RecoMe

(A Recommender System Project)

Description:

An online movie recommendation website using machine learning which captures users activities and suggests movies according to his watched and liked history. (and any other entertainment forms like songs, games etc. if possible).

Members:

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Viability study and risk assessment:

We wish to develop collaborative filtering recommender for recommending movies.

The idea behind collaborative filtering recommender is that if two persons show similar interest over something in the past, they might have similar interest on an item in the future. For example, if X and Y has same taste for food in past, suppose let's say that if X has tasted a new item recently, we are going to propose the same to Y.

In this project, in order to recommend movies, we will use a large set of users' preferences towards the movies from a publicly available movie rating dataset.

Now, we will use the user-based approach. According to this approach, given a new user, its similar users are first identified. Then, the top-rated items rated by similar users are recommended.

For each new user, these are the steps:

1. Measure how similar each user is to the new one.
2. Identify the most similar users. The options are:

- Take account of the top k users (k-nearest_neighbors)
- Take account of the users whose similarity is above a defined threshold

3. Rate the movies rated by the most similar users. The rating is the average rating among similar users and the approaches are:

   - Average rating
   - Weighted average rating, using the similarities as weights

4. Pick the top-rated movies.

Evaluation:

We need training and testing data to evaluate a model. We are going to split the data into 80% training and 20% testing proportion. For each user in the test set, we need to define how many items to use to generate recommendations. For this, we first check the minimum number of items rated by users to be sure there will be no users with no items to test.

Application of product developed and its significance:

Sometimes after watching a movie or playing a game you want to recapture it's essence all over again, we just do that. We take your interests and give you recommendations based on that. It reduces your time of going through different websites and find something of that similar interest.

Gantt chart with proper timeline breaking up stages of development:

Name	Begin date	End date
Prepatory Phase	13/8/17	23/9/17
Implementing Machine Learning on Data Sets	24/9/17	22/10/17
Front End Development	1/10/17	14/10/17
Development of Back End and combining it with front end	7/10/17	28/10/17
Testing Phase	29/10/17	11/11/17
Documentation and Delivery Phase	12/11/17	19/11/17

	Prepatory Phase	Implementing Machine Learning on Data Sets	Front End Devlopment	Back End Development and combining it with front end	Testing Phase	Documentation and Delivery Phase
Start Date	13-08-2017	24-09-2017	01-10-2017	07-10-2017	29-10-2017	12-11-2017
Duration(days)	42	28	14	21	14	7

Software/Hardware required:

Software:Python 3.0, MongoDB, Django framework

Hardware: Not Required.

(No funds required)

A proper break up table of the responsibilities of individual group members :

1. Creating User Interface of website:- N. Surya Devaraj, A V R S N Vamsi
2. Managing Database:- Ch. Pavan Sai, T Satya Krishna
3. Machine Learning Algorithms:- K Anil Kumar, L Pavan Kalyan, A V R S N Vamsi