Jim, Mark, Krishna – July 23rd

**Data Visualization**

1. **Vacation Rental Property Finder**

**Project Overview:**

The Vacation rental property finder/comparison tool aims to assist users in finding and comparing rental properties for their stays. Whether planning a getaway or relocating, users can explore available properties, filter based on preferences, and visualize essential information.

**Key Components:**

1. **Data Collection and Storage:**
   * Gather data on vacation rental properties (e.g., location, price, amenities).
     1. Data Source: <https://www.kaggle.com/datasets/datafiniti/palm-springs-vacation-rentals>

For Palm springs CA market, will be expanded to SW Florida (Fort Myers, Naples) based on data availability

* + Store data in a database (e.g., PostgreSQL, MongoDB).

1. **Backend Development:**
   * Set up a Flask backend with interactive API routes.
   * Implement user-driven interactions (e.g., filtering by location, budget).
   * Serve data to frontend based on user queries.
2. **Visualization Libraries:**
   * Choose a visualization library (e.g., Matplotlib, Plotly).
   * Create visualizations (maps, price distributions, amenity comparisons).
3. **Frontend Development:**
   * Design a user-friendly interface.
   * Allow users to input preferences (location, budget).
   * Display dynamic visualizations based on user selections.
4. **Views (Minimum of Three):**
   * **Map View:** Show rental properties on a map (using Leaflet or similar).
   * **Price Distribution:** Display rental prices (histogram or box plot).
   * **Amenities Comparison:** Compare amenities across properties.
5. **Deployment:**
   * Deploy the application (frontend and backend) to a server or cloud platform.

Places where we looked for data:

Airbnb

TripAdvisors

Expeedia

VRBO

AirDNA

1. [**Kaggle Datasets**1](https://www.kaggle.com/datasets): Kaggle offers thousands of public datasets across various domains, including computer vision, natural language processing (NLP), and data visualization. You can explore, analyze, and share quality data on this platform.
2. [**Mashvisor**](https://www.kaggle.com/datasets)[2](https://www.mashvisor.com/blog/rental-data/): Mashvisor provides an updated database covering almost every real estate market across all 50 states. Subscribers can access a massive dataset and various investing tools related to rental properties.





1. [**Inside Airbnb**](https://www.kaggle.com/datasets)[3](https://www.altexsoft.com/blog/vacation-rental-data/): Inside Airbnb offers anonymized datasets with snapshots of Airbnb listings, including reviews, calendars, and over 50 data points. It’s a valuable resource for short-term rental data.





1. **GitHub**: GitHub hosts collaborative and open-source code repositories, many of which include datasets related to real estate. Explore repositories to find relevant data.
2. [**Google Dataset Search**4](https://builtin.com/data-science/free-datasets): Use Google Dataset Search to find publicly available datasets on various topics. It’s a great resource for discovering data for your project.
3. TripAdvisor
4. <https://geodata.dep.state.fl.us/search?collection=Dataset>

### Project Plan: Vacation Rental Property Finder

**Team Members:** Jim, Mark, Krishna  
**Presentation Date:** July 23rd

#### Project Overview

The Vacation Rental Property Finder aims to assist users in finding and comparing rental properties for their stays. Users can explore available properties, filter based on preferences, and visualize essential information.

**Responsible:** Krishna – 7/11 – Complete

#### Key Components and Work Distribution

**Day 1: Data Collection and Storage – 7/15 – in progress**

* **Tasks:**
  + Gather data on vacation rental properties (e.g., location, price, amenities).
  + Data Source: Kaggle Dataset for Palm Springs, CA. Expand to SW Florida (Fort Myers, Naples) based on data availability.
  + Store data in a database (e.g., PostgreSQL, MongoDB).
* **Responsible:** Jim (Krishna – data sets and web scrapping VRBO, Mark – web scrapping Airbnb)

**Day 2: Backend Development – 7/16**

* **Tasks:**
  + Set up a Flask backend with interactive API routes.
  + Implement user-driven interactions (e.g., filtering by location, budget).
  + Serve data to frontend based on user queries.
* **Responsible:** Jim

**Day 2: Visualization Libraries – 7/16**

* **Tasks:**
  + Choose a visualization library (e.g., Matplotlib, Plotly).
  + Create visualizations (maps, price distributions, amenity comparisons).
* **Responsible:** Mark

**Day 3: Frontend Development and Views – 7/18**

* **Tasks:**
  + Design a user-friendly interface.
  + Allow users to input preferences (location, budget).
  + Display dynamic visualizations based on user selections.
  + Create the following views:
    - Map View: Show rental properties on a map (using Leaflet or similar).
    - Price Distribution: Display rental prices (histogram or box plot).
    - Amenities Comparison: Compare amenities across properties.
* **Responsible:**
* Jim (Frontend Development)
* Krishna (Views)

**Day 4: Deployment and Presentation Preparation – 7/22**

* **Tasks:**
  + Deploy the application (frontend and backend) to a server or cloud platform.
  + Prepare for the group presentation.
  + Ensure all group members are ready to speak and present their parts.
* **Responsible:** Mark (Deployment),
* Krishna (Presentation Preparation)

**Day 5: Presentation– 7/23**

#### Data Visualization Track Requirements (75 points)

1. **Data and Delivery (20 points)**
   * The dataset contains at least 100 unique records. (5 points)
   * A database is used to house the data (SQL, MongoDB, SQLite, etc.). (5 points)
   * The GitHub repo has a README.md that includes the following: (10 points)
     + An overview of the project and its purpose
     + Instructions on how to use and interact with the project
     + At least one paragraph summarizing efforts for ethical considerations made in the project
     + References for the data source(s)
     + References for any code used that is not your own
2. **Visualizations (25 points)**
   * A minimum of three unique views present the data. (10 points)
   * The visualizations are presented in a clear, digestible manner. (5 points)
   * The data story is easy to interpret for users of all levels. (10 points)
3. **Usability (30 points)**
   * The script, notebook, or webpage created to showcase data visualizations runs without error. (10 points)
   * A Python or JavaScript library not shown in class is used in the project. (10 points)
   * The project includes some level of user-driven interaction, conforming to one of the following designs: (10 points)
     + HTML menus, dropdowns, and/or textboxes to display JavaScript-powered visualizations
     + Flask backend with interactive API routes that serve back Python or JavaScript created plots
     + Visualizations created from user-selected filtered data

#### Group Presentation (25 points)

* All group members speak during the presentation. (5 points)
* The content is relevant to the project. (5 points)
* The presentation maintains audience interest. (5 points)
* Content, transitions, and conclusions flow smoothly within any time restrictions. (10 points)

# Vacation Rental Property Finder – Starter code

Top of Form

Location: Budget: Filter

Bottom of Form