Movie Recommendation

Team III

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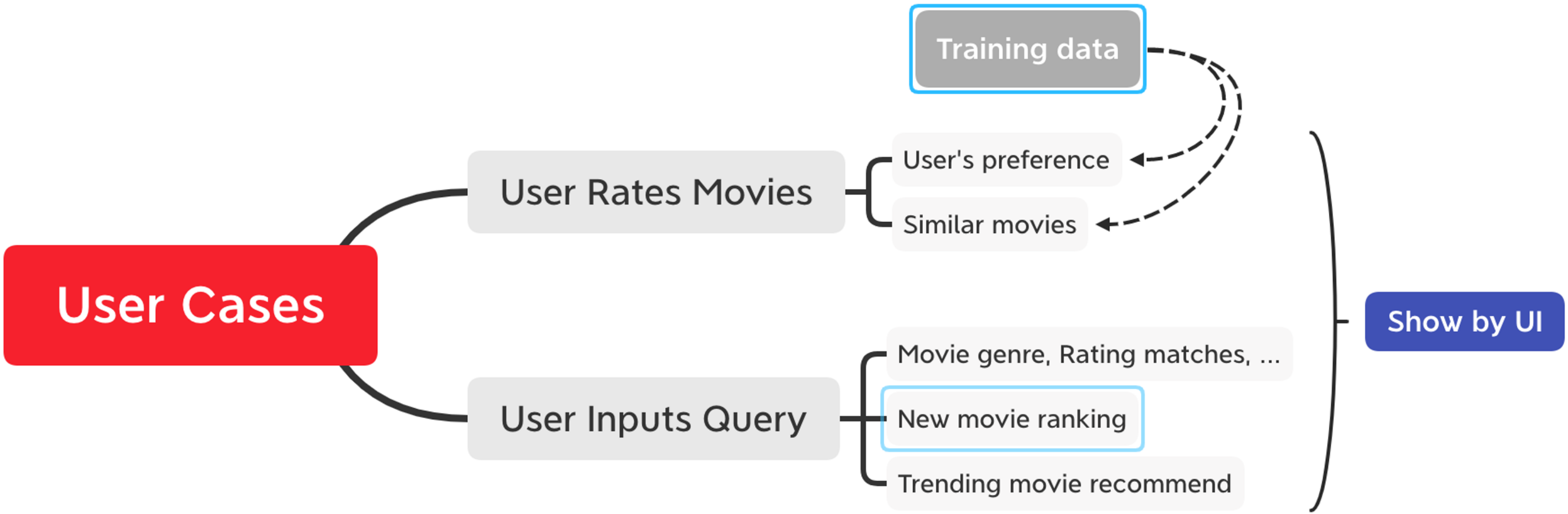
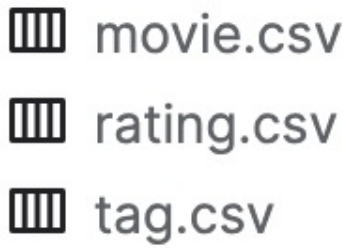

User Cases
User Rates Movies
User Inputs Query
Training data
User's preference
Similar movies
Movie genre, Rating matches, ...
New movie ranking
Trending movie recommend
Show by UI

Methodology

- **Statistics:**
  - Use Spark Core + Spark SQL deal dataset
    - Load dataset with MongoDB through Spark SQL
- **Recommendation:**
  - Algorithms use ALS to summarize user's preference and similar movies
  - Use Spark Core + Spark MLlib to implement recommendation methods

Data Source

- **MovieLens 20M Dataset**
  - https://www.kaggle.com/grouplens/movielens-20m-dataset
  - **It contains 20000263 ratings and 465564 tag applications across 27278 movies.**
  - **These data were created by 138493 users between January 09, 1995 and March 31, 2015.**
  - **Users were selected at random for inclusion. All selected users had rated at least 20 movies.**



Milestones

Milestones	Time
Data cleaning and processing Unit Test	3.22 – 3.28
Recommendation methods implementing Unit Test	3.29 – 4.7
Setup UI Implement visualization	4.8 – 4.14
Final model and use cases testing System Test	4.15 – 4.21

Repository

- Scala:
- Recommendation Part
- User Interface Use Play
- MongDB for dataset using SparkSQL
- Repo: https://github.com/tracy626/CSYE7200_FinalProj_Team3

Acceptance criteria

- User is able to:
  - Rate movie and get feedback about similar movies recommendation according to rating history (predict user's preference)
  - Ask for recommendation of new movies and get list by rank
  - Get trending movie recommendation
  - Get User-Based Recommend result in less than 3 seconds
  - Get Statistics Recommend result in less than 1 second
  - …

Goals of the Project

- Clean and process raw dataset
- Analyze movies rating with other features
- Input recommendation and analysis results to database
- Create UI for recommendation system
- Create reactive page for user to filter recommendation results