# Project Report on Prep Tech

Submitted for the Partial Fulfillment of the Requirements for the degree of
Bachelor of Technology
in
Computer Science and Engineering
By


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April, 2024

Indian Institute of Information Technology Surat
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**CERTIFICATE**

This is to certify that candidate Dev Gupta, Akash Dholakiya and Ajay Mali bearing Roll No: UI22CS16, UI22CS19 and UI22CS43 of B.Tech. IV, 4th Semester has successfully carried out the work on "Prep Tech" for the partial fulfillment of the degree of Bachelor of Technology(B.Tech.)

1. Subject Co-ordinator 1: Ms. Jiby Babin : Sign:. . . . . .

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# DECLARATION

This is to certify that
(i) This report comprises my original work towards the degree of Bachelor of Technology in Computer Science and Engineering at Indian Institute of Information Technology (IIIT) Surat and has not been submitted elsewhere for a degree, (ii) Due acknowledgement has been made in the text to all other material used.

Dev Gupta Akash Dholakiya Ajay Mali

# ACKNOWLEDGEMENTS

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this Project Report. Though I have made efforts for completion of the project, it would not have been possible without the support and guidance of many individuals and my team. I would like to extend my sincere thanks to all of them.

Special thanks are due to my Faculty Mentor at IIIT Surat -Mr. Rishi Sharma, Ms. Jiby Babin whose help, stimulating suggestions, and encouragement helped me a lot while working on this project. I extend my deepest gratitude to our esteemed college director Prof. J. S. Bhat for their unwavering commitment to excellence, visionary leadership, and dedication to fostering a thriving learning environment. I am indebted to friends and family for their utmost support and optimistic approach which let me work with sheer determination and focus throughout the entire time. I extend my sincere thanks to all of them who supported me, guided me throughout the duration of this semester.

# ABSTRACT

This project aims to create a platform tailored for Computer Science students to streamline their journey towards successful job placements. The platform will offer a curated collection of resources, including technical interview simulations, algorithmic problem-solving exercises, and career development modules. Additionally, a structured placement roadmap will guide students through various stages of preparation, and soft skills enhancement. By providing a centralized and dynamic tool, this project seeks to empower Computer Science students with the necessary skills and knowledge to excel in the competitive job market.

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# 1. Introduction

## 1.1 About

The Interview Preparation System aims to provide a robust platform for users to effectively prepare for job interviews. It offers a range of features and resources to enhance user's interview skills and boost their confidence.

## 1.2. System Overview

The system comprises the following key components:
→ User Authentication
→Dashboard
→ Roadmap
→Quizzes
→ Mock Interviews
→ Recommendations and Tips

### 1.2.1 User Authentication

→ Users can register for a new account or log in with existing credentials.
→Authentication mechanisms ensure secure access to the system.

### 1.2.2 Roadmap

→ Users can view a detailed roadmap for any domain before starting their development or programming journey .
→The roadmap also consists of a variety of options(programming languages) or technologies to use while learning.

### 1.2.3 Quizzes

→ Users can solve quizzes based on commonly asked interview questions categorized by topics or subjects.
→ Each question includes a brief explanation of the answers.
→ Instant Feedback: Receive real-time feedback on quiz performance, including correct answers and explanations.

### 1.2.4 Mock Interviews

→ Users can schedule mock interviews with experienced professionals or use the system's built-in interview simulator.
→ Mock interviews include feedback and suggestions for improvement.

### 1.2.5 Progress Tracking

→ The system tracks users' performance and progress over time.
→Users can view detailed reports and analytics to identify areas for improvement.

### 1.2.6 Recommendations and Tips

→ Based on users' performance and preferences, the system provides personalized recommendations and tips to enhance their interview skills.
→Recommendations may include additional resources, practice exercises, or targeted learning materials.

# 2 Tools/Technologies

## 2.1. Programming Languages:

### 2.1.1 HTML :

Hypertext Markup Language is the standard language used to create web pages. It provides the structure and content of a webpage through a series of markup tags. These tags define the elements within the page such as headings, paragraphs, images, links, forms, and more.

### 2.1.2 CSS :

CSS, which stands for Cascading Style Sheets, is a style sheet language used to control the presentation, layout, and formatting of HTML documents. It enables web developers to define how HTML elements should appear on a webpage, including aspects such as colors, fonts, spacing, alignment, and more.

### 2.1.3 JAVASCRIPT :

JavaScript is a versatile and widely used programming language primarily known for its role in web development. It's a core technology for building dynamic and interactive websites and web applications.

## 2.2 Frameworks and Libraries:

### 2.2.1 REACT JS :

→ Component-Based Architecture: React is based on a component-based architecture, where UIs are composed of reusable components. Components encapsulate the logic and UI elements for a specific part of the application, promoting code reusability and modularity. Components can be nested within each other to create complex UI hierarchies.

→Virtual DOM: One of React's key innovations is the use of a virtual DOM (Document Object Model). The virtual DOM is a lightweight, in-memory representation of the actual DOM. When the state of a React component changes, React compares the virtual DOM with the previous state to determine the minimal set of changes needed to update the actual DOM. This approach significantly improves performance by reducing the number of DOM manipulations and re-renders.

→ Declarative Programming: React promotes a declarative programming style, where developers describe the desired UI state and React takes care

of updating the DOM to match that state. This is in contrast to imperative programming, where developers specify step-by-step instructions for updating the UI. Declarative programming in React leads to cleaner, more readable code and simplifies the process of reasoning about the application's behavior.

→ JSX (JavaScript XML): JSX is a syntax extension for JavaScript that allows developers to write HTML-like code within JavaScript files. JSX makes it easier to define UI components by combining HTML markup with JavaScript logic. JSX code is transpiled into regular JavaScript code by tools like Babel before being executed in the browser.

→ Unidirectional Data Flow: React follows a unidirectional data flow pattern, where data flows downwards from parent components to child components via props (properties). This helps to maintain a predictable and easy-to-understand data flow within the application, reducing the risk of data inconsistencies and bugs.

### 2.2.2 NODE JS

Node.js is an open-source, cross-platform JavaScript runtime environment built on Chrome's V8 JavaScript engine. It allows developers to run JavaScript code on the server-side, enabling the development of scalable and high-performance network applications. Node.js was created by Ryan Dahl in 2009 and has since gained widespread adoption due to its lightweight, event-driven architecture and extensive ecosystem of libraries and frameworks.

### 2.2.3 EXPRESS JS

Express.js, commonly referred to as Express, is a minimal and flexible web application framework for Node.js. It provides a robust set of features for building web and mobile applications, APIs, and server-side applications. Express.js was inspired by the Sinatra framework for Ruby and is known for its simplicity, speed, and opinionated nature.

### 2.2.4 BOOTSTRAP

Bootstrap is a free and open-source front-end framework for developing responsive and mobile-first web projects. It was originally created by Mark Otto and Jacob Thornton at Twitter and was later released as an open-source project. Bootstrap provides a collection of CSS and JavaScript components, along with pre-built templates and themes, to help developers quickly build modern and visually appealing websites and web applications.

## 2.3 Database System

### 2.3.1 MONGODB ATLAS

→MongoDB is a popular open-source NoSQL database management system that is designed for flexibility, scalability, and performance.Unlike traditional relational databases, MongoDB stores data in flexible,JSON-like documents, making it easy to store and retrieve complex, hierarchical data structures.

→ MongoDB's document-oriented model allows for dynamic schemas, enabling developers to quickly iterate and evolve their data models without the need for predefined schemas. MongoDB is known for its horizontal scalability, allowing it to handle large volumes of data and high throughput applications with ease.

→It supports features such as automatic sharding, replication, and failover, ensuring data availability and reliability. MongoDB's query language and indexing capabilities enable fast and efficient data retrieval, making it suitable for a wide range of use cases, including web applications, content management systems, real-time analytics, and more.

→Additionally, MongoDB offers a rich ecosystem of tools, libraries, and integrations, making it easy for developers to work with MongoDB in their preferred programming languages and environments. Overall, MongoDB's combination of flexibility, scalability, and ease of use has made it a popular choice for modern application development.

## 2.4 Development Tools and Environments

### 2.4.1 Visual Studio Code

Visual Studio Code (VS Code) is a free, open-source source code editor developed by Microsoft for Windows, macOS, and Linux. It has quickly become one of the most popular code editors in the developer community due to its versatility, performance, and extensive set of features.

### 2.4.2 Git

Git is a distributed version control system (DVCS). It is designed to track changes to files and coordinate work among multiple contributors in a collaborative environment. Git operates locally on a developer's machine, allowing for fast and efficient operations even with large codebases.

### 2.4.3 Github

GitHub is a web-based platform built on top of Git that provides hosting for Git repositories and a range of collaboration and project management features. It was founded in 2008 by Chris Wanstrath, PJ Hyett, and Tom Preston-Werner and has since become the largest and most popular platform for hosting open-source projects and collaborating on software development.

## 2.5 Cloud Platforms

### 2.5.1 Vercel

Vercel is a cloud platform designed to help developers deploy and host websites, web applications, and serverless functions with ease. Vercel focuses on providing a seamless developer experience and high-performance hosting infrastructure.

### 2.5.2 Render

Render is an excellent choice for deploying backend applications, offering managed infrastructure services that simplify the deployment and management of server-side code.

## 2.6. Security

### 2.6.1 OpenSSL

OpenSSL is an open-source toolkit implementing the Secure Sockets Layer (SSL) and Transport Layer Security (TLS) protocols, as well as cryptographic functions and utilities. It provides a comprehensive set of tools for encryption, decryption, digital signatures, and certificate management.

→ Encryption: OpenSSL supports various encryption algorithms, including symmetric (e.g., AES, DES) and asymmetric (e.g., RSA, DSA) encryption. It allows developers to encrypt and decrypt data using cryptographic keys,providing confidentiality and privacy for sensitive information.

### 2.6.2 bcrypt

bcrypt is a password-hashing function designed specifically for securely hashing passwords. It is based on the Blowfish cipher and is widely used in web applications and software systems for password storage.

→ Password Hashing: bcrypt hashes passwords by applying a crypto graphic hash function multiple times (known as key stretching) with a salt value to protect against rainbow table attacks and brute-force attacks. This makes it computationally expensive for attackers to crack hashed passwords, even with the use of powerful hardware and algorithms.

# 3 External interface requirements

## 3.1 User interface requirements

→ Be intuitive and user-friendly, requiring minimal training for users to navigate. Support multiple languages for global accessibility.

→Incorporate responsive design principles to ensure compatibility across various devices (desktop, mobile, tablet).

→ Provide clear instructions and guidance throughout the interview preparation Process.

## 3.2 Hardware Interface Requirements

Device (Computer/laptop) Requirements:

→ Memory (RAM): Minimum 2GB RAM

→ Processor: Minimum 1GHZ; Recommended 2 GHZ or more.

→ Hard disk: 40 GB; Recommended 64 GB or more.

→ Ethernet connection (LAN) or a wireless adapter (Wi-Fi)

## 3.3 Software Interface Requirements

→ Support web browsers such as Chrome, Mozilla Firefox, etc.

→ Compatible with Windows, Linux, macOS (32-bit and 64-bit).

## 3.4 Communication Interface Requirements

→Secure data transmission protocols (e.g., HTTPS) to protect user information during interactions with the system.

→APIs and web services for facilitating communication between the front-end and back-end components of the system.

→Email notifications for account-related activities (e.g., registration confirmation, password reset).

→Real-time chat or messaging functionality for users to interact with mentors or peers during their preparation.

# 4. Design

## 4.1 System Architecture

⇒ The system architecture of the ERP software is designed to be modular and scalable,allowing for flexibility and extensibility in the future. The architecture consists of several key components, including:

- **Presentation Layer** : This layer comprises the user interface components responsible for interacting with users, including web pages, forms, and user controls. Technologies such as NextJS and Tailwind CSS are utilized to create responsive and visually appealing user interfaces.
- **Application Layer** : The application layer contains the business logic and processing components of the ERP software. NestJS is employed to develop robust and scalable backend services, handling tasks such as order processing, inventory management, and user authentication.
- **Data Layer** : The data layer is responsible for managing and storing data used by the ERP software. MongoDB, a NoSQL database, is chosen for its flexibility and scalability, allowing for efficient storage and retrieval of structured and unstructured data.

## 4.2 System Design

⇒ The system design of the ERP software is based on a client-server architecture, where clients interact with the server to access and manipulate data. The following design principles and patterns are employed:

- **Model-View-Controller (MVC)** : The MVC pattern is used to separate the presentation, business logic, and data access layers, promoting modularity and maintainability.
- **Dependency Injection** : Dependency injection is employed to manage component dependencies and promote loose coupling between modules, facilitating easier testing and maintenance.
- **RESTful API** : A RESTful API is designed to provide a standardized interface for clients to interact with the ERP software, enabling seamless integration with external systems and services.

## 4.3 Diagrams

### 4.3.1 Class Diagram :

- A class diagram in software engineering is a graphical representation of the classes, interfaces, associations, and collaborations within a system. It's a fundamental aspect of object-oriented design and is commonly used during the early stages of software development to visualize the structure of the system and its components.

  **Classes**: Classes represent the blueprint for creating objects. They encapsulate data (attributes or properties) and behaviors (methods or functions). Each class is depicted as a rectangle with three compartments: the top compartment contains the class name, the middle compartment contains the attributes, and the bottom compartment contains the methods.

  **Interfaces**: Interfaces define a contract for classes to follow. They specify a set of methods that implementing classes must provide. In a class diagram, interfaces are depicted similar to classes but with a dashed line border.

  **Associations**: Associations represent relationships between classes. They indicate how classes are connected or interact with each other. Associations can be one-to-one, one-to-many, or many-to-many. They're represented by a line connecting the related classes, with optional arrows indicating the direction of the relationship.

  **Inheritance/Generalization** : Inheritance denotes an "is-a" relationship between classes, where one class (subclass or derived class) inherits attributes and methods from another class (superclass or base class). It's depicted by a solid line with a hollow triangle pointing from the subclass to the superclass.

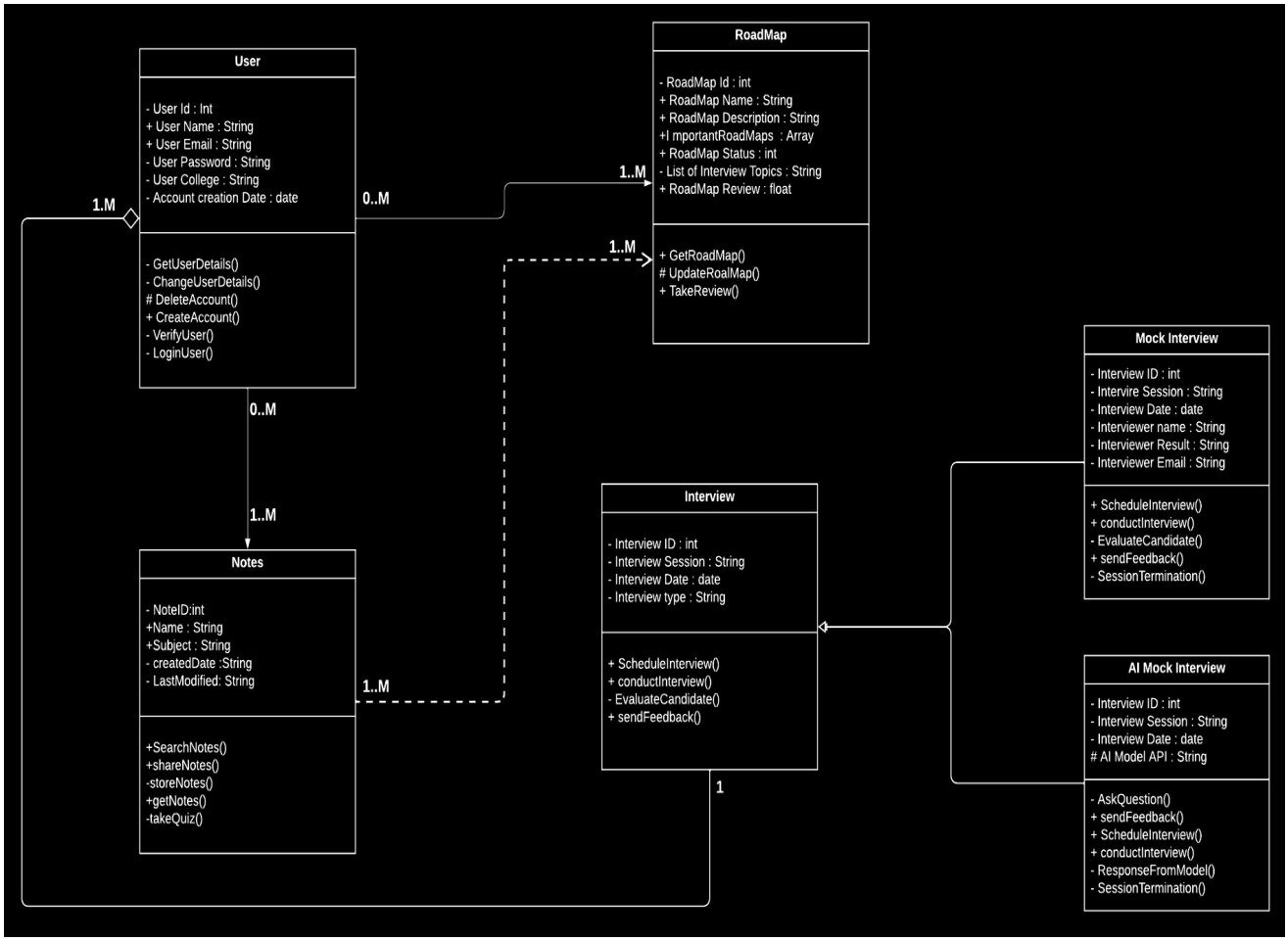
  **Composition**: Composition represents a strong "has-a" relationship between classes, where one class owns or contains instances of another class. It's depicted by a solid diamond at the containing class end of the association line.

  **Aggregation**: Aggregation is a weaker form of composition, indicating a "part-of" relationship between classes. Unlike composition, the parts can exist independently of the whole. It's depicted by an empty diamond at the containing class end of the association line.

  **Dependencies**: Dependencies represent a relationship where one class depends on another class in some way. It indicates that a change in one

class might affect another class. Dependencies are typically represented by a dashed arrow from the dependent class to the class it depends on.

⇒ Prep tech class diagram :




### 4.3.2 Use Case Diagram :

- A Use Case diagram is a visual representation of the functional requirements of a system from the perspective of its users.

- **Purpose**: Use Case diagrams are used to capture the functional requirements of a system and depict how users interact with it to achieve certain goals or tasks.
- **Components:**

  ⇒ Actors: Represent users or external systems interacting with the system being modeled. Actors are typically drawn as stick figures.

⇒ Use Cases: Represent individual functionalities or tasks that users can perform within the system. Use cases are depicted as ovals or ellipses.

- **Relationships** :

  ⇒ Association: Shows the relationship between actors and use cases, indicating which actors are involved in executing specific use cases.

  ⇒ Inclusion: Indicates that one use case includes another, meaning the included use case is part of the behavior of the including use case.

  ⇒ Extension: Represents that one use case can extend another, meaning additional functionality is added to the base use case under certain conditions.

  ⇒ System Boundary: Use Case diagrams typically include a boundary box to encapsulate the system being modeled, distinguishing it from external actors and systems.

- **Use Cases in Software Development :**

  ⇒ Requirement Analysis: Use Case diagrams help stakeholders understand the functional requirements of the system and ensure that all user interactions are considered.

  ⇒ Communication: They serve as a communication tool between developers, designers, and clients, providing a common understanding of system functionality.

  ⇒ Design: Use Case diagrams inform system design by identifying major functionalities and guiding the creation of more detailed designs.

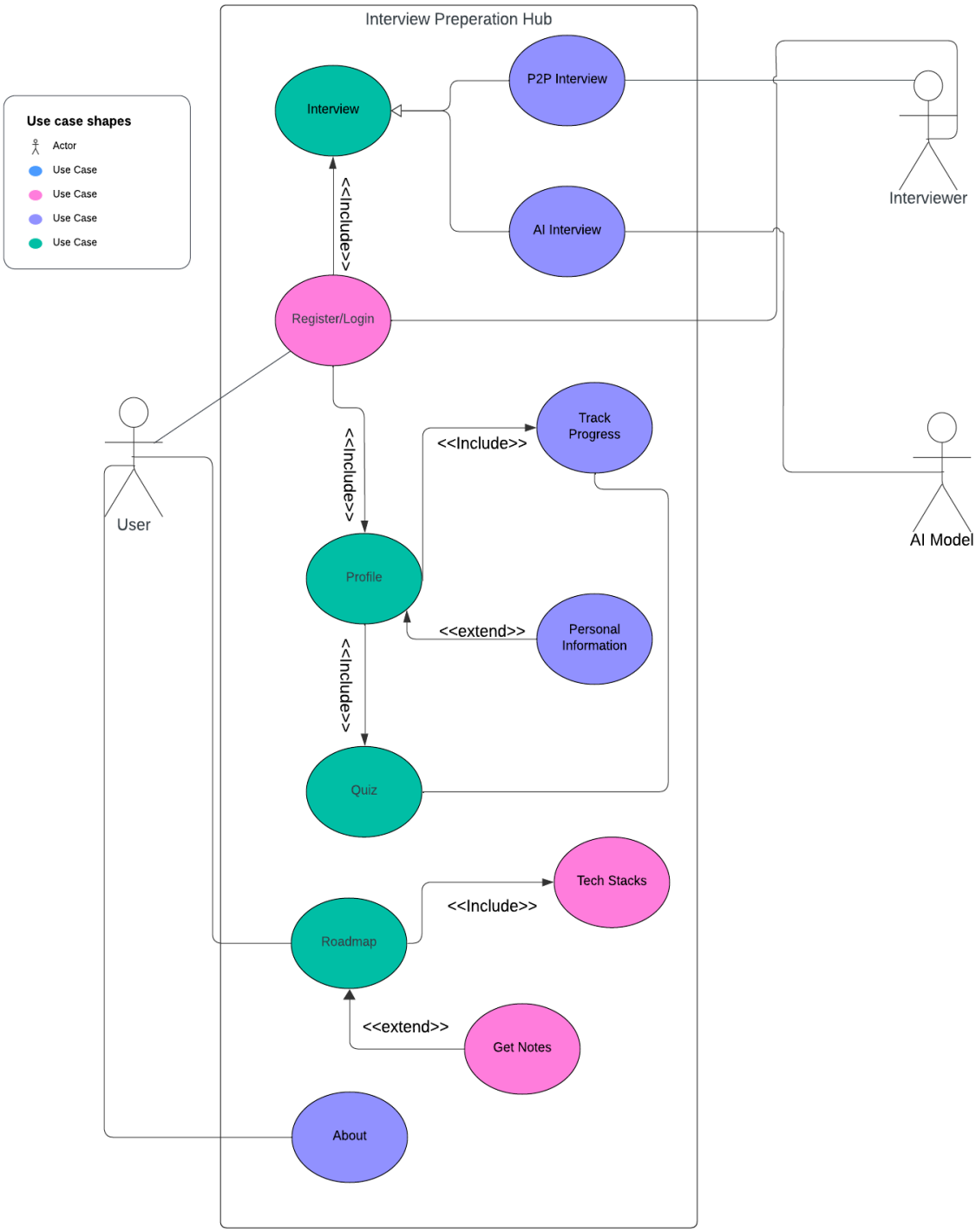
- **Benefits:**

  ⇒ Clarity : Use Case diagrams provide a clear visualization of system functionality and user interactions.

  ⇒Understanding : They aid in understanding the scope and requirements of the system from a user's perspective.

  ⇒ Validation : They help validate requirements with stakeholders and ensure that all user needs are addressed.

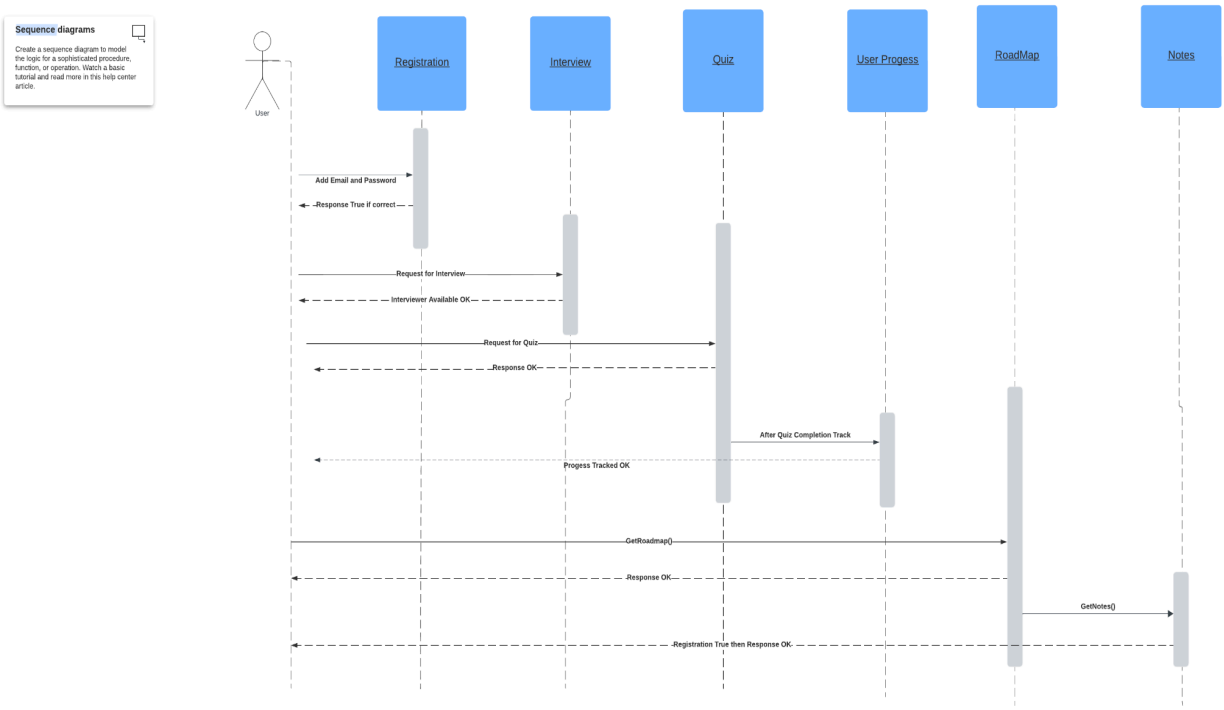
⇒ Prep-Tech Use-case Diagram :



### 4.3.3 Sequence Diagram :

- A sequence diagram is a type of interaction diagram in UML (Unified Modeling Language) used primarily to show the interactions between objects or components in a system in a sequential order. Here's a brief overview:
- **Purpose** : Sequence diagrams visualize the interactions between various components or objects in a system over a specific period. They provide a dynamic view of how objects collaborate to achieve a certain functionality.
- **Components** : Sequence diagrams consist of several key components:
- **Objects** : Represent instances of classes or components participating in the interaction.
- **Lifelines** : Vertical lines that represent the lifespan of an object during the interaction.
- **Messages** : Arrows indicating communication between objects, representing method calls, or data exchanges.
- **Activation Bars**: Horizontal bars on lifelines showing the period during which an object is active or executing a particular operation.
- **Optional elements** : Such as return messages, self-messages, and loops, to capture more complex interactions.
- **Syntax** : Sequence diagrams are typically drawn from top to bottom, with time progressing downwards. Objects are listed vertically, and messages are represented by arrows between lifelines. The sequence of messages indicates the order of interactions.
- **Design**: They aid in designing the system architecture by detailing how components interact.
- **Analysis**: They help analyze the behavior of a system by visualizing the flow of messages.
- **Documentation**: They serve as documentation for understanding system behavior, especially during the development process.
- **Clarity**: Sequence diagrams offer a clear visualization of interactions between objects.
- **Communication**: They facilitate communication between stakeholders, including developers, designers, and clients.

⇒ Sequence diagram for Prep-Tech




### 4.3.4 Component and Deployment Diagram:

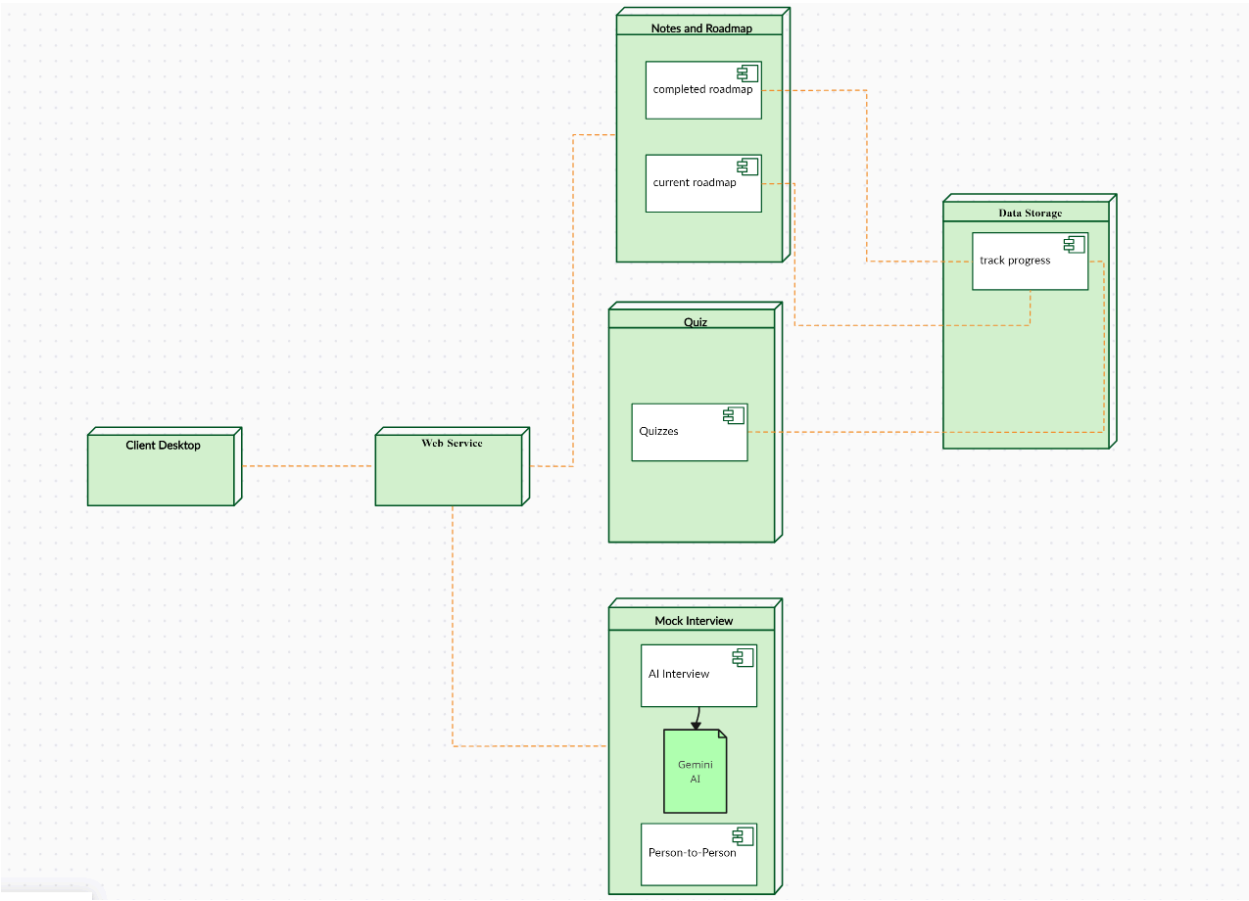
- **Deployment Diagram** :

  ⇒ A deployment diagram in UML provides a detailed view of the physical deployment of software components on hardware nodes. It shows how software artifacts are distributed across different hardware environments, such as servers, routers, PCs, or other devices. In a deployment diagram, nodes represent these hardware entities, while artifacts represent the software components, executables, libraries, or other files that are deployed onto these nodes.

  ⇒ Deployment diagrams are vital for system architects and developers as they offer insights into the actual deployment configuration of a system. They help in understanding the infrastructure requirements, including hardware resources, network connections, and other dependencies needed for system operation. Additionally, deployment diagrams aid in planning

the deployment process, ensuring efficient utilization of resources and facilitating scalability and maintenance.

⇒ Deployment Diagram of Prep Tech




- **Component Diagram** :

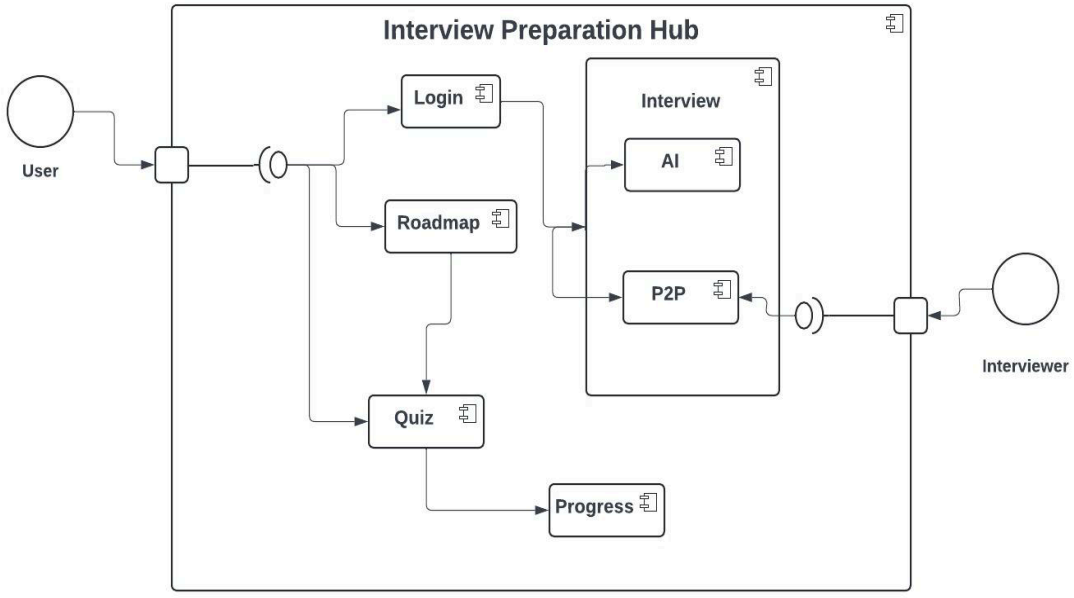
  ⇒ A component diagram in UML provides a high-level view of the architecture of a software system, focusing on the components that constitute the system and their relationships. Components represent modular units with well-defined interfaces that encapsulate functionality and can be independently developed, deployed, and replaced. These components may correspond to classes, packages, modules, or even larger subsystems in the system.

  ⇒ Component diagrams are essential for software designers and architects as they help in visualizing the structural organization of a system. They highlight the modularization of the system into reusable and

interchangeable components, promoting maintainability, scalability, and reusability in software design. By illustrating the dependencies and relationships between components, component diagrams facilitate communication among team members and support the analysis of system structure and behavior.

⇒ In summary, deployment diagrams focus on the physical deployment of software artifacts on hardware nodes, while component diagrams focus on the structural organization of the software system in terms of its modular components and their relationships. Together, these diagrams provide a comprehensive understanding of both the physical deployment and architectural structure of a system.

⇒ Component Diagram for Prep Tech



# 5 Non Functional Requirements

## 5.1 Performance

→The system should respond quickly to user interactions, minimizing loading times and latency.

→ Scalability should be considered to accommodate a growing user base.

## 5.2 Security

→User data should be encrypted and securely stored to prevent unauthorized access.

→ Access controls should be implemented to restrict sensitive functionalities to authenticated users only.

## 5.3 Usability

→ The user interface should be intuitive and user-friendly, catering to users of varying levels of technical proficiency.

→Accessibility guidelines should be followed to ensure the system is usable by all users, including those with disabilities.

## 5.4 Reliability

→ The system should be highly reliable, with minimal downtime and robust error handling mechanisms in place.

→ Data backups and disaster recovery plans should be implemented to prevent data loss.

# 6 Implementation

⇒ Implementation of the project has undergone via all the steps and methods mentioned in previous chapters along with mentioned tools and technologies. The Following Objectives shall be developed for the complete implementation of this project.

## 6.1 Development Environment

- The development environment for implementing the software consists of the following key components:

  ⇒ IDE: Visual Studio Code (VS Code) is chosen as the primary Integrated Development Environment (IDE) for its lightweight nature and extensive support for web development technologies.

  ⇒ Version Control: Git is used for version control to manage changes to the source code efficiently. The Git repository is hosted on platforms such as GitHub or Bitbucket to facilitate collaboration and code sharing among team members.

  ⇒ Project Management: Asana is utilized as the project management tool to track tasks, manage sprints, and prioritize work items. It provides a centralized platform for team communication and task coordination.

## 6.2 Pseudocode

### 6.2.1 Tour implementation

⇒ First we have utilized npx-create-react app which is simply used to create web application

⇒ After that simply creating Navbar, Roadmap and Interview Components.

⇒ Using the sidebar for login and signup purposes.

⇒ Utilizing useRef for referencing the elements inside the Interview sub parts or in the Roadmap in respective components or paths.

⇒ useState for changing the states of the components like whether the user has turned his/her mic on/off.

⇒ sending the video audio data over the socket and peer-2-peer.

### 6.2.2 Rolewise permissions implementation

⇒ The main purpose of using Role Wise permission is to allow only the interviewer to call and maintain a video call while the interview is running

⇒ to do so simply utilizing localStorage of the browser to check whether the user is Interviewer or Student which simply allows us to maintain the accessibility of the Interview.

⇒ Apart from that the Interviewer will not be able to see the Roadmap as he/she is there for hiring purposes which will prevent them from going on the roadmap.

⇒ If a user tries to go outside the defined path within the application then they will get a 404 PAGE NOT FOUND error.

## 6.3 Integration :

- The implementation of the ERP software involves the integration of various components and technologies, including:

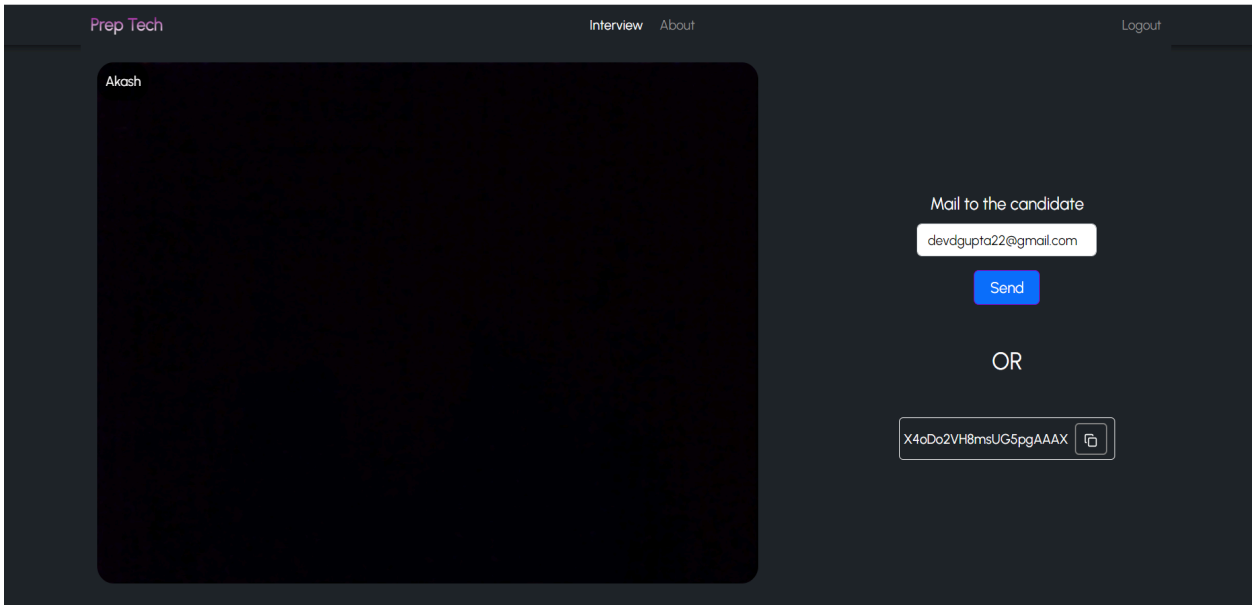
  ⇒ **Frontend Technologies**: React.js and Bootstrap CSS are utilized to build responsive and visually appealing user interfaces for the software. These frontend technologies are seamlessly integrated with the backend services using RESTful APIs.

  ⇒ **Backend Services**: NodeJs employed to develop backend services, including API endpoints, data processing, and business logic implementation. NodeJS provides a scalable and maintainable architecture for building robust server side applications.

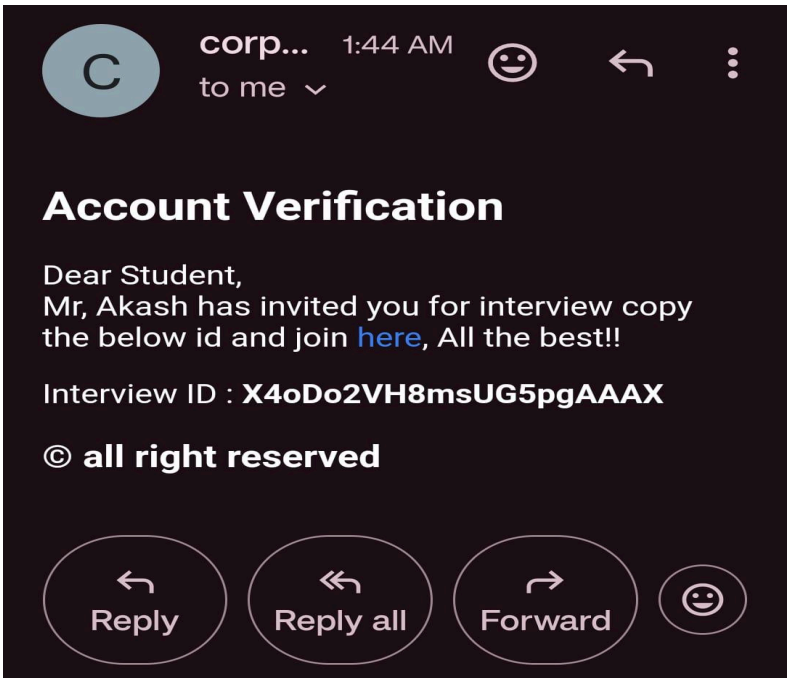
  ⇒ **Database Integration**: MongoDB is used as the database management system for storing and managing data used by the software. The integration of MongoDB with the backend services is achieved using Mongoose, a MongoDB object modeling tool designed for Node.js.

- The integration of these components ensures the seamless functioning of the ERP software, providing users with a reliable and efficient solution for managing business operations.

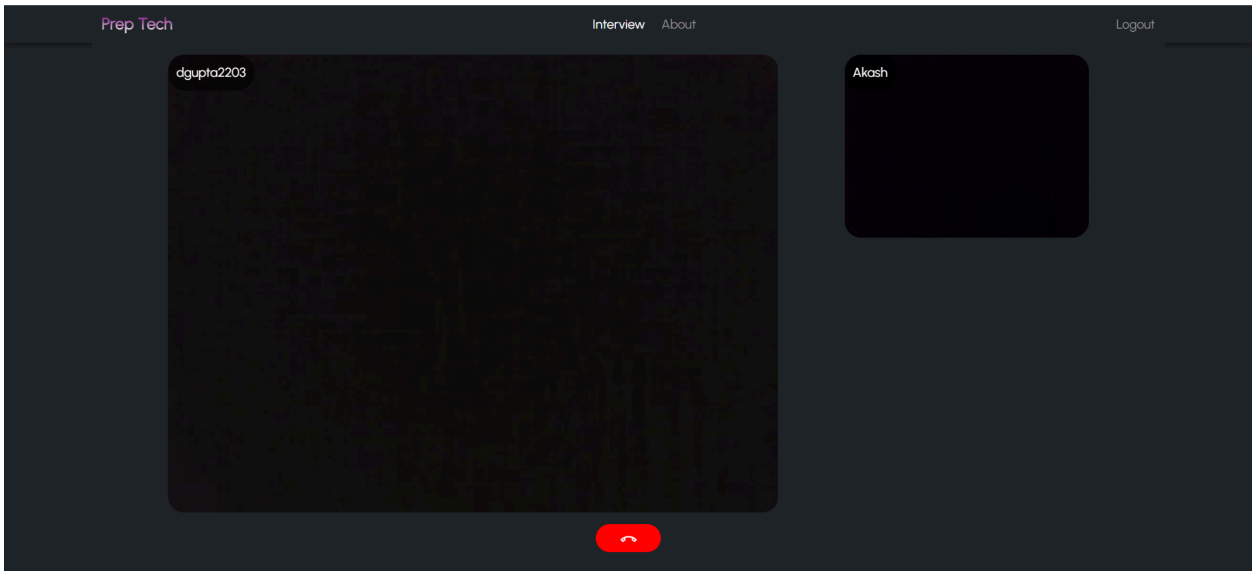
## 6.4 Work Demo :




Sending the link to the user for joining into the interview



Mail user get when Interviewer send them to join




Connecting Interviewer and student in the screen

# 7 Constraints

→The system should comply with relevant legal and regulatory requirements, including data protection and privacy laws.

→ Budget and resource constraints may limit the scope and timeline of development.

# 8 Assumptions

→ Users have access to a stable internet connection and compatible devices to access the system.

→ Users are responsible for preparing appropriate hardware and software environments for mock interviews, such as webcams and microphones.

# 9 Testing

## 9.1 Testing Methodology

The testing phase of Prep-Tech involves comprehensive testing methodologies to ensure the reliability, performance, and functionality of the software. The following
testing approaches are employed:

### 9.1.1 Unit Testing

Unit testing is performed to validate individual units or components of the software in isolation. It helps identify and fix bugs early in the development cycle, ensuring code correctness and robustness.

### 9.1.2 Integration Testing

Integration testing is conducted to verify the interactions and interfaces between different modules or components of the Software. It ensures seamless integration and interoperability across the entire system.

### 9.1.3 Functional Testing

Functional testing focuses on validating the functional requirements of the software, including features, user interfaces, and workflows. It ensures that the software meets the specified functional criteria and behaves as expected.

### 9.1.4 Performance Testing

Performance testing assesses the responsiveness, scalability, and stability of the software under various load conditions. It helps identify performance bottlenecks and optimize system resources for efficient operation.

### 9.1.5 Security Testing

Security testing is conducted to identify and mitigate potential security vulnerabilities and threats in the software. It includes penetration testing, vulnerability scanning, and security code reviews to ensure data confidentiality, integrity, and availability.

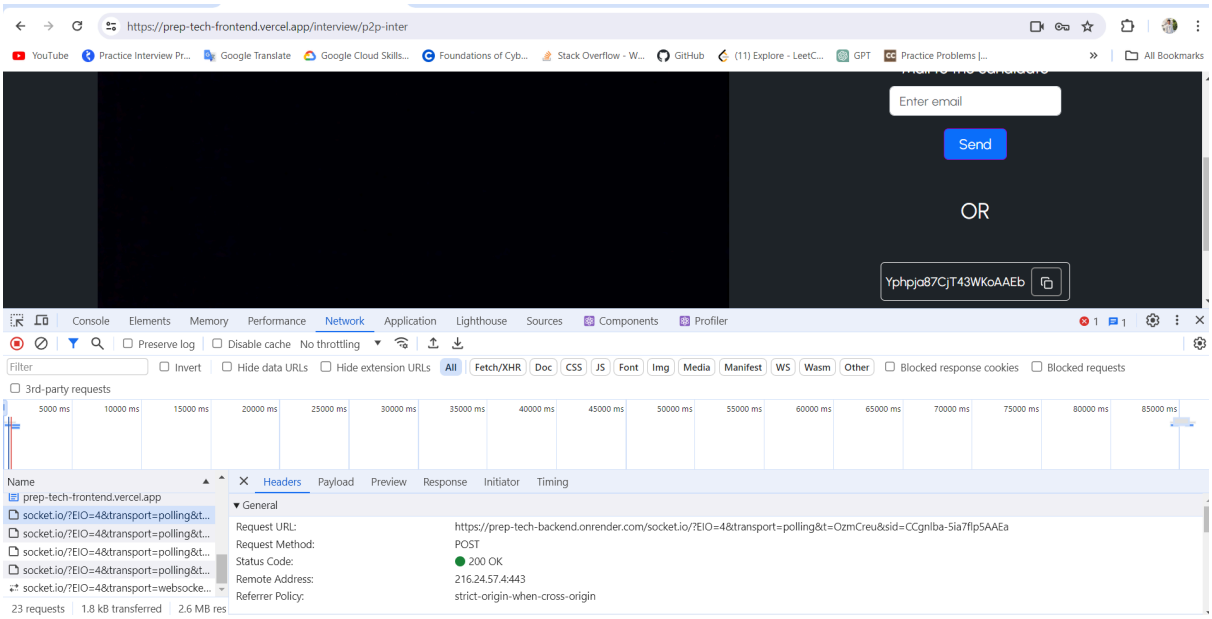
### 9.1.6 User Acceptance Testing

User acceptance testing involves real-world testing by end-users to validate software against their requirements and expectations. It ensures that the software meets user needs and delivers a satisfactory user experience.

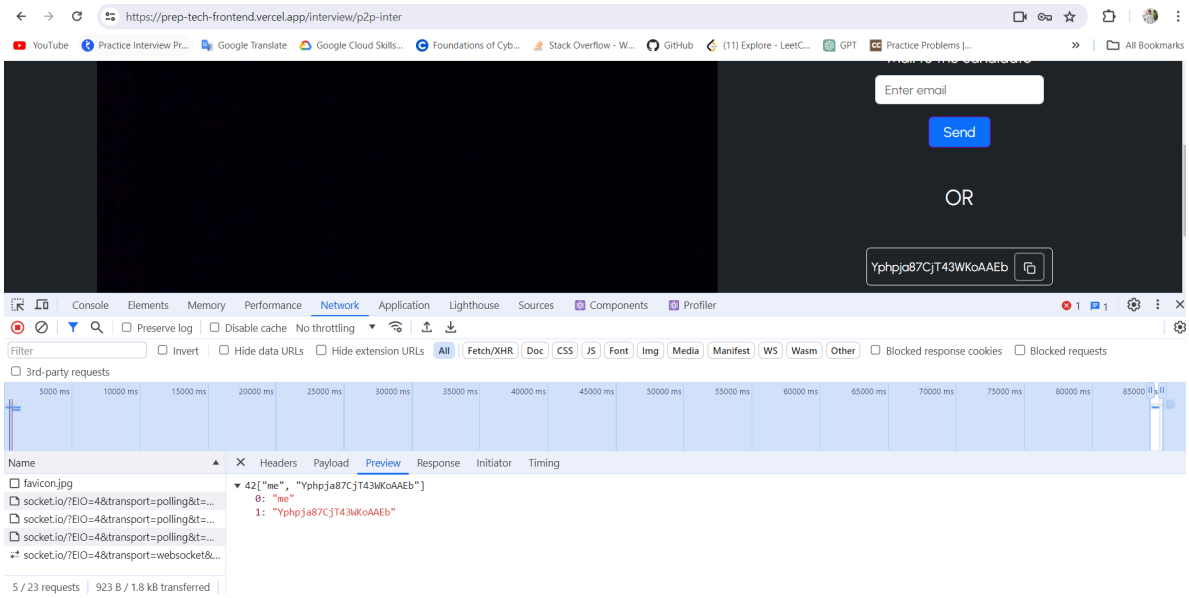
## 9.2 Experimental Results

The experimental results from the testing phase provide valuable insights into the performance and reliability of Dealsify. The following key findings and observations are noted:

### 9.2.1 Unit Testing Results




Testing the response in Headers



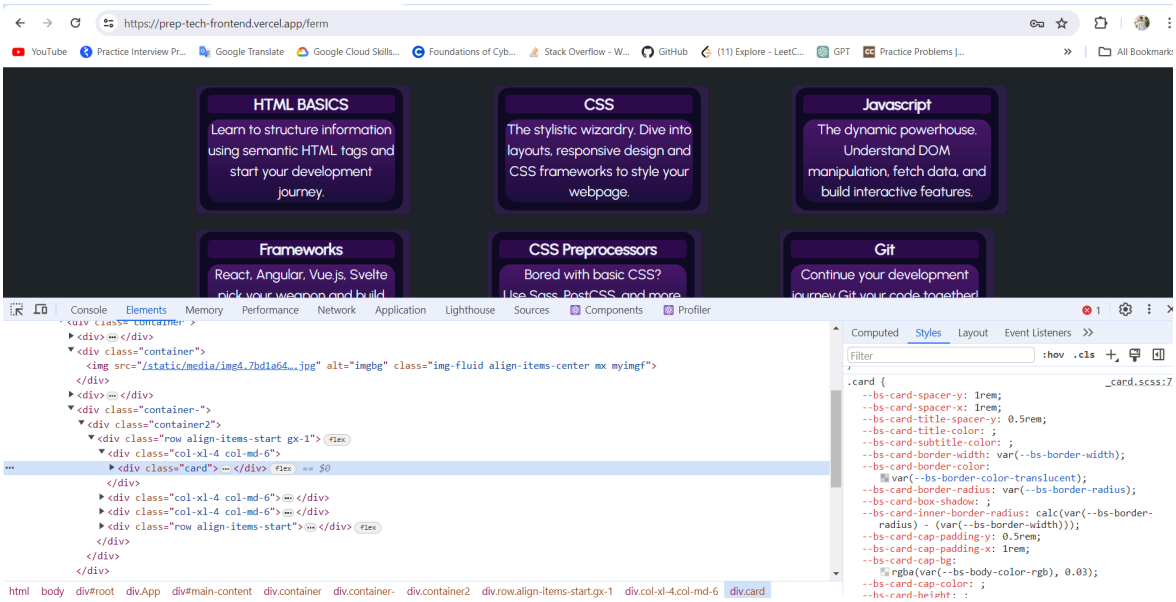

Checking the actual response

### 9.2.2 Integration Testing Results

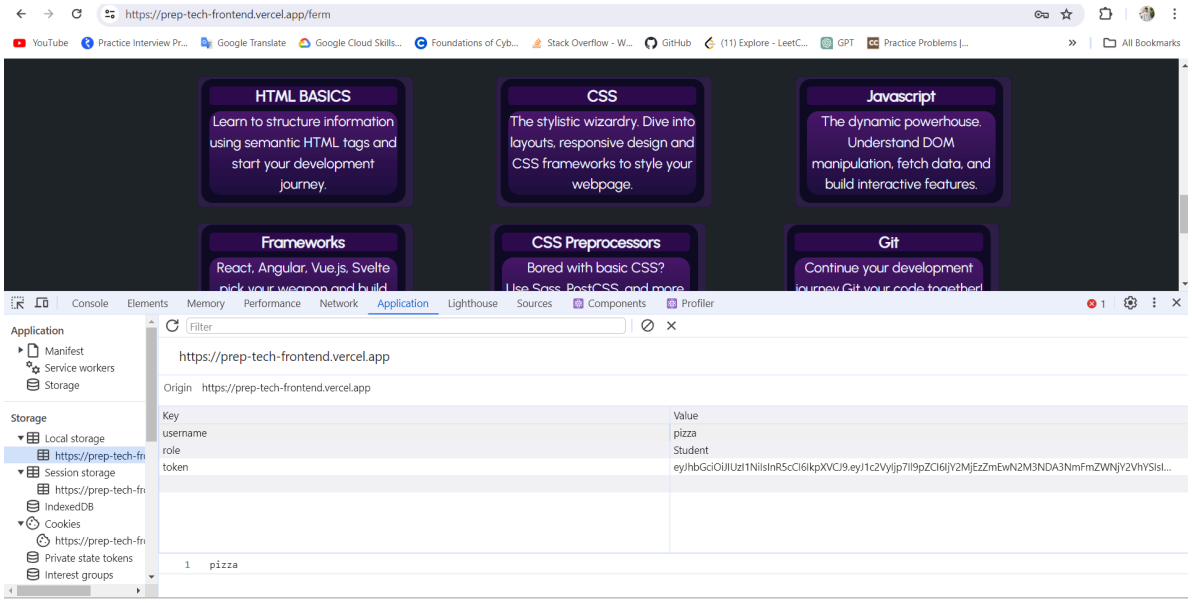
Integration testing demonstrated seamless integration between different modules of Prep Tech, with minimal issues related to interface compatibility or data exchange.

### 9.2.3 Functional Testing Results

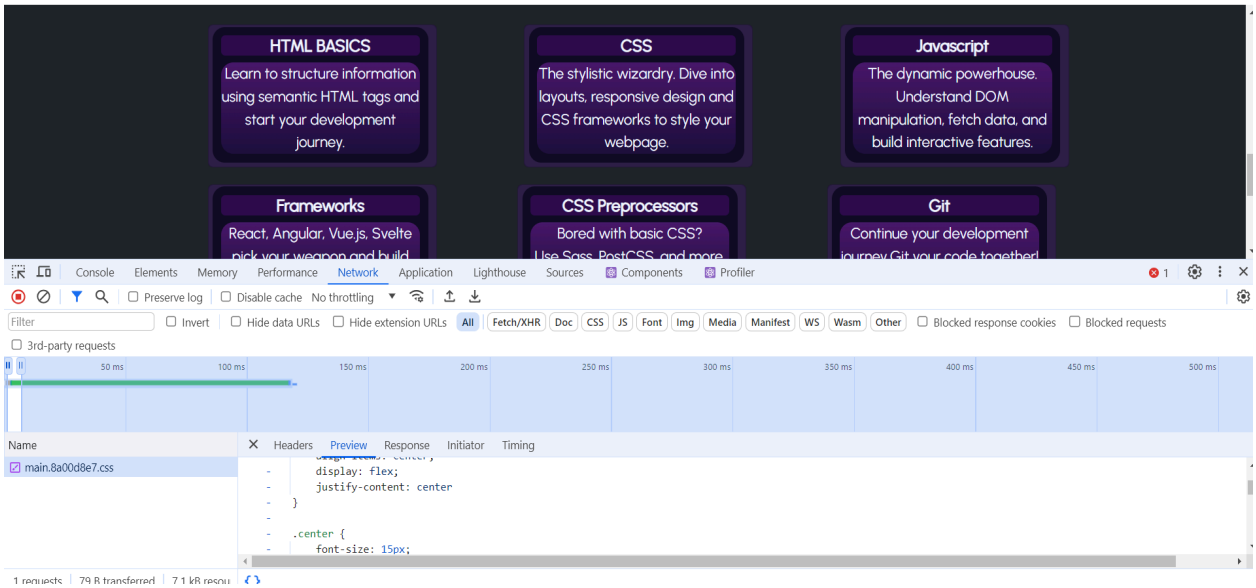
Functional testing confirmed the correct implementation of features and workflows in Prep Tech, with all functional requirements met according to specifications.



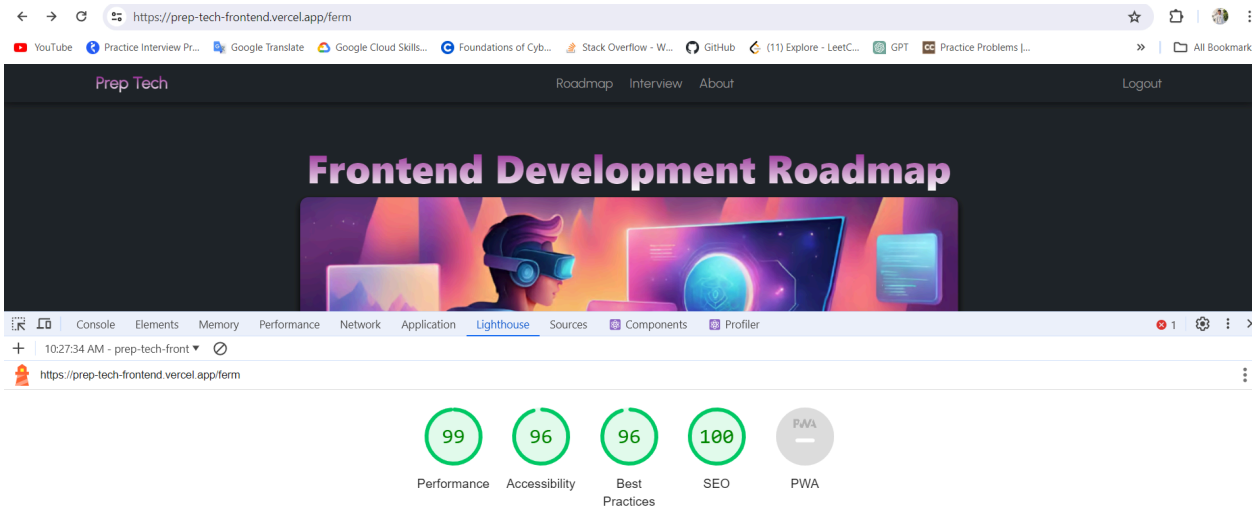

Checking for styling




Local Storage




Checking the time taken by the Request




Lighthouse Result

#### 9.2.4 Performance Testing Results

Performance testing indicated satisfactory response times and scalability of Prep Tech under normal and peak load conditions, with no critical performance bottlenecks identified.

#### 9.2.5 Security Testing Results

Security testing identified and addressed several security vulnerabilities in Prep Tech, including authentication flaws and data exposure risks, ensuring robust security measures are in place.

#### 9.2.5 User Acceptance Testing Results

User acceptance testing received positive feedback from end-users, with the majority expressing satisfaction with the functionality, usability, and overall performance of Prep Tech.

# 10 Conclusion and Future Scope

## 10.1 Conclusion

Prep Tech is at Final Stage of development and provides Seamless learning Road Maps as well as Interview sessions. Apart from that it provides Mock Interviews with our AI model in the writtenable and voice formats.

- **Higher Efficiency** : Prep Tech provides higher efficiency in all the given functionality from call to learning apart from that it contains some external site links which are taken from trusted sources.

## 10.2 Future Scope

While Prep Tech is on the brink of launch, we recognize the importance of flexibility and continuous improvement to meet the evolving needs of our users. As such, we envision several avenues for future enhancement and expansion:

- **User-driven customization** : Prep Tech will offer flexibility to adapt to user requirements, allowing organizations to tailor the software to their specific needs and workflows.
- **Integration of ML technologies :** As we're currently relying on the Gemini External api which is not completely reliable for the interview tasks we're currently focusing on our own ML model that can perform the task seamlessly.