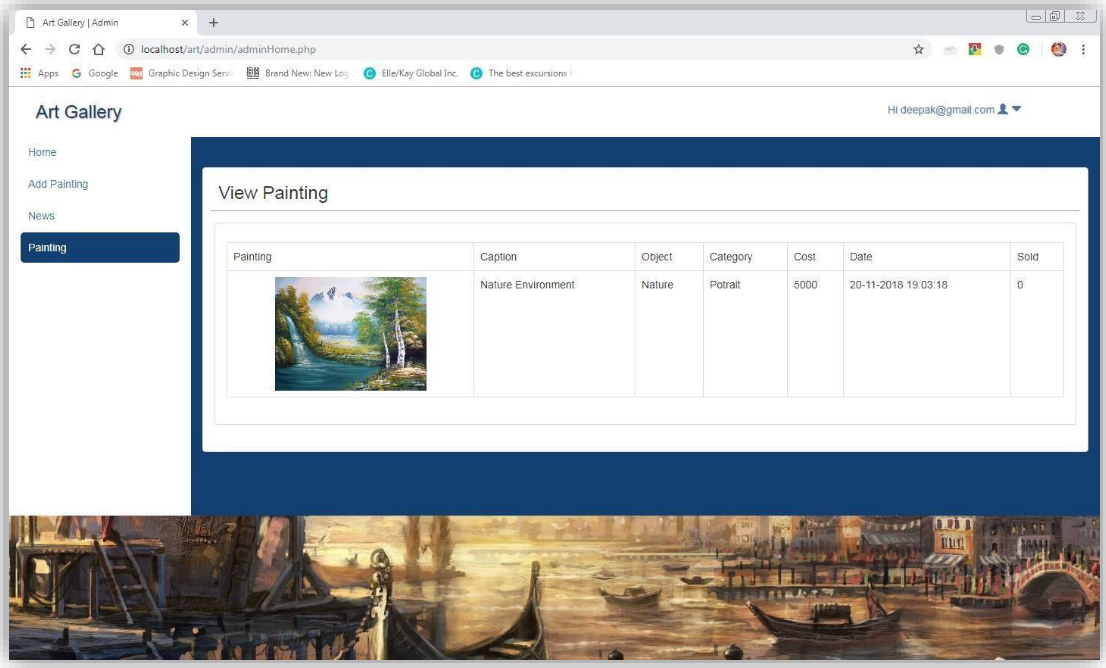
Category: ● Potrait ○ Pencil Sketch ○ Oil Painting

Cost: 5000

A17IMzs7CO...L1500_.jpg

Figure: A3 Artist Uploading.

The above Figure A3 represents details filled by admin to upload a painting into site.

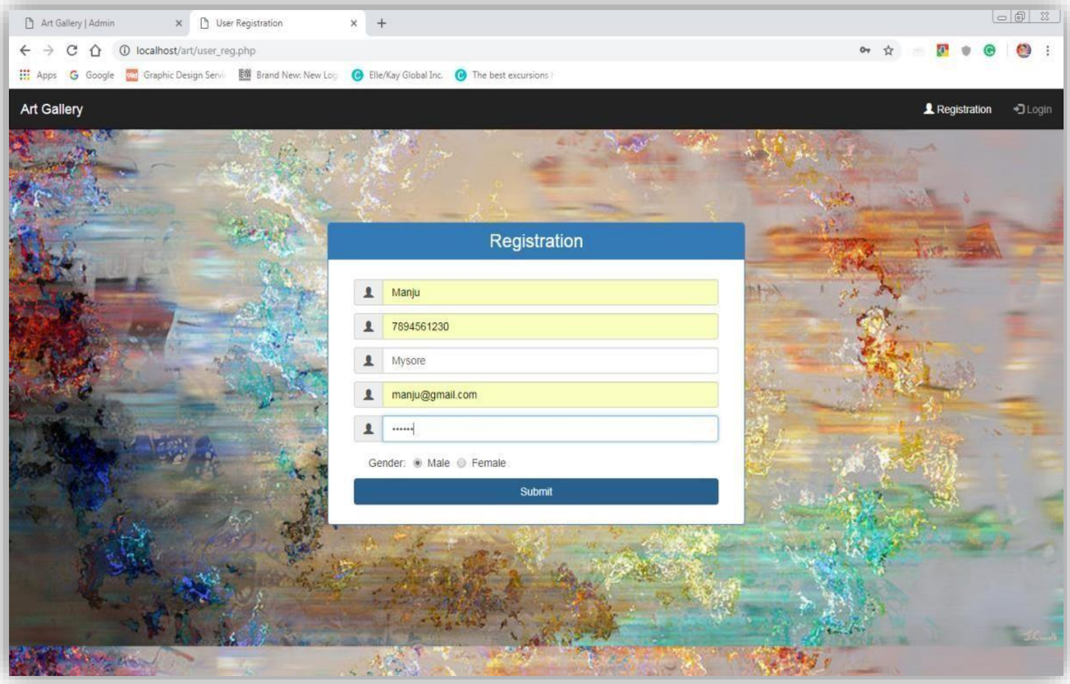


Painting	Caption	Object	Category	Cost	Date	Sold
	Nature Environment	Nature	Potrait	5000	20-11-2018 19:03:18	0

Figure A4 Artist View.

The above Figure A4 represents list of uploaded paintings posted by admin.

❖ User Registration



Registration

Manju

7894561230

Mysore

manju@gmail.com

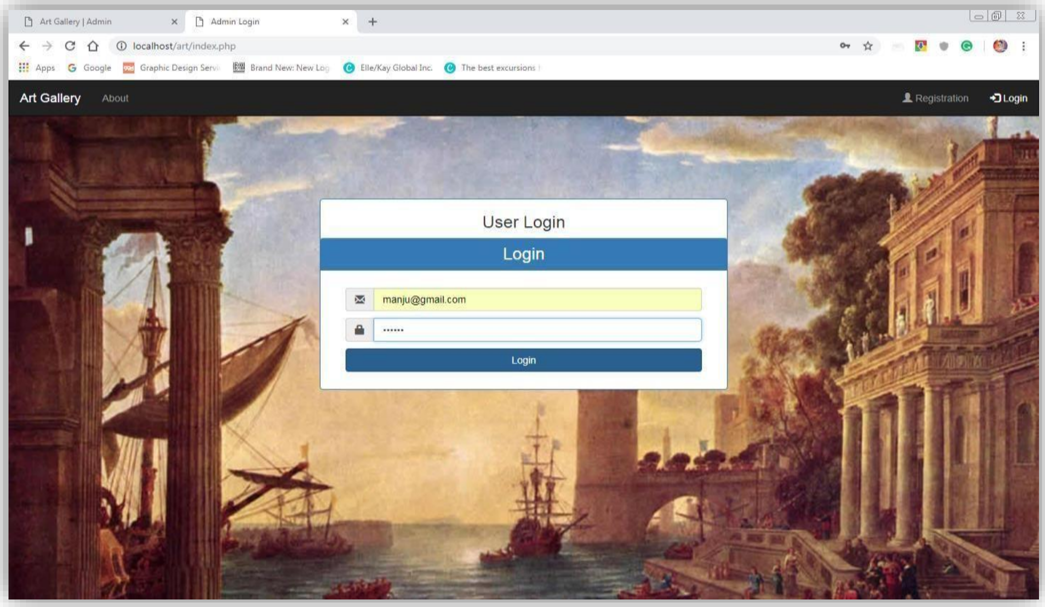
••••••

Gender: ● Male ○ Female

Submit

Figure A5 User Registration.

The above Figure A5 consists of Name, Phone No, City, E-Mail Id and Password for User Registration Page to create a new account in site.



User Login

Login

manju@gmail.com

••••••

Login

Figure A6 User Login Page.

The above Figure A6 consists of Email-Id and Password of User Login Page to login into site.

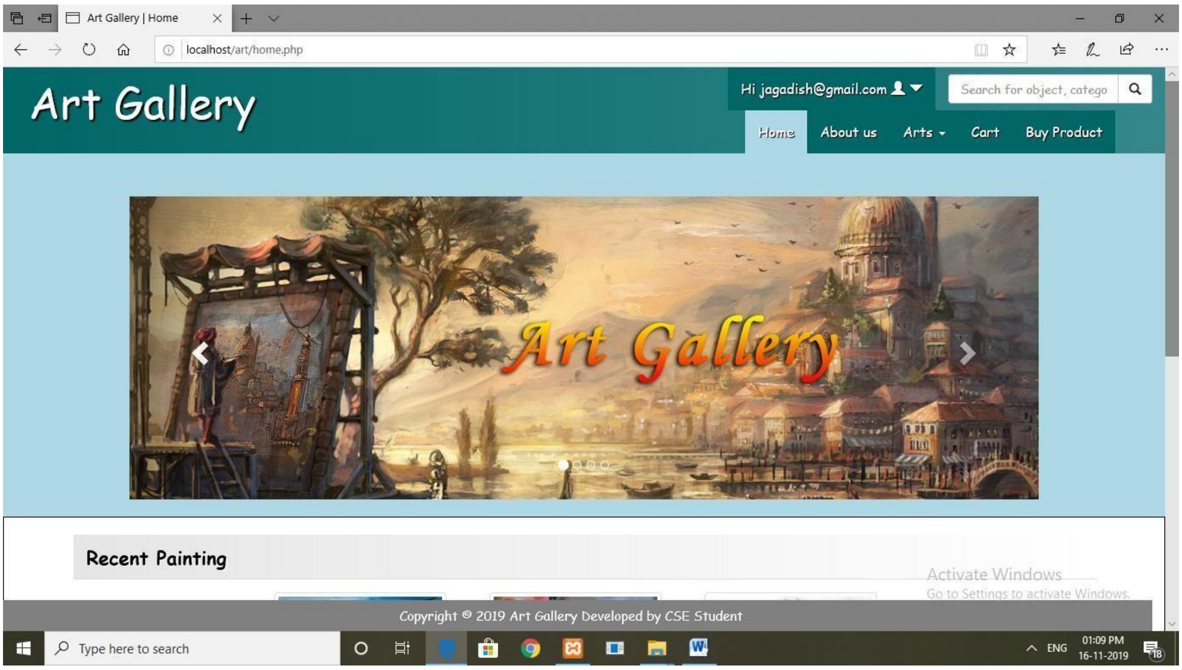
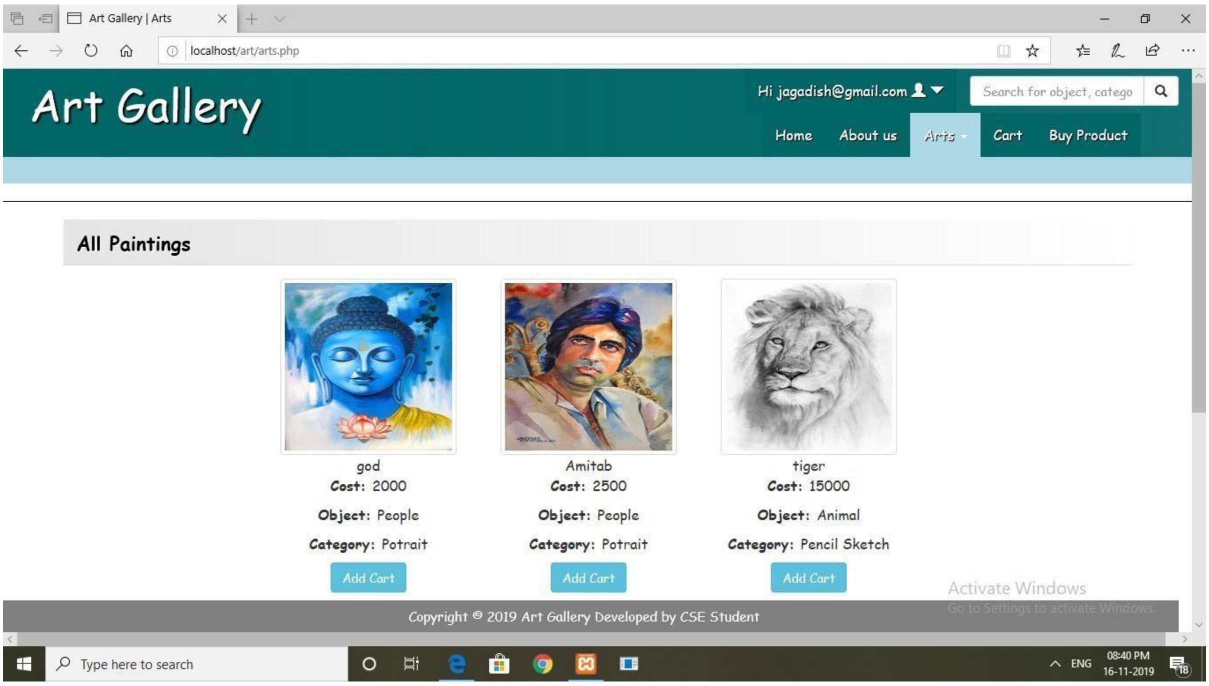


Figure A7 User Home Page.

The above Figure A7 represents the view of an Artist Painting Page.



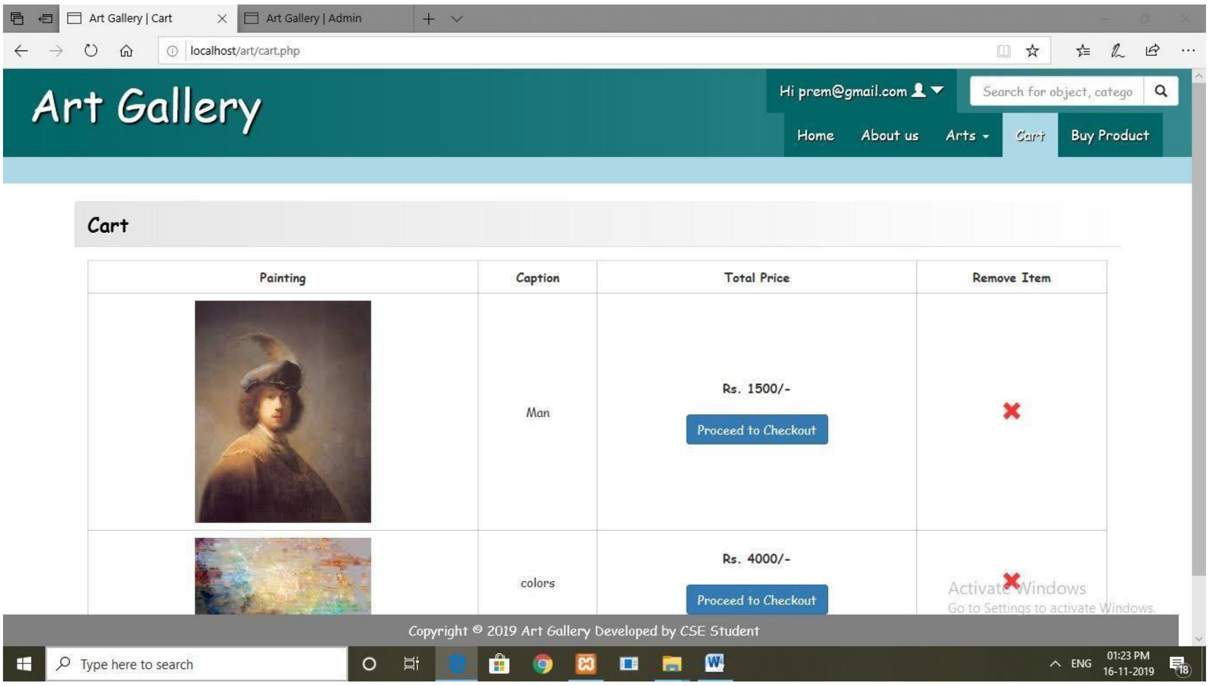
god
Cost: 2000
Object: People
Category: Potrait

Amitab
Cost: 2500
Object: People
Category: Potrait

tiger
Cost: 15000
Object: Animal
Category: Pencil Sketch

Figure A8 Gallery Page.

The above Figure A8 represents the view of a Gallery Page Like uploaded paintings by admin.



Cart

Painting	Caption	Total Price	Remove Item
	Man	Rs. 1500/- Proceed to Checkout	✖
	colors	Rs. 4000/- Proceed to Checkout	✖

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Figure A9 Cart Page.

The above Figure A9 represents the list of paintings added to cart by user.