CMPE 274: Business Intelligence

Project: Movie Taste

Submitted By:

Eshan Haval(009390875)

Gauri Dasgupta(009425156)

Siddhartha Bhargava(009424025)

Navya Gattupally(009422881)

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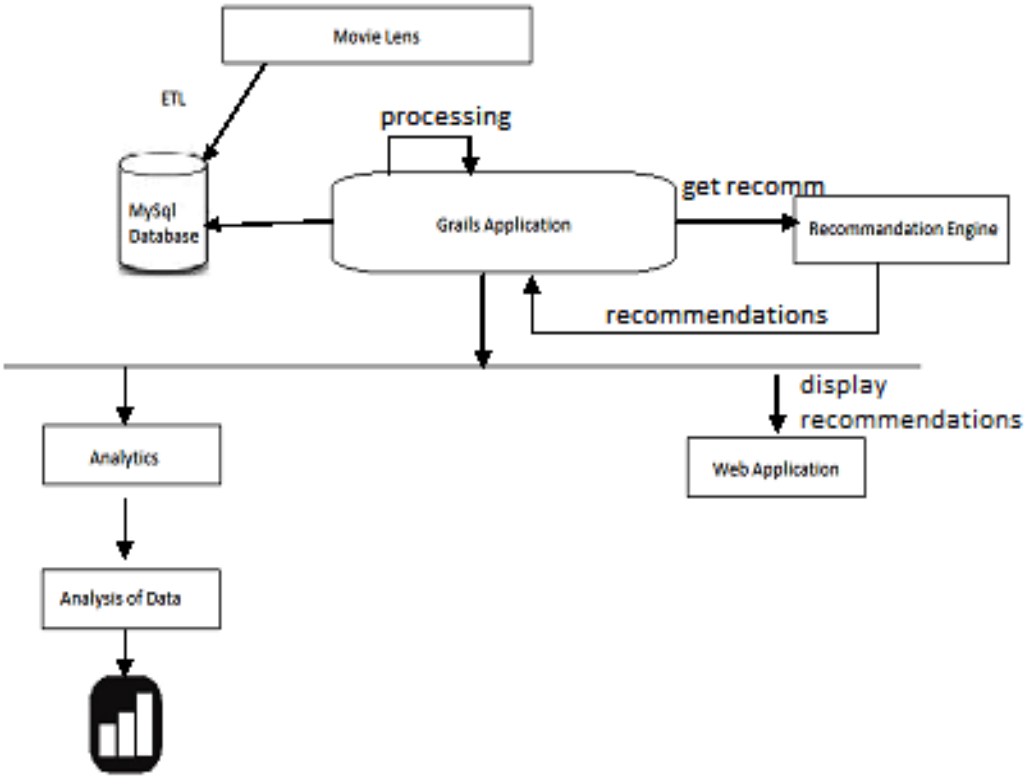
Abstract:

Movie recommendation systems aim to recommend movies that users may be interested in. In our project we aim to develop a content-based movie recommendation system that can be used for different categories/features. The system will perform specific information filtering and attempt to predict how relevant the movie is to the user. Based on the prediction a recommendation can be built which presents items that are likely of interest to the user. Intuitively, a prediction or recommendation system builds up a user's profile based on his/her records and compares it with some reference characteristics and seeks to predict the rating that a user would give to the movie that he/she hasn't evaluated yet. Moreover, recommendations also depend on the ratings that user's with similar movie tastes would have provided. Having filtered the information from each user's rating for similar movies, a response will be generated, which will be provided to the user who has not watched the movie yet.

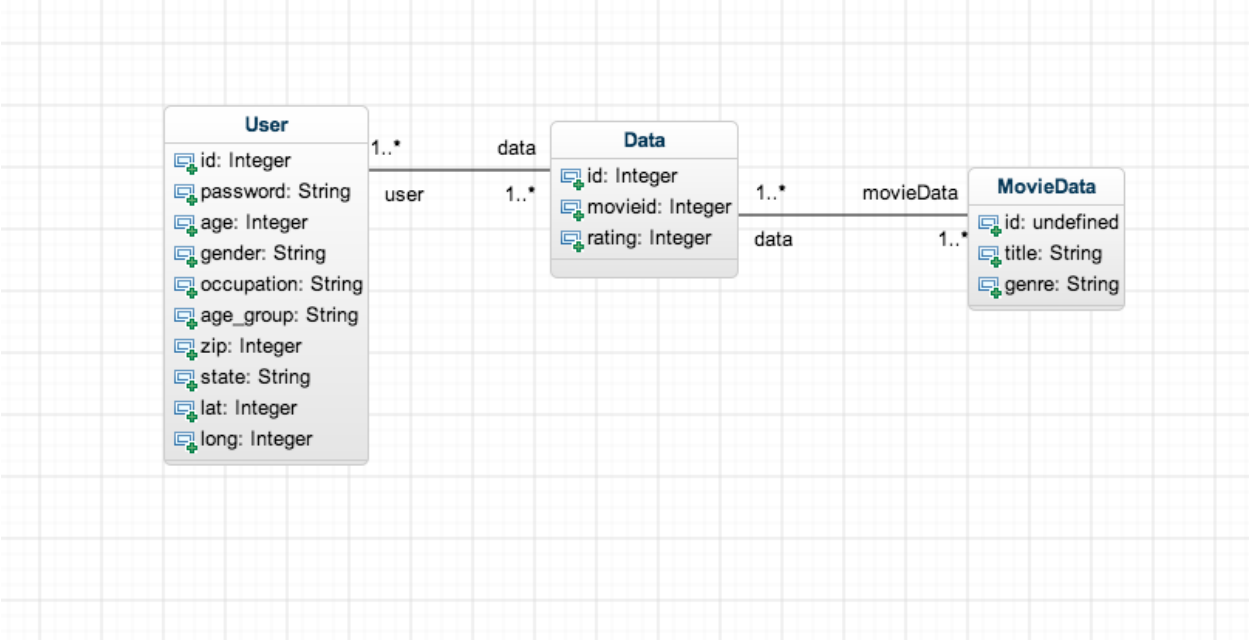
Introduction

In this project, we have developed a Movie Rating Analytics and Recommendation system. Prediction system in this project is a specific type of information filtering technique that attempts to predict how relevant a movie is to a user. Based on this prediction, a recommendation system can be built, that are likely of interest to the user. This could be implemented in many genres and can be of great importance to today's e-commerce and IT industry. It can gradually be implemented in many applications, such as Netflix or Amazon. Intuitively, a prediction or recommendation system, build up a user's profile, after this the user can rate movies based on his/her preference. The software also provides users with recommendations, based on their ratings.

System Architecture:



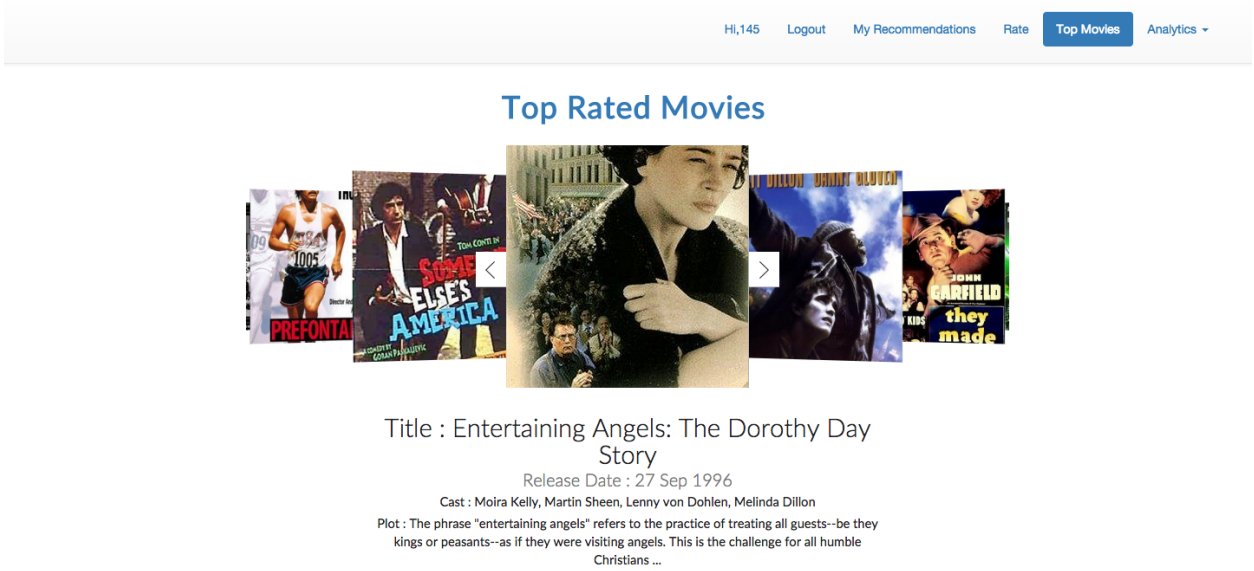
ER-Diagram:



Technologies Used:

1. Groovy on Grails: Groovy on grails is a latest Java framework which is currently the best for database migration and versioning.
2. MySql: MySql is the database used for storage of user data.
3. Mahout: project of the apache software foundation to produce free implementations of distributed or otherwise scalable machine learning algorithms focused primarily in the areas of collaborative filtering, clustering and classification.
4. AM and Google Charts: Advanced charting libraries used to serve the purpose of data visualization

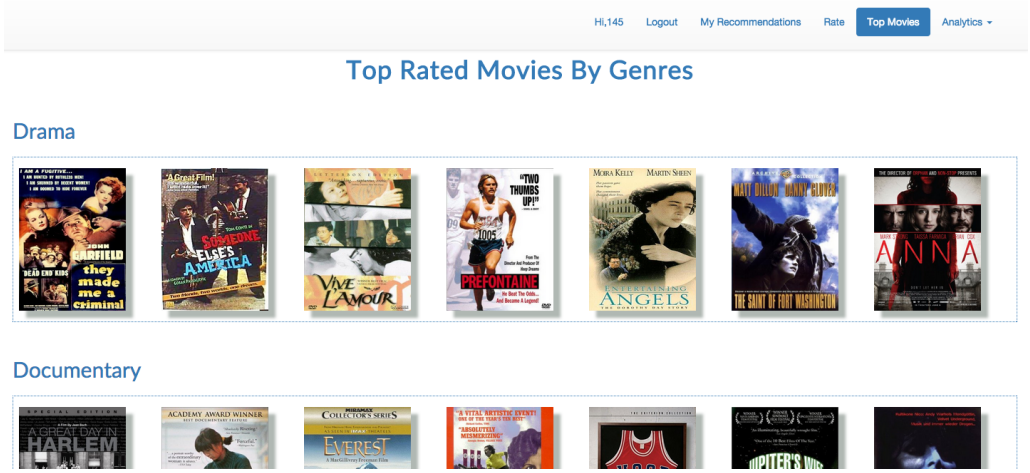
Home Page:

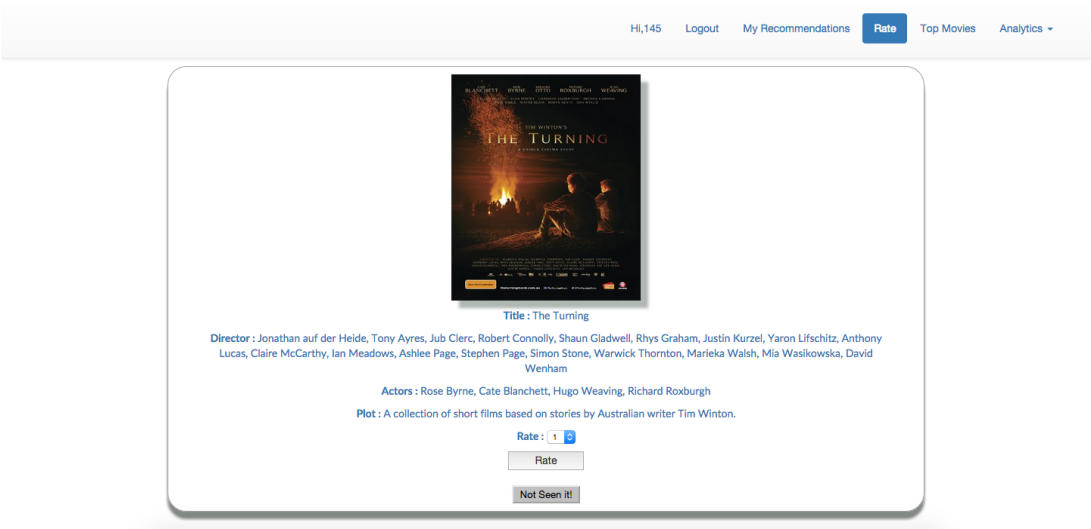


Recommendation System:

<u>How does it work?</u>

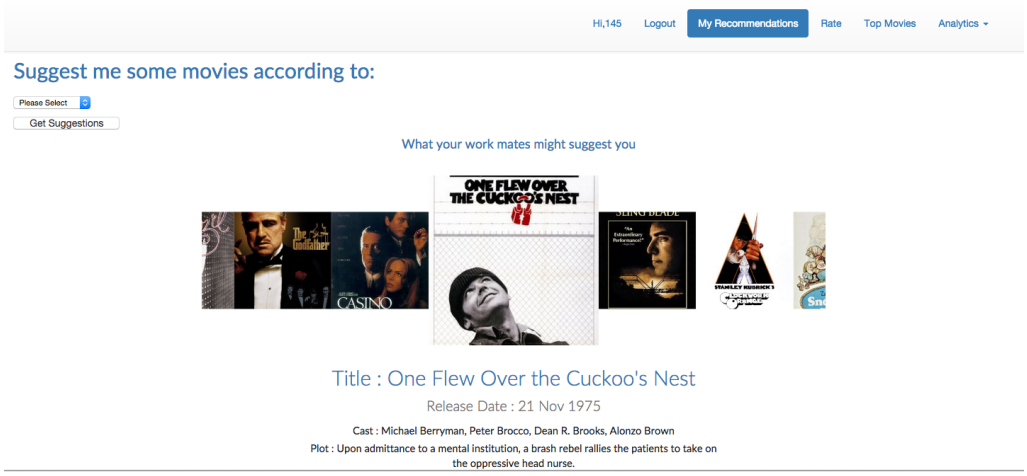
We have a collection of different movies of different genres and users with different backgrounds. Users are of different age/profession/location and can rate the movies.User ratings are mapped with users who give the same rating for a movie.User can choose to take movie recommendations from people of his age group, profession and location.Our engine maps users' profiles based on the similar ratings they give to movies.

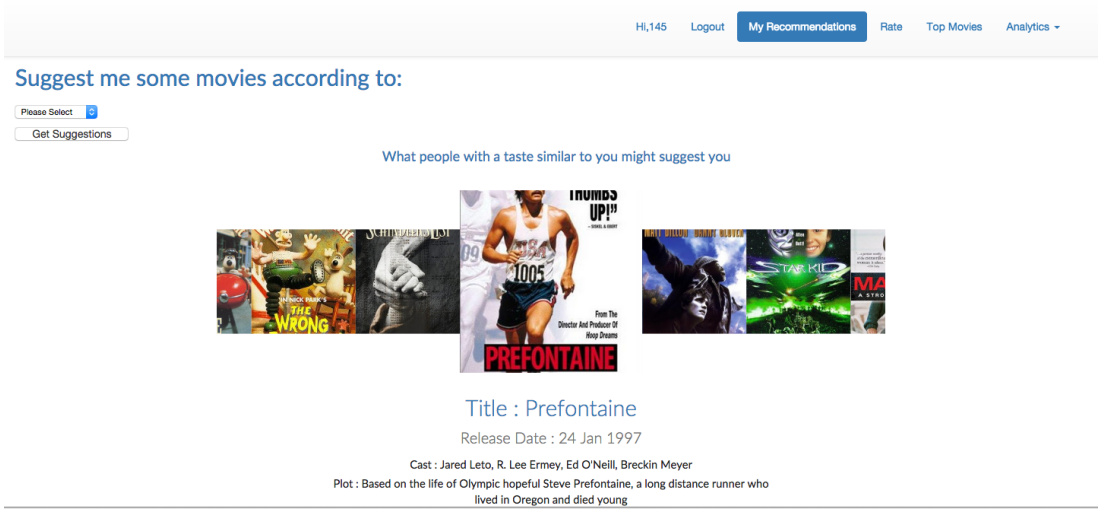




Types of Recommendations

A user can choose to take recommendations from the other users of his age group,from people in his geographic location, from people in his profession.

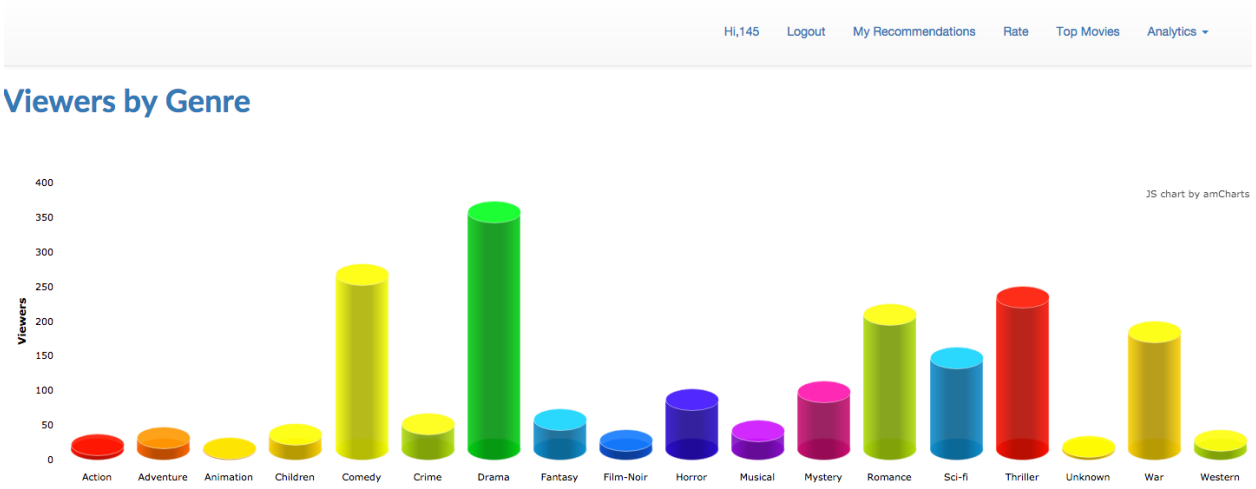




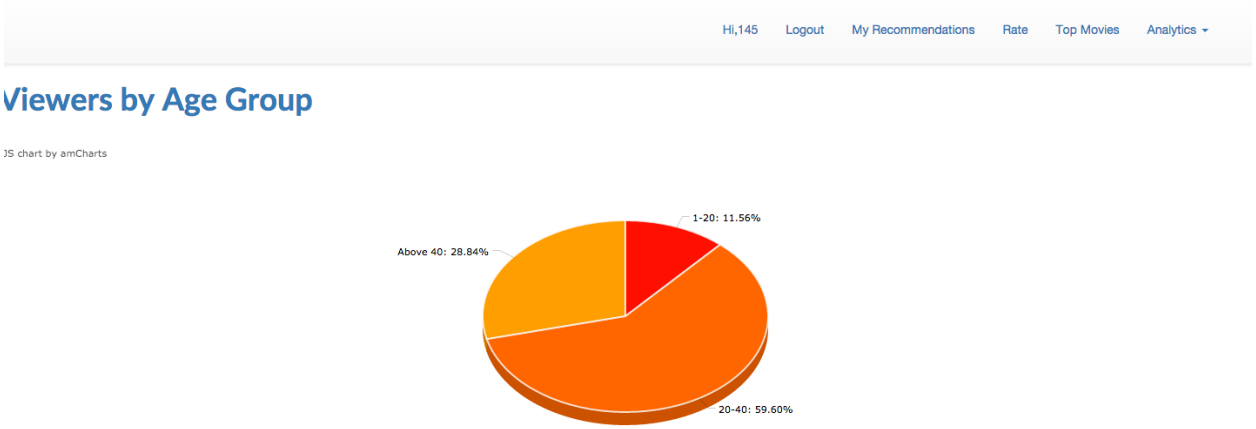
Analytics:

Movie makers can benefit from our system by choosing the target genre which will be accepted by the audience. A trending genre can be chosen based upon the statistical data viewing the simple charts generated based on the genre liked by the most number of people. Movie makers can also decide the genre by drilling into the likes of the target age groups and target locations(states in the USA).

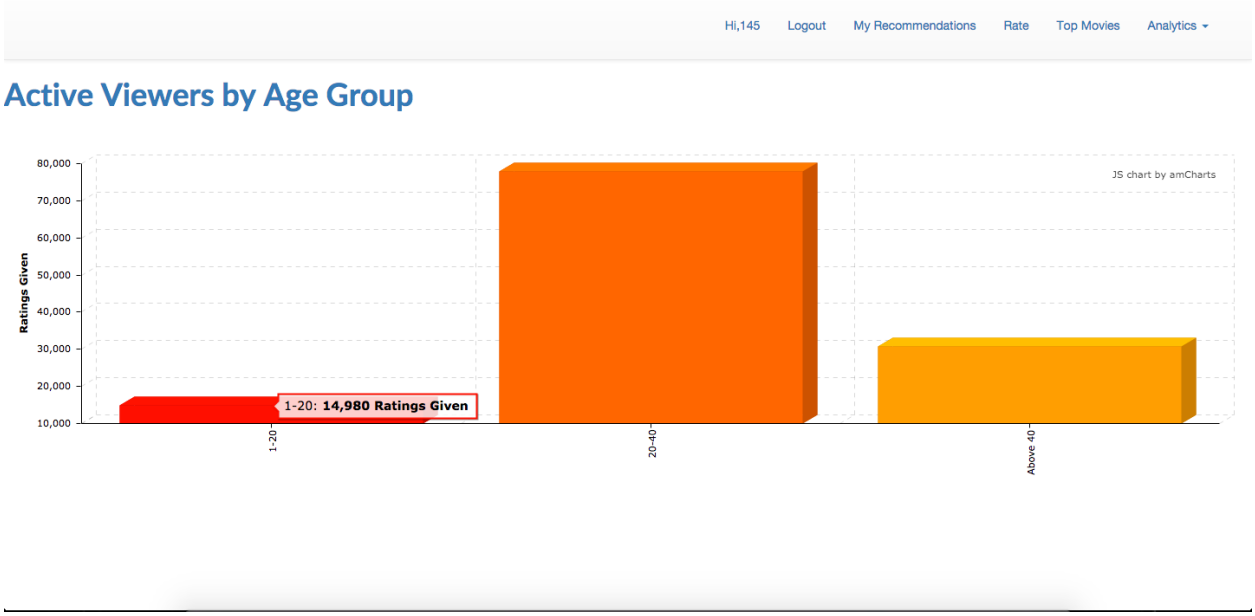
Viewers by Genre:



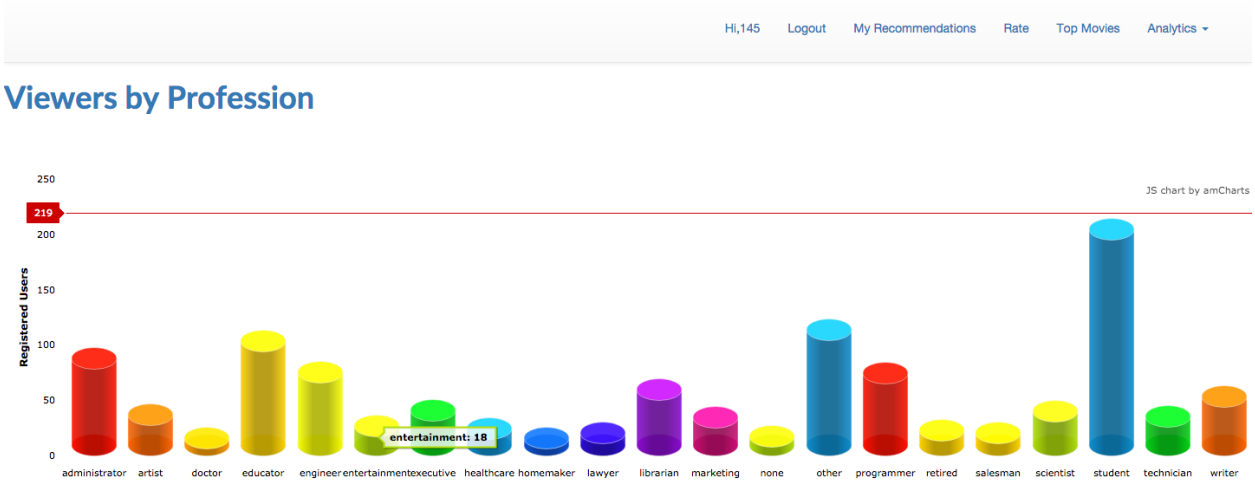
Viewers by age group:



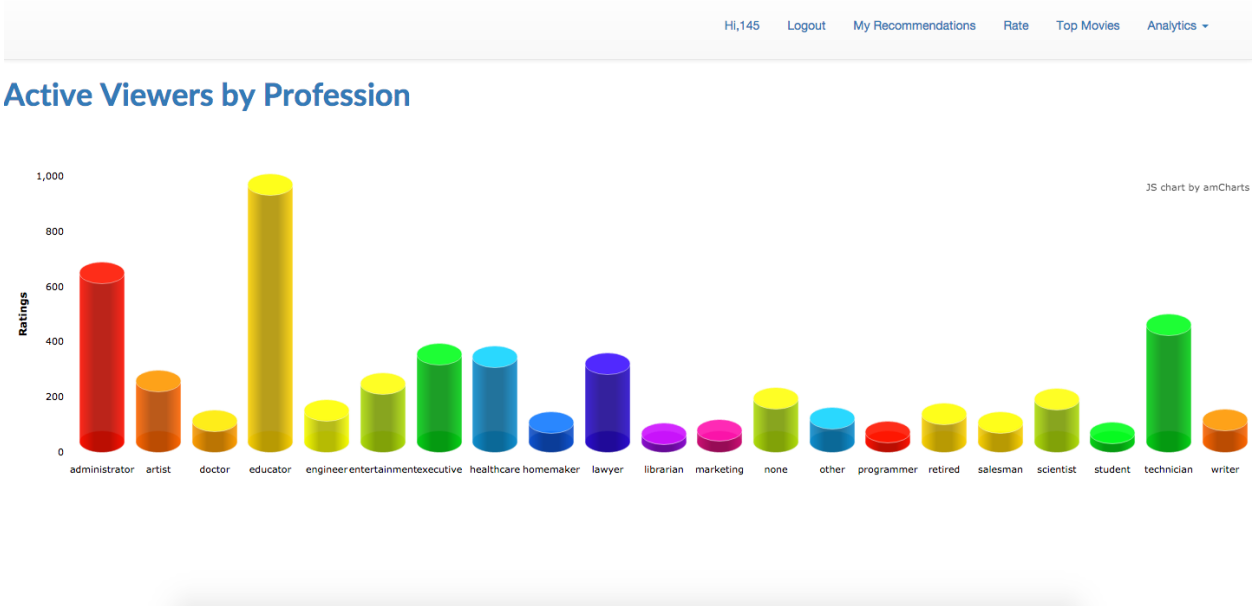
Active Viewers by age group:



Viewers by Profession:



Active Viewers by profession:



Viewers by Location: