Design Decisions, Assumptions and Improvements

Design Decisions:

- I Utilized React for the frontend due to its component-based architecture. React's virtual DOM also enhances performance by minimizing DOM manipulations.

- Used AXIOS for making HTTP requests to the backend server. Axios provides a simple and intuitive API for handling asynchronous operations, making it ideal for managing data fetching and sending.

- Integrated progress bars to track the upload progress of each video. This feature enhances user experience by providing real-time feedback on the status of ongoing uploads.

- Provided download links for processed videos, allowing users to easily access and download their processed content. The download links expire within 8 hours as a security feature.

Assumptions:

- Assumed that video processing time is reasonable and does not significantly impact user experience. If video processing time is lengthy, additional optimizations such as asynchronous processing or background processing may be necessary.

Improvements:

- Enhance error handling on the frontend and backend to provide informative error messages and handle edge cases gracefully. This includes handling network errors, validation errors, and server-side failures. Currently, only validations for video length are being handled.

- Implement a more visually appealing design with better typography, color schemes, and animations to enhance user engagement.

- Implement rate limiting and request throttling to prevent abuse and protect against denial-of-service (DoS) attacks. This ensures fair usage of server resources and improves overall system stability.