

CPS842 Project Report

For our project we created a movie recommendation system otherwise known as project 2 in the requirements. Creating a website requires many components even without considering the calculations required for the algorithm.

To create our website, we used PHP for backend and bootstrap for frontend. Aside from small helper functions, most of our pages mostly act as the functions themselves when they are called by the forms.

We also have several php files for the main purpose of just creating the database, tables and data that we need for testing.

Test.php is the main page where most of our calculations are done. We used a user-based Collaborative Filtering Approach. It mostly uses imperial styling of coding but we designed it so that first:

1. We convert the sql tables into dictionaries for ease of access.
2. We create a large nested loop that calculates the average, and normalized values of each user's ratings
3. It also calculates the cosine similarity values using the pearson coefficient formula and finds the most similar users to the current user in the website session.
4. It should iterate through the movies dictionary where it will calculate the recommended movies for the user using the previously obtained data.
5. It will return the recommended movie data in a dictionary which will be translated and displayed into a table. The green rating values in the table are the predicted ratings of the user.
6. If the rating is above a 3, the movie will be recommended to the user.

Our register and login system uses PHP's session variables. Logging in to the form with login.php will set the user's name and UID as session variables which are variables that remain until the browser is closed. It will also insert the user's login information into the database. There is validation that prevents the user from creating duplicate usernames along with logging in with the incorrect password.

Logging out will destroy all session variables.