

**A D Patel Institute of Technology**  
(A Constituent College of CVM University) New  
V. V. Nagar

**ARTIFICIAL INTELLIGENCE & DATA SCIENCE  
DEPARTMENT**

**Mini Project Report**

**On**

**PortfolioHub**

**Submitted By**

**Name of Student : Aaryan Donga**

**Enrolment Number: 12102120601006**

**Name of Student : Richa Patel**

**Enrolment Number: 12102120601047**

**Name of Student : Zinal Raval**

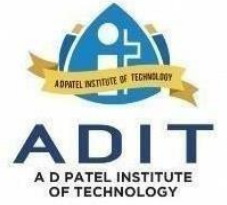
**Enrolment Number: 12102120601067**

**Guided By**

**Prof. Himani Joshi**

**MINI PROJECT (202040601)**

**A.Y. 2023-24 EVEN TERM**



## **CERTIFICATE**

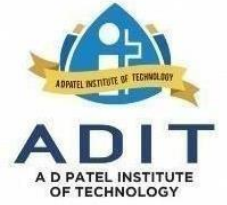
This is to certify that the Mini Project Report submitted entitled “**PortfolioHub**” has been carried out by **Aaryan Donga**(12102120601006) under guidance in partial fulfillment for the Degree of Bachelor of Engineering in Artificial Intelligence and Data Science, 6<sup>th</sup> Semester of A. D. Patel Institute of Technology, CVM University, New Vallabh Vidyanagar during the academic year 2023-24.

Prof. Himani Joshi

Internal Guide

Dr. D J Prajapati

Head of Department



## **CERTIFICATE**

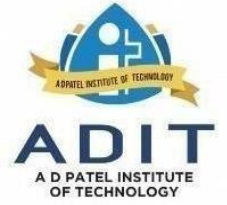
This is to certify that the Mini Project Report submitted entitled “**PortfolioHub**” has been carried out by **Richa Patel**(12102120601047) under guidance in partial fulfillment for the Degree of Bachelor of Engineering in Artificial Intelligence and Data Science, 6<sup>th</sup> Semester of A. D. Patel Institute of Technology, CVM University, New Vallabh Vidyanagar during the academic year 2023-24.

Prof. Himani Joshi

Internal Guide

Dr. D J Prajapati

Head of Department



## **CERTIFICATE**

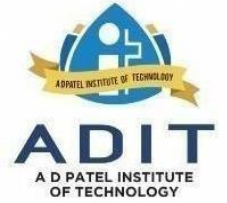
This is to certify that the Mini Project Report submitted entitled “**PortfolioHub**” has been carried out by **Zinal Raval**(12102120601006) under guidance in partial fulfillment for the Degree of Bachelor of Engineering in Artificial Intelligence and Data Science, 6<sup>th</sup> Semester of A. D. Patel Institute of Technology, CVM University, New Vallabh Vidyanagar during the academic year 2023-24.

Prof. Himani Joshi

Internal Guide

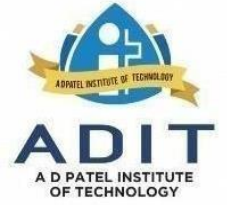
Dr. D J Prajapati

Head of Department



## **ACKNOWLEDGEMENT**

We take this opportunity to express our sincere gratitude to all those who have contributed to the successful completion of our project on "**PortfolioHub**". First and foremost, we extend our heartfelt appreciation to our project supervisor, **Prof. Himani Joshi**, for their invaluable guidance, support, and encouragement throughout the duration of this project. Their expertise, constructive feedback, and unwavering dedication played a crucial role in shaping our work and enabling us to overcome challenges. We are also deeply grateful to **A.D.I.T.** for providing us with the necessary resources, facilities, and infrastructure to conduct our research and analysis. Their cooperation and assistance were instrumental in facilitating our project's progress. Furthermore, we extend our sincere thanks to the participants and volunteers who generously contributed their time, insights, and feedback during the data collection and analysis phase of the project. Their cooperation and willingness to participate were essential in obtaining meaningful results. We would also like to acknowledge the support and encouragement received from our family members, friends, and colleagues. Their unwavering support, understanding, and encouragement motivated us to persevere through challenges and strive for excellence. Finally, we express our gratitude to all the individuals, organizations, and institutions whose contributions, directly or indirectly, have enriched our project and made it possible.



## **ABSTRACT**

PortfolioHub is a comprehensive portfolio management platform designed to empower individuals and organizations in showcasing their projects and technologies effectively. In today's competitive landscape, professionals across various industries need a centralized platform to curate, organize, and present their work to potential clients, employers, or collaborators. PortfolioHub offers a seamless solution by integrating robust backend infrastructure with intuitive frontend interfaces, ensuring a user-friendly experience.

The project focuses on developing a scalable and secure system, leveraging modern technologies such as FastAPI, MongoDB, Next.js, and Docker for efficient development, deployment, and maintenance. Through the implementation of Two-Factor Authentication (2FA) and encryption protocols, PortfolioHub prioritizes data security and user privacy, instilling confidence in users to manage their portfolios with peace of mind.

With PortfolioHub, users can effortlessly add, update, and remove projects and technologies, search for specific items, and view their portfolios in a visually appealing manner. Administrators have access to additional functionalities for managing user accounts and overseeing platform operations.

Overall, PortfolioHub aims to revolutionize the way individuals and organizations present their achievements and capabilities, providing a robust and user-centric platform for effective portfolio management in today's digital age.

## **TABLE OF CONTENTS**

### **1. Introduction**

- 1.1 Introduction
- 1.2 Project Overview
- 1.3 Problem Statement
- 1.4 Objectives

### **2. System Analysis**

- 2.0 Introduction
- 2.1 History of Hostel
- 2.2 Existing system
  - 2.2.1 Analysis of the existing system
  - 2.2.2 limitation of the existing system
- 2.3 Proposed System

### **3. Feasibility Study**

- 3.1 Technical Feasibility
- 3.2 Economic Feasibility
- 3.3 Operational Feasibility

### **4.Requirement Analysis And Specification**

- 4.1 Functional Requirements:
- 4.2 Non-Functional Requirements
- 4.3 Requirement Specification

### **5.System Design**

- 5.1 Flowchart
- 5.2 Database Design
- 5.3 UI Design
  - 5.3.1 Project UI
  - 5.3.2 Technologies UI

## 5.4 UML Design

### 5.4.1 Class Diagram

### 5.4.2 DFD Diagrams

#### 5.4.2.1 DFD Diagram Level 0

#### 5.4.2.2 DFD Diagram Level 1

#### 5.4.2.3 DFD Diagram Level 2

### 5.4.3 Sequence Diagram

### 5.4.4 Use Case Diagram

### 5.4.5 Activity Diagram

## 6.Implementation

### 6.1 System Flow

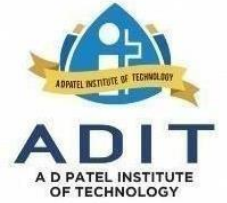
### 6.2 Program/Module Specification

### 6.3 Timeline Chart

## 7.Conclusion

## 8.References





# **Introduction**

## **1.1 Introduction**

In the ever-evolving digital landscape, individuals and organizations are constantly seeking innovative ways to showcase their achievements, projects, and capabilities. A well-curated portfolio serves as a powerful tool for professionals to demonstrate their skills, experiences, and expertise to potential clients, employers, or collaborators. Recognizing the significance of effective portfolio management, we introduce "PortfolioHub" – a dynamic and user-centric platform designed to revolutionize the way portfolios are managed and presented.

PortfolioHub is envisioned as a comprehensive solution to the challenges faced by individuals and organizations in managing their portfolios efficiently and effectively. By harnessing the power of modern technologies and intuitive design principles, PortfolioHub offers users a seamless and feature-rich experience for curating, organizing, and presenting their projects and technologies.

In this project, we aim to develop a robust and scalable platform that integrates advanced backend infrastructure with user-friendly frontend interfaces. Leveraging technologies such as FastAPI, MongoDB, Next.js, and Docker, PortfolioHub ensures optimal performance, security, and flexibility. With features like Two-Factor Authentication (2FA), intuitive project and technology management tools, and advanced search capabilities, PortfolioHub empowers users to showcase their portfolios with confidence and ease.

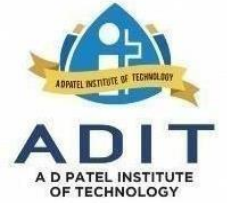
Through this project, we endeavor to provide individuals and organizations with a cutting-edge solution for portfolio management, enabling them to elevate their online presence and stand out in today's competitive landscape. PortfolioHub represents our commitment to innovation, excellence, and user satisfaction, and we are excited to embark on this journey of transforming portfolio management for the digital age.

## **1.2 Project Overview**

The project "PortfolioHub" presents a comprehensive solution to the challenges faced by individuals and organizations in managing and presenting their portfolios effectively. In the digital age, a well-curated portfolio serves as a crucial tool for professionals to demonstrate their skills, experiences, and achievements. However, the process of portfolio management can be daunting and cumbersome, requiring a balance of advanced technologies and intuitive design principles. PortfolioHub addresses this need by offering a centralized platform where users can seamlessly curate, organize, and showcase their projects and technologies. Leveraging modern technologies such as FastAPI, MongoDB, Next.js, and Docker, PortfolioHub ensures a robust backend infrastructure that is both scalable and secure. The platform also features intuitive frontend interfaces, empowering users to manage their portfolios with ease. Advanced security measures, including Two-Factor Authentication (2FA) and encryption protocols, enhance data security and user privacy. With functionalities for efficient project and technology management, as well as user and admin capabilities, PortfolioHub aims to revolutionize portfolio management by providing a modern, efficient, and user-friendly platform for individuals and organizations to showcase their achievements effectively in today's competitive landscape.

## **1.3 Problem Statement**

The project "PortfolioHub" presents a comprehensive solution to the challenges faced by individuals and organizations in managing and presenting their portfolios effectively. In the digital age, a well-curated portfolio serves as a crucial tool for professionals to demonstrate their skills, experiences, and achievements. However, the process of portfolio management can be daunting and cumbersome, requiring a balance of advanced technologies and intuitive design principles. PortfolioHub addresses this need by offering a centralized platform where users can seamlessly curate, organize, and showcase their projects and technologies. Leveraging modern technologies such as FastAPI, MongoDB, Next.js, and Docker, PortfolioHub ensures a robust backend infrastructure that is both scalable and secure. The platform also features intuitive frontend interfaces, empowering users to manage their portfolios with ease. Advanced security measures, including Two-Factor Authentication (2FA) and encryption protocols, enhance data security and user privacy. With functionalities for efficient project and technology management, as well as user and admin capabilities, PortfolioHub aims to revolutionize portfolio management by providing a modern, efficient, and user-friendly platform for individuals and organizations to showcase their achievements effectively in today's competitive landscape.



## **1.4 Objectives**

The objective of the PortfolioHub project is to develop a sophisticated yet user-friendly platform for portfolio management. Our aim is to create a robust backend infrastructure leveraging cutting-edge technologies like FastAPI, MongoDB, Next.js, and Docker. This infrastructure will ensure scalability, security, and high performance. Complementing the backend, we intend to implement intuitive frontend interfaces, allowing users to effortlessly organize, update, and showcase their portfolios without technical complexities. Security is paramount, and thus, we plan to incorporate advanced measures such as Two-Factor Authentication (2FA) and encryption protocols to safeguard user data and privacy. Moreover, PortfolioHub will facilitate efficient portfolio management through features like seamless project and technology updates and advanced search functionalities. Furthermore, the platform will cater to both users and administrators, enabling effective user account management and platform oversight. Ultimately, our objective is to revolutionize portfolio management by offering a modern, efficient, and user-centric platform that empowers individuals and organizations to showcase their achievements confidently in today's competitive landscape.

## **System Analysis**

### **2.0 Introduction:**

In this section, we delve into the systematic analysis of the PortfolioHub project, aiming to understand its historical context, existing systems, and the proposed system's enhancements. Through this analysis, we aim to lay the groundwork for a comprehensive understanding of the project's requirements and objectives.

### **2.1 History of PortfolioHub:**

The conception of PortfolioHub arose from a recognized need in the digital landscape for a centralized and user-friendly platform to manage and showcase portfolios effectively. As professionals and organizations sought innovative ways to present their achievements, projects, and technologies, PortfolioHub emerged as a solution to streamline this process and provide a modern approach to portfolio management.

### **2.2 Existing System:**

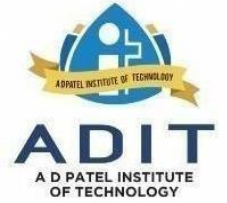
In the analysis of the existing system, it's crucial to understand the landscape in which PortfolioHub operates. While traditional methods of portfolio management exist, they often lack the efficiency, flexibility, and security required in today's digital age. Existing systems may include manual processes, disparate tools, or outdated platforms that do not adequately meet the needs of users.

#### **2.2.1 Analysis of the Existing System:**

An in-depth analysis of the existing system reveals its shortcomings and inefficiencies. Traditional methods of portfolio management may involve manual data entry, scattered information storage, and limited accessibility. This fragmentation often leads to challenges in updating portfolios, searching for specific projects or technologies, and ensuring data security.

#### **2.2.2 Limitations of the Existing System:**

The limitations of the existing system underscore the need for a more sophisticated and integrated solution like PortfolioHub. These limitations may include cumbersome workflows, lack of



collaboration features, insufficient security measures, and limited scalability. Addressing these shortcomings is paramount in developing a successful portfolio management platform.

### **2.3 Proposed System:**

The proposed system, PortfolioHub, represents a significant advancement in portfolio management technology. By leveraging modern technologies such as FastAPI, MongoDB, Next.js, and Docker, PortfolioHub aims to address the shortcomings of existing systems and provide users with a seamless and feature-rich platform. With intuitive user interfaces, advanced security measures, and efficient project and technology management tools, PortfolioHub is poised to revolutionize the way portfolios are managed and presented in today's competitive landscape.

## **Feasibility Study**

### **3.1 Technical Feasibility:**

The technical feasibility of the PortfolioHub project is paramount in determining its viability. This aspect evaluates whether the proposed system can be developed using the available technology stack and infrastructure. The project's technical feasibility hinges on factors such as the availability of skilled developers proficient in the chosen technologies (FastAPI, MongoDB, Next.js, Docker), compatibility with existing systems, and scalability to accommodate future growth. A thorough analysis of technical requirements and resources is essential to ensure the successful implementation of PortfolioHub.

### **3.2 Economic Feasibility:**

Evaluating the economic feasibility of PortfolioHub involves assessing its cost-effectiveness and potential return on investment. This aspect considers factors such as development costs, operational expenses, and potential revenue streams. By conducting a cost-benefit analysis, we can determine whether the benefits of developing PortfolioHub outweigh the associated costs. Additionally, exploring alternative funding options, such as grants or partnerships, can enhance the project's economic viability and sustainability.

### **3.3 Operational Feasibility:**

The operational feasibility of PortfolioHub examines its practicality and usability within the target environment. This aspect assesses whether the proposed system aligns with the organizational goals, user needs, and operational processes. Key considerations include user acceptance, ease of implementation, and compatibility with existing workflows. Conducting user surveys, usability testing, and stakeholder consultations can provide valuable insights into the system's operational feasibility and inform decision-making throughout the development process.

## **Requirement Analysis and Specification**

Requirement analysis and specification form a crucial phase in the development of PortfolioHub, ensuring that the project meets the needs and expectations of its users effectively. This phase involves identifying, documenting, and prioritizing the functional and non-functional requirements of the system.

### **4.1 Functional Requirements:**

Functional requirements define the specific features, functionalities, and capabilities that PortfolioHub must possess to fulfill its intended purpose. These requirements encompass user actions, system responses, and data manipulation tasks. Key functional requirements for PortfolioHub may include:

- User registration and authentication
- Project and technology management (adding, updating, deleting)
- Advanced search and filtering capabilities
- User and admin dashboards
- Two-Factor Authentication (2FA) implementation
- Secure data storage and encryption
- Integration with external APIs or services
- Reporting and analytics functionalities

### **4.2 Non-Functional Requirements:**

Non-functional requirements define the quality attributes and constraints that PortfolioHub must adhere to in terms of performance, security, usability, and scalability. These requirements focus on how the system behaves and performs rather than specific functionalities. Non-functional requirements for PortfolioHub may include:

- Performance: Response time, throughput, and scalability under varying loads
- Security: Data encryption, access control, and compliance with regulatory standards
- Usability: Intuitive user interfaces, accessibility features, and support for multiple devices
- Reliability: System availability, fault tolerance, and disaster recovery mechanisms
- Compatibility: Compatibility with different browsers, operating systems, and devices
- Maintainability: Ease of system maintenance, updates, and troubleshooting

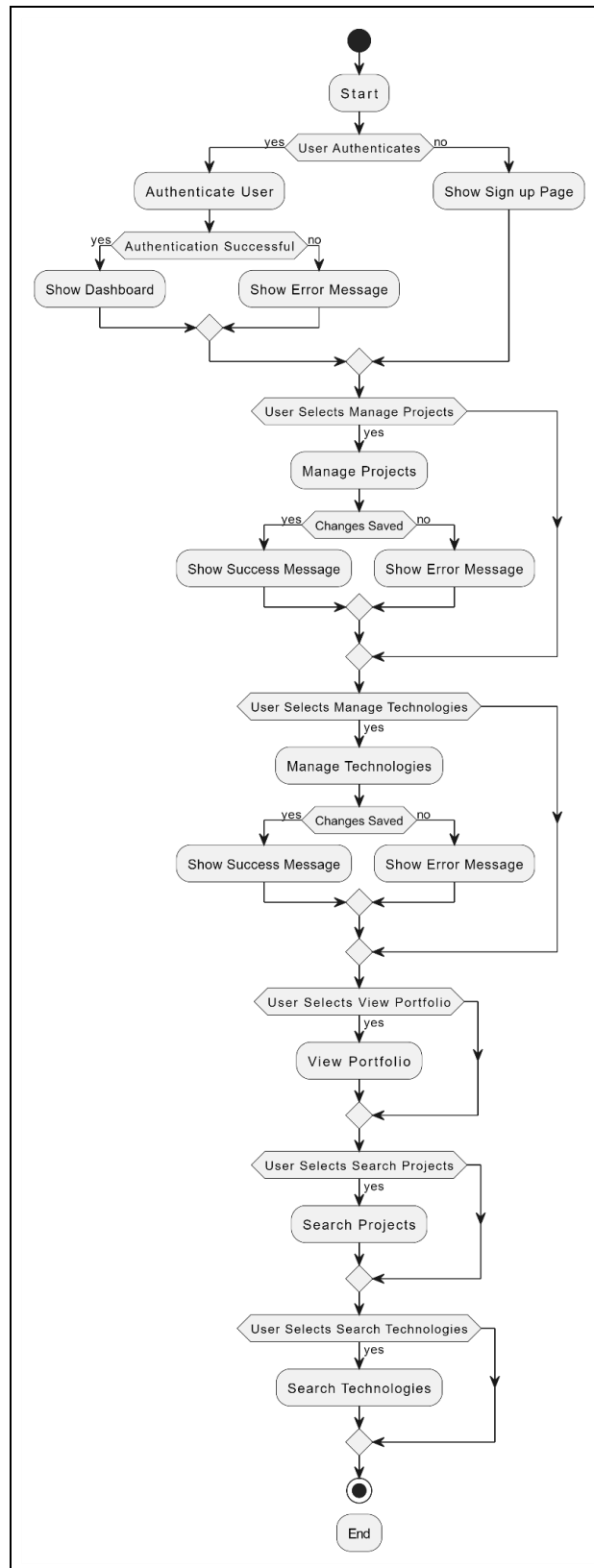
### **4.3 Requirement Specification:**

Once the requirements have been identified and documented, they need to be formally specified to ensure clarity and alignment among stakeholders. This involves creating detailed requirement documents, use cases, user stories, and acceptance criteria. The requirement specification phase serves as a foundation for the subsequent design, development, and testing phases of the project, guiding the development team in building a system that meets the desired objectives and user needs effectively.

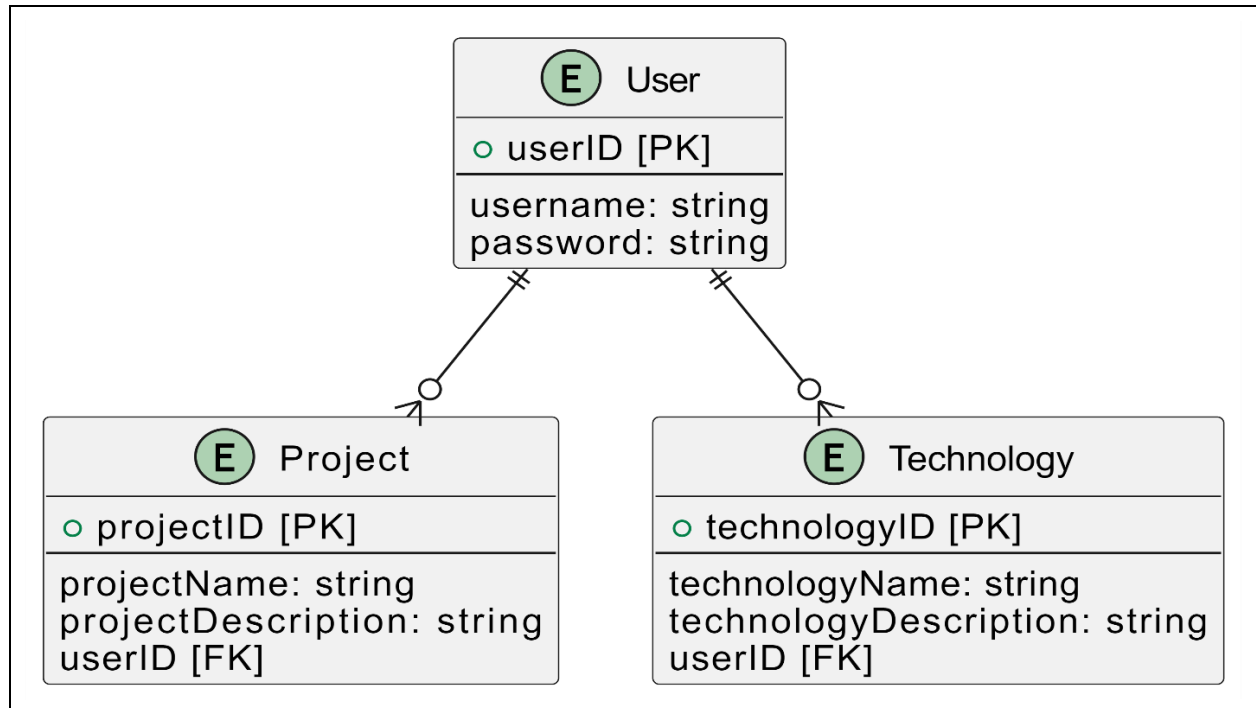


## System Design

### 5.1 Flowchart:

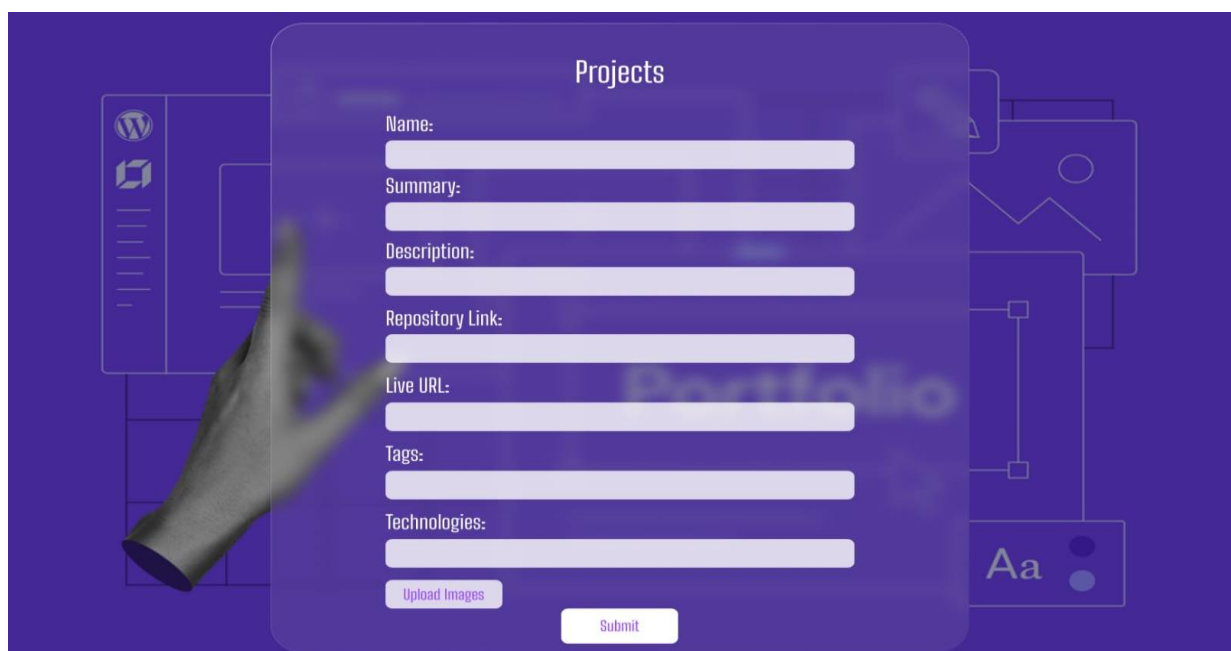


## 5.2 Database Design:



## 5.3 UI Design

### 5.3.1 Project:

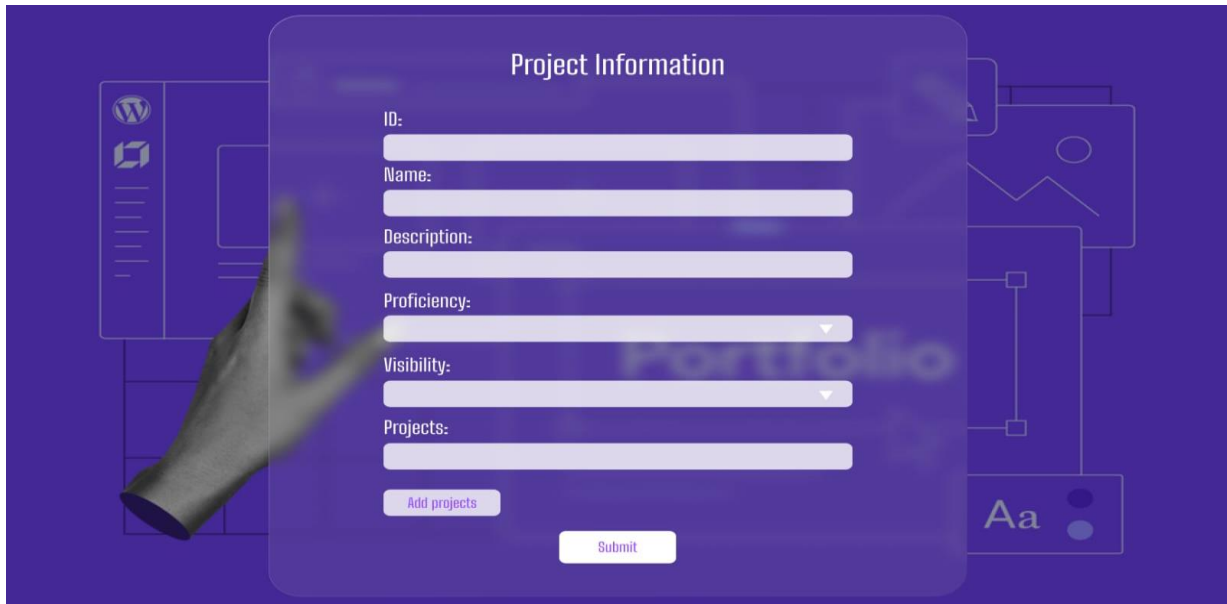


The image shows a UI design for a 'Projects' form. The form is titled 'Projects' and is set against a dark purple background with a subtle pattern. The form fields are as follows:

- Name:
- Summary:
- Description:
- Repository Link:
- Live URL:
- Tags:
- Technologies:

At the bottom of the form, there are two buttons: 'Upload Images' and 'Submit'.

### 5.3.2 Technologies:



**Project Information**

ID:

Name:

Description:

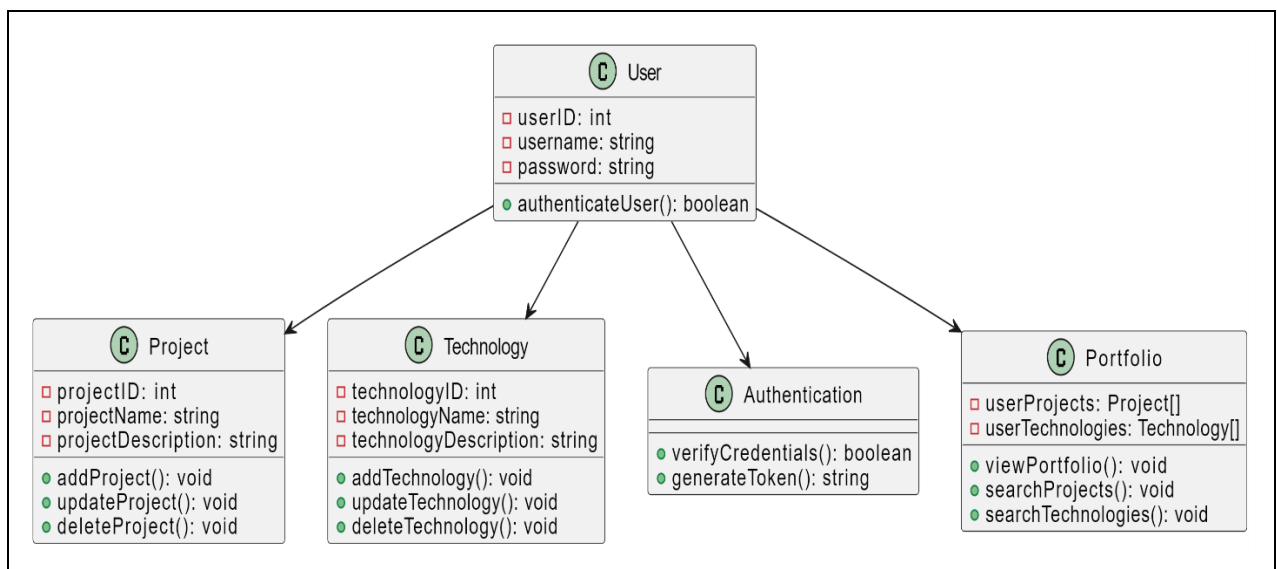
Proficiency:

Visibility:

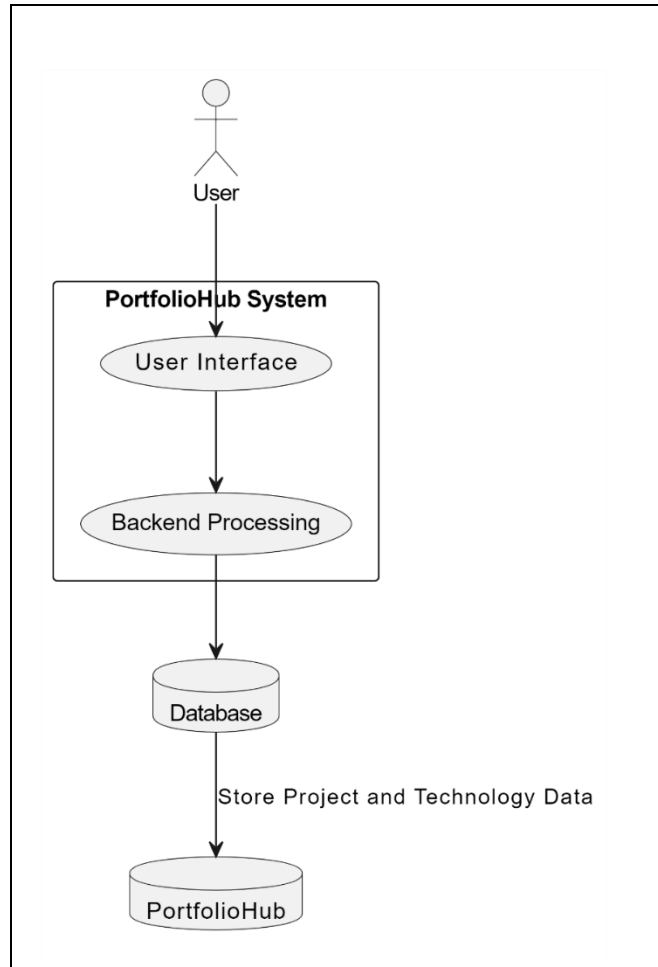
Projects:

### 5.4 UML Design:

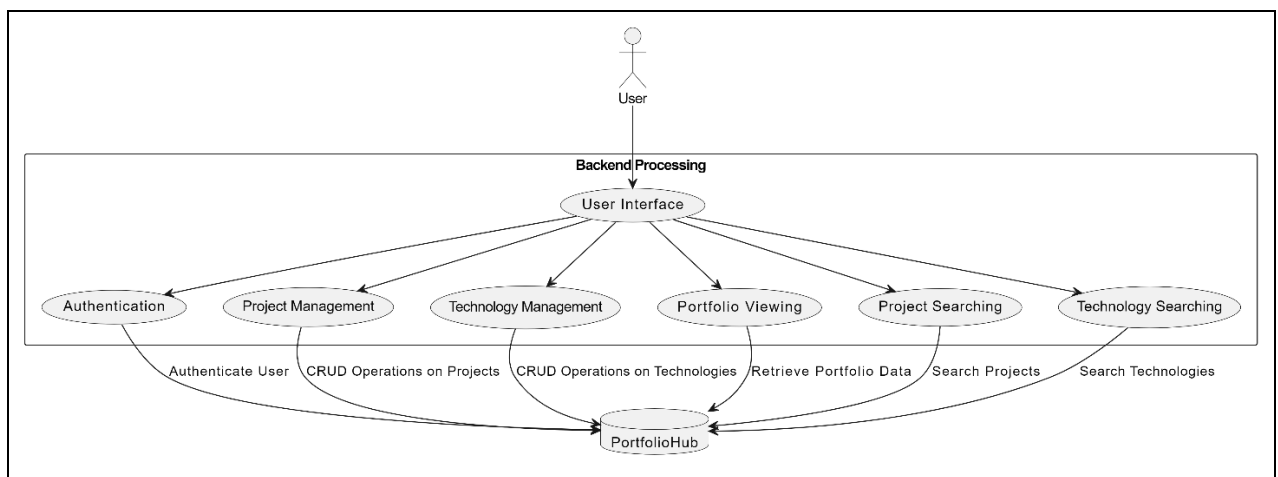
#### 5.4.1 Class Diagram:



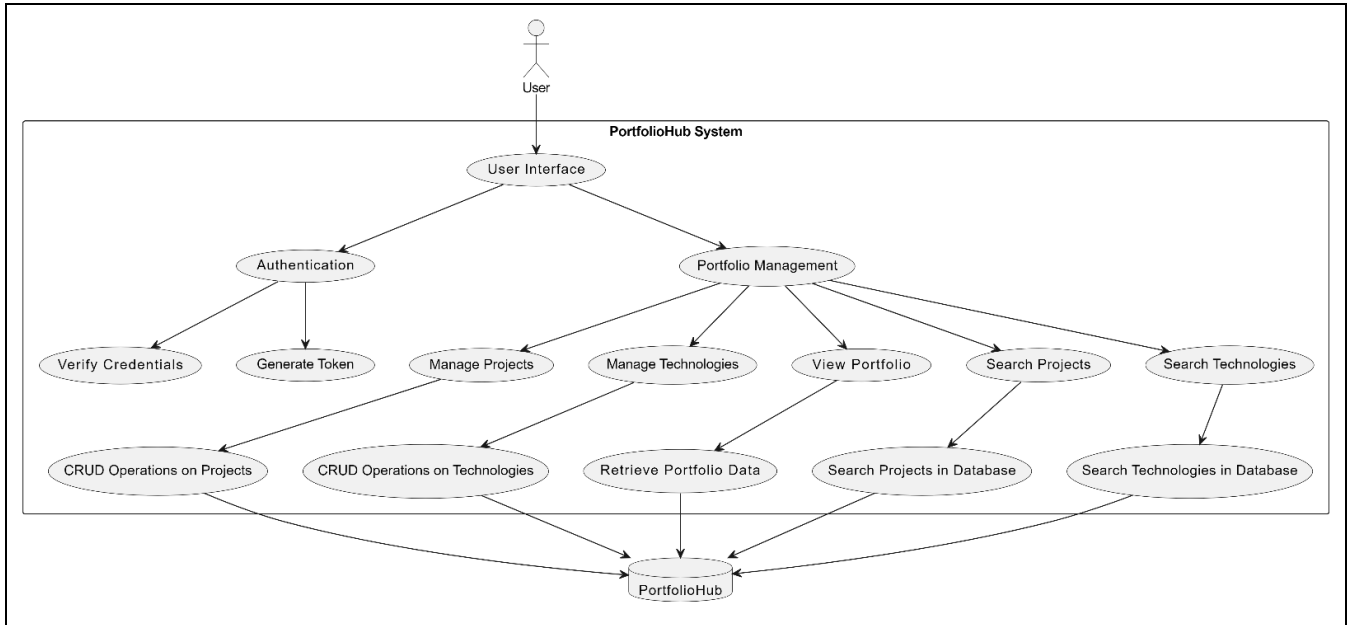
### 5.4.2.1 DFD Diagram Level 0



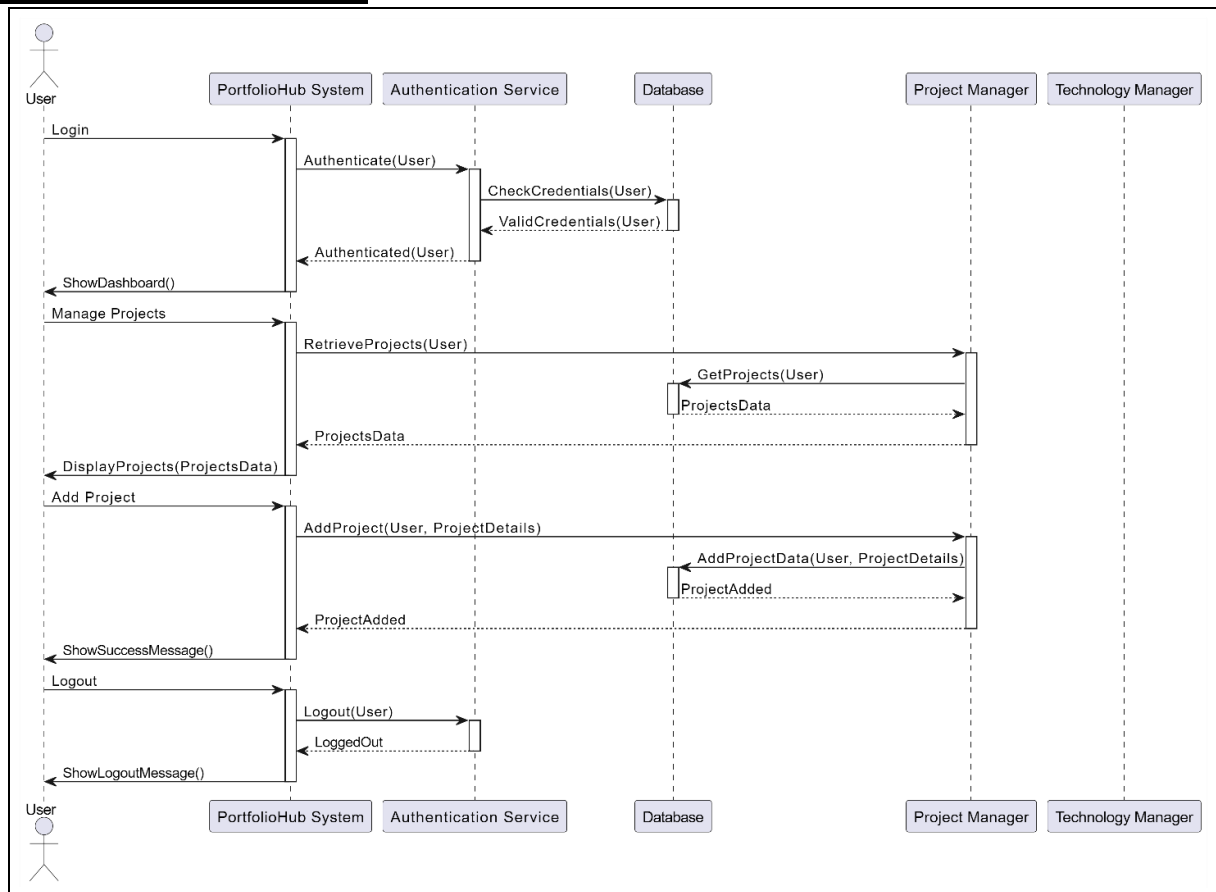
### 5.4.2.2 DFD Diagram Level 1:



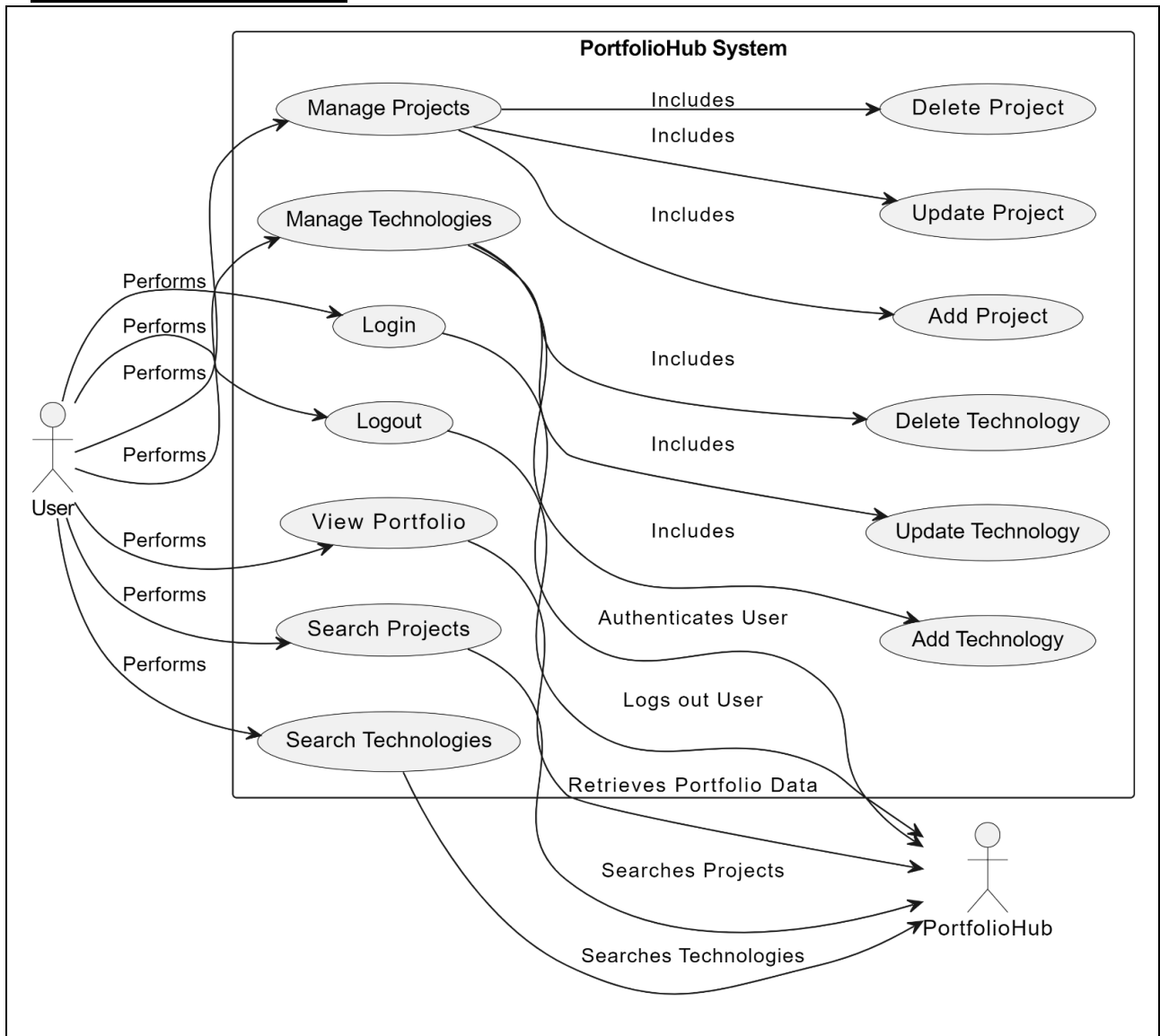
### 5.4.2.3 DFD Diagram Level 2:



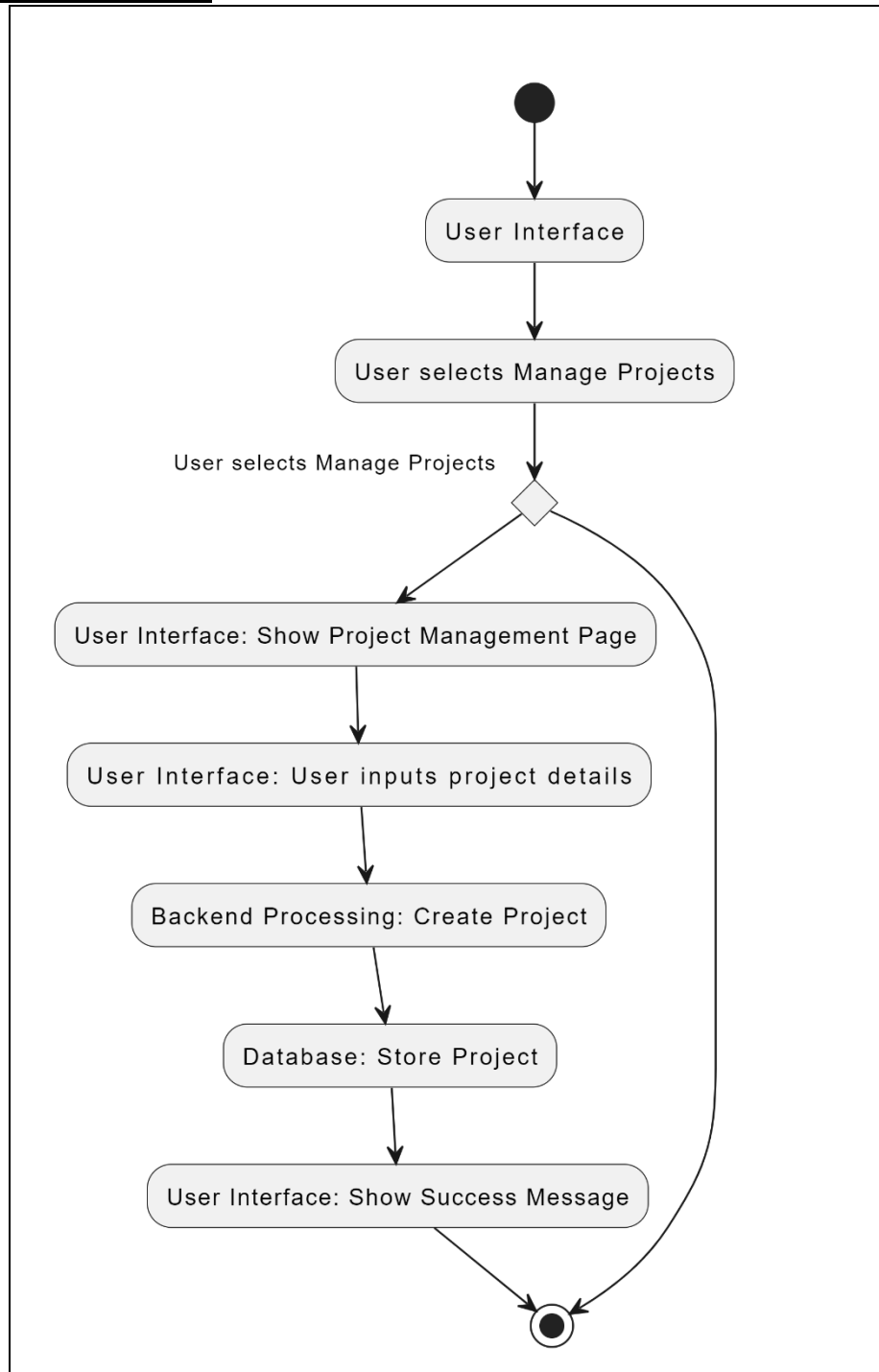
### 5.5 Sequence Diagram:



### 5.6 Use case Diagram:

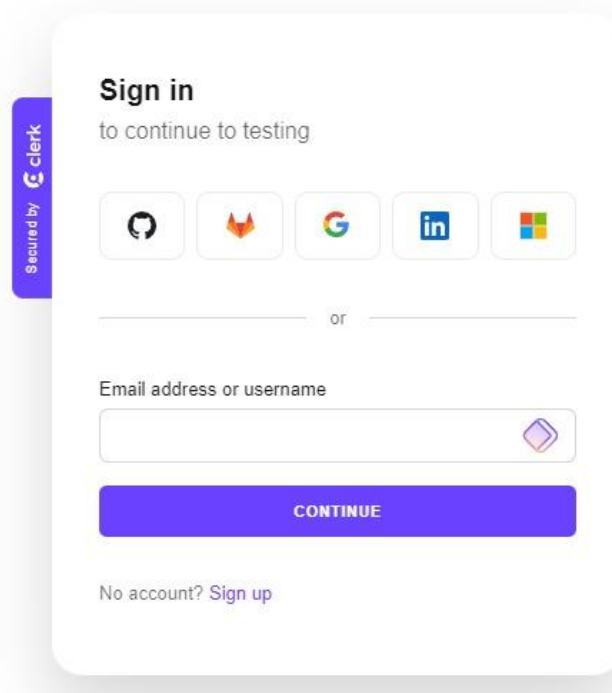



### 5.7 Activity Diagram:



## Implementation






### 6.1 System Flow



Secured by  clerk


### Sign in

to continue to testing



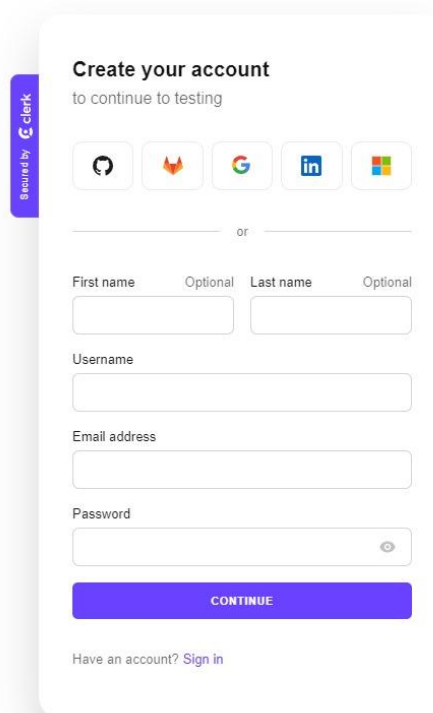
or


Email address or username

No account? [Sign up](#)






Fig. 1 : Sign in Page



Secured by  clerk

### Create your account

to continue to testing




or

First name Optional Last name Optional

Username

Email address

Password

Have an account? [Sign in](#)

Fig. 2 : Sign up Page



Secure by Clerk


Account

Security

## Account

Manage your account information

### Profile

 Aryan Donga

### Username

mcuxdaredevil


Change username

### Email addresses

daryan6680@proton.me Primary

Add an email address

### Connected accounts

 GitHub (mcuxdaredevil)





Connect account

## Security

### Password

Set password

### Active devices

	Windows This device Chrome 122.0.0.0 43.242.123.91 (Anand, IN) Today at 11:04 AM	
	X11 Chrome 123.0.0.0 2402:a00:10d:1ab2:408e:a6e0:6b1f:c35b (Anand, IN) Yesterday at 1:38 PM	
	Linux Chrome 123.0.0.0 2402:a00:10d:1ab2:591d:445f:f405:c2b9 (Anand, IN) Yesterday at 12:16 PM	
	X11 Chrome 123.0.0.0 2402:a00:10d:1ab2:ea07:43c4:d2e1:460f (Anand, IN) Today at 8:26 AM	

### Danger

Delete Account

Delete your account and all its associated data

DELETE ACCOUNT

Fig. 3 : User Profile Page

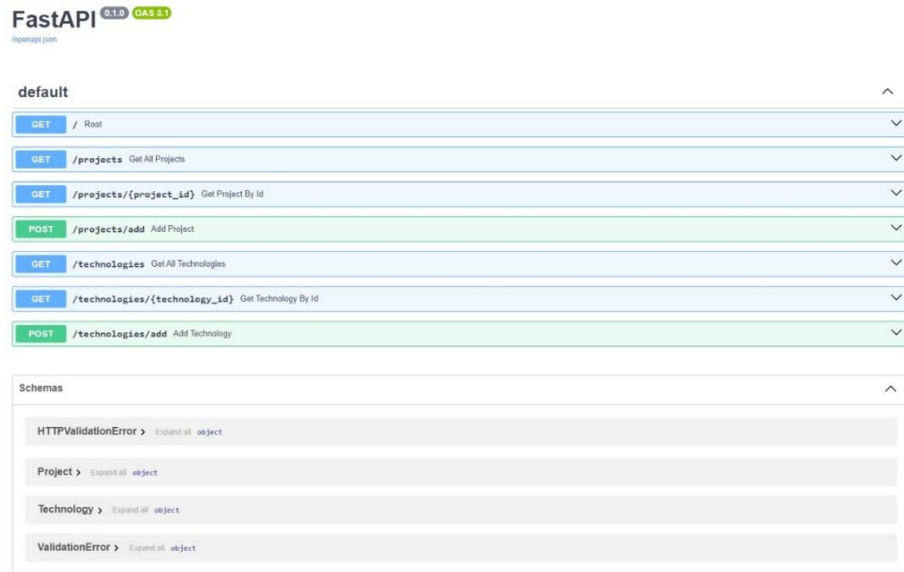


Fig. 4 : API Implementation

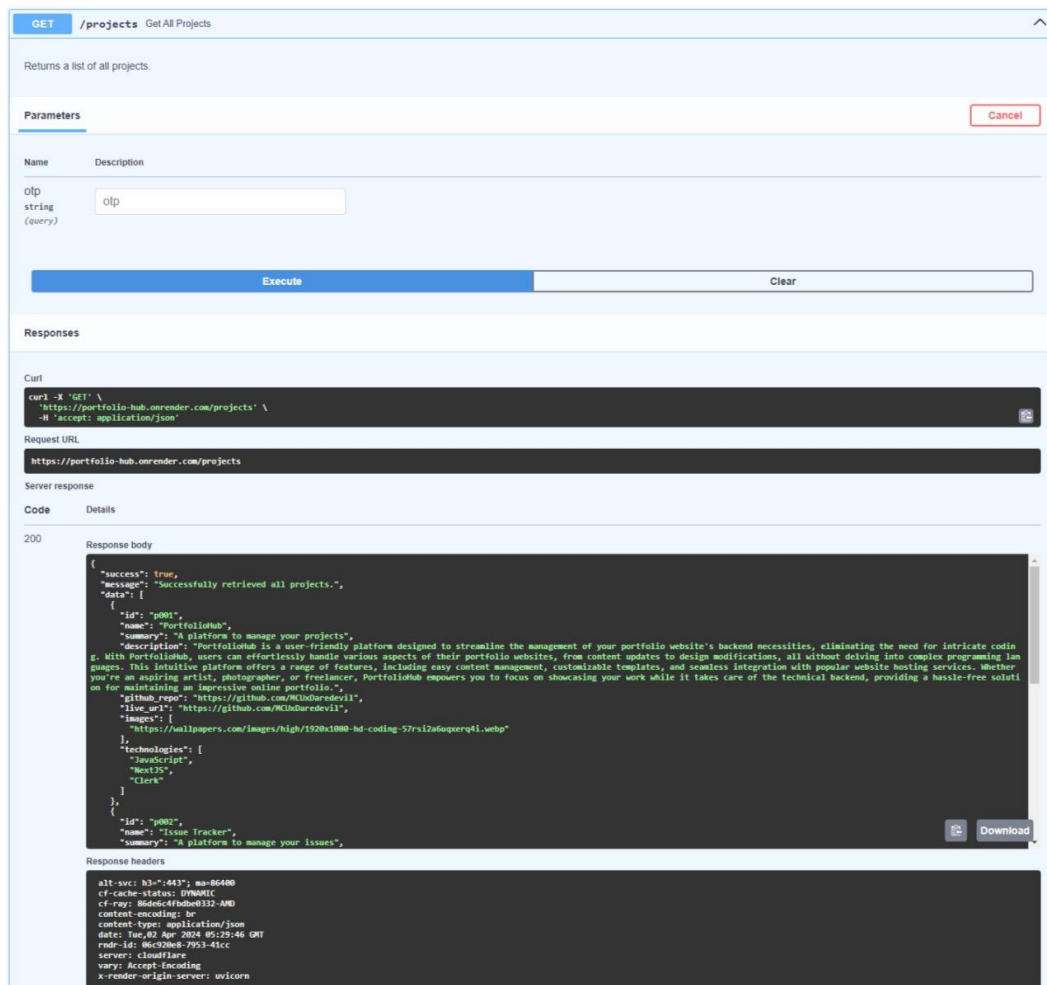


Fig. 5 : Sample API Request

## 6.2 Program/ module specification

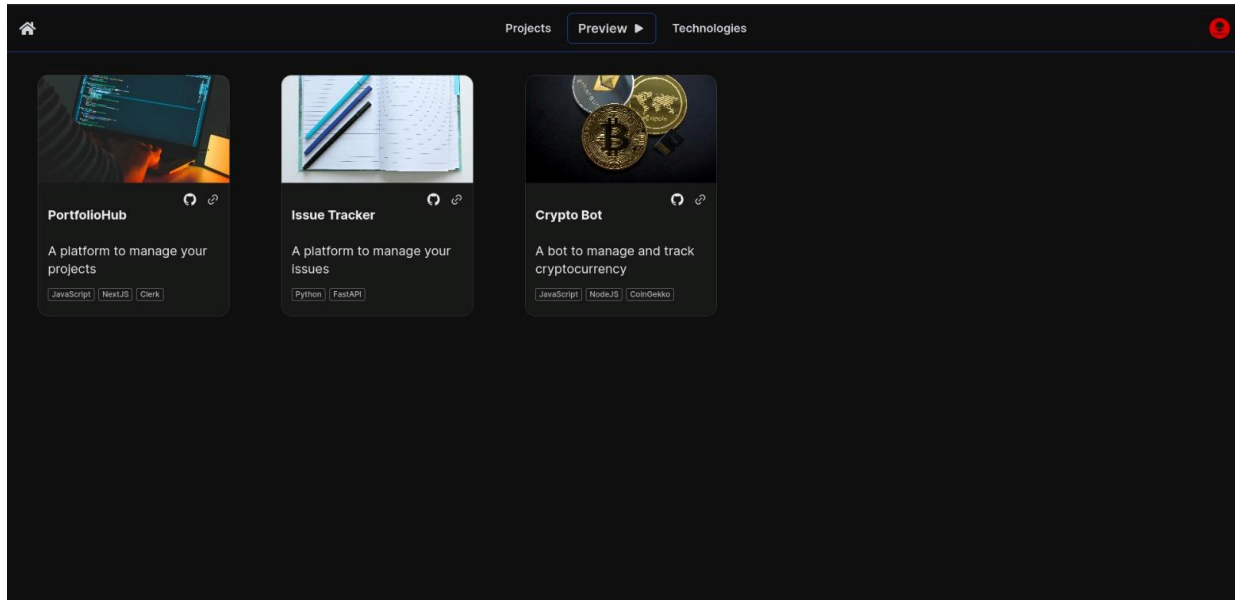
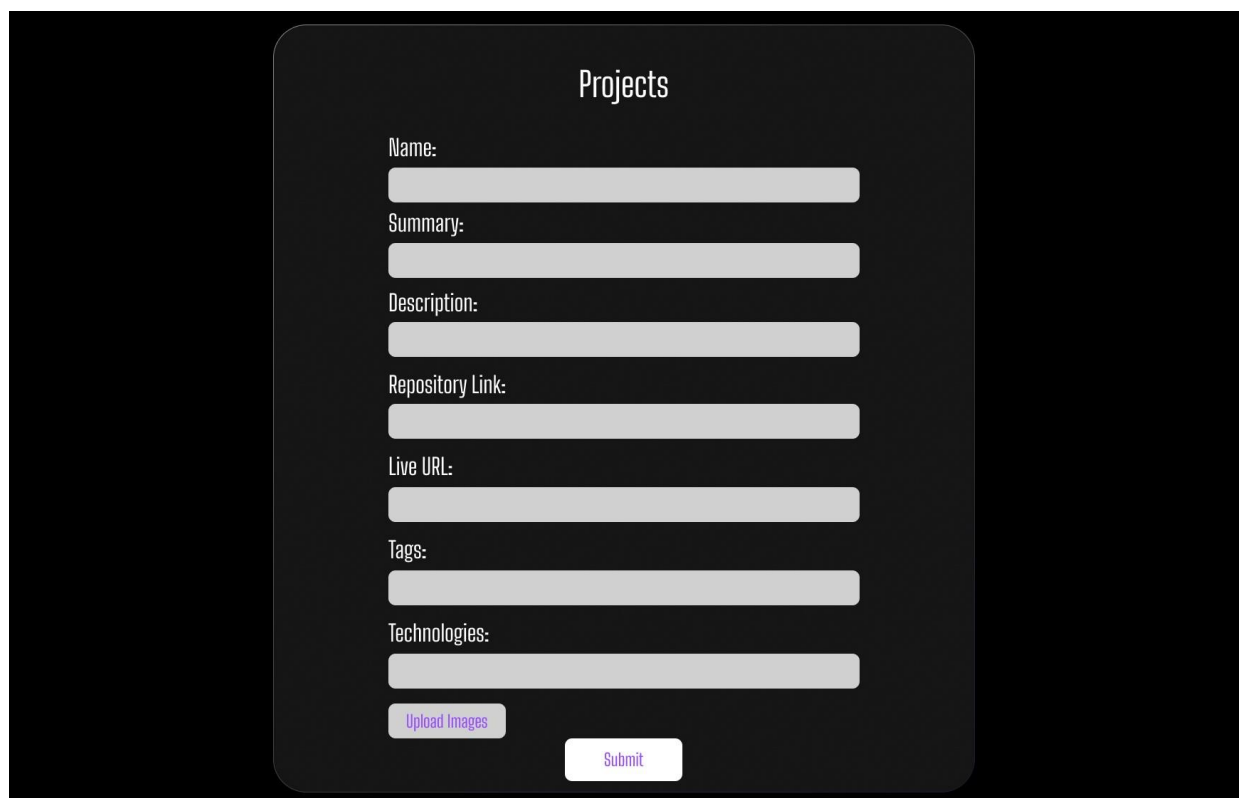


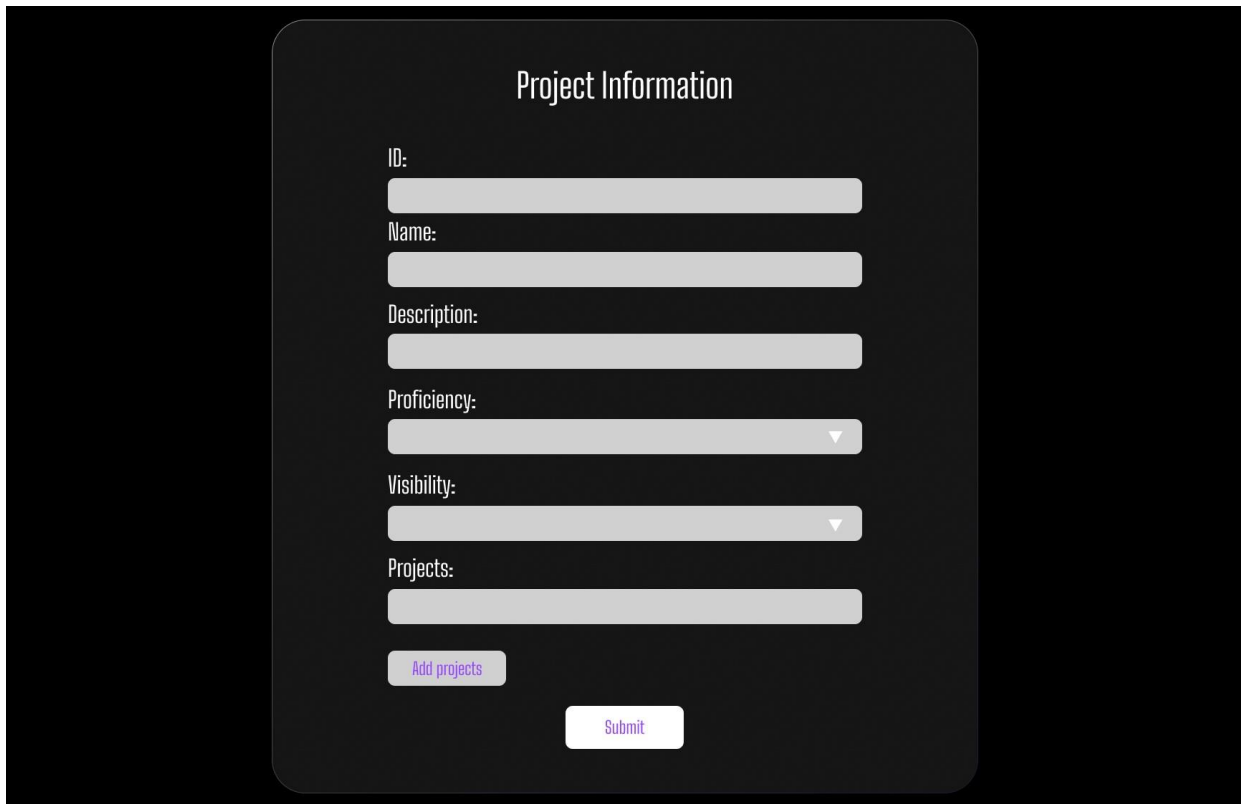
Fig. 6 Portfolio



The screenshot shows a 'Projects' form with the following fields and buttons:

- Name:** Text input field.
- Summary:** Text input field.
- Description:** Text input field.
- Repository Link:** Text input field.
- Live URL:** Text input field.
- Tags:** Text input field.
- Technologies:** Text input field.
- Upload Images**: Button.
- Submit**: Button.

Fig. 6 : Projects UI



The image shows a dark-themed user interface for a 'Project Information' form. The form is centered on a black background. It contains several input fields: 'ID:', 'Name:', 'Description:', 'Proficiency:', 'Visibility:', and 'Projects:'. Each label is followed by a light gray input box. The 'Proficiency' and 'Visibility' fields are dropdown menus, indicated by a small downward arrow on the right side of their boxes. Below the 'Projects' input box is a purple button labeled 'Add projects'. At the bottom center of the form is a white button labeled 'Submit'.

Fig. 6 : Technologies UI

### **6.3Time line chart**

- **Phase 1: Backend Development**

Weeks 1-4: Backend infrastructure setup, FastAPI integration, MongoDB database implementation, CRUD operations, and initial security features.

- **Phase 2: Frontend Development**

Weeks 5-8: Frontend framework selection, UI wireframing, component development, integration with backend APIs, and UI polishing.

- **Phase 3: Security Enhancement**

Weeks 9-10: Two-Factor Authentication (2FA) implementation, encryption setup, and security testing.

- **Phase 4: Integration and Testing**

Weeks 11-12: Integration testing, debugging, and optimization for seamless frontend-backend interaction.

- **Phase 5: Deployment and Optimization**

Weeks 13-14: Docker containerization, deployment to production, and performance optimization.

## **Conclusion**

In conclusion, PortfolioHub represents a groundbreaking solution in the realm of portfolio management, aimed at empowering individuals and organizations to showcase their projects and technologies effectively in today's competitive landscape. Throughout the project lifecycle, from inception to system design, we have meticulously analyzed requirements, evaluated feasibility, and designed a robust and scalable platform that aligns with the needs and expectations of its users.

The systematic analysis of historical context, existing systems, and proposed enhancements has provided valuable insights into the challenges and opportunities in portfolio management. Through feasibility studies encompassing technical, economic, and operational aspects, we have ensured that PortfolioHub is not only viable but also economically sustainable and operationally feasible.

Requirement analysis and specification have enabled us to define clear and comprehensive functional and non-functional requirements for PortfolioHub, ensuring that the system meets the diverse needs and expectations of its users effectively. The subsequent system design phase has translated these requirements into a detailed architectural blueprint, encompassing architecture, database design, user interface design, security design, and integration design.

As we move forward with the development and implementation of PortfolioHub, we are confident that our systematic approach, coupled with innovative technologies and user-centric design principles, will result in a platform that revolutionizes portfolio management for individuals and organizations alike. PortfolioHub is not just a project; it is a testament to our commitment to innovation, excellence, and user satisfaction in the digital age.

## References

- Radix UI, "Radix UI Documentation," Radix UI. [Online]. Available: <https://www.radix-ui.com/themes/docs/>. [Accessed: February 9, 2024].
- Next.js, "Next.js Documentation," Next.js. [Online]. Available: <https://nextjs.org/docs>. [Accessed: February 9, 2024].
- Swagger, "OpenAPI Specification," Swagger. [Online]. Available: <https://swagger.io/specification/>. [Accessed: January 23, 2024].