Proposal:

With increasing number of choices, it has become imperative to devise a movie recommendation system to narrow down choices for people. They are an alternative to search engines so that users can find movies that they would not have found otherwise. Most techniques rely on breaking down a list of movies into a bunch of attributes and match the attributes to a user's preference.

In this project, all the reviews will be extracted from the MovieLens 100k website and a collaborative filtering system will be used to build the recommender engine. This uses an approach where users who agreed in the past will agree in the future. The python code will extract data on where the users have agreed in the past and analyzing that data predict what they might agree on in the future.

Implementation:

This program takes into account genre information along with the user-based collaborative filter. The genre information is obtained by getting a cosine value dot product of the user's movie choices with the movies available from the dataset. Using this, a list of movies is generated that match in genre to the ones entered by the user. Then a user-based collaborative filter is used to obtain a list of 10 critics with choices closest to that of the user. The critics' ratings for the movies from the genre information is obtained and weighted to the

similarity of the critic with the user. This is used to generate a score for the movie which is ranked to give the top 5 recommended movies for the user.

Sample Output:

```
Enter the name of the movie:Kika (1993)
Enter the movie rating4
Enter the name of the movie:Mamma Roma (1962)
Enter the movie rating3
Enter the name of the movie:War at Home, The (1996)
Enter the movie rating4
Enter the name of the movie:B. Monkey (1998)
Enter the movie rating4
Enter the name of the movie:Sliding Doors (1998)
Enter the movie rating4
Enter the name of the movie:You So Crazy (1994)
Enter the movie rating3
Enter the name of the movie:Top Hat (1935)
Enter the movie rating4
Enter the name of the movie:Little City (1998)
Enter the movie rating2
input=
Kika (1993)
Mamma Roma (1962)
War at Home, The (1996)
B. Monkey (1998)
Sliding Doors (1998)
You So Crazy (1994)
Top Hat (1935)
Little City (1998)


Recommended Movies:
Dead Man Walking (1995)
Rebecca (1940)
Desperado (1995)
Shanghai Triad (Yao a yao yao dao waipo qiao) (1995)
Mr. Holland's Opus (1995)
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Future work:

While I was able to implement the movie matching with genre information on top of the initially proposed collaborative filter, I was not able to spend time on implementing a good user-interface for obtaining the information effectively. Also, predicted ratings for movies can be obtained using a subset of functions I have implemented for the recommender system.

References:

Programming Collective Intelligence by Toby Segaran