# SI507 - Final Project by Qi Zhou

## Overall

**My project will** …include a few sentences to summarize what the Flask app you’re building in your project will do/deal with/show. **The project will allow users to** specify what users can see, click on, understand, do (in less than 5 sentences).

1. ***Example:*** *My project will aggregate crime data in Ann Arbor and allow a user to select one or more crime type to see a graph of crime frequency by month by inputting different data into a URL — either for a single year or comparing across several years. There will be a route for looking at visualizations of crime over specific years. In another route, data will also be displayed using HTML tables to show all the information in aggregate with specific details. A user will be able to select a type of crime from a form that they are interested in, and submit the form to see some summaries about that type of crime (e.g. which year in the dataset had the most frequent occurrences of that crime type).*

**I want to focus on …** visualizing an existing dataset to make it understandable, collecting data from user input, sourcing data from a website or API based on user input and processing it, or any other specifics of what your focus will be for this application.

## Interface description

* Route 1: /route/route   →

1. This page will show the information here, a brief description.

* Route 2: /route/route  →

1. This page will show the information here, a brief description.

* Route 3: /route/route  →

1. This page will show the information here, a brief description.

1. *OK to include more, but you must describe ideas for at least 3.*

## Specifics

**I will be relying on data from** scraping [a specific website or multiple websites/multiple pages from the same website], making requests to [a specific API / multiple APIs], user input to a form or in a URL, or a downloaded dataset that I found [at this link]. You should describe exactly what data you plan to use and where and how you will get it. It may be any of those options, or multiple of them.

An example of my data OR link to documentation of the API I’ll use OR the website I will be scraping is here: (here goes any link/s pointing to the data sources, and/or a short description of the data source if it is user input)

**I expect my database schema to include** number tables. The entities each table will represent are: list entities, e.g. Movies, Directors, etc.

There will be a many to many or many to one relationship between relevant tables.

Any additional details about my database structure plans.

**I will be populating the database by** saving data to the database when users enter it into a form on a page on my app, OR writing a script to load it in to a .sqlite database file which my Flask app will rely on and have models to describe, OR saving data to a database when it’s accessed via scraping or an API*.*

**I am planning to use the following modules in writing my code, aside from Flask and SQLAlchemy or some equivalent:** list of modules I plan to use, with the module’s name and specifically what I want to do with it

1. ***Example:***
2. *- plotly - for charting/graphing data*
3. *- matplotlib - also for charting, maybe better for me*
4. *- Folium - for maps… not sure how to use this one*
5. *- requests\_cache - for caching data I scrape*

**I will be defining the following functions outside of Flask routes:** brief description of one or two functions that will be defined and what they’ll each do/take as input(s)/return

**I will be defining the following classes outside of Flask routes/models:** brief description of an object or objects — what it will inherit from if anything, what input the constructor will require, what one instance will represent, what it will help you to do, where you will create instances of it — see <https://learningpython-today.github.io/pip2/Classes/ThinkingAboutClasses.html> and our OOP work from earlier in the semester

**The assignment(s) in 507 we’ve done that are most like what I want to do are:**whichever assignment(s)

**Other useful resources for this project for me will be:** links or references to specific things I think will be helpful to reference, including specific lecture notes, lab examples, code examples from class, readings, or anything on the internet you’ve found useful

## Other

**My biggest concerns about my work on this project are** short description of my concerns

**I feel confident that I can complete** these parts of the project I am planning (a brief description)

Also, anything else you want instructors to know SPECIFICALLY ABOUT YOUR PROJECT — this is not a good space for major personal concerns, because we’ll be reviewing these very rapidly