

ARTHUB-AN ONLINE PLATFORM

A Project Report

Submitted by

Anushka More	112103011
Aishwarya Koli	112103006
Snehal Bhopale	112103023

of

TY (Computer Engineering)

Under the guidance of

Dr. Tanuja R. Pattanshetti

COEP Technological University



DEPARTMENT OF COMPUTER ENGINEERING

COEP Technological University

April, 2024

DEPARTMENT OF COMPUTER ENGINEERING

COEP Technological University

CERTIFICATE

Certified that this project, titled “ARTHUB-AN ONLINE PLATFORM” has been successfully completed by

Anushka More 112103011

Aishwarya Koli 112103006

Snehal Bhopale 112103023

and is approved for the fulfilment of the requirements of “Software Engineering Mini Project- Stage II”.

SIGNATURE

Dr. Tanuja R. Pattanshetti

Project Guide

Department of Computer Engineering

COEP Technological University,

Shivajinagar, Pune - 5.

Abstract

ArtHub is an innovative platform designed to cater to the diverse needs of both aspiring artists and event organizers within the visual arts community. It serves as a digital gallery and networking space, allowing artists, particularly students and competitors, to showcase their artwork and gain exposure in a supportive environment. Through user-friendly registration and authentication processes, ArtHub empowers artists to share their creative expressions, including paintings, drawings, and sketches, with a wider audience. In addition to providing a platform for artistic display, ArtHub offers robust features to streamline the competition experience. Competitors can submit their artwork along with detailed descriptions, allowing experienced invigilators to evaluate and rank submissions effectively. This feedback mechanism not only encourages artistic growth but also fosters a sense of community and camaraderie among participants.

Furthermore, ArtHub serves as a valuable resource for event organizers seeking to promote and manage art-related events. With an intuitive advertisement section highlighting upcoming competitions, event timings, and deadlines, organizers can attract participants and maximize engagement. The platform also facilitates the booking process for offline events, simplifying logistics and enhancing the overall attendee experience.

Through its comprehensive suite of features, including user-friendly registration, artwork submission, evaluation tools, event promotion, and booking functionalities, ArtHub aims to democratize access to the visual arts world. By fostering creativity, collaboration, and recognition, ArtHub strives to enrich the artistic landscape and inspire the next generation of talented artists and event organizers.

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Chapter 1

Synopsis

1.1 Project Title

ARTHUB-AN ONLINE PLATFORM

1.2 Internal Guide

Dr. Tanuja R. Pattanshetti

1.3 Problem Statement

Artists don't have enough exposure in expressing their talent except some social media platform like instagram. There is no existing platform which could provide all these features under one roof for emerging artists as well as event organizers, ArtHub serves as a comprehensive online platform catering to both emerging artists and event organizers within the visual arts community. For artists, it provides an avenue to showcase their creative work, ranging from paintings to sketches, fostering recognition and appreciation for their talent. Through features like online competitions and artwork submissions, artists can receive feedback and engage with a wider audi-

ence. Meanwhile, event organizers benefit from tools that enable them to efficiently promote and manage offline art-related events. By offering a range of functionalities including user authentication, evaluation tools, advertisement sections, and an online booking system, ArtHub aims to bridge the gap between artists and event organizers, creating a vibrant ecosystem for artistic expression and collaboration.

1.4 Plan of Project Execution

Task	Start Date	Duration	Contributors
Project Initiation	20-Jan	6	Anushka, Aishwarya, Snehal
Research & Review	26-Jan	3	Anushka
System Analysis & Design	29-Jan	7	Anushka, Aishwarya, Snehal
Backend Development	04-Feb	21	Anushka, Aishwarya
Frontend Development	27-Feb	17	Anushka, Aishwarya, Snehal
Testing & Debugging	16-Mar	4	Anushka, Aishwarya, Snehal
Documentation	21-Mar	5	Anushka, Aishwarya, Snehal
Maintenance and Report	06-Apr	4	Anushka, Snehal

Chapter 2

Problem Definition and Scope

2.1 Problem Definition

2.1.1 Goals and Objectives

Goal and Objectives:

- Goals
 - Develop an online art platform that provides a space for emerging artists to showcase their artwork and connect with a wider audience.
- Objectives
 - **Create a digital gallery:** Establish a virtual space where artists can display their artwork, including paintings, drawings, and sketches.
 - **Apply for various art events:** Allow users to apply for various online/offline art events in the domain of their interests.
 - **Facilitate artist networking:** Enable artists to connect with each other, by sharing queries or doubts about a particular events.
 - **Offer competition hosting:** Provide a platform for organizing and participating in art competitions, allowing for fair evaluation and recognition.

- **Ranking by Organizers:** Allow organizers to rank the participants of their event and declare winners and showcase them on the website.
- **Promote artistic growth:** Encourage artists to willingly participate in the competitions with engaging user experience.

2.1.2 Statement of Scope

- **Supported Art Forms:** Paintings, Drawings, Sketches, Doodles, mandala art, calligraphy
- **Supported Features:** Artwork Display, Competition Hosting, Educational Resources, Participant Ranking, Online Booking, Networking.
- **Target Audience:** Art enthusiasts, aspiring artists, professional artists, , event organizers within the visual arts community.

2.2 Software Context

The ArtHub project operates within the context of web application development and art promotion. It involves the creation of a web-based platform where artists can showcase their work and participate in competitions. The project will utilize technologies such as HTML, CSS, and JavaScript for front-end development to create an interactive and visually appealing user interface. On the back end, the application will be developed using programming languages like Python, along with frameworks such as Flask, to handle data processing, storage, and user authentication.

Additionally, the project may leverage libraries and tools specific to art-related functionalities, such as image processing libraries for optimizing and displaying artwork. Database management systems like MySQL may be employed to store and manage user data, artwork submissions, competition details, etc.

Overall, the software context of the ArtHub project encompasses web development, art promotion, community building, and database management, all aimed at providing a platform for artists to showcase their work and engage with the artistic community.

2.3 Major Constraints

- **Data Acquisition**

- **Artwork Format:** Adapting to variations in artwork formats and sizes.
- **Volume of Data:** Handling large numbers of artwork submissions and user interactions.
- **Copyright Issues:** Ensuring compliance with copyright laws and obtaining necessary permissions for displaying artwork.

- **User Interaction**

- **Usability:** Creating an intuitive and user-friendly interface for artists and users to navigate and interact with the platform.
- **Feedback Mechanism:** Implementing a system for users to provide feedback on artwork and competitions.

- **Community Building**

- **Engagement:** Encouraging active participation and engagement from artists and users within the community.
- **Content Moderation:** Implementing mechanisms for moderating and managing user-generated content to maintain a positive and respectful community environment.

2.4 Outcome

The primary outcome of the ArtHub project is the successful development and deployment of a comprehensive web-based platform that provides artists with a space to showcase their work, participate in competitions, and engage with the artistic community.

Key components of the outcome include:

- **Artist Profiles:** User-friendly profiles for artists to showcase their portfolios, including artwork galleries, biographies, and contact information.
- **Competition Management:** Tools for organizing and managing art competitions, including submission guidelines, judging criteria, and prize distribution.
- **Community Features:** Interactive features for users to interact with each other, such as forums, chat rooms, and social media integration.
- **User Engagement:** Mechanisms for encouraging user engagement and participation, such as voting, commenting, and sharing.
- **Artwork Discovery:** Search and discovery features for users to explore and discover artwork based on various criteria, such as genre, medium, and popularity.

2.5 Software Resources Required

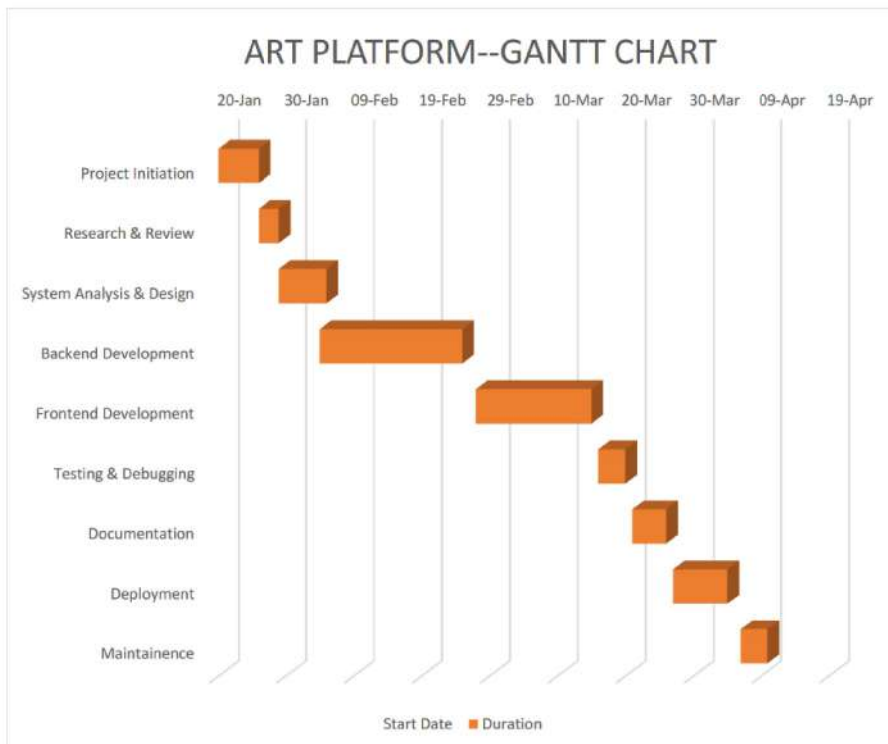
1. **Web Development Technologies:** HTML, CSS, JavaScript
2. **Backend Framework:** Python (Flask)
3. **Database Management System (DBMS):** MySQL
4. **Version Control System:** Git

Chapter 3

Project Plan

3.1 Project Schedule

3.1.1 Gantt Chart



Chapter 4

Software requirement specification

4.1 Introduction

4.1.1 Use-cases

- **Login Authentication:** Users authenticate themselves to access the platform and its features.
- **Artwork Submission:** Competitors submit their artwork for online art competitions.
- **Evaluation and Ranking:** Invigilators evaluate and rank the submitted artworks.
- **Event Posting:** Event organizers post details of offline art-related events on the platform.
- **Slot Booking:** Users book slots for participation in offline art events.
- **Query Submission:** Users submit questions for clarification or assistance.
- **Query Response:** Admins or moderators respond to user queries in a question-answer format.

4.1.2 Use Case View

Use Case Diagram:

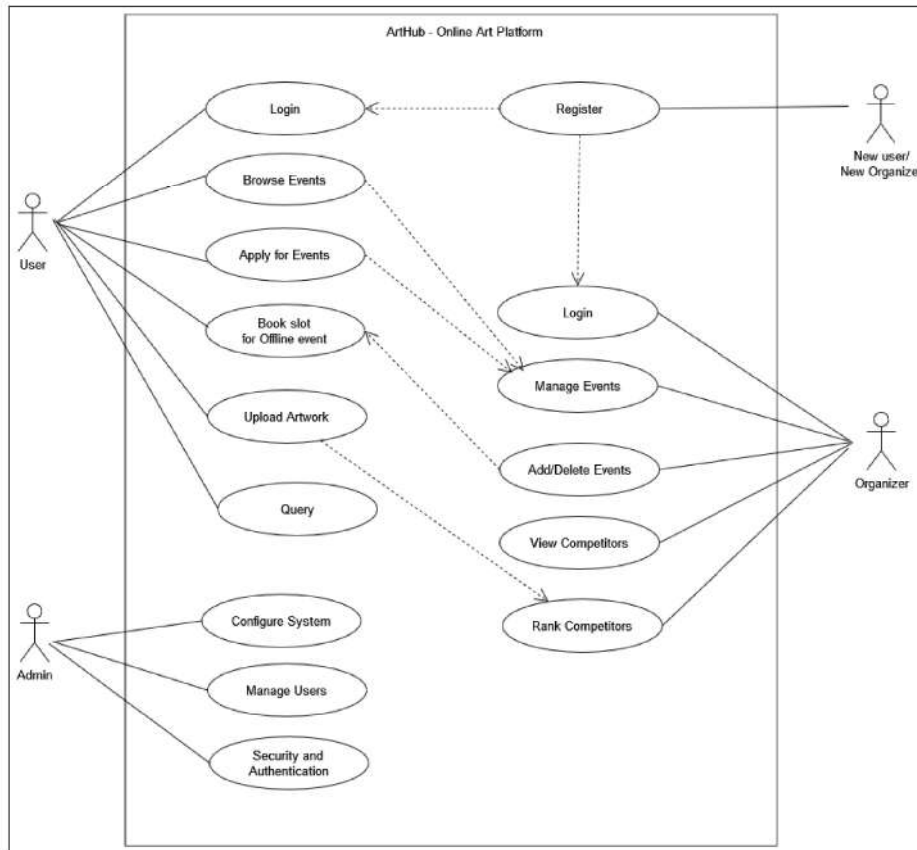


Figure 4.1: Use case diagram

4.2 Data Model and Description

4.2.1 Data objects and Relationships

- **User:** Represents a registered user of the ArtHub platform. Users can log in, authenticate, and access personalized features such as artwork submission, event booking, and gallery browsing.
- **Artwork:** Represents a piece of artwork submitted by a user for online art compe-

titions. Artworks are associated with users who created them and can be evaluated and ranked by invigilators.

- **Event:** Represents an offline art-related event posted by event organizers. Events include details such as the event name, date, venue, and description.
- **Booking:** Stores booking information for users participating in offline art events. Bookings include details such as the event name, user ID, date, and time slot.

Entity Relationship Diagram:

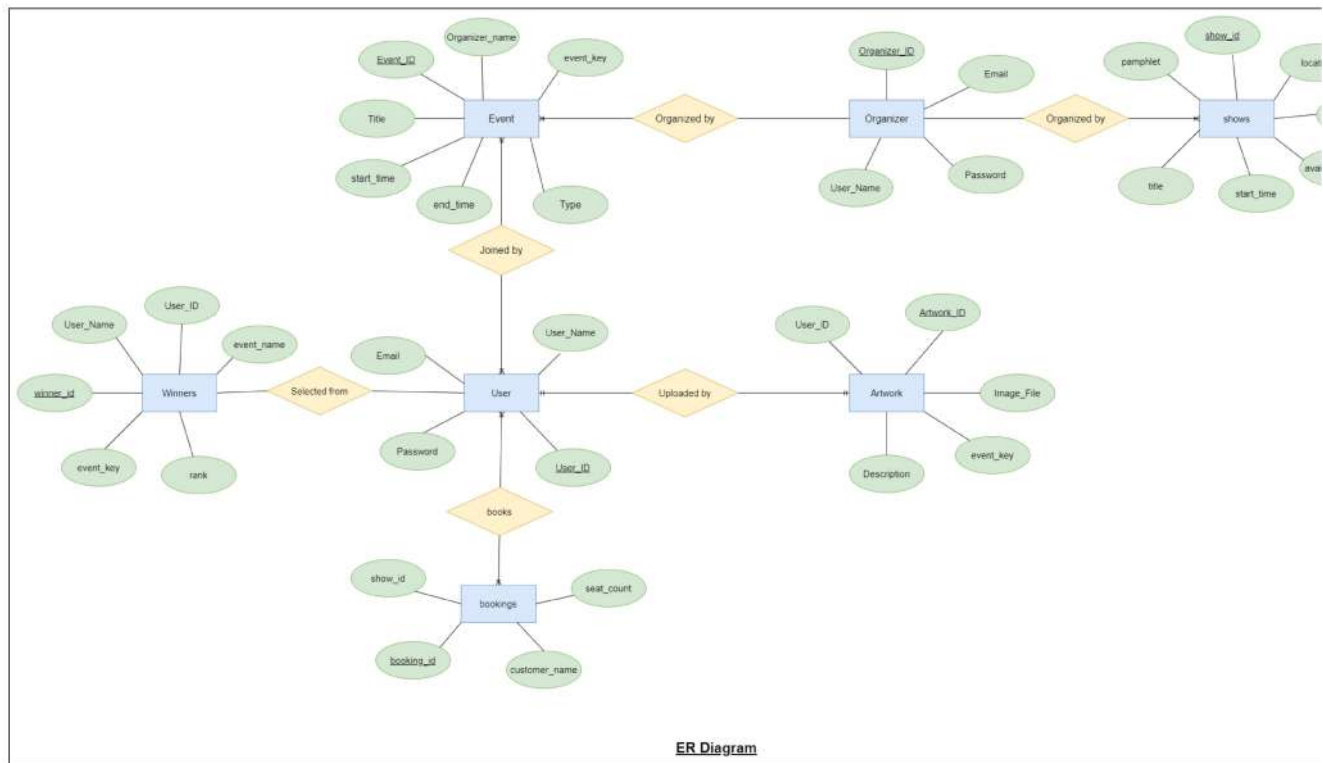


Figure 4.2: Entity-Relationship diagram

4.3 Functional Model and Description

4.3.1 Data Flow Diagram

Level 0 Data Flow Diagram

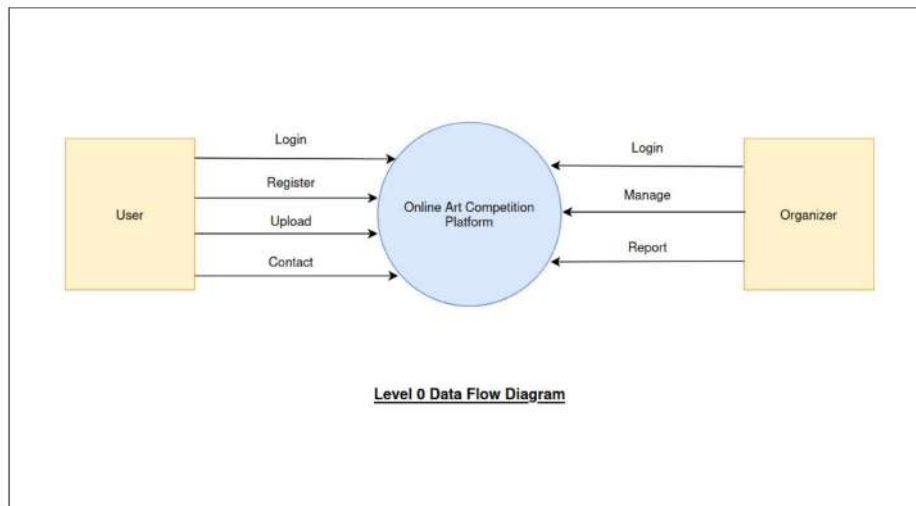


Figure 4.3: Level 0 Data Flow Diagram

Level 1 Data Flow Diagram



Figure 4.4: Level 01 Data Flow Diagram

Level 2 Data Flow Diagram

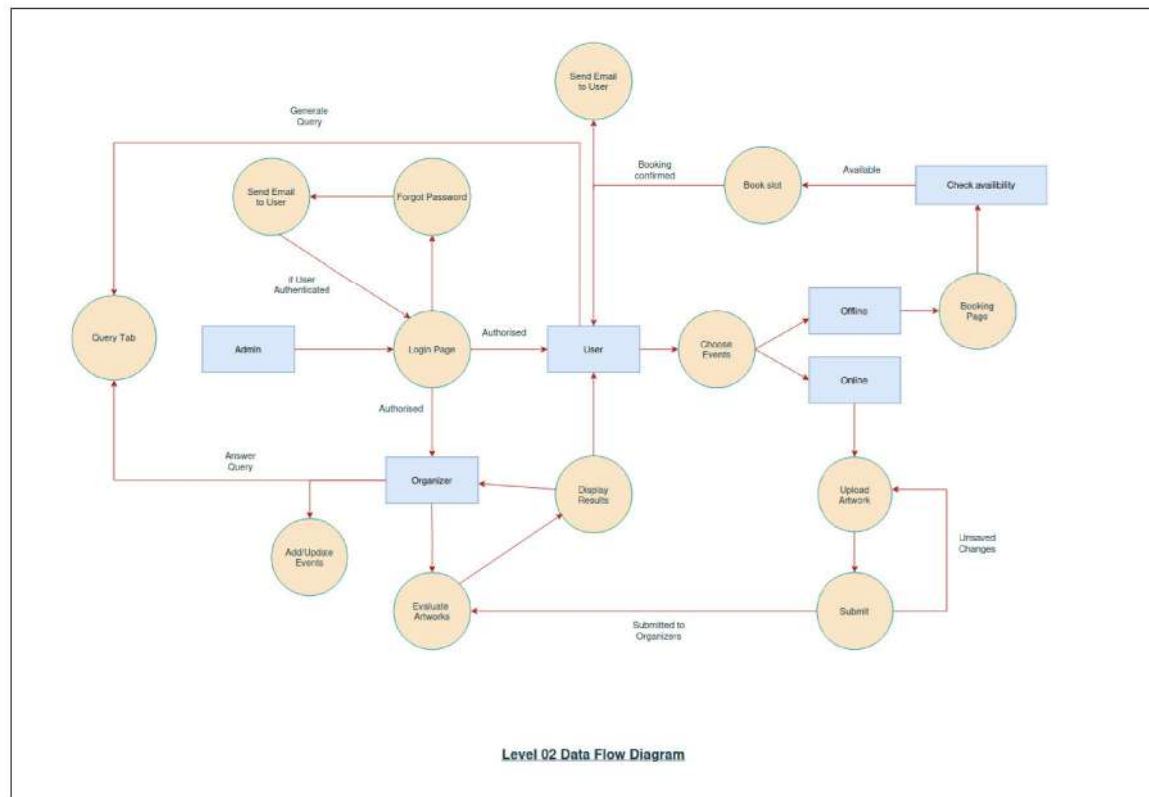


Figure 4.5: Level 02 Data Flow Diagram

4.3.2 Activity Diagram:

- The Activity diagram represents the steps taken.

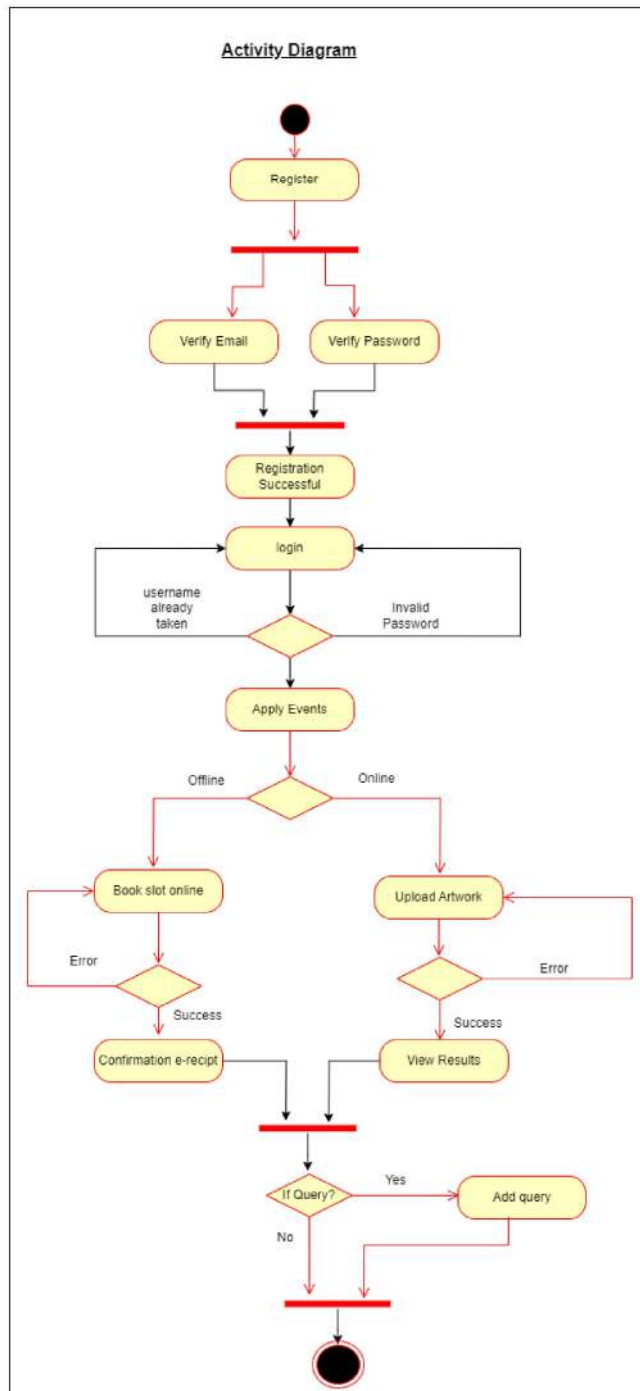


Figure 4.6: Activity diagram

4.3.3 Non Functional Requirements:

Performance Requirements

- **Response Time:** ArtHub's online booking system and query tab should respond promptly within 3 seconds and 2 seconds, respectively, ensuring a swift user experience.
- **Concurrent User Handling:** The system should efficiently handle multiple users accessing and interacting with the platform simultaneously, ensuring no degradation in performance.
- **Artwork Loading:** ArtHub should enable efficient uploading and downloading of artwork files, maintaining a speed of 5 Mbps to enhance usability.
- **Database Queries:** Database queries for retrieving user data, artwork information, and event details should be optimized for efficiency to minimize response time.
- **Availability:** ArtHub aims for an availability target of 99.9

Security Requirements

- **User Authentication:** ArtHub should implement secure user authentication mechanisms to prevent unauthorized access to user accounts.
- **Data Encryption:** User data transmission should be encrypted using HTTPS protocol to safeguard user information during interactions with the server.
- **Access Controls:** Stringent access controls should be in place to regulate user access to sensitive data and platform features, ensuring data privacy and security.
- **Security Scans:** ArtHub should conduct security scans before artwork uploads to detect and mitigate potential security vulnerabilities.

4.3.4 Design Constraints

- **Operating Environment:** ArtHub is designed to operate in a web-based environment, hosted on a standard web server infrastructure with compatibility for common server operating systems and modern web browsers.
- **Backend Framework:** ArtHub utilizes Python (Flask) as the backend framework for server-side processing and logic.
- **Frontend Technologies:** ArtHub employs HTML and CSS for frontend development to create user interfaces that are intuitive and visually appealing.
- **Web Server Interface:** ArtHub interfaces with a web server such as Apache or Nginx for handling client requests and serving web pages to users.
- **Browser Compatibility:** ArtHub is designed to work seamlessly on modern web browsers like Google Chrome, Mozilla Firefox, and Safari to ensure a consistent user experience across different platforms.
- **Communications Interfaces:** ArtHub ensures secure data transmission between the client and server using the HTTPS protocol, safeguarding user information during interactions.

4.3.5 Other Nonfunctional Requirements

Software Quality Attributes

- **Usability:** ArtHub prioritizes an intuitive user interface for ease of navigation, enhancing the overall user experience.
- **Reliability:** ArtHub minimizes downtime to ensure consistent availability, especially during critical periods such as art competitions.

- **Maintainability:** ArtHub is structured for easy updates and enhancements with well-documented code, facilitating maintenance and future development.
- **Scalability:** ArtHub is designed to seamlessly grow and accommodate increased usage during peak periods, ensuring scalability to meet user demand.
- **Interoperability:** ArtHub ensures compatibility across devices and browsers for a versatile user experience, promoting interoperability.

Chapter 5

Detailed Design Document

5.1 Component Design

5.1.1 Class Diagram

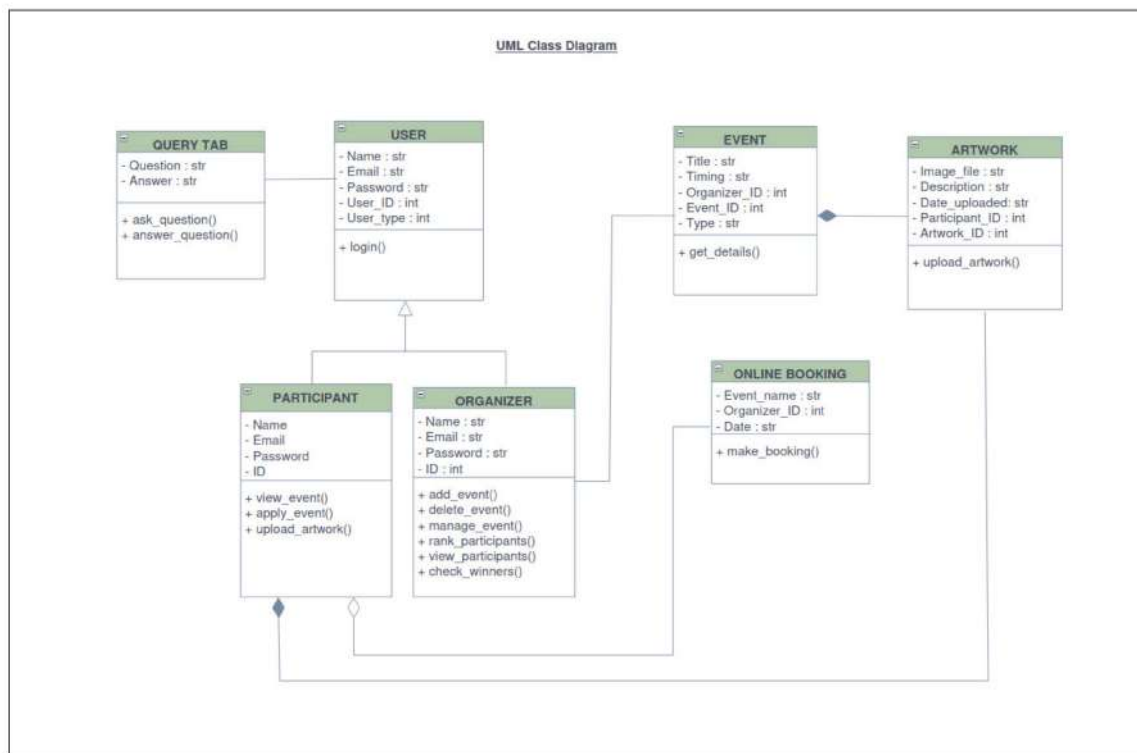


Figure 5.1: Class Diagram

5.1.2 Sequence Diagram for Organizer

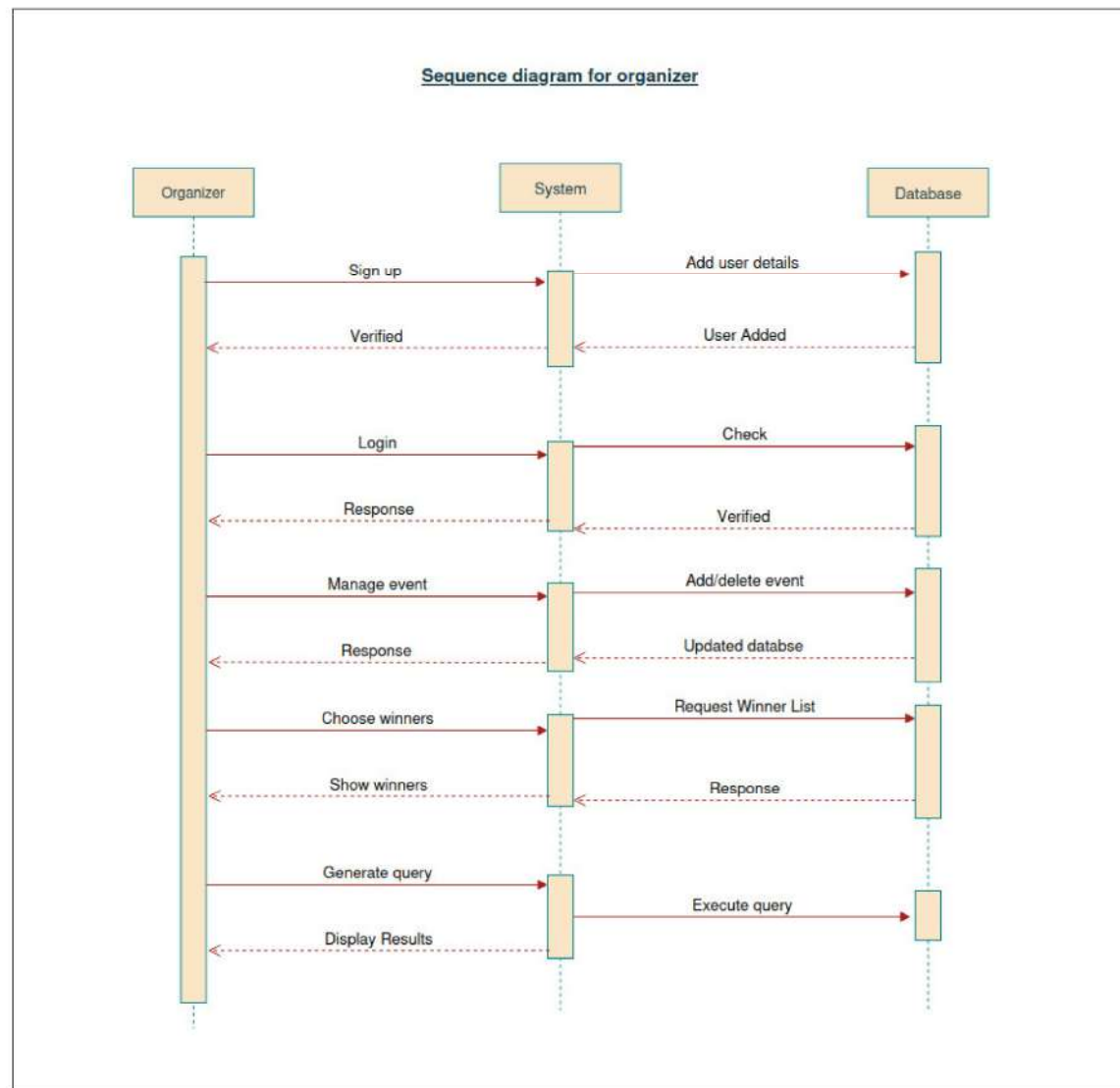


Figure 5.2: Sequence Diagram for Organizer

5.1.3 Sequence Diagram for User

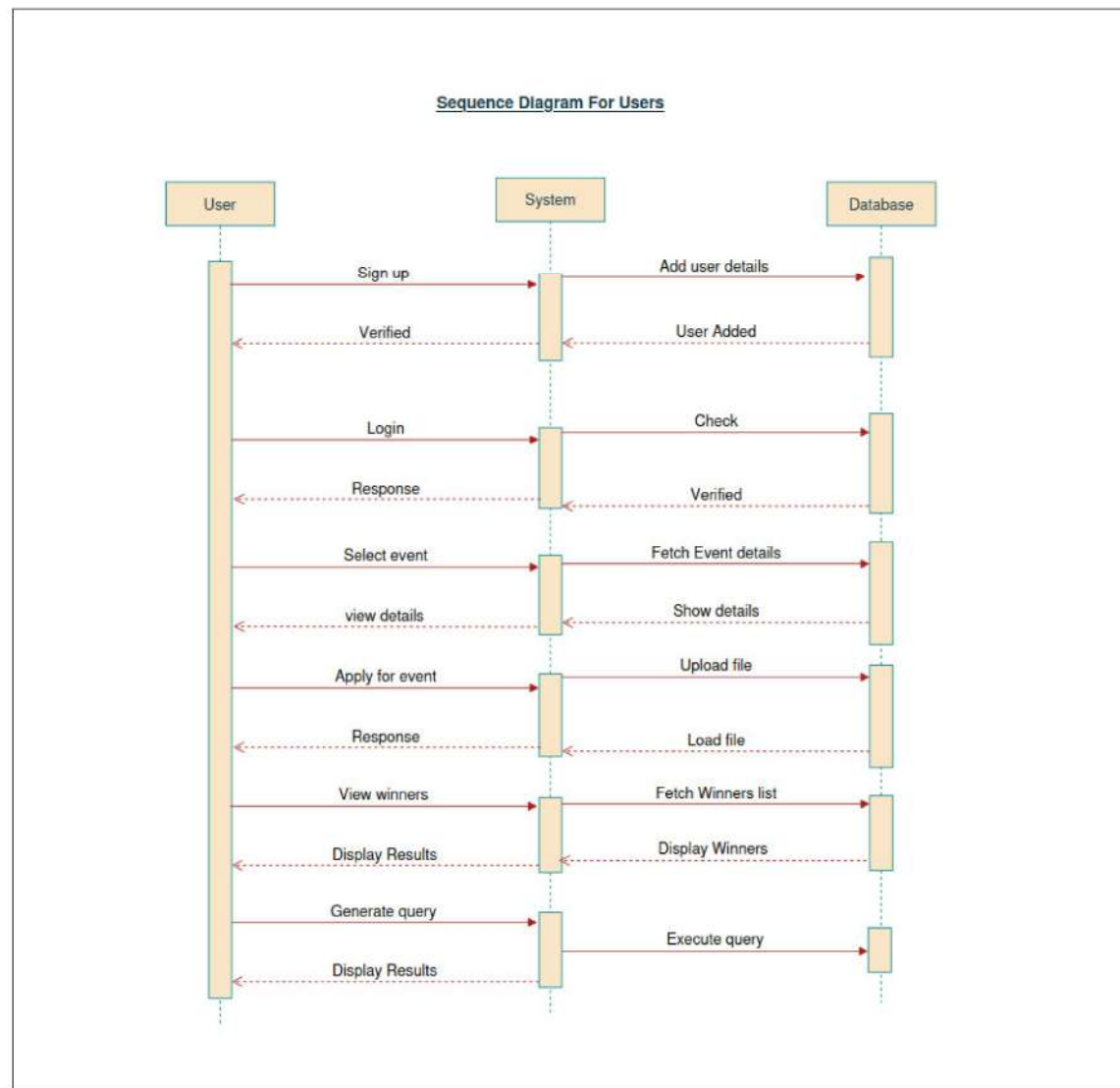


Figure 5.3: Sequence Diagram for User

5.1.4 Component Diagram

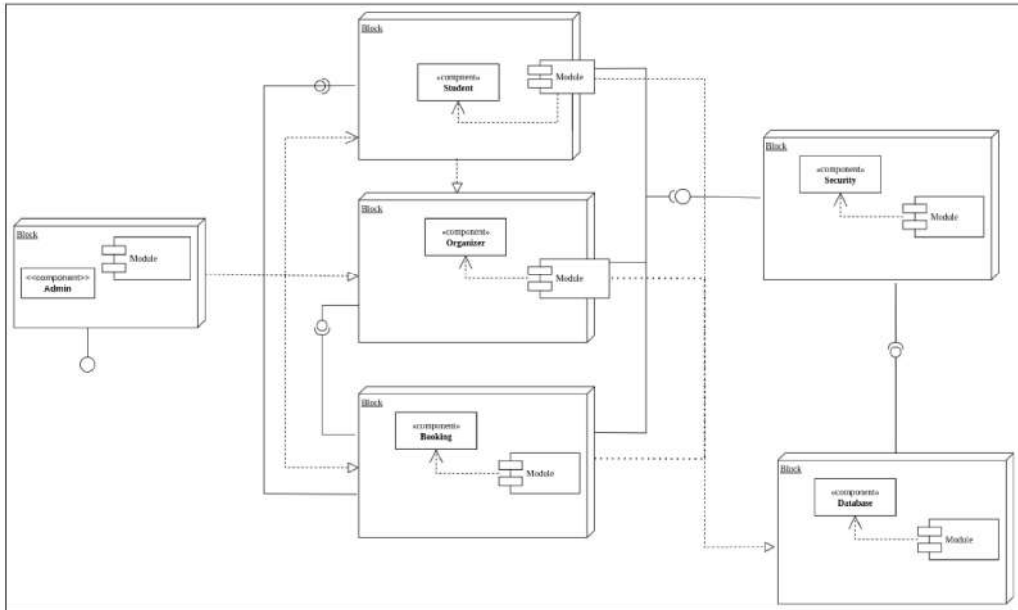


Figure 5.4: Component Diagram

5.1.5 Deployment Diagram

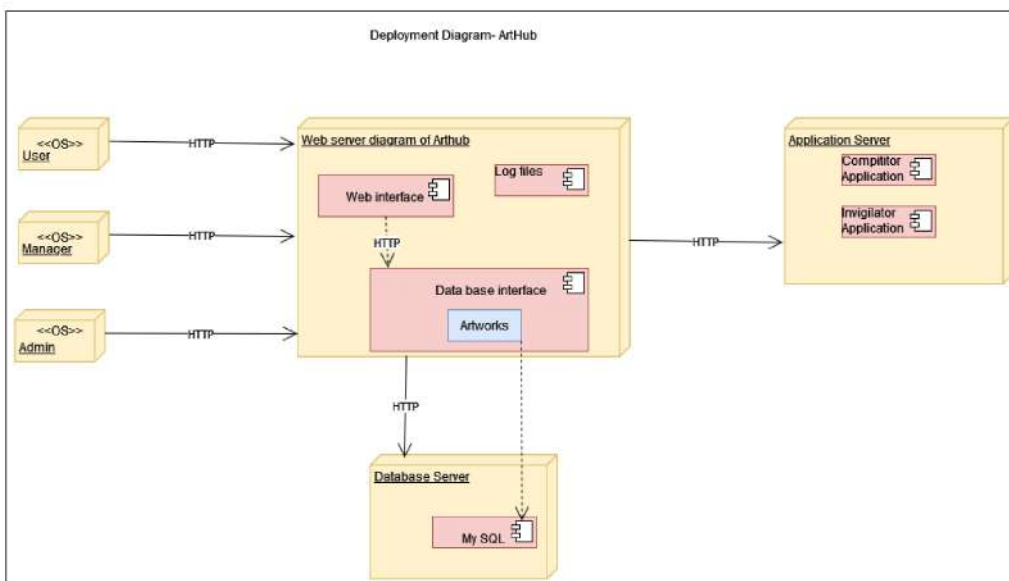


Figure 5.5: Deployment Diagram

5.2 Navigation Flow

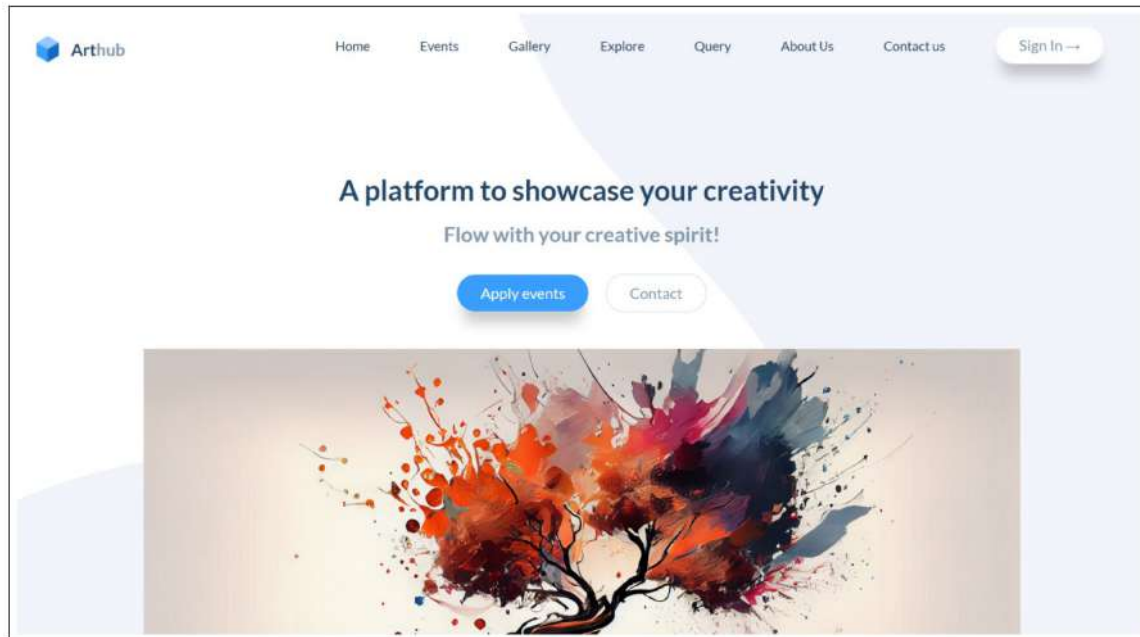


Figure 5.6: Home

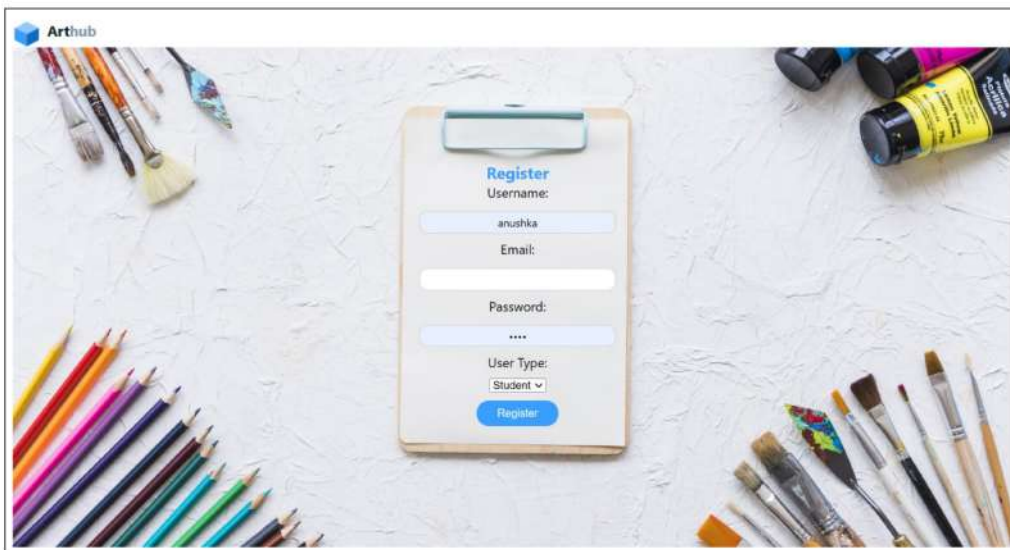


Figure 5.7: Registration

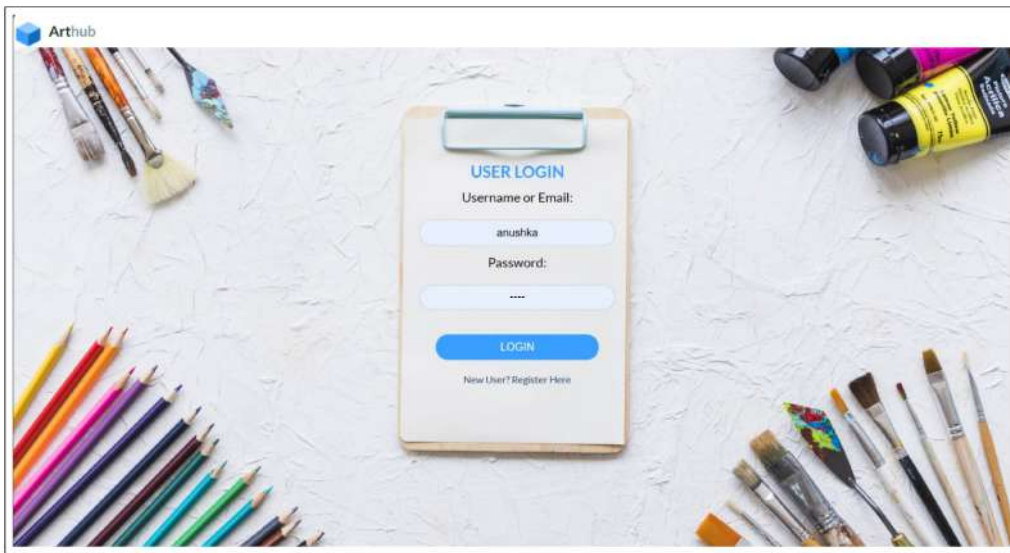


Figure 5.8: Login

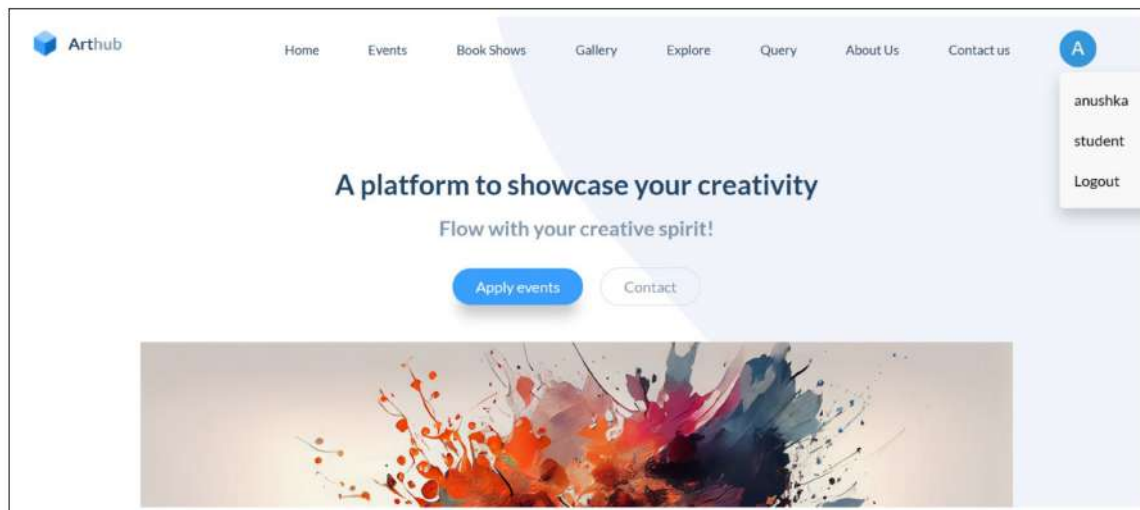


Figure 5.9: organizer-interface

Add Event

Event Name:

Event Type:

Event Date:

Start Time:

End Time:

Event Description:

Figure 5.10: Add_{event}

Delete Event

Enter Event Key:

Delete Event

View Students

Figure 5.11: Delete_{event}

Events

What fits your creativity the best?

Available Events

Doodly-doo

Hide Details

Event Type: doodling

Event Date: 2024-04-24

Start Time: 14:00:00

End Time: 15:00:00

Event Description: Topic: School supplies.
Use A4 size paper.

Submit

Show Winners

Canvas Painting competition

Show Details

Pencil Sketch

Show Details

Figure 5.12: Events

View Students

Enter Event Key:

Submit

Students' Artworks:

Select	Filename	Description	User ID	Username
<input type="checkbox"/>	Screenshot_2023-12-23_163019.png	This is my doodle.	5	snehal
<input type="checkbox"/>	Screenshot_2023-12-23_163059.png	my doodle.	3	nyasa
<input type="checkbox"/>	unique-watercolor-art-paper-texture.jpg	xyz.	6	shravani

Top 3 Winners:

Rank	Student ID	Username
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

Figure 5.13: View Students

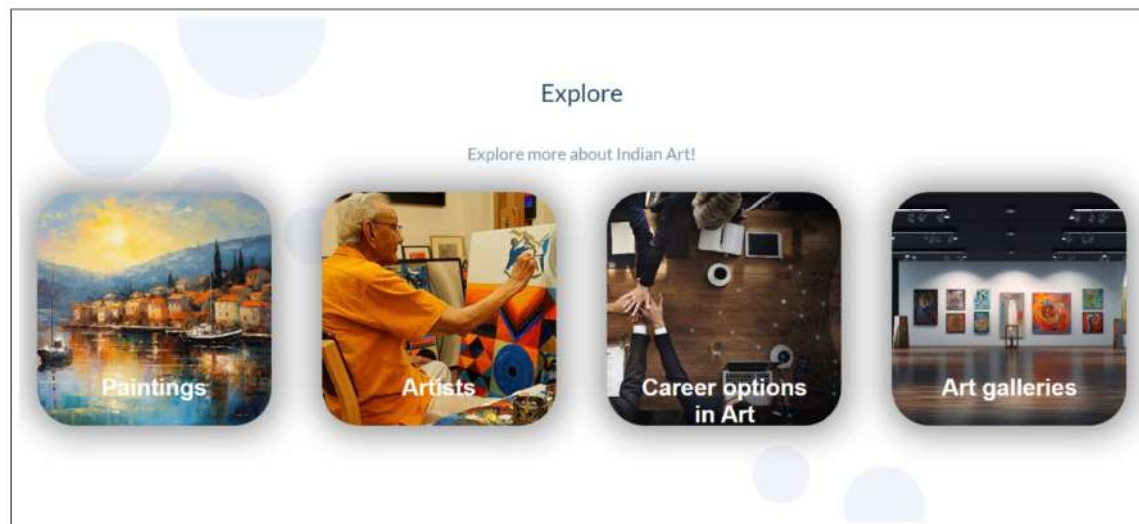



Figure 5.14: Explore

The 'Query Tab' section has a header with the title 'Query Tab' and a subtitle 'Feel free to share your queries here'. Below the subtitle is a text input field with the placeholder text 'Enter your query' and a 'Submit Query' button. The background has light blue wavy patterns.

Figure 5.15: Query



Upload Artwork

Enter Event Name:

Event Name: Artwork: No file chosen

Description:

Username:

Event Key:

Figure 5.16: Artwork

Book Show

Resin art workshop

Start Time:

Location:

Event Date:

Username:

Number of Seats:

Figure 5.17: book_show



Figure 5.18: Artshows

The image shows a "Contact Us" form on a light blue background. At the top, the text "Contact Us" is centered in a dark blue font, followed by the subtitle "Feel free to ask any questions" in a smaller, lighter blue font. On the left side, there is a logo consisting of a blue square with a white geometric shape inside, followed by the word "Arthub" in a bold, dark blue font. The form itself is a white rectangular box with rounded corners and a subtle drop shadow. It contains five input fields stacked vertically: "Choose topic*" (a dropdown menu), "Name*" (a text field), "Surname" (a text field), "Email address*" (a text field), and "Phone number" (a text field). The asterisks indicate required fields.

Figure 5.19: Contact_{Us}

Chapter 6

Summary and Conclusion

ArtHub is a web-based platform designed to facilitate art competitions and events seamlessly. Operating independently with its own database and user management system, ArtHub caters to two main user roles: competitors (students) and invigilators (teachers). Competitors can submit their artwork securely, while invigilators evaluate and rank the submissions. The platform prioritizes user interaction through web browsers and employs Python (Flask) for backend functionality and HTML/CSS for frontend interfaces.

Key features include a secure login facility with user authentication and authorization, allowing competitors to upload artwork with descriptions and invigilators to evaluate and rank submissions. The platform ensures submission privacy, restricting competitors from viewing other submissions. Additionally, ArtHub offers an online booking system for event organizers to post details of offline events and enable users to book slots for participation.

ArtHub operates in a web-based environment, compatible with standard web server infrastructure and common server operating systems. It interfaces with web servers like Apache or Nginx and ensures compatibility with modern web browsers such as Google

Chrome, Mozilla Firefox, and Safari.

In conclusion, The platform's performance requirements prioritize swift response times for user actions, concurrent user handling, and efficient database queries. Security measures include secure user authentication, encrypted data transmission, and stringent access controls to safeguard user privacy and prevent unauthorized access. With an emphasis on usability, reliability, maintainability, scalability, and interoperability, ArtHub aims to provide a secure, reliable, and user-friendly environment for art enthusiasts to share their creations and participate in competitions with ease.