

# SkillCraftify - Online Examination Portal

## Overview

SkillCraftify is an advanced Online Examination Portal designed to streamline the process of creating, managing, and taking online exams. This project harnesses the power of the MERN stack, comprising MongoDB, Express.js, React.js, and Node.js, to deliver a feature-rich and scalable web-based examination system.

## Key Features

1. **User Authentication:** Enable users to securely register, login, and manage their profiles.
2. **Admin Panel:** Empower admins with comprehensive tools to manage exams, questions, users, and generate insightful reports.
3. **Exam Management:** Seamlessly create, edit, and delete exams with various types of questions.
4. **Question Bank:** Maintain a rich database of questions categorized by subjects and topics for easy access.
5. **Exam Scheduler:** Effortlessly schedule exams and set timings for start and end to accommodate various needs.
6. **Real-time Monitoring:** Monitor exam progress and receive instant notifications upon exam completion for timely actions.
7. **Results and Analytics:** Provide detailed reports and analytics to assess exam performance and individual progress.
8. **Security:** Implement robust security measures to prevent cheating and uphold the integrity of exams.

## Technology Stack

- **Frontend:**
  - React.js
  - Redux (for state management)
  - React Router (for routing)
  - Material-UI (for UI components)
- **Backend:**

- Node.js
- Express.js
- MongoDB (with Mongoose ORM)
- JSON Web Tokens (for authentication)

- **Others:**

- Socket.io (for real-time communication)
- Axios (for API requests)
- bcrypt.js (for password hashing)

## Database Schema

### Users

- \_id
- username
- email
- password (hashed)
- role (admin/user)
- created\_at
- updated\_at

### Exams

- \_id
- title
- description
- duration
- start\_time
- end\_time
- questions (array of question ids)
- created\_by
- created\_at
- updated\_at

### Questions

- \_id
- question\_text
- options (array of options)

- correct\_option\_index
- explanation
- subject
- topic
- difficulty\_level
- created\_by
- created\_at
- updated\_at

## Results

- \_id
- exam\_id
- user\_id
- score
- attempted\_at

## Conclusion

SkillCraftify, our Online Examination Portal, is a robust solution for conducting online exams efficiently and securely. With its intuitive user interface, powerful backend architecture, and real-time monitoring capabilities, SkillCraftify offers an enhanced experience for both administrators and users alike. Continuous improvements and feature enhancements will be made to further refine and extend the functionality of the application, ensuring its effectiveness in various educational and professional settings.