User Manual

1. Pre-requisites

- **System Requirements:**
  A computer with at least 4 GB RAM.
  Python 3.8+ installed.

- **Software:**

  Jupyter Notebook or JupyterLab installed. Alternatively, a cloud-based environment like Google Colab can be used Personally, i have used google colab for my entire project.

- **Dependencies:**

  Install the required Python libraries using the following command:
  pip install -r requirements.txt
  If requirements.txt is not executable, install the libraries mentioned in the notebook.

2. Getting Started

- **Step 1:** Download the notebook file (.ipynb) and save it in a folder.
- **Step 2:** Open Jupyter Notebook and navigate to the folder where the notebook is saved and open it.
- **Step 3:** If step 2 is not your case, then use Google Colab and upload the notebook. Install dependencies in the first code cell

3. How to run the Notebook

- Run the notebook sequentially, cell by cell, to avoid errors.
- The first cell has all the necessary libraries needed for this project to run. Firstly, execute it.
- After that, replace the path of file. You can download the dataset (link is already present in python notebook). You can either upload the dataset directly from your computer to google colab or just upload the dataset file on your drive and mount it using the command below. Just copy this command and run it.

```
from google.colab import drive
drive.mount('/content/drive')
```

- After setting the path, just run all cells sequentially or you can do rull all
- Please note that a few cells may take some time to run, so please be patient while executing the code.

4. Expected Results

Upon successful execution, the notebook will produce:

- **EDA Plots**: Visualizations providing insights into the dataset.
- **Clustering Graphs**: Visual outputs illustrating clustering results.
- **Association rule mining / Frequent Pattern (FP) Growth results**: Association rules generated from the dataset.
- **Sequential Pattern Techniques**: Patterns derived from sequential analysis.
- **Clustering for recommendation:** Results of recommendation for an existing user, past interaction result and the silhouette score result.

5. Troubleshooting

Common issues and solutions:

- **Error: FileNotFoundError: .csv**
  - Solution: Verify that the dataset file is in the same directory as the notebook or update the file path.
- **Error: ModuleNotFoundError: No module named ‘’**
  - Solution: Install the missing library with:

```
pip install <module>
```

6. Notes

Ensure all cells are executed in order without skipping any to prevent unexpected errors.