Project Specification

Rust-based File System using YouTube as storage.

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Overview:

Our project aims to create a file system that stores files as videos on YouTube, providing users with unlimited storage. The program will provide users with an Encoder and Decoder for files and a GUI for managing their files. The program's primary goal is to provide a secure and reliable way of storing and managing files.

Naming Convention:

Issues and commit messages: Future tense, i.e., “add feature _” or “fix bug _”. We will use short titles with a more elaborate description for issues.

Pull Requests: PR’s will be named after the associated issue number, following the convention "issue/[issue-number]-[short-description]".

Program Features:

Features that will be developed:

Encoder and Decoder: The program should allow users to encode their files as videos, upload them to YouTube, and then decode them when they need them. The encoding and decoding process should be secure, fast, and reliable.

GUI: The program should provide users with a user-friendly GUI to manage their files. Users should be able to upload and download files, create folders, and manage their files easily.

Thumbnail preview: The program should provide users with a thumbnail preview of their videos, making it easier to identify and manage files.

Search: The program should allow users to search for their files easily using keywords or file names.

Multi-platform: The program should be available on multiple platforms, including Windows, macOS, and Linux.

Features we hope to incorporate:

Security: If we have time, we’d hope to incorporate encryption, password protection and secure access to YouTube accounts by using OAuth authentication to make provide users with some sense of security.

File versioning: Users should be able to access previous versions of their files, as well as restore deleted files.

File compression: Users should be able to compress their files before encoding them as videos, saving on storage space and bandwidth.

Batch processing: Users should be able to perform batch processing of files, such as encoding or decoding multiple files at once.

Project Feasibility and Timeline:

The project is somewhat feasible depending on the amount of features we want to add. The biggest issue that can pose a threat is integrating with YouTube's API.

The project can be divided into the following phases:

Research and planning: One week

Design and architecture: Two weeks

Development: Four weeks

Testing and debugging: Two weeks

Documentation and deployment: One week

Team Members and Roles:

Olle: System Developer

Tomas: GUI Developer

Conclusion:

Our project aims to provide users with a secure and reliable way of storing and managing their files using YouTube's unlimited storage. We will use Rust as the programming language and provide users with an Encoder and Decoder for files, a GUI for managing their files, and other essential features. The project is somewhat feasible depending on the number of features.