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**INTRODUCTION**

In this hustling world, entertainment is a necessity for each one of us to refresh our mood and energy. Entertainment regains our confidence for work and we can work more enthusiastically. For revitalizing ourselves, we can listen to our preferred music or can watch movies of our choice. For watching favorable movies online, we can utilize movie recommendation systems, which are more reliable, since searching of preferred movies will require more and more time which one cannot afford to waste. In this paper, to improve the quality of a movie recommendation system. The movies are recommended based on the content of the movie you entered or selected. The main parameters that are considered for the recommendations are the genre, director, and top 3 casts. The details of the movies, such as title, genre, runtime, rating, poster, casts, etc. There are a lot of features extracted from the movie, they are diversity and unique, which is also the difference from other recommender systems. We use these features to construct movie model and calculate similarity. We introduce a new approach for setting weight of features, which improves the representative of movies. Finally, we evaluate the approach to illustrate the improvement

**BACKGROUND**

Movie recommendation systems have become increasingly popular in recent years, thanks to the growth of online streaming services and the availability of large amounts of user data. The goal of these systems is to help users discover new movies that they are likely to enjoy, while also providing personalized recommendations based on their individual preferences.

The earliest movie recommendation systems used simple algorithms that relied on basic user input, such as ratings and reviews, to make recommendations. However, as the amount of available data has increased, these systems have become more complex and sophisticated.

Today's movie recommendation systems often use machine learning algorithms and artificial intelligence techniques to analyze user data, identify patterns in user behavior, and make more accurate recommendations. These algorithms can take into account a wide range of factors, such as a user's viewing history, the ratings and reviews they have provided for movies, their search history, and even their social media activity.

**PROBLEM STATEMENT**

For building a recommender system from scratch, we face several different problems. Currently there are a lot of recommender systems based on the user information, so what should we do if the website has not gotten enough users. After that, we will solve the representation of a movie, which is how a system can understand a movie. That is the precondition for comparing similarity between two movies. Movie features such as genre, actor and director is a way that can categorize movies. But for each feature of the movie, there should be different weight for them and each of them plays a different role for recommendation. So we get these questions:

• How to recommend movies when there are no user information.

• What kind of movie features can be used for the recommender system.

• How to calculate the similarity between two movies.

• Is it possible to set weight for each feature.

**EXISTING SYSTEM**

The current existing systems do not recommend with accuracy. The algorithms used differ from system to system with different accuracy. In entertainment category there is new data generated every seconds. The dataset should be always updated. The systems which exists in the market only recommend but our system will also do sentimental analysis. A particular system does not exists for such purpose it is always integrated with some other platform .

Some existing movie recommendation systems include Netflix, Amazon Prime, Hulu, and IMDb. These systems use a combination of the above approaches to provide recommendations to their users. For example, Netflix uses a combination of collaborative filtering and content-based approaches, while IMDb uses a content-based approach to recommend movies based on user ratings and reviews.

**OBJECTIVE OF THE PROJECT**

The goals of this thesis project is to do the research of Recommender Systems and find a suitable way to implement it.

• Improving the Accuracy of the recommendation system

• Improve the Quality of the movie Recommendation system

• Improving the Scalability.

• Enhancing the user experience.

**PURPOSE**

* The Purpose of this thesis project is to do the research of Recommender Systems and find a suitable way to implement it. There are many kinds of Recommender Systems but not all of them are suitable for one specific problem and situation.
* Our goal is to find a new way to improve the classification of movies, which is the requirement of improving content-based recommender systems. The goal of the project is to improve the quality of movie recommendation system, such as accuracy, quality and scalability of system than the pure approaches.
* Overall, the purpose of a movie recommendation system is to enhance the user's viewing experience by providing personalized and relevant movie recommendations, while also increasing engagement and retention for streaming services.

**SCOPE**

Scope of the Project The objective of this project is to provide accurate movie recommendations to users. The goal of the project is to improve the quality of movie recommendation system, such as accuracy, quality and scalability of system than the pure approaches. To eradicate the overload of the data, recommendation system is used as information filtering tool in social networking sites. Hence, there is a huge scope of exploration in this field for improving scalability, accuracy and quality of movie recommendation systems Movie Recommendation system is very powerful and important system. But, due to the problems associated with pure collaborative approach, movie recommendation systems also suffer with poor recommendation quality and scalability issues.

**APPLICABILITY**

Movie recommendation systems are applicable in a variety of contexts, including:

1. Streaming services: Movie recommendation systems are commonly used by streaming services such as Netflix, Amazon Prime, Hulu, and Disney+ to help users discover new content and improve the overall viewing experience.
2. E-commerce platforms: Online retailers such as Amazon and Best Buy use recommendation systems to suggest related products to customers based on their browsing and purchase history.
3. Social media platforms: Social media platforms such as Facebook and Twitter use recommendation systems to suggest content, groups, and pages to users based on their interests and activity.
4. Movie review websites: Movie review websites such as IMDb and Rotten Tomatoes use recommendation systems to suggest movies to users based on their ratings and reviews.
5. In-store kiosks: Some brick-and-mortar retailers use movie recommendation systems in their in-store kiosks to suggest movies to customers based on their preferences and behavior.

**FEASIBILITY STUDY**

Feasibility study can help you determine whether or not you should proceed with our project. It is essential to evaluate cost and benefit.

* **Technical feasibility:**

This evaluation focuses on the**technical resources** available to the organization. It helps organizations determine if technical resources meet capabilities and if the technical team is able to convert ideas into operating systems. The technical feasibility also involves the evaluation of hardware, software, and other technological requirements. For recommendation system needs internet connection. It is also not an issue in this era where almost every home or office has Wi-Fi. There are no much technical requirements.

* **Operational feasibility:**

This evaluation involves carrying out a study to analyze and determine whether and to what extent the needs of the organization can be met by completing the project. The operational feasibility studies also analyze how a project plan meets the requirements identified in the analysis phase. It is the ease and simplicity of operation of proposed system. System does not require any special skill set for users to operate it. In fact, it is designed to be used by almost everyone. Interface is very much friendly so that the user can understand every functions easily.

* **Economical feasibility:**

 The purpose of an economic feasibility study (EFS) is to demonstrate the net benefit of a proposed project for accepting or disbursing electronic funds/benefits, taking into consideration the benefits and costs to the agency, other state agencies, and the general public as a whole. For this project, the main cost is documentation.

**PLANNING AND SCHEDULING**

The project will be built in various phases such as Requirement analysis, planning, documentation, designing, testing and deploying. By proper planning and scheduling we will ensure the smooth functioning of the project. By implementing Agile Methodology the Development life cycle will ensure the Quality of the software built.

**SOFTWARE AND HARDWARE REQUIREMENTS**

The software is designed to be light-weighted so that it doesn’t be a burden on the machine running it. This system is being build keeping in mind the generally available hardware and software compatibility. Here are the minimum hardware and software requirement for Movie recommendation system.

**Hardware Requirements**

• A PC with Windows/Linux OS

• Processor with 1.7-2.4gHz speed

• Minimum of 8gb RAM

• 2gb Graphic card

**Software Specification**

• Text Editor (VS-code/WebStorm)

• Anaconda distribution package (PyCharm Editor)

• Python libraries

**Software Requirements**

* Anaconda distribution
* Python libraries : SKlearn, NumPy, Flask