Project Report – Movie Rating Insights

Project Name: Movie Rating Insights
Team Name: DataCine
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1. Project Details
This project analyzes movie ratings from multiple users to generate insights such as average ratings, most popular movies, and top/worst-rated films. It uses Python with Pandas and Matplotlib for data analysis and visualization. The dataset contains movie titles, user IDs, and ratings.

2. How We Did It
Step 1 – Data Loading
- Loaded movie and ratings datasets from Excel files.
- Verified data integrity and structure.

Step 2 – Exploratory Data Analysis (EDA)
- Merged movies and ratings data on movie_id.
- Calculated average ratings for each movie.
- Counted the number of ratings for popularity metrics.
- Identified top-rated and worst-rated movies.

Step 3 – Data Visualization
- Created bar charts to show average ratings per movie.
- Highlighted most-rated movies visually.

Step 4 – User Interaction
- Developed a Python function to allow users to rate movies dynamically.
- Updated datasets in real-time with new ratings.

3. Sources Used
- Dataset: Sample movies and ratings data (manually created for demo purposes).
- Python Libraries: Pandas, Matplotlib.
- References: Pandas Documentation, Matplotlib Documentation.

4. What We Have Learned
- How to merge datasets and perform group-by analysis in Pandas.
- Calculating and interpreting statistical metrics like mean ratings.
- Visualizing results for easier interpretation.
- Basic user interaction in Python scripts.

Conclusion
The Movie Rating Insights project successfully demonstrates how to perform data analytics on ratings data to derive meaningful insights. With more complex datasets, this system can be extended into a recommendation engine by integrating collaborative filtering and API-based movie data.