University of Engineering and Technology, Taxila.

Mobile App Development

Quiz # 02

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Section: Omega

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Changes Made In The Code

1. Bottom Tab Navigation Integration

- Implemented a bottom tab navigation feature that dynamically appears upon user sign-in.
- This navigation component enhances user experience by providing intuitive access to different sections or functionalities within the app.
- The decision to integrate bottom tab navigation was driven by a desire to enhance user navigation and accessibility within the app. Bottom tabs offer a familiar and intuitive navigation pattern, allowing users to easily switch between different sections or features of the app with minimal effort. By displaying the bottom tab only after user sign-in, we ensure that navigation options are presented contextually, optimizing screen real estate and reducing clutter for anonymous users.

2. TensorFlow QnA Model Integration

- Integrated the TensorFlow QnA model into the app, enriching its functionality with advanced natural language processing capabilities.
- The model allows users to pose questions and receive accurate answers based on the provided context, enhancing the app's utility and interactivity.

3. UI Enhancements

- Revamped the user interface to improve aesthetics and usability.
- Refined UI elements, such as input fields, buttons, and text styling, to create a visually appealing and cohesive user experience.
- Ensured consistency in design principles and layout across different screens and components within the app.

4. Code Refactoring and Cleanup

- Conducted comprehensive code refactoring to enhance readability, maintainability, and performance.
- Removed redundant or obsolete code segments to streamline the app's codebase and improve overall code quality.
- Adopted best practices in code organization and structure, adhering to industry-standard conventions and guidelines.

5. Removal of Unused Functionality

- Identified and eliminated unused or redundant functionalities from the app.
- Streamlined app features to focus on core functionalities and optimize resource utilization.
- Ensured that the app remains lean and efficient, minimizing unnecessary overhead and complexity.

6. Implementation of Sign-Out Component

- Developed a sign-out component to facilitate user log-out functionality.
- Integrated the sign-out component seamlessly into the app's navigation flow, enabling users to securely log out of their accounts.
- Implemented robust authentication mechanisms to safeguard user data and ensure compliance with security best practices.

Model Integrated: QnA Model (TensorFlow)

1. **Functionality**:

The QnA TensorFlow.js model serves as a sophisticated tool for natural language understanding, specifically designed for the task of question answering. Given a query (question) and a context (passage), it employs advanced machine learning techniques to extract the most relevant information from the context and formulate a suitable answer.

2. **Training and Learning**:

Trained on extensive datasets comprised of question-answer pairs, this model leverages deep learning architectures, likely including recurrent neural networks (RNNs) or transformer-based models. Through the process of supervised learning, it learns to discern semantic relationships between questions and answers, enabling it to generalize well to unseen data.

3. **NLP Techniques**:

The model incorporates a suite of natural language processing (NLP) techniques, including tokenization, embedding representations, attention mechanisms, and semantic similarity calculations. These techniques allow it to comprehend the intricacies of language structure and context, facilitating accurate answer extraction from textual passages.

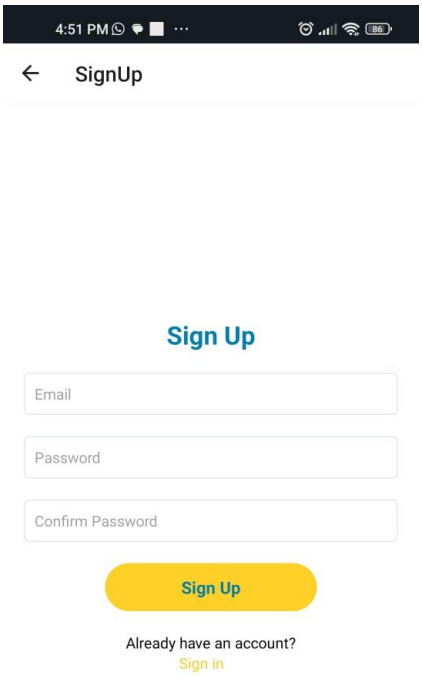
4. **Performance Considerations**:

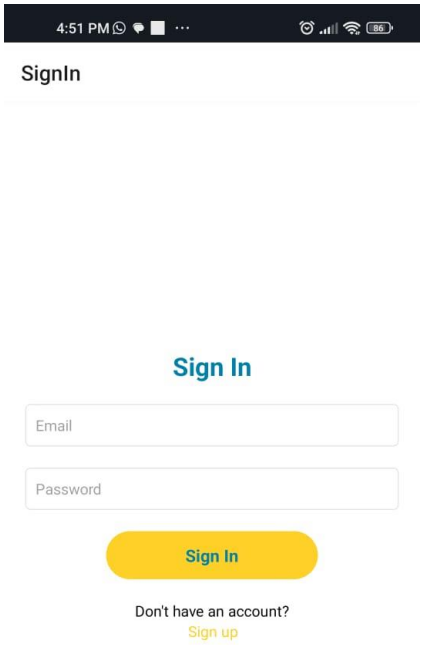
While the model demonstrates impressive performance under optimal conditions, its efficacy is contingent upon factors such as the quality and diversity of the training data, the complexity and clarity of the questions, and the informativeness of the provided passages. As with any machine learning model, its accuracy may vary across different domains and scenarios.

5. **Integration and Application**:

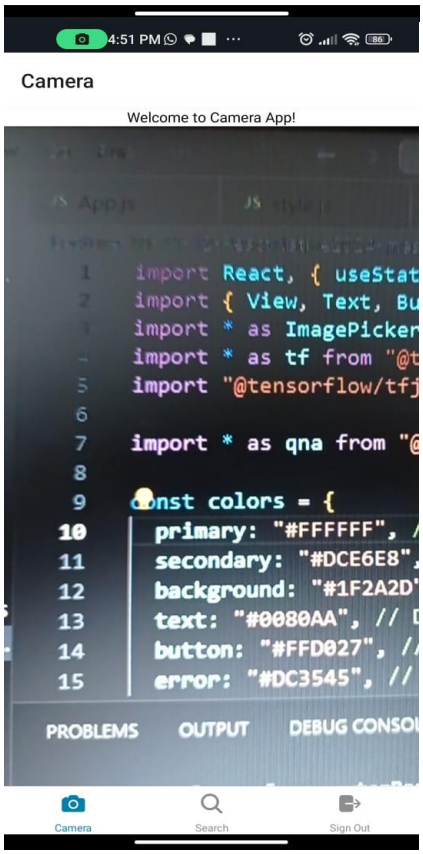
One of the model's notable strengths lies in its seamless integration with TensorFlow.js, enabling straightforward deployment within JavaScript and React Native applications. This empowers developers to implement sophisticated question-answering functionality in web and mobile applications, enhancing user interaction with textual data in various contexts.

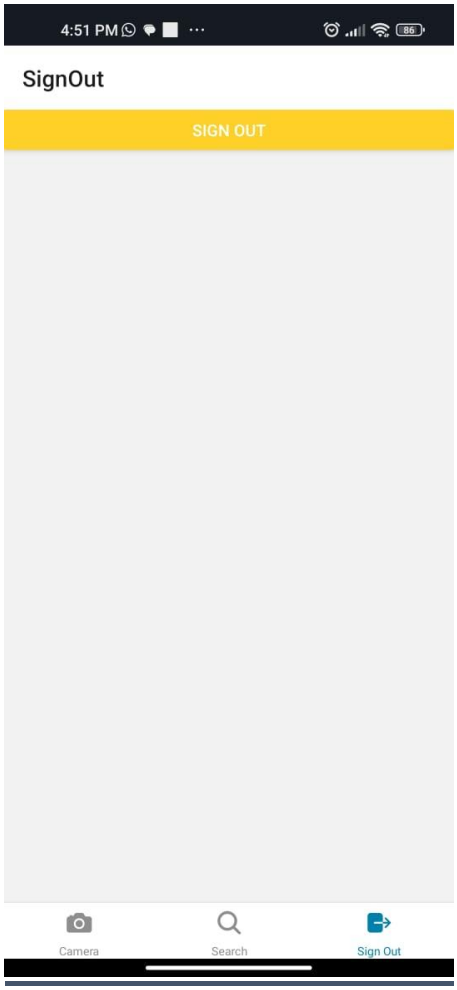
Output


4:51 PM
SignUp
Sign Up
Email
Password
Confirm Password
Sign Up
Already have an account?
Sign in


4:51 PM
SignIn
Sign In
Email
Password
Sign In
Don't have an account?
Sign up


4:50 PM
Search
What is the world's largest country?
World's largest country is Russia.
FIND ANSWERS
Russia (Score: 20.311)
Russia. (Score: 11.592)
is Russia (Score: 8.671)
Camera
Search
Sign Out


4:51 PM
Camera
Welcome to Camera App!
import React, { useStat
import { View, Text, Bu
import * as ImagePicker
import * as tf from "@t
import "@tensorflow/tfj
import * as qna from "@
const colors = {
primary: "#FFFFFF",
secondary: "#DCE6E8",
background: "#1F2A2D"
text: "#0080AA",
button: "#FFD027",
error: "#DC3545",
PROBLEMS
OUTPUT
DEBUG CONSOL
Camera
Search
Sign Out



Repository Link:

https://github.com/maleehahaq/Mad-Quiz-02