PROGRESS ON FILE STORAGE USING FACIAL PATTERN-BASED ENCRYPTION
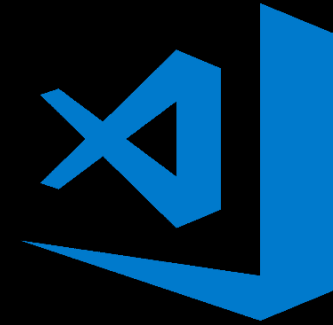
John Pocasangre

Jacob Acosta

Andrew Ibrahim

Carlos Sandoval

INTEGRATED DEVELOPMENT ENVIRONMENT (IDE)

We as a collective will be using VS Code for our project. The reasons why we settled on this are:

- The editor is easy to use

- We are already experienced with using the editor

- It has a large collection of extensions to use including the SSH Extension

WEBSITE HOSTING/SECURITY

- For our server we originally tried to get a Let's Encrypt SSL certificate to enable our https, but when trying to point our domain's DNS to our server it wouldn't connect. Because of this, we switched to Cloudflare's SSL service to connect our domain name to our server. It easily connected and now our server is properly secure
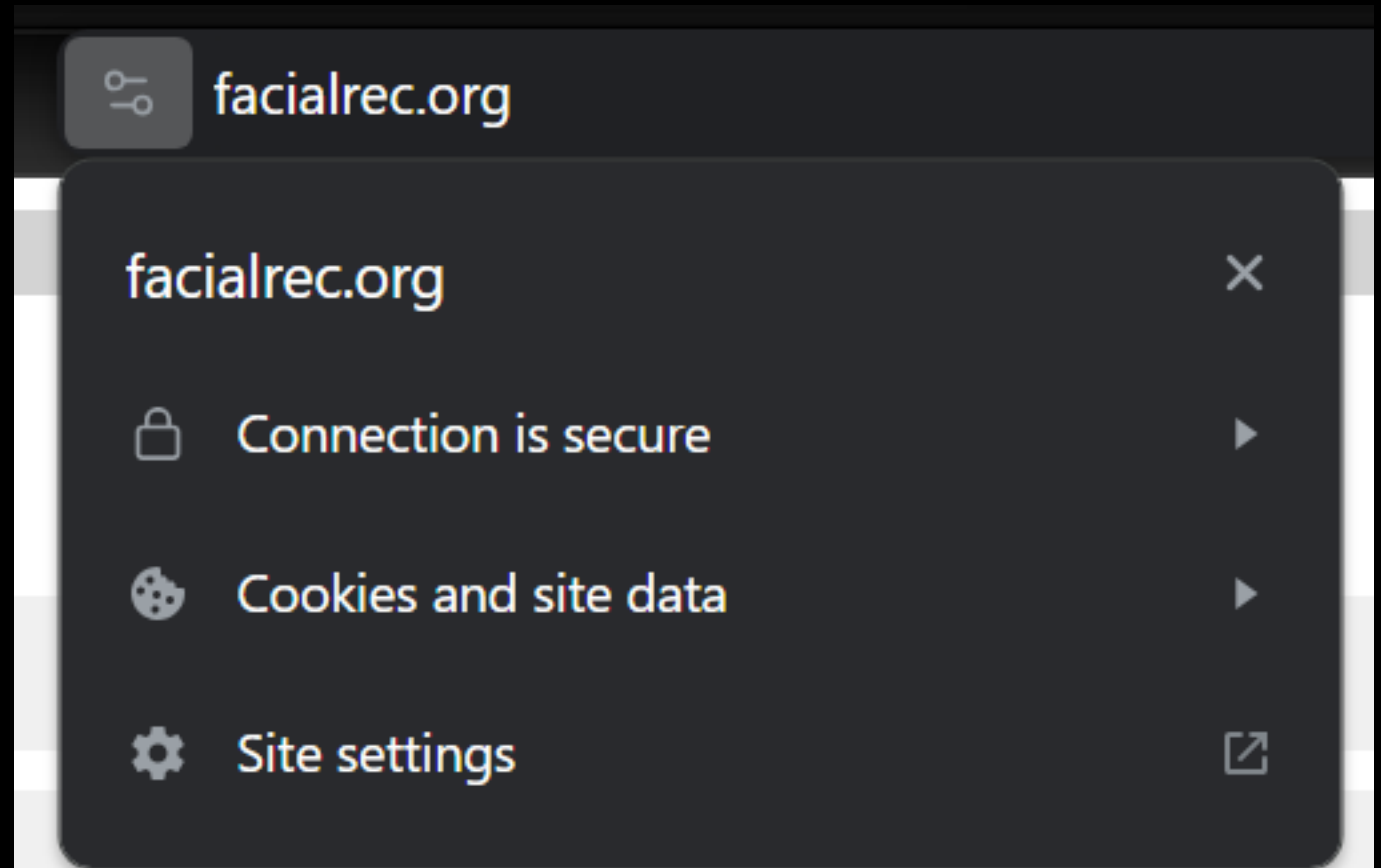
ROUGH DATABASE DESIGN

For the database...
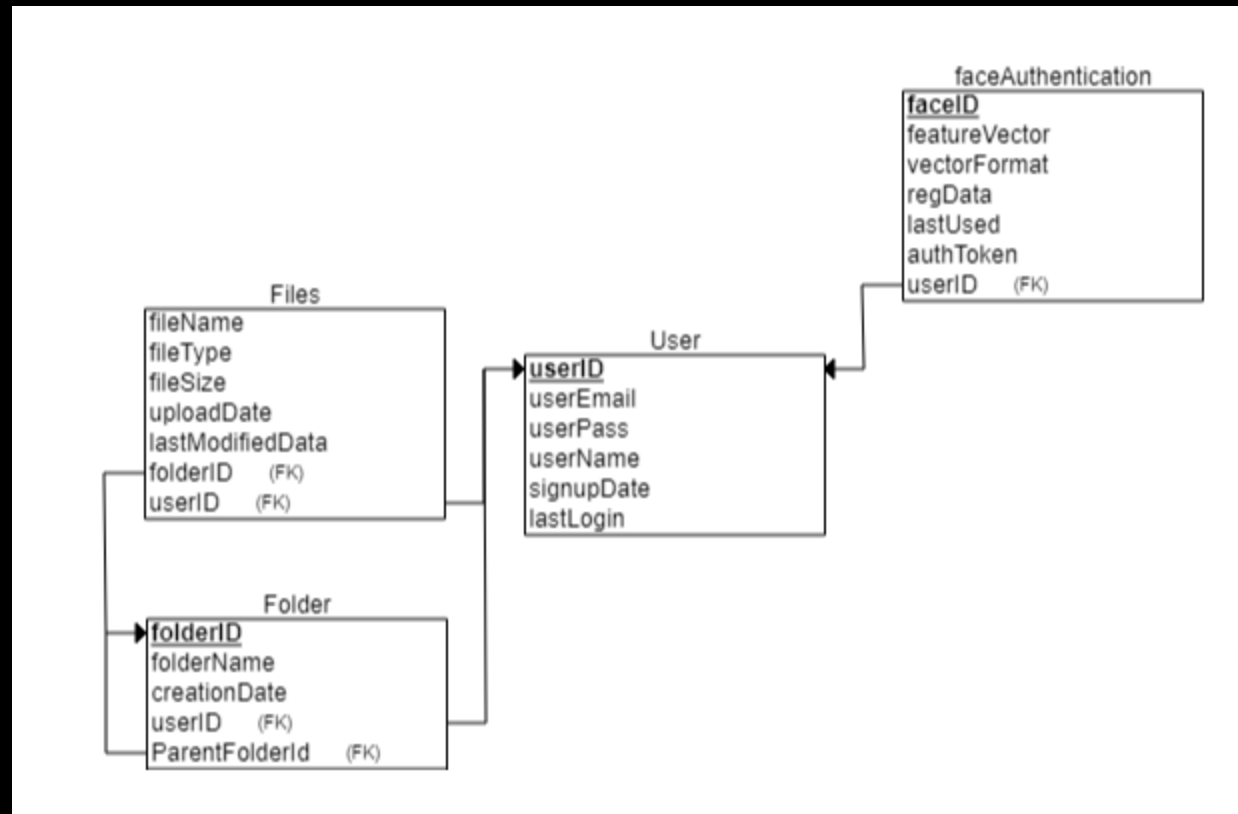
FACIAL CAPTURE/RECOGNITION

Progress with facial capture is going smoothly with a few roadblocks.

- Our python script is struggling with gathering the video of our html page due to it being stored in the html <video> tag. This hinders our OpenCV cv2.VideoCapture function from collecting and recognizing the video feed for analysis.
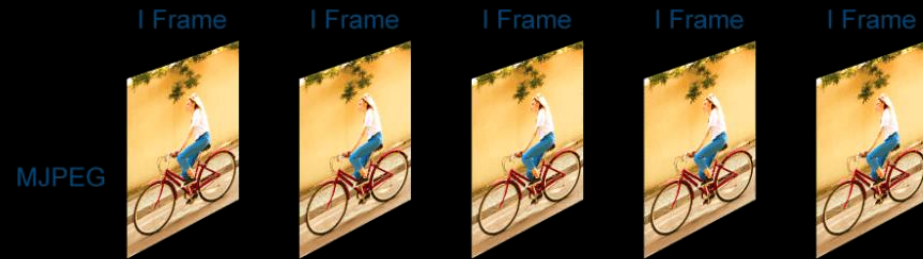
Work-Around

- We plan to look for an alternative method in which we can analyze the live feed of the camera from our html page. We may pivot to reworking our program to use MJPEGS instead of live video which would be collected through web-sockets which would then be fed for analysis to our python script.

http://localh
ost:5000/

WHAT IS AN MJPEG

MJPEG stands for Motion JPEG. It's a video format where each video frame or interlaced field of a digital video sequence is compressed separately as a JPEG image. Essentially, MJPEG streams a series of JPEG images over HTTP, creating a continuous stream that looks like a video.

Pros:

- Can be used as an alternative when trying to analyze live camera feed
  - Programs can analyze each JPEG rather than a video's individual frames.

Cons:

- Very bandwidth-intensive compared to other video streaming formats
  - Sends a full JPEG image for each frame of video, rather than sending only the differences between frames.