

Task

Build a web application where a user can upload an image and can rotate the image use a custom-built rotation algorithm.

Requirements

Infrastructure

- Use your preferred framework to build the UI: React, Vue, Web Components, etc.
- Using your preferred tooling (Webpack, Rollup, etc) to serve the app and bundle it.
- You can use any additional build tooling as you see fit (SCSS, linting, TypeScript, etc).
- No dependencies other than your chosen framework is allowed in the app UI code.

User Interface

- Implement the provided design, doesn't have to be pixel perfect, but aim for the design.
- The UI must allow a user to upload an image from their local file system.
- Once uploaded, render the image and display the file name and dimensions of the image.
- Provide an input field and Apply button for the user to apply a custom rotation.
- Update the rendered image and display a message indicating the time it took to render.
- Use the highest resolution timer available (eg. performance API) to measure the time taken.

Rotation Algorithm

- The rotation algorithm must have the following signature:
`rotate(image: ImageData, angle: Number): ImageData`
- You cannot use Canvas rotate API or CSS transform to rotate the image.
- You cannot use external libraries to rotate the image.
- You may refer to other implementations, but please reference them.

Assessment

The code will be assessed for the following:

- Accuracy to the provided design specification.
- Functionality, does it work as intended.
- Code quality, is it readable, maintainable, well structured.
- Performance and accuracy of the rotation algorithm.

Submission

1. Create a Github or similar repository and share a link to the repository when finished.
2. Add a README file outlining how to install the application and run it locally.
3. Prepare to present your app, the rotation algorithm, the project setup and code.