Full Stack coding challenge

Challenge:

You are tasked with building a web application that allows users to retrieve images from https://placekeanu.com/ based on their preferred dimensions, whether the image should be grayscale, and whether it should be of a young Keanu Reeves. You will need to use React on the front-end and a Docker containerized backend that uses Apollo Server to handle the API requests.

Requirements:

- Build a Docker containerized backend that uses Apollo Server to handle requests from the front-end. The backend should have the following features:
  - Retrieve images from https://placekeanu.com/ based on user input.
  - Handle requests from the front-end with the following input parameters: image width, image height, option for young Keanu, and option for grayscale.
  - Use TypeScript for the backend.
- Create a React app that has the following features:
  - Use TypeScript for the front-end.
  - Use Redux Sagas to handle requests to the backend.
  - Display a form that allows the user to input the image width, image height, and the options for young Keanu and grayscale.
    - Include input validation
  - When the form is submitted, retrieve the image from the backend and display it on the screen.

Deliverables:

- A working React app with a Docker containerized Apollo Server backend.
- Source code and build instructions.
- A README file that explains how to run the application.

Evaluation Criteria:

- Correct implementation of the Docker containerized Apollo Server backend.
- Correct implementation of the React app using TypeScript and Redux Sagas.
- Ability to handle API requests and display images based on user inputs.
- Code quality and adherence to best practices.

Bonus Points:

- Implement caching to improve performance.
- Use CSS to improve the styling and user experience.
- Implement error handling and display error messages to the user.