

Shopify File Repository Design Document

Abstract

- Project: web application where users can upload and view files
- Users should also be able to upload images with an optional tag / tags, which they can use to search for images of that tag later
- Landing page should display some stats about files uploaded (most frequently used tag, number of files uploaded, etc.)
- This web application is NOT restricted to only images (support .pdf, .doc, .docx)
- Add about me section and other related information

Overview

- Run script → start Flask server → configure database → navigate to main page (localhost:5000) → serve landing page → user begins navigating
- Page should initially be populated with some dummy images + display the marked tags its been given (handle the case with no tags, insanely long tags)
- Separate pages (routes) for landing page, one for uploading, one for an 'about me section' (is this necessary to have?)
- The images will be clickable and will open a new tab with that photo

Implementation Details

- HTML + CSS + JavaScript + Bootstrap for frontend, use Jinja template inheritance to maintain clean HTML files
- Python + Flask for backend
- SQLite database + SQLAlchemy ORM (using a local database, so starting the script / ending the script will destroy everything)
- Docker to containerize, make running locally a lot easier

Potential Improvements // "if I had to do this project again"

- **Persist uploads** (have the project running on the cloud + impl. user login?)
- **Session-based file sharing** with friends; generate some link to a room?
- **Auto-suggest tags on upload** (never done AI but OpenCV looks promising?)
- Use Flask template inheritance + blueprints to reduce similar code
- Separation of concern (database logic + tables in one, routing in another)
- Amazon image container instead of using a SQLite database
- Add more functionality (uploading + deleting bulk images)
- Use a frontend library like React / Vue, was a little bit limited by Bootstrap

Pitfalls

- Not in Ruby + Ruby on Rails :(
- Cannot upload / delete images in bulk (one at the time only)
- Not the prettiest UI (backend focused role but everyone likes a pretty UI...)
- Turning off the server will wipe the server, will have to reupload when the server starts again (could be annoying to some people, but others might like this?)
- Could be annoying to do the config instructions to make it run locally, would it be nice to have it deployed online somewhere with DB resetting every 30min?

System Layout (in a poorly made paint drawing)

