**Project Synopsis: Movie Recommendation System**

BTI Data Science, 3rd Year, 6th SEM, Technical Project

**Group Members: -**

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**Technologies and Languages Used:**

* **Languages:** Python, HTML, JavaScript
* **Web Framework:** Flask (Python)
* **Database:** SQLite
* **Front-End Styling:** Bootstrap (CSS)
* **Version Control:** Git

**Function and Use of the Project:** The Movie Recommendation System is a web-based application designed to provide personalized movie recommendations to users based on various criteria such as genre, director, release date, and voting/rating. The project employs a Flask web server to handle backend logic, SQLite for data storage and retrieval, HTML for the front-end structure, and JavaScript for dynamic client-side functionality. Bootstrap is used for styling the user interface.

**Key Features:**

1. **Search Functionality:** Users can search for movies using a search bar, providing them with a list of recommendations based on their query.
2. **Filter Options:** The system offers filtering options such as genre, director, release year, and voting, allowing users to narrow down their preferences.
3. **Dark Mode Support:** The application provides a dark mode feature, allowing users to switch between light and dark themes for improved readability and user experience.

**Scope of the Movie Recommendation Project:**

1. **Personalization:** The project aims to enhance user experience by providing personalized movie recommendations, making it suitable for individuals with diverse movie preferences.
2. **Expandable Database:** The system uses an SQLite database to store movie data. It can be expanded to include more movies, genres, and additional information for a richer recommendation experience.
3. **Educational Tool:** This project serves as a practical example for web development using Flask, integrating a database, and implementing dynamic features with JavaScript.
4. **User Engagement:** By incorporating various filters and search options, the system encourages user engagement and exploration of a wide range of movie choices.
5. **Scalability:** The architecture of the project allows for scalability, making it feasible to integrate additional features, such as user accounts, ratings, and reviews, in the future.

**Possible Future Enhancements:**

1. **User Accounts:** Implementing user accounts to track individual preferences and provide more accurate recommendations.
2. **Integration with External APIs:** Enhancing the movie database by integrating with external APIs to fetch real-time data and reviews.
3. **Rating and Review System:** Allowing users to rate and review movies, contributing to a community-driven recommendation system.
4. **Recommendation Algorithms:** Implementing advanced recommendation algorithms to enhance the accuracy and relevance of movie suggestions.

In summary, our project is a web-based application designed to provide a personalized and engaging movie discovery experience. The project leverages various technologies to create a user-friendly interface, and its modular architecture allows for future enhancements and scalability.