PES UNIVERSITY

Department of Computer Science & Engineering

UE17CS355 – Web Tech II Laboratory

Project Evaluation

Project Title : **CMovies - Movie Streaming website with customized recommendations**

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Project Description

CMovies is an online movie streaming platform developed using Flask and HTML. It is a free to use streaming service which allows users to watch latest movies online. There are about 250 movies to watch in several languages and genres. The movie database is obtained by scraping IMDB website.

The users are served with customized recommendations based on their watch history and the movies that they've liked. Users can customize their watch list with the movies that they would like to watch later. They can like/dislike movies, search for movies based on their taste and also manage their watch history.

Technologies Used

Frameworks

- Front-end Frameworks – JQuery
- Back-end Frameworks – Flask/Python

Languages

- HTML, CSS, Jinja2
- JavaScript, JQuery
- Python

Libraries

Flask-SQLAlchemy, Flask-Bcrypt, Flask-Login, ElasticSearch, BeautifulSoup, Rake-NLTK, SKLearn, WTForms, Font-Awesome, etc.

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Techniques Implemented

- **Periodic Refresh:** The info page of a movie is refreshed periodically to update the likes and views of that movie. The refresh rate is 3 seconds.

- **Submission Throttling:** Search bar implementation uses submission throttling. Suggestion for the text entered by the user in the search box is retrieved from search.txt. Each time a key is pressed down, submission throttling function is called, we wait for 1s before submitting the search query to retrieve the suggestion.

- **Basic AJAX** is used to Like/Dislike a movie and add a movie to the user's watch list. The query is submitted asynchronously and the page is prevented from refreshing.

- The website is implemented as a RESTful API with each web page represented as an endpoint of the API.

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Intelligent Functionality

The website's intelligent functionality is to recommend movies to the user based on the user's watch history and user's previously liked movies. A combined list of these movies is passed as input to a recommendation engine. The recommendation engine uses content-based filtering technique, where it recommends similar movies as the input provided.

Based on the input, similar movies with same plot, genre, language, etc. is recommended. To match movies with similar plots, the description of the movie is converted to a bag of words using rake-nltk. For the provided input movie, a 1xn matrix is created representing the similarity of input movie with all the movies in the database. Each movie is assigned a "related score". The score is calculated using Cosine Similarity. The most relevant movies with the input movie is chosen and recommended to the user.

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Thank You