MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

Deemed to be University
(Declared under Distinct Category by Ministry of Education, Govt. of India)
NAAC Accredited with A++ Grade

Project Report

on

Development of Online Mock Examination System (Admin Module)

Submitted By

Sharukh Khan
(0901CA221060)

Industry Mentor

Mrs. Sweety Gupta
(Project Guide, Praedico Global Research Pvt. Ltd)

Faculty Mentor

Dr. Parul Saxena
(Assistant Professor)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
GWALIOR – 474005 (MP) Estd. 1957

JANUARY – JUNE 2024

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on

Development of Online Mock Examination System (Admin Module)

A project report submitted in partial fulfilment of the requirement for the degree of

MASTER IN COMPUTER APPLICATION

in

COMPUTER SCIENCE AND ENGINEERING

Submitted By

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JANUARY – JUNE 2024

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To whom so ever it may concern

This is to certify that **Mr./Mrs./Miss. SHARUKH KHAN (0901CA221060)** student of MCA at MITS, Gwalior, has completed **Project** Training/Internship program as an online/offline trainee at our organization **PRAEDICO GLOBAL RESEARCH PVT. LTD.** Him/Her training details are:

Period - **01 JAN 2024 to 22 APR 2024**

Technology – **MERN Full Stack**

Project Title – **ONLINE MOCK EXAMINATION SYSTEM (ADMIN MODULE)**

All of us at Praedico Global Research Pvt. Ltd. are pleased to have him/her in our team. This Project Training/Internship program includes training, orientation and focuses primarily on learning and developing new skills and gaining a deeper understanding of concepts through hands on application of the knowledge he/she learned.

We take this opportunity to wish him/her a long, happy and successful career.

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CERTIFICATE

This is certified that **Sharukh Khan** (0901CA221060) has submitted the project report titled **Online Mock Examination System (Admin Module)** under the mentorship of **Mrs. Sweety Gupta** (Project Guide, Praedico Global Research Pvt. Ltd.), in partial fulfilment of the requirement for the award of degree of **Master in Computer Application** in Computer Science and Engineering from **Madhav Institute of Technology and Science, Gwalior**.

Saxena 26/4/24

Dr. Parul Saxena
(Assistant Professor)
Computer Science and Engineering

26/4/24

Dr. Manish Dixit
(Professor and Head)
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Dr. Manish Dixit
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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

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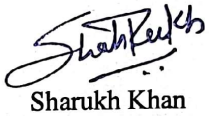
DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of **Master in Computer Application** in Computer Science and Engineering at **Madhav Institute of Technology & Science, Gwalior** is an authenticated and original record of my work under the mentorship of **Mrs. Sweety Gupta** (Project Guide, Praedico Global Research Pvt. Ltd.).

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



Sharukh Khan
0901CA221060
2022-2024
Master in Computer Application
Computer Science and Engineering

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

Deemed to be University
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The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary project. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering**, for allowing me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

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I am sincerely thankful to my faculty coordinator. I am grateful to the guidance of **Dr. Parul Saxena** (Assistant Professor), Computer Science and Engineering, for her continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.

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Master in Computer Application
Computer Science and Engineering

ABSTRACT

Online Mock Examination System aims to provide students with a comprehensive platform for practicing and sharpen their skills in preparation for upcoming examinations. With the adage "practice makes perfect" as its guiding principle, the system offers students an opportunity to engage in simulated exam scenarios that closely resemble the format and content of their final assessments.

Through the platform, students can access a diverse range of mock exams tailored to their specific academic disciplines and levels of proficiency. These mock tests serve as invaluable practice runs, allowing students to familiarize themselves with the structure of the exams, refine their time management skills, and assess their understanding of the subject matter. By repeatedly attempting mock tests, students can identify areas of weakness and focus their efforts on improving their performance in those areas.

One of the key benefits of the online mock examination system is its ability to instil confidence in students. As they gain experience and proficiency through regular practice, students develop a sense of assurance in their abilities, which in turn empowers them to approach the final examination with a greater degree of self-assurance. Moreover, by identifying and rectifying errors during the mock test phase, students can mitigate the risk of making similar mistakes during the actual exam, thus enhancing their chances of achieving a favourable outcome.

The system is designed to be user-friendly and accessible, with intuitive navigation features that enable students to easily locate and select the mock tests most relevant to their needs. Additionally, the platform incorporates advanced assessment tools and performance analytics, allowing students to track their progress over time and receive personalized feedback on their strengths and weaknesses.

In conclusion, the online mock examination system represents a valuable resource for students seeking to optimize their exam preparation efforts. By providing a conducive environment for practice and skill development, the system empowers students to perform at their best and achieve academic success in their final examinations.

सार

ऑनलाइन मॉक परीक्षा प्रणाली के विकास का उद्देश्य छात्रों को आगामी परीक्षाओं की तैयारी के लिए अभ्यास करने और अपने कौशल को निखारने के लिए एक व्यापक मंच प्रदान करना है। अपने मार्गदर्शक सिद्धांत के रूप में कहावत "अभ्यास इंसान को परिपूर्ण बनाता है" के साथ, सिस्टम छात्रों को अनुरूपित परीक्षा परिदृश्यों में संलग्न होने का अवसर प्रदान करता है जो उनके अंतिम मूल्यांकन के प्रारूप और सामग्री से काफी मिलते-जुलते हैं।

इस मंच के माध्यम से, छात्र अपने विशिष्ट शैक्षणिक विषयों और दक्षता के स्तर के अनुरूप विविध प्रकार की मॉक परीक्षाओं तक पहुंच सकते हैं। ये मॉक टेस्ट अमूल्य अभ्यास के रूप में काम करते हैं, जिससे छात्रों को परीक्षा की संरचना से परिचित होने, अपने समय प्रबंधन कौशल को निखारने और विषय वस्तु की उनकी समझ का आकलन करने की समझ मिलती है। बार-बार मॉक टेस्ट का प्रयास करके, छात्र अपने कमजोर क्षेत्रों की पहचान कर सकते हैं और उन क्षेत्रों में अपने प्रदर्शन को बेहतर बनाने के प्रयासों पर ध्यान केंद्रित कर सकते हैं।

ऑनलाइन मॉक परीक्षा प्रणाली का एक प्रमुख लाभ, छात्रों में आत्मविश्वास पैदा करने की इसकी क्षमता है। जैसे-जैसे वे नियमित अभ्यास के माध्यम से अनुभव और दक्षता प्राप्त करते हैं, छात्रों में उनकी क्षमताओं में आश्वासन की भावना विकसित होती है, जो बदले में उन्हें आत्म-आश्वासन की एक बड़ी डिग्री के साथ अंतिम परीक्षा में पहुंचने के लिए सशक्त बनाती है। इसके अलावा, मॉक टेस्ट चरण के दौरान त्रुटियों की पहचान और सुधार करके, छात्र वास्तविक परीक्षा के दौरान समान गलतियाँ करने के जोखिम को कम कर सकते हैं, जिससे अनुकूल परिणाम प्राप्त करने की संभावना बढ़ जाती है।

सिस्टम को सहज नेविगेशन सुविधाओं के साथ उपयोगकर्ता के अनुकूल और सुलभ बनाने के लिए डिज़ाइन किया गया है जो छात्रों को उनकी आवश्यकताओं के लिए सबसे अधिक प्रासंगिक मॉक टेस्ट आसानी से ढूंढने और चुनने में सक्षम बनाता है। इसके अतिरिक्त, प्लेटफ़ॉर्म उन्नत मूल्यांकन उपकरण और प्रदर्शन विश्लेषण को शामिल करता है, जिससे छात्रों को समय के साथ अपनी प्रगति को ट्रैक करने और अपनी ताकत और कमजोरियों पर व्यक्तिगत प्रतिक्रिया प्राप्त करने की अनुमति मिलती है।

अंत में, ऑनलाइन मॉक परीक्षा प्रणाली उन छात्रों के लिए एक मूल्यवान संसाधन का प्रतिनिधित्व करती है जो अपने परीक्षा तैयारी प्रयासों को अनुकूलित करना चाहते हैं। अभ्यास और कौशल विकास के लिए अनुकूल वातावरण प्रदान करके, प्रणाली छात्रों को अपना सर्वश्रेष्ठ प्रदर्शन करने और अपनी अंतिम परीक्षाओं में शैक्षणिक सफलता प्राप्त करने के लिए सशक्त बनाती है।

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Chapter - 1 Introduction

Welcome to our Online Mock Examination System's Admin Module. We've created this platform to simplify exam preparation for students. Our system offers a variety of mock exams that closely resemble the real thing, giving students the perfect opportunity to practice and improve their skills. With easy-to-use features, students can navigate through the platform effortlessly. Plus, our advanced assessment tools provide valuable feedback to help students track their progress. We understand the importance of confidence in exam-taking, so our platform aims to boost students' self-assurance by helping them identify and overcome weaknesses. By using our system, students can maximize their preparation efforts and increase their chances of success in their final exams. Join us in empowering student excellence through revolutionary exam preparation

1.1 Problem identification

Traditional methods of exam preparation often leave students facing several challenges that can impede their performance in final assessments. These challenges include.

a. **Limited Practice Resources**: Existing preparation methods often lack an adequate supply of practice materials tailored to the specific formats and content of upcoming exams. As a result, students may struggle to familiarize themselves with the nuances of the exams they will encounter.
b. **Time Management Difficulties**: Many students find it challenging to manage their time effectively during exams, often resulting in incomplete or hurried responses. Without sufficient practice in timed conditions, students may struggle to allocate their time optimally across different sections or questions.
c. **Difficulty Identifying Weaknesses**: Students may face difficulties in identifying their areas of weakness or misunderstanding within a subject. The absence of targeted feedback and assessment may lead them to overlook these areas, potentially impacting their overall performance in the final examination.
d. **Lack of Confidence**: Confidence plays a pivotal role in exam performance. Without adequate practice and assurance in their abilities, students may experience heightened anxiety or self-doubt during the actual exam, potentially affecting their performance adversely.
e. **Inaccessibility of Assessment Tools**: Existing exam preparation resources often lack comprehensive assessment tools and performance analytics. This absence prevents students from receiving personalized feedback and tracking their progress effectively, limiting their ability to gauge their readiness for the exam.

f. **Difficulty in Navigation**: Students may encounter challenges in navigating through available exam preparation resources due to a lack of user-friendly features and intuitive design. This difficulty can lead to frustration and wasted time, hindering students' ability to locate and utilize relevant practice materials efficiently.

By addressing these identified problems, the Online Mock Examination System aims to provide users with a comprehensive and accessible platform for effective exam preparation. It seeks to mitigate these challenges and empower students to enhance their confidence, performance, and overall success in their final examinations.

1.2 Parent Organization

Praedico Global Research Pvt. Ltd. - Revolutionizing Financial Literacy in India

At Praedico, our goal is to democratize financial literacy in India, and we're taking this task on for free. We've led the way in the creation of financial neurons—sophisticated neural networks that underpin our state-of-the-art stock market intelligence offerings—inspired by the neural architecture of the human brain.

We are the first finance neuron developers in India, not simply another finance firm. We are able to anticipate stock market performance globally with high accuracy by utilizing the capabilities of neural networks that have been properly created. As a cutting-edge fintech business, we use artificial intelligence to find new financial research products with the goal of providing people with free, topnotch research and insights.

With forecasts in the Indian stock market and financial goods over 80% precision, our products have an amazing track record of accuracy. This implies that ordinary Indian investors, who usually had to pay high fees for research and advisory services, may now use our services for free. Our goal is to spearhead the global effort to eradicate financial inequity. We're levelling the playing field and making sure that everyone, regardless of financial means, has the chance to prosper in the market by offering free access to financial information and tools.

We're dedicated to creating financial solutions that beat the market in terms of pricing and performance in order to realize our mission. Our goal is to become the industry leader in financial product creation by setting the bar for performance and cost-effectiveness in the marketplace.

At Praedico, we're changing the financial environment as a whole, not simply financial literacy. We are enabling people all throughout India to take charge of their financial lives with our creative strategy, steadfast attention to accuracy, and unwavering commitment to accessibility.

At Praedico Global Research Organization, we blend finance and technology seamlessly. As a web developer, my role revolves around creating user-friendly interfaces that facilitate efficient access to financial information and analysis. We're deeply involved in stock and ETF (Exchange Traded Fund) analysis, covering a wide range of assets, including GoldBees, NiftyBees, and SilverBees. Our joy stems from the comprehensive calculations and insights we derive from these analyses.

1.3 Hardware and Software Specification

The Online Mock Examination system is designed and developed using the MERN stack. It is a popular technology stack that includes MongoDB, Express.js, React.js, and Node.js. The system uses these technologies to provide a scalable, efficient, and user-friendly platform for students or users to practice and improve their skills. Ensure that your development environment meets these specifications, and you'll be all set to start building your web app using the MERN stack.

1.3.1 Hardware Specification

a. **Processor**: A modern multi-core processor like Intel Core i5 or equivalent is recommended. This ensures smooth performance during development and can handle multiple tasks and servers efficiently.
b. **Memory**: 8 GB RAM is the minimum, but 16 GB or more is ideal. This allows you to run multiple applications and virtual machines without experiencing sluggish performance.
c. **Storage**: A 256 GB Solid State Drive (SSD) is the minimum, but a 512 GB SSD or larger is recommended. An SSD significantly reduces loading times for your development environment and tools.
d. **Display**: A monitor with a resolution of at least 1920x1080 is comfortable for coding. Consider a larger display or even a dual-monitor setup to maximize productivity.
e. **Network**: A stable internet connection is necessary for downloading dependencies, updates, and collaborating with team members if applicable.

1.3.2 Software Specification

a. **Operating System**: Choose from Windows 10 or 11 (64-bit), macOS (latest version), or Linux (popular distributions include Ubuntu and Fedora).
b. **Development Environment**: Install Node.js (latest LTS version), MongoDB Community Edition, and a text editor or IDE like Visual Studio Code for writing code.
c. **Dependencies**: Use **npm** or **yarn** to manage dependencies for the project. This includes packages for Express.js, React, and any other libraries or frameworks used in your application.
d. **MongoDB**: This NoSQL database serves as the data storage backbone for your MERN applications.
e. **Browser**: Make sure you have the latest versions of modern web browsers like Chrome, Firefox, or Edge for testing and debugging frontend components.
f. **Version Control**: Git is optional but recommended for version management. Platforms like GitHub provide collaboration features and make it easier to manage code changes.

g. **Deployment**: Choose a deployment environment compatible with Node.js and MongoDB. This could be cloud platforms like AWS or Azure, or hosting services like Heroku or DigitalOcean.

1.3.3 Additional Tools

a. **Postman or Thunder Client**: For testing API endpoints during development.
b. **DevTools**: Browser developer tools for debugging your front-end code.
c. **API Documentation Tools**: Optionally, you might want to use tools like Swagger or Postman for documenting your APIs.

Chapter - 2 Systems Analysis

2.1 Problem analysis

By incorporating these requirements into our system development process, we can effectively address the problems faced by students in exam preparation and provide them with a robust and personalized learning experience.

2.1.1 User Management

a. Ability to view user information, including registration details and login activity.

b. Functionality to delete user accounts, if necessary, with appropriate confirmation prompts.

2.1.2 Exam Creation and Management

a. Capability to create new exams with customizable parameters such as exam title, duration, and start/end times.

b. Option to select multiple candidates for each exam from the user database.

c. Ability to include multiple-choice questions in exams, with the option to add, edit, or remove questions as needed.

2.1.3 Question Bank Management

a. Centralized question bank for managing exam questions.

b. Capability to add, edit, and organize questions.

c. Administrators can build and maintain the question repository.

d. Organizational tools for efficient question management.

2.1.4 Exam Time Management

a. Feature to set a time limit for each exam, specifying the duration within which users must complete the exam.

b. Automatic closure of exams once the allotted time expires, with notifications to users if necessary.

2.1.5 Feedback Management

a. Functionality to view user feedback submitted for exams, including feedback ratings and comments.

b. Capability to delete or manage user feedback if required, ensuring appropriate moderation and response to user input.

2.1.6 Security and Authentication

a. Implementation of secure authentication mechanisms for admin access, such as username/password authentication or multi-factor authentication.

b. Ensuring data encryption and protection of sensitive user information within the admin module.

2.1.7 Reporting and Analytics

a. Provision of analytics tools to track exam performance, user participation, and feedback trends.

b. Generation of reports on exam results, user activity, and feedback metrics for evaluation and decision-making purposes.

2.1.8 User Interface

a. 1ntuitive and user-friendly interface design for easy navigation and management of exams and user data.

b. Clear and organized presentation of information, with features such as filters, search functions, and action buttons for efficient task execution.

2.1.9 Accessibility and Compatibility

a. Compatibility with various web browsers and devices to ensure accessibility for admins accessing the system from different platforms.

b. Compliance with accessibility standards to accommodate users with disabilities and ensure equal access to system features and functionalities.

2.2 Feasibility study

The preliminary investigation focuses on assessing the feasibility of an administrative module within the online mock examination system. This study aims to evaluate the technical, economic, and operational viability of the admin module. By scrutinizing software requirements, financial implications, and practical deployment strategies specific to administrative functions, stakeholders can make informed decisions to ensure the seamless integration and effective management of the system, ultimately enhancing administrative efficiency and user experience.

2.2.1 Technical feasibility

a. Hardware Requirements

S. No.	Component	Specification
1.	Processor (CPU)	Intel Core i5 or AMD Ryzen 5 or higher
2.	Monitor	FHD (1920x1080)
3.	Memory (RAM)	At least 8 GB or above
4.	Storage (SSD)	256 GB
5.	Internet	512 KB (Speed)
6.	Keyboard	USB Wired or Wireless
7.	Mouse	USB Wired or Wireless
8.	Printer	HP Laser MFP 136w

b. Programming Languages

S. No.	Site	Details
1.	Front-End	HTML, CSS, JS6, ReactJs
2.	Back-End	ExpressJs, NodeJs
3.	Database	MongoDB

c. Software Requirements

S. No.	Component	Minimum Requirement
1.	Operating System	Windows XP, 7 or later, MacOS, Ubuntu
2.	Internet Browser	Chrome, Edge, Mozilla and Similar
3.	IDE	Visual Studio Code, Sublime Text Editor
4.	Dependencies	npm or yarn
5.	Deployment Server	AWS or Azure, or hosting services like Heroku or DigitalOcean.

2.2.2 Economical feasibility

a. Personal Expenses

S. No.	Resource	Cost
1.	System Analyst (1) [8 days/month]	₹4000 /-
2.	Programmer (1) [25 days/month]	₹5000 /-
3.	Database Specialist (1) [10 days/month]	₹2000 /-
	Total	**₹11000 /-**

b. Other Expenses

S. No.	Resource	Cost
1.	Electricity (120 unit × 8rs/unit)	₹960 /-
2.	Stationery	₹600 /-
3.	Workspace facility	₹1800 /-
4.	Internet/Wi-Fi	₹1500 /-
	Total	**₹4860 /-**

2.2.3 Behavioural feasibility

a. We had conducted regular meetings among team members to manage our activities and expenses in order to minimise the overall budget.

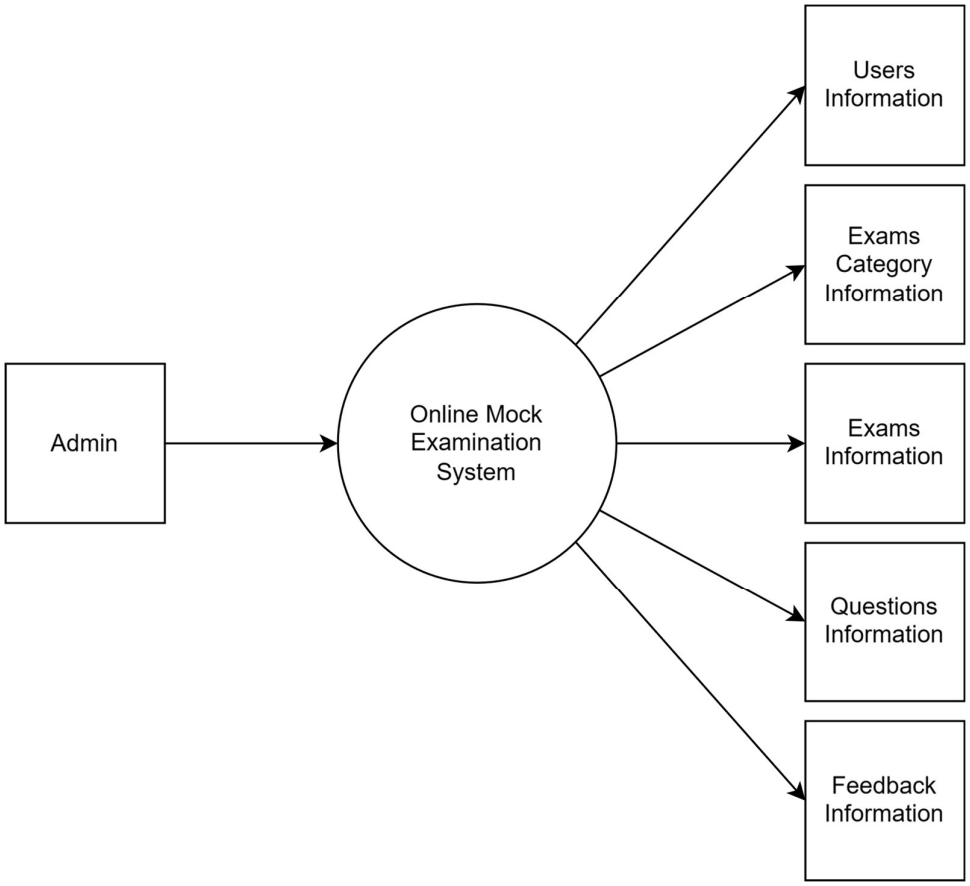
b. The project aims at minimizing the customer friendliness. This is intended to overcome the resistance to change by the users. The user can easily use the project website as website does not need any special guidance.

c. The platform will be as much easy to use as possible, convenient & provide value to users & will be also addressing any concerns that user may have about security, privacy & trust.

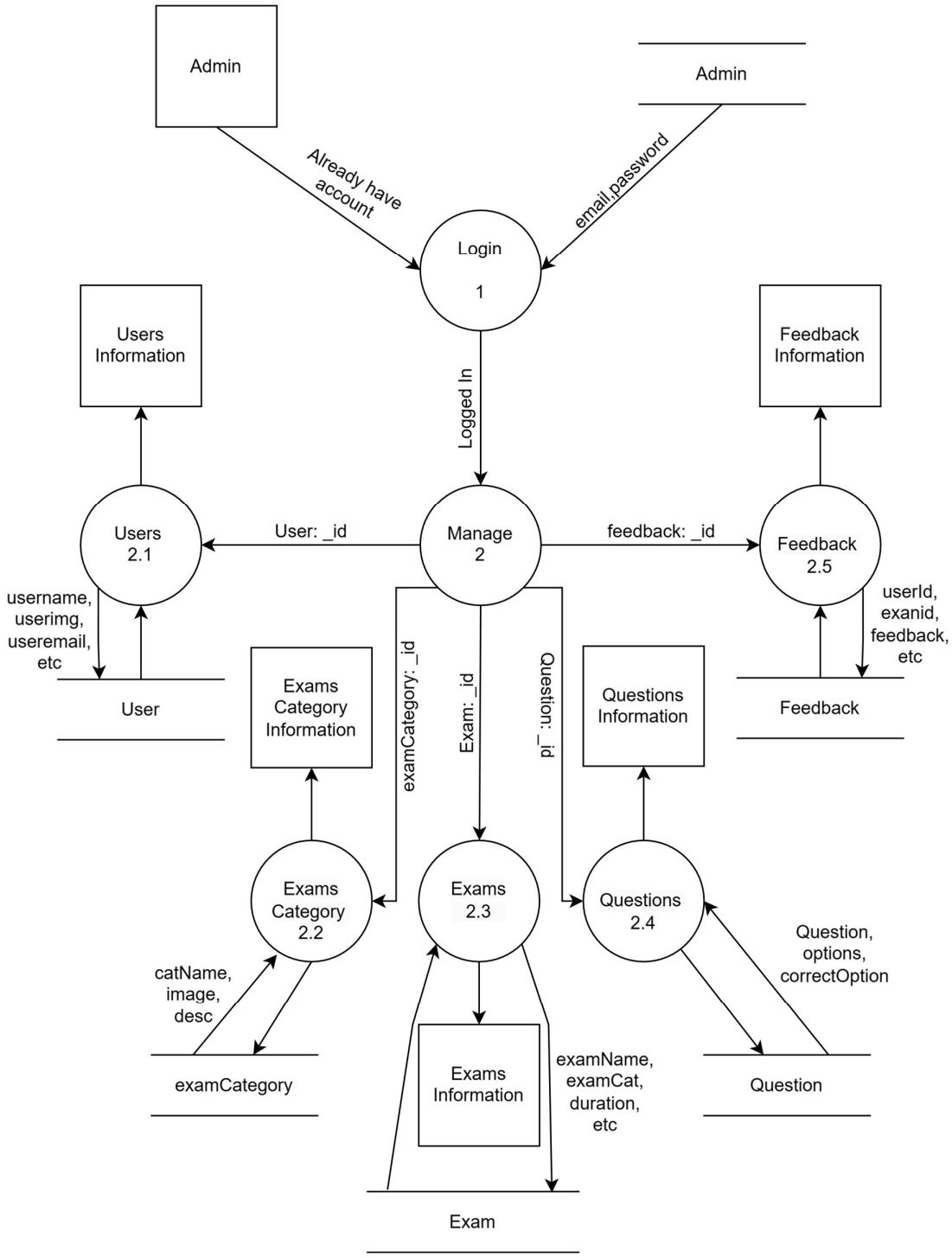
d. Our services are available 24/7, allowing users to access information and services at any time.

2.3 Data Flow Diagram

2.3.1 DFD 0

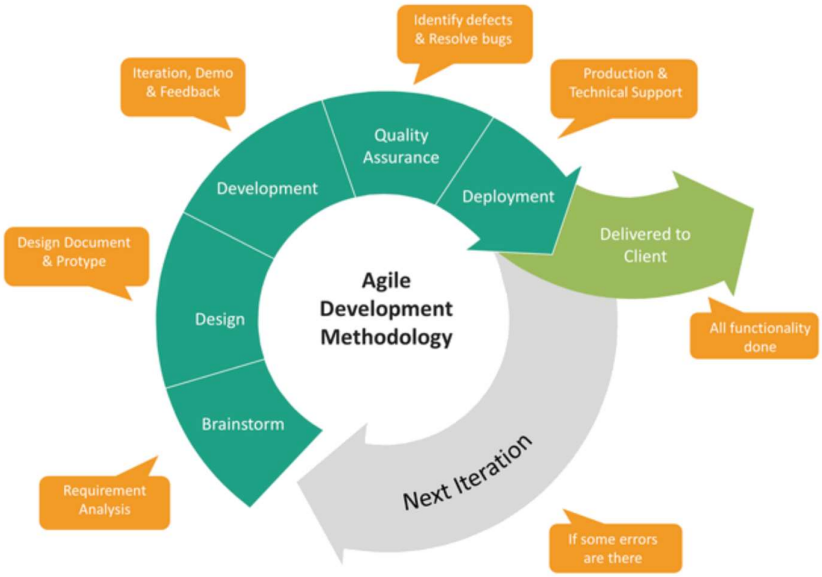


2.3.2 DFD 1 for Admin



2.4 Software Development Process

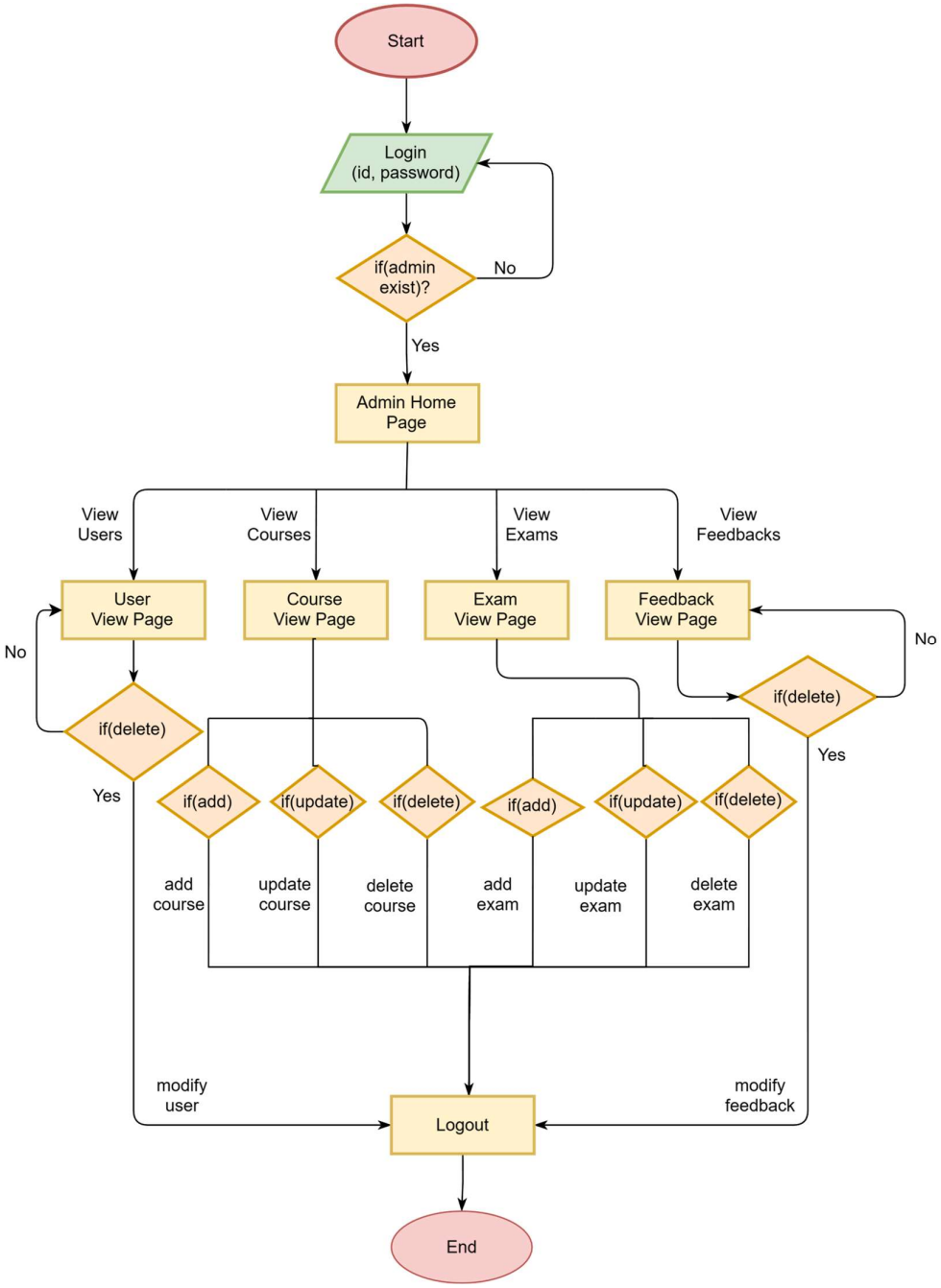
We have used Agile methodology in development of Online Mock Examination System. Agile development is a collaborative, iterative approach to software development, prioritizing flexibility and customer feedback. It emphasizes adaptive planning, incremental delivery, and continuous improvement, enabling teams to respond quickly to change and deliver value efficiently.



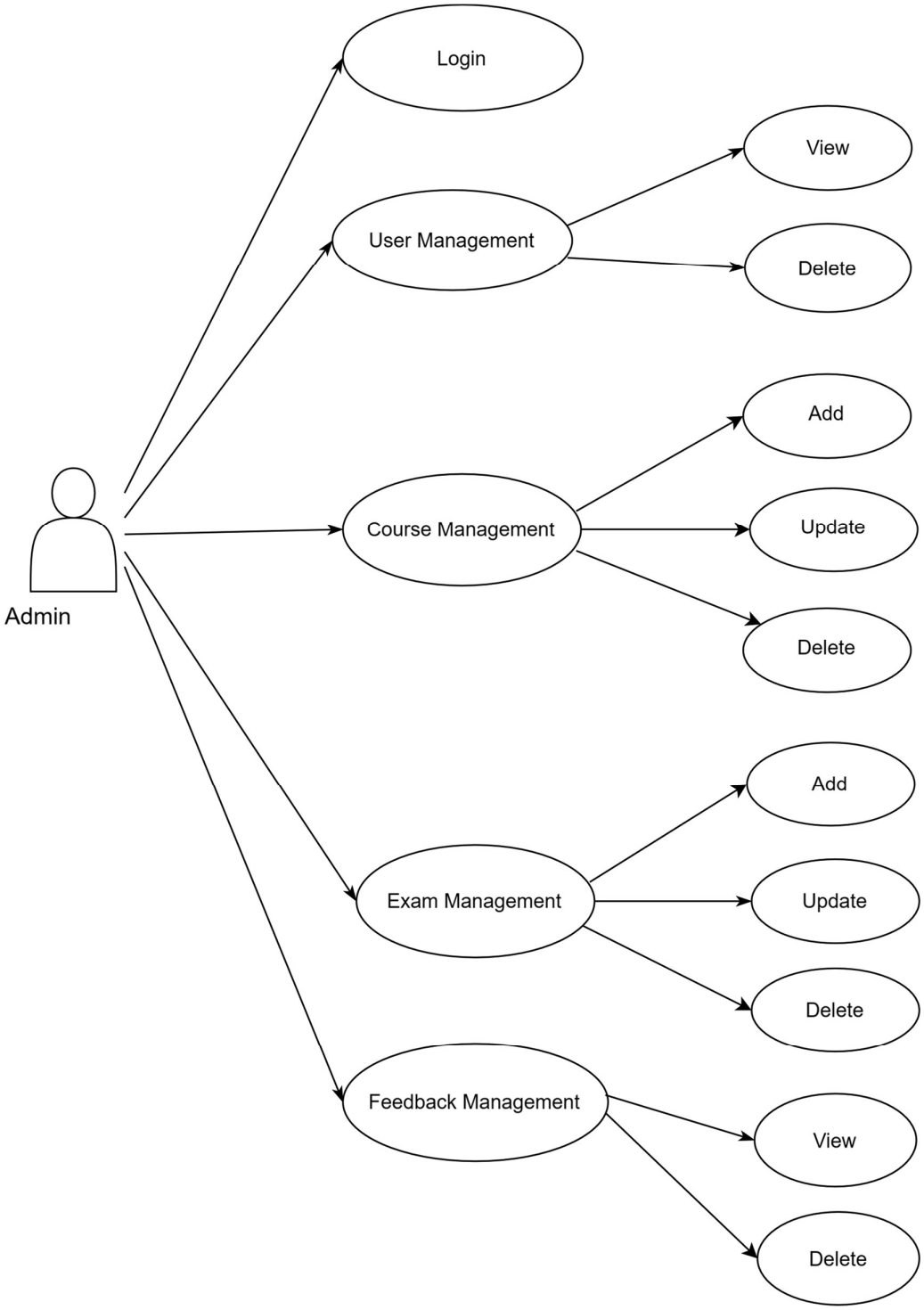
a. **Identify Stakeholders**: Understand the needs of teachers, students, and administrators.
b. **Define User Stories**: Break down desired features into actionable tasks.
c. **Prioritize Features**: Decide which features are most important for development.
d. **Select Agile Framework**: Choose a methodology like Scrum or Kanban.
e. **Set Up Infrastructure**: Establish necessary tools and environments for development.
f. **Plan Iterations**: Divide the project into manageable iterations or sprints.
g. **Implement Continuous Integration**: Automate testing and integration processes.
h. **Develop Iteratively**: Deliver small, incremental improvements in each iteration.
i. **Engage Stakeholders**: Gather feedback regularly and incorporate it into development.
j. **Monitor Progress**: Use Agile metrics to track progress and identify areas for improvement.
k. **Adapt to Change**: Embrace changing requirements and adjust plans accordingly.
l. **Continuously Improve**: Reflect on team performance and make adjustment for future iterations.

Chapter - 3 Systems Design

3.1 System Flow Chart

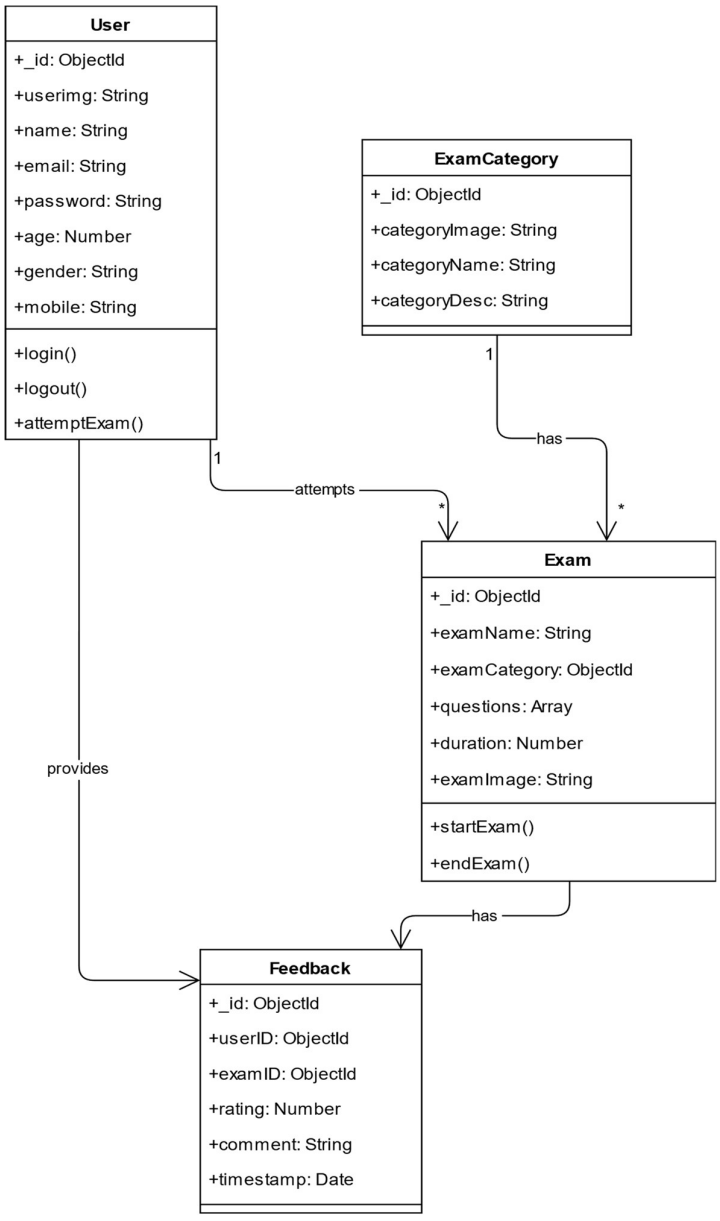


3.2 Use Case Diagram



3.3 UML Diagram

Unified Modelling Language (UML) diagrams are visual tools used in software engineering to illustrate various aspects of a system's design, structure, and behaviour. They employ standardized symbols and notation to represent different elements and relationships within the system, such as classes, interactions, activities, and states. UML diagrams serve as blueprints for developers and stakeholders, facilitating communication, analysis, and design throughout the software development lifecycle by providing clear, concise, and standardized representations of complex systems.



Chapter – 4 Testing

Testing is the process of evaluating an application or system to detect defects, bugs, errors, and other issues that may affect its quality, reliability, or functionality. It involves running the application in a controlled environment to verify that it behaves as expected, and comparing its actual results against its intended results. The main objective of testing is to ensure that the application meets the requirements and specifications set forth by its users or customers, and that it performs the tasks it is designed to do in a consistent, reliable, and efficient manner. So here we are using various testing approaches to check that the developed system met the specified requirements or not.

4.1 Unit Testing

We performed unit testing in each and every smallest unit of the project individually to check it's working. We used different test data to perform the testing. We try each and every type of possible input to check their corresponding outputs and its working. We performed these tests on admin login, add category, add exam, add questions and other remaining units. We also tested the complete admin module.

Test Case ID	Section	Element Name	Test Data	Expected Result	Actual Result	Test Result
TC-001	Admin Login	email, password	No Data	Error message displayed.	Please fill out the field.	Test case passed.
			admin@gmai....., **********, (Incorrect Data)	Pop-up message displayed.	Invalid email and password	Test case passed.
			admin@gmai....., **********, (Correct Data)	Pop-up message displayed.	Login successfully	Test case passed.
TC-002	Add Category	image, title, description	No Data	Error message displayed.	Please fill out the field.	Test case passed.

			test.jpg, Computer, This is for only testing purpose.	No error message displayed.	Data inserted without any message.	Test case passed
TC-003	Add Exam	image, title, category, duration(min), questions, options, correctOption	test.jpg, ReactJs, selectCategory, 60, This is for only testing purpose., {A,B,C,D}, selectcorrectOption	No error message displayed.	Data inserted successfully.	Test case passed

4.2 Compatibility Testing

Compatibility testing refers to the process of testing its compatibility across different platforms, devices, browsers, operating system, and network environments. The objective is to ensure that the website functions work properly and consistently for users.

Test Case ID	**Element Name**	**Element Type**	**Test Condition**	**Expected Result**	**Actual Result**	**Test Result**
TC-001	Device Compatibility	Responsiveness on different devices	Checking Responsiveness on devices for e.g., Laptops, tablets, Smartphones	Website will adapt different screen sizes on different devices without any disbalancing	As expected, the website is full responsive and working perfectly	Test case passed
TC-002	Operating System	Checking website behaviour on different operating systems	Working on different Operating Systems e.g., Android systems, macOS, iOS, Windows, etc.	There shouldn't be any changes in website Designing, Working, Accessibility and Performance speed, while switching the Operating System	Compatibility as Expected, The Website is working all same even on different Operating System expect Linux operating system	Test case passed

TC-003	End-user Security	Data Security	Testing security measures of users	The logged in user will be able to see his/her own details related information only or correct user-profile is opened for user while logging in	As Expected, Details of login Email is shown, no details of other user are visible to all. Hence Secured	Test case passed

4.3 Functionality Testing

We check all the features of the Online Mock Examination System are working as expected. For example, verify that admin can browse through different functionality such as view profile, delete user and create exam etc.

Verify that admin can successfully login with their credentials. Test login mechanisms to ensure admin can securely access their panel. Test the process which include exam created by admin, including selecting appropriate category, choosing time duration.

Here we also ensure the functionality that is the exam will be attempt for fixed time period for the particular exam in which the user is attempt.

Chapter - 5 Implementation

Firstly, we need to install some IDE and other software for implementing our project successfully which are as follows: -

5.1 Visual Studio Code

a. Go to the official Visual Studio website: Download Visual Studio Code - Mac, Linux, Windows

b. Click on the " Download " button for the version of Visual Studio according to your operating system (e.g. Windows, macOS, or Linux).

c. Choose the components you want to install, such as languages, frameworks, and tools.

d. To install this, click on the "Install" to start the installation process and follow the instruction of installation wizard.

e. Follow the instruction of installation wizard and select the options that suit your needs.

f. Click on exit

5.2 MongoDB

a. Go to the official MongoDB website: MongoDB Community Server Download

b. Select the suitable version of MongoDB from the website for according to your operating system (e.g. Windows, macOS, or Linux).

c. Click on the "Download" button to start the download.

d. Once the download is completed, run the downloaded installer and follow the instruction of installation wizard and select the options that suit your needs. Also make sure to check the box of Compass Installation which is a GUI to manage MongoDB.

5.3 NodeJS

a. Go to the official Node.js website: Download Node.js

b. Select the appropriate version of Node.js for your operating system (e.g. Windows, macOS, or Linux).

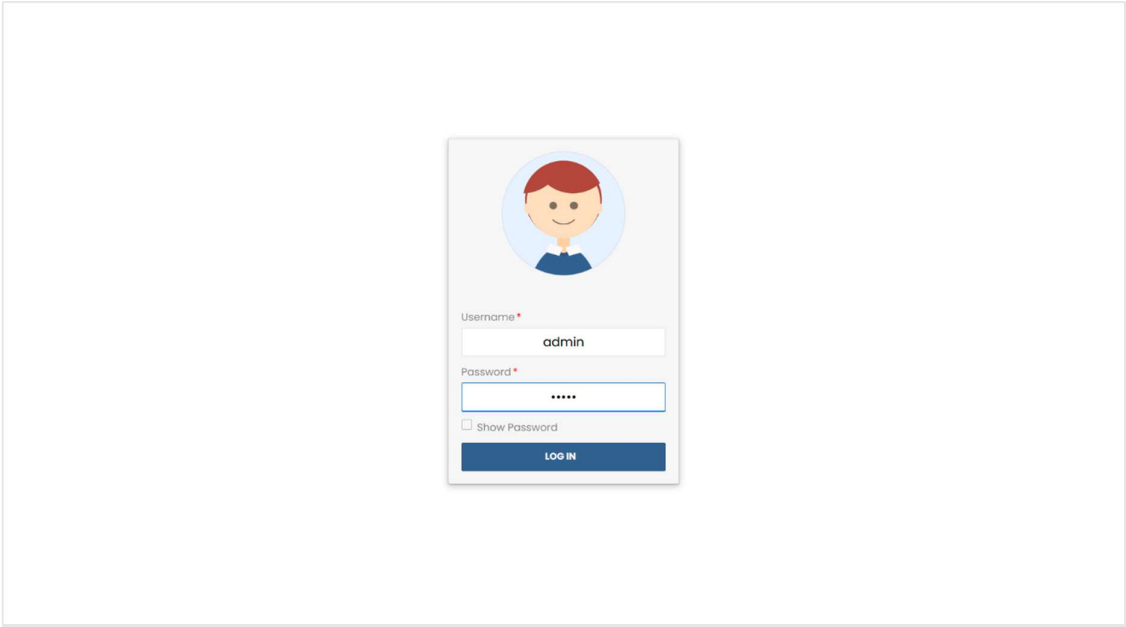
c. Click on the "Download" button to start the download.

d. Once the download is complete, run the installer. Follow the installation wizard and select the options that suit your needs.

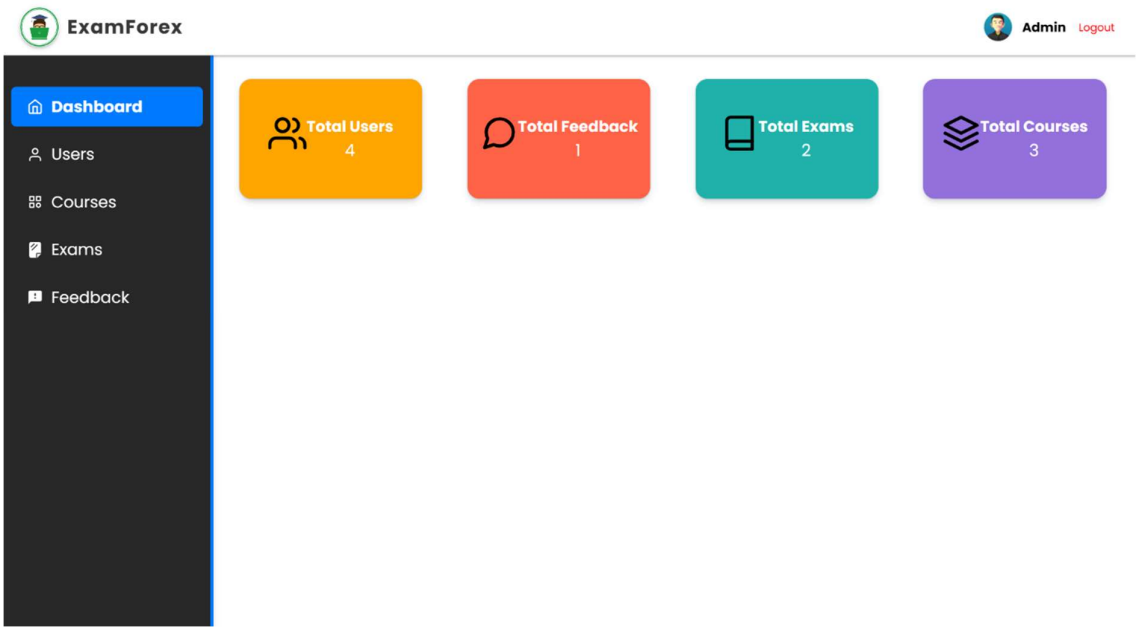
e. Once the installation is complete, you can open a terminal or command prompt and type node -v to check if Node.js is installed correctly. This should display the version of Node.js that you just installed which confirms the successful installation.

Chapter - 6 Sample Forms and Reports

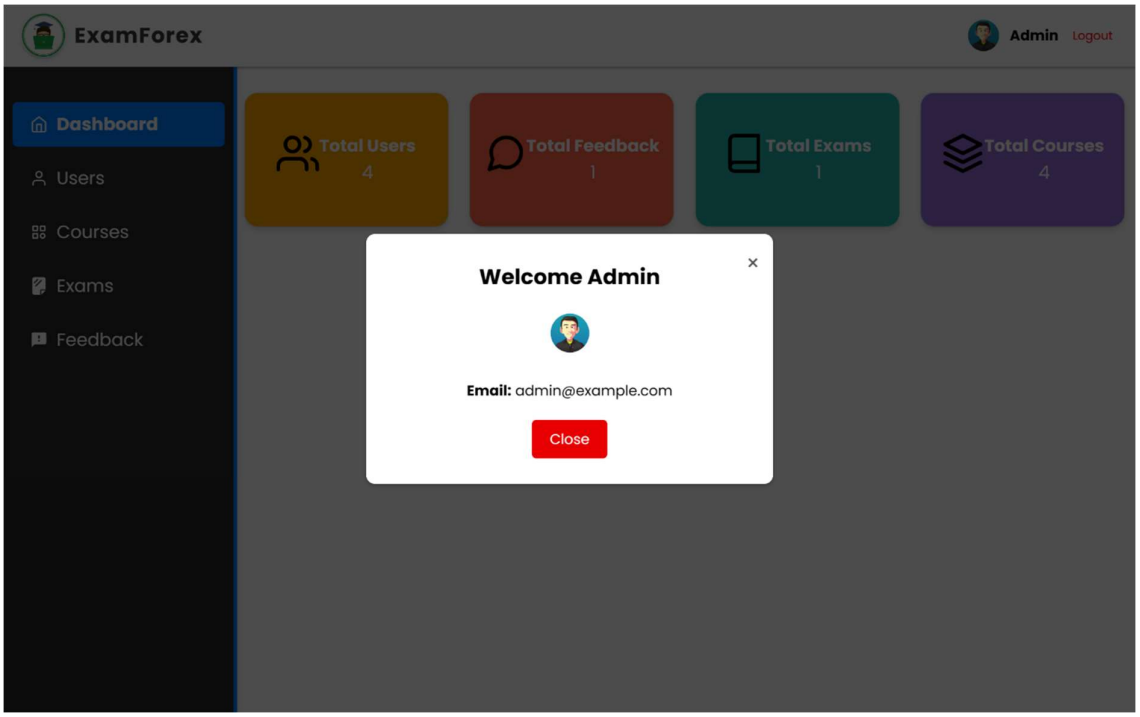
6.1 Admin login form



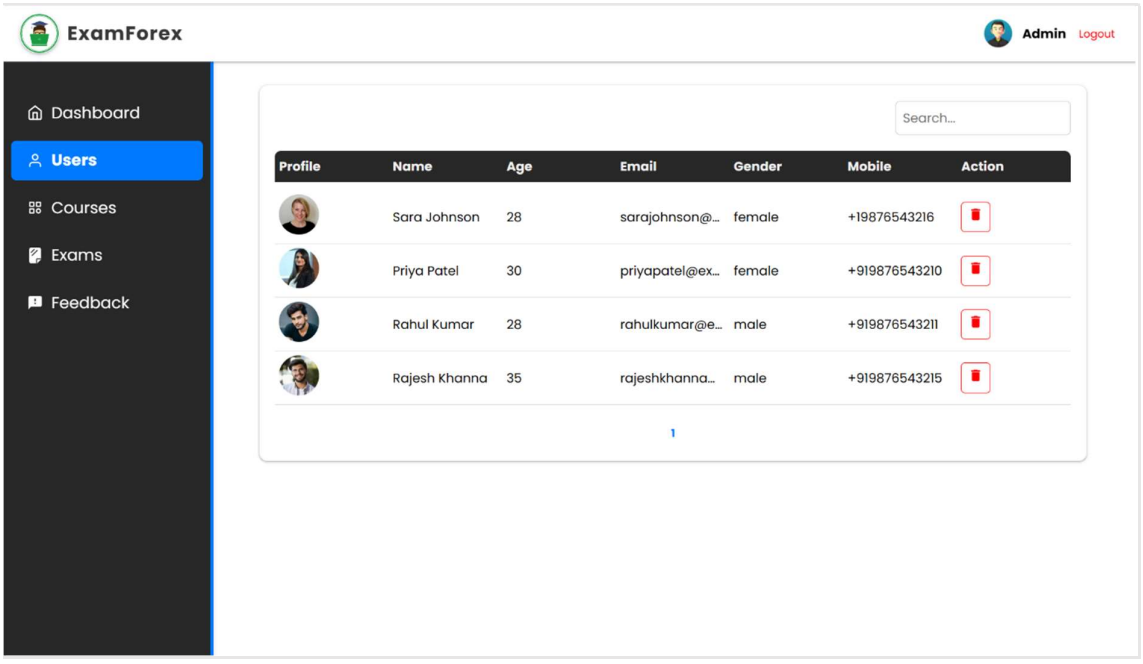
6.2 Admin Dashboard page



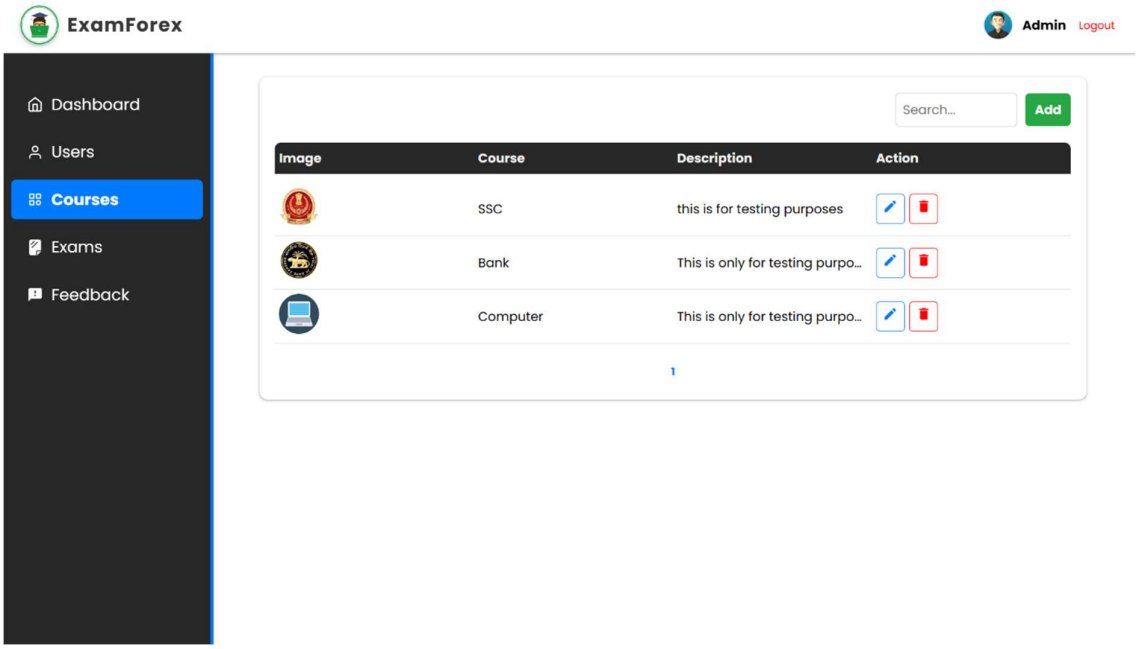
6.3 Admin profile



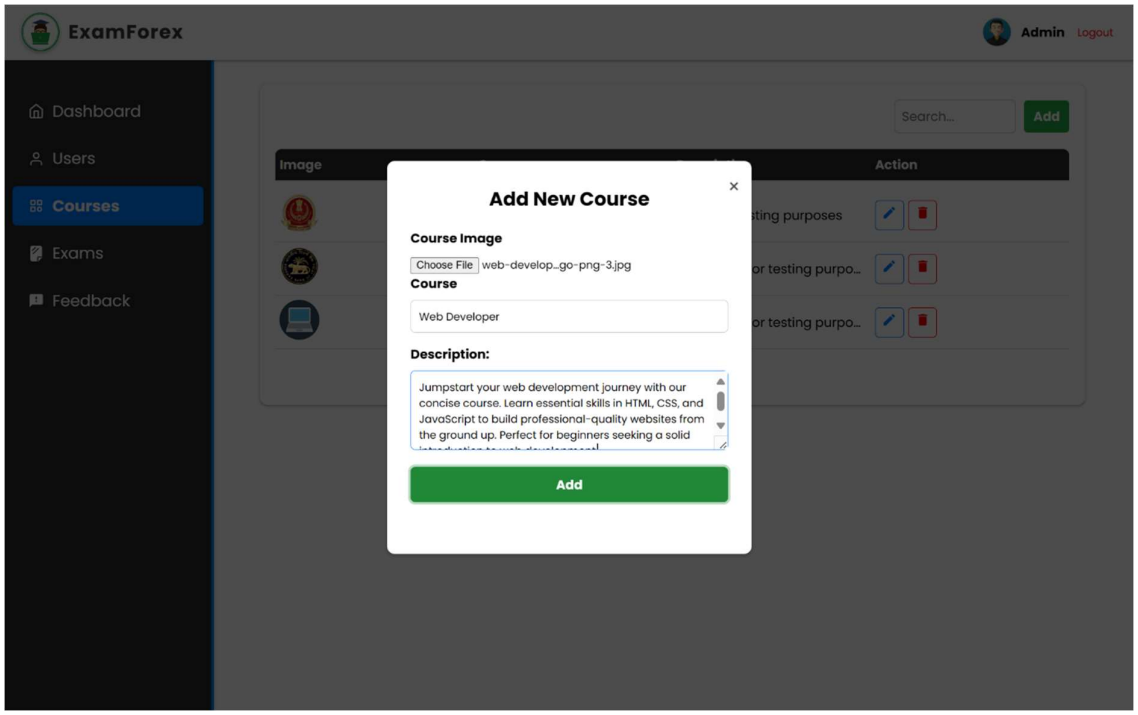
6.4 Users page



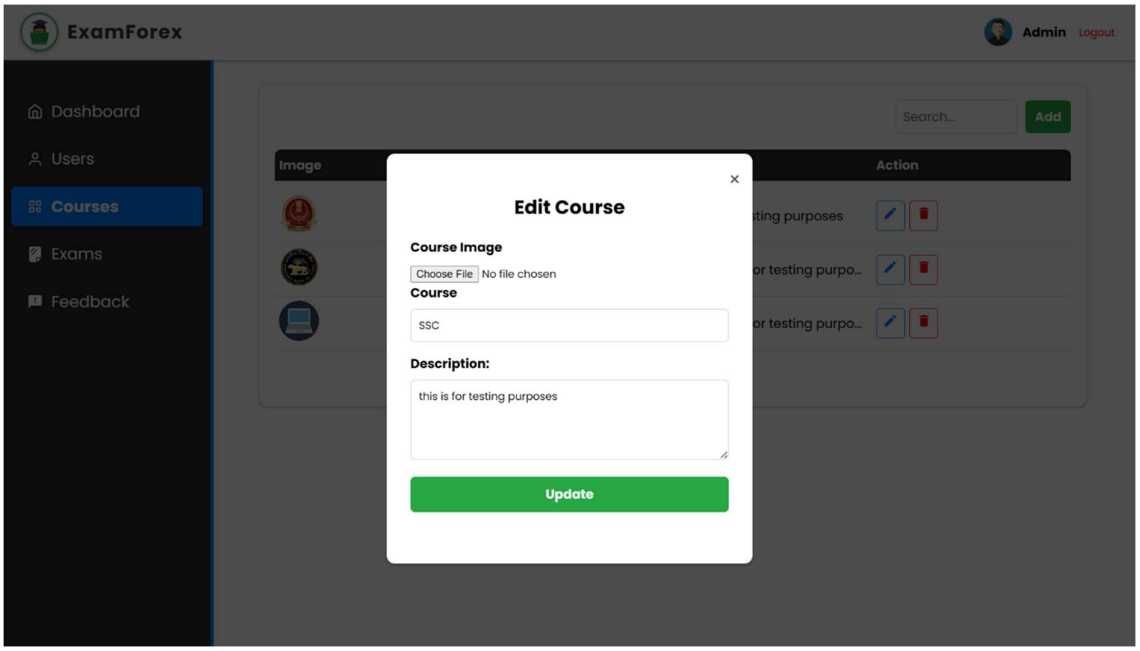
6.5 Courses page



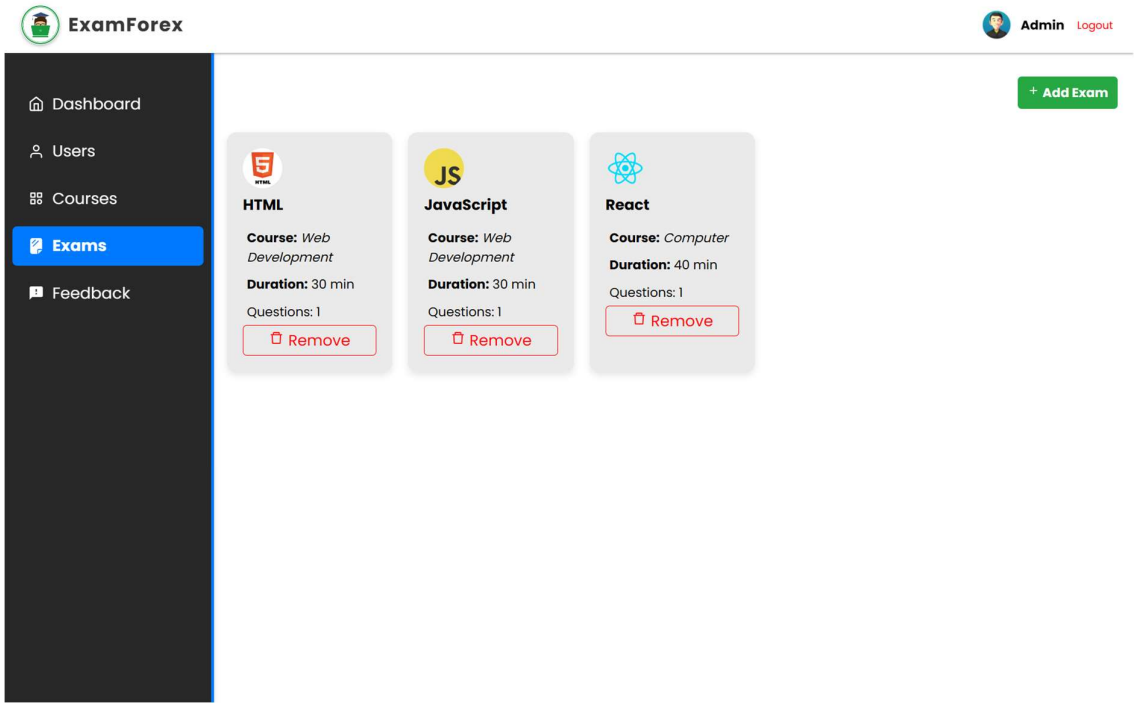
6.6 Add Course



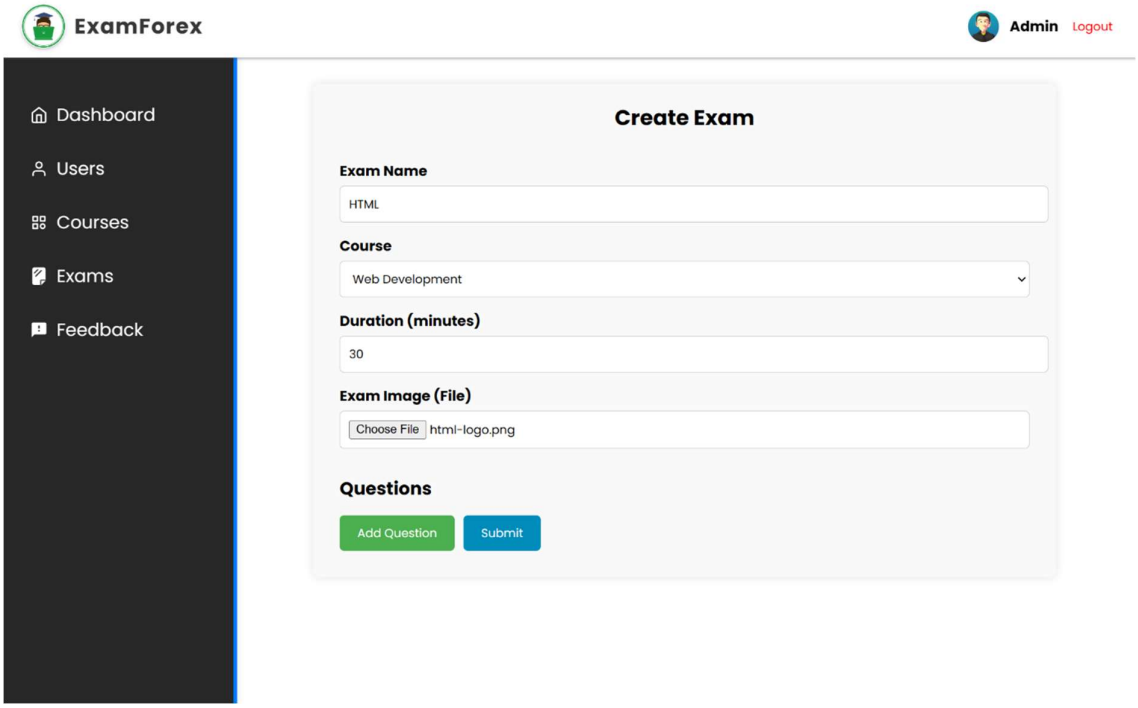
6.7 Edit Course



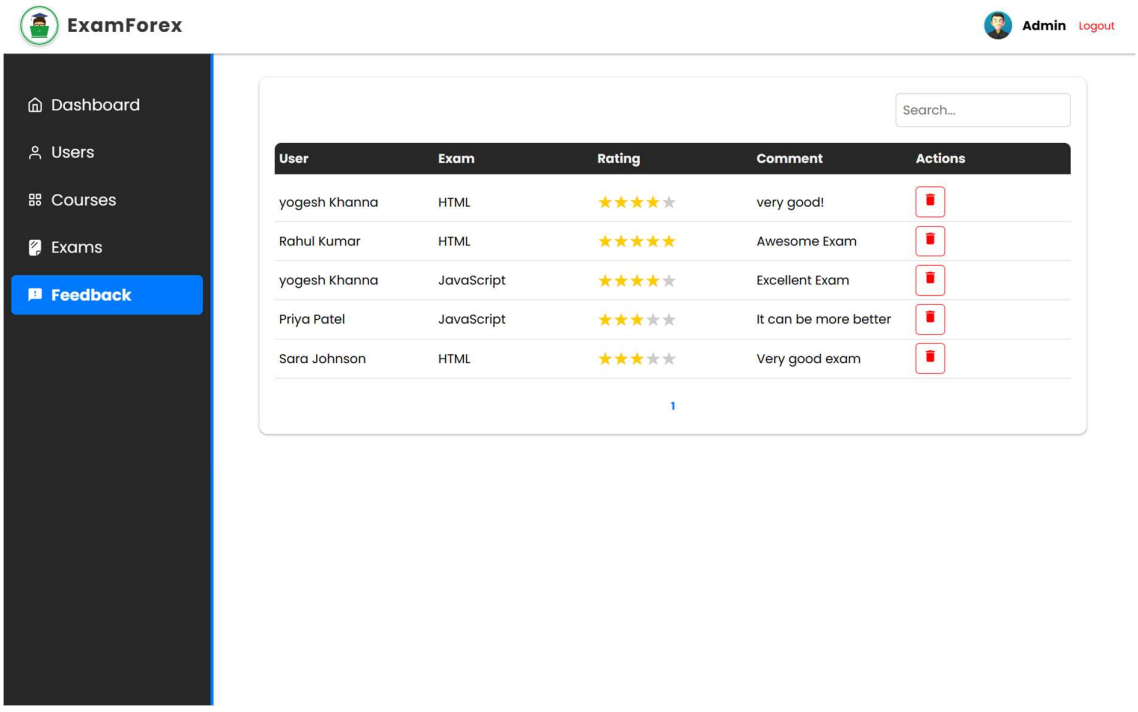
6.8 Exams page



6.9 Add Exam form



6.10 Feedback page



Chapter - 7 Conclusion & Future Scope

The development of the Admin Module for the Online Mock Examination System marks a significant milestone in enhancing the efficiency and effectiveness of exam preparation processes. The Admin Module serves as a centralized platform for managing and administering mock exams, providing educators and administrators with powerful tools to streamline exam creation, monitoring, and analysis. Through intuitive interfaces and advanced features, the Admin Module empowers users to create customized exams, monitor student performance, and generate insightful analytics, ultimately contributing to improved learning outcomes and academic success. The successful implementation of the Admin Module underscores our commitment to leveraging technology to address the evolving needs of students in the digital age.

The system offers a multifaceted approach to exam preparation, aiming to alleviate student anxiety and enhance performance during real exams. By providing opportunities to practice with various exam formats, it cultivates familiarity and confidence in students, ultimately improving their outcomes.

Convenience is paramount with this system, as it grants students the flexibility to access exam practice materials anytime, anywhere. This accessibility seamlessly integrates into their busy schedules, empowering them to engage in productive study sessions at their convenience.

Moreover, beyond mere exam preparation, the system fosters an environment conducive to holistic learning and skill development. Through interactive exercises and challenges, students are encouraged to actively participate in their educational journey, leading to a deeper understanding of the subject matter and improved academic performance overall.

Central to its design is the motivation it instils in students to actively engage in their exam preparation. By offering interactive learning experiences and challenges, the system stimulates students' interest and enthusiasm, thereby motivating them to invest effort and time into their studies.

Furthermore, the system not only benefits students but also offers cost savings for educational institutions. By eliminating the need for printed materials and physical resources, it presents a cost-effective solution without compromising the quality of education provided.

Personalized feedback is a cornerstone feature of the system, ensuring that students receive tailored guidance based on their performance in mock exams. This feedback enables students to pinpoint areas for improvement and refine their study strategies accordingly, maximizing their chances of success.

Lastly, the system's cross-platform compatibility ensures seamless accessibility across various devices and platforms. Whether students prefer to study on desktops, laptops, tablets, or smartphones, they can do so without limitations, ensuring flexibility and convenience in their exam preparation efforts.

Future Scope

Looking ahead, there are several avenues for further enhancement and expansion of the Admin Module to better serve the needs of users and adapt to changing educational landscapes. Some potential areas for future development include:

a. **Integration with Learning Management Systems (LMS)**: Explore opportunities to integrate the Admin Module with existing LMS platforms to streamline exam administration and data management processes, providing a seamless experience for both educators and students.

b. **Enhanced Reporting and Analytics**: Enhance the reporting and analytics capabilities of the Admin Module to provide more comprehensive insights into student performance, learning trends, and exam outcomes. Incorporate predictive analytics to identify at-risk students and personalize interventions to support their academic progress.

c. **Collaborative Exam Authoring**: Enable collaborative exam authoring features that allow multiple educators to collaborate on exam creation, review, and approval processes. This promotes collaboration and knowledge sharing among faculty members, leading to the development of high-quality exam content.

d. **Adaptive Learning Pathways**: Implement adaptive learning pathways that dynamically adjust exam difficulty and content based on students' performance and learning goals. This personalized approach to exam preparation ensures that students receive tailored support and challenges aligned with their individual needs and abilities.

e. **Enhanced Security Features**: Implement advanced security features such as biometric authentication, secure exam proctoring, and plagiarism detection to ensure the integrity and fairness of exams conducted through the Admin Module, particularly for high-stakes assessments.

f. **Mobile Accessibility**: Develop mobile-responsive interfaces and native mobile applications to enhance accessibility and usability of the Admin Module across a wide range of devices, allowing educators to manage exams and monitor student performance on-the-go.

g. **Integration with Assessment Standards**: Integrate the Admin Module with assessment standards and frameworks such as Bloom's taxonomy or competency-based assessment models to ensure alignment with educational objectives and standards. This helps educators design exams that effectively measure students' mastery of learning outcomes.

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2 https://reactrouter.com/en/main

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5 https://www.npmjs.com/

6 https://stackoverflow.com/

7 https://www.youtube.com/

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Summary

Fortnightly Progress Report

FORMAT

FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Shahrukh Khan		Department	MCA	
Industry/Organization	Praedico Global Research Pvt Ltd		Date/Duration	03/01/24-15/01/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work			✓		
Comment on nature of work done/Area/Topic	Learn HTML, CSS and Javascript				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor					

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Name of student	Shahrukh khan		Department	MCA	
Industry / Organization	Praedico Global Research Pvt. Ltd.		Date / Duration	16/01/24 - 31/01/24	
Criterion	**Poor**	**Average**	**Good**	**Very Good**	**Excellent**
Punctuality / Timely completion of assigned work				✓	
Learning capacity / Knowledge up gradation			✓		
Performance / Quality of work				✓	
Behavior / Discipline / Teamwork			✓		
Sincerity / Hard work				✓	
Comment on nature of work done / Area / Topic	Learn BootStrap, Advance Javascript (ES6), Introduction of React.				
OVERALL GRADE (Any One)	**POOR / AVERAGE / GOOD / VERY GOOD ✓ / EXCELLENT**				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work				✓	
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Comment on nature of work done/Area/Topic	React setup, components, Hooks, Props and React Bootstrap Integration				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT** ✓				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Working on Frontend Development using React and Bootstrap				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT** ✓				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Learning capacity/Knowledge up gradation					✓
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Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Worked on NodeJs, ExpressJs, MongoDB for Backend & DataBase				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
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Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
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OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT				
Name of Industry Mentor	Sweety Gupta				
Signature of Industry Mentor	Gupta				

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Comment on nature of work done/Area/Topic	Worked on Project				
OVERALL GRADE (Any one)	**POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT**				
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Signature of Industry Mentor	Gupta				

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