LemonCraft: Machine Round Task for Full Stack MERN Developer

Objective:

Create a React web application that allows users to select tags and answer quiz questions based on the selected tags. The questions and tags are provided in the attached ques.json file.

Task Instructions:

1. **Setup and Environment:**
   - Use **React** (preferably with Create React App or Vite) for this task.
   - Use **Redux** for state management.
   - Ensure compatibility with modern web browsers (Chrome, Firefox, Safari, Edge).
2. **Functionality Requirements:**
   - **Welcome Screen:**
     - Present the user with a selection screen of 100 tags.
     - Allow the user to select 20 of these tags.
   - **Matching Engine:**
     - Implement a matching engine to select the top 10 questions based on the number of tags matched between the selected tags and question tags.
   - **Question Presentation:**
     - Present each of the 10 questions one by one.
     - Indicate whether each question is a single answer correct or multiple answer correct type.
     - Each question should have a 30-second timer displayed. If the timer runs out, the next question should be presented automatically.
   - **Scoring:**
     - Each question carries 4 marks.
     - For single answer correct questions:
       - +4 marks for a correct answer.
       - -2 marks for a wrong answer.
     - For multiple answer correct questions:
       - +4 marks if all options selected are correct.
       - +1 mark for each correct option selected.
       - -1 mark for each incorrect option selected.
   - **Final Marks Calculation:**
     - Calculate and display the final marks at the end of the quiz.
3. **Assets:**
   - **Data File:** https://drive.google.com/file/d/16b-LkQe9mx9aGBsi5WzPXBRff1MJVX3N/view?usp=sharing
4. **Coding Standards:**
   - Write clean, modular, and well-documented code.
   - Use functional components and React Hooks where appropriate.
   - Follow industry-standard practices, SOLID, and DRY principles.
   - Maintain consistent naming conventions and code style.
   - Ensure your code is well-commented, especially for complex sections.
5. **Testing and Performance:**
   - Ensure the web application performs well and loads efficiently.
   - Test the implementation thoroughly to identify and fix any bugs or issues.

    - Include basic unit tests to verify key functionalities using a testing framework like Jest or React Testing Library.
6. **Submission:**
    - Provide a link to a GitHub repository containing your code.
    - Include a README file with instructions on how to set up and run your project locally.
    - Ensure your project can be easily set up with a simple npm install and npm start.

Evaluation Criteria:

- Functionality accuracy as per the requirements.
- Efficiency and accuracy of the matching engine.
- Proper implementation of the question presentation and timer.
- Correct scoring mechanism and final marks calculation.
- Code quality, structure, and documentation.
- Performance optimization and efficient state management using Redux.
- Comprehensive testing and bug-free implementation.

Deadline:

Please complete and submit your task within **48 hours** from the time you receive this brief.

Notes:

- Focus on the functionality implementation rather than the design or aesthetics of the application.
- If you have any questions or need clarifications, feel free to reach out promptly.

We look forward to reviewing your submission. Good luck!

Submission Requirements

- Upload your code to a **public github repository** and share its url with us. The code should be able to run with two commands - `npm install` and `npm start`
- Create a 1-2 page doc or 5-10 min video explaining how you approached the task, challenges faced and their solutions. Share it through a public google doc or google drive url.

Additional Note:

While we value completeness in the assignment, we understand that it may not be feasible to achieve 100% completion. Our primary focus is on evaluating your approach to problem-solving and the quality of your implementation. We will be looking closely at how you tackle the problem, your coding practices, and your ability to develop functional and efficient code. Please approach the task with this in mind, as your attempt and methodology will be significant factors in our evaluation.