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**DFP2024Fall\_Project**

A recommendation application to find our client to find the best rent option

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5. **Installation**

**Prerequisites**

* **Python** (>=3.12): Make sure you have Python installed. You can check your version with:

python –version

* **Required Libraries**: This project requires the following packages, which will be installed from requirements.txt:
  + pandas
  + sodapy
  + requests
  + bs4

**Install via pip**

To install the required libraries, run the following command in your terminal:

pip install -r requirements.txt

1. **Directory Structure\**

* **apartment\_crawler.py**: Crawls and downloads apartment data from Zillow, saving it as a CSV file.
* **facilities\_crawler.py**: Fetches facility data relevant to apartments from NYC's open data API and saves it as a CSV file.
* **shooting\_crawler.py**: Fetches shooting incident data from NYC's open data API and saves it as a CSV file.
* **processing\_zillow.py**: Contains functions to process and clean apartment data obtained from Zillow.
* **timestamp.py**: Provides a utility function to generate a current timestamp string.
* **merger.py**: Contains functions to merge different datasets including apartment, facility, and shooting data.
* **interactive\_page.py**: Provides a user interface for collecting preferences from users regarding apartment searches.
* **data\_filter.py**: Contains functions for filtering the apartment dataset based on user-defined parameters.
* **requirements.txt**: Specifies all the dependencies required for the project.
* **config.py**: Contains configuration settings such as file paths needed for the application to run.

1. **Usage**

To run the application, execute the following command:

python main.py

**Follow instructions**

Follow the instructions in the interface and input your preferred living conditions.

**sample instructions**

A screenshot of a computer program

Description automatically generatedUsers should input valid integer based on the prompts.

**Output**

After running the application, users will receive recommendations based on the collected data and preferences. The recommendations will be stored in a CSV file named in the format [yyyyyyyy-mm-dd hh:mm:ss]recommendation\_for\_user.csv under the data/final directory.

1. **Features**

* Web crawling and scraping
* Data cleaning and merging.
* User-friendly interface to analyze the data.
* Exporting processed data as recommendation for users.