Vision Quest

Creating a Personal Movie Catalog

ITAI 1378: Computer Vision

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**Conceptualizing the Movie Catalog**

**Data Collection:**

1. Title

2. Genre

3. Director

4. Year of release

5. Duration

6. Cast

7. Plot summary

8. Rating (e.g., IMDb or user rating)

9. Awards

10. Production studio

11. Language

12. Country of origin

**Categorization:**

Movies would be categorized using the k-means clustering algorithm. This unsupervised learning algorithm would group movies based on features like genre, director, cast, and plot summary similarity. K-means clustering allows for flexible grouping without predefined categories, enabling the catalog to adapt to the diverse characteristics of movies.

**Designing the Catalog Interface**

**User Interface (UI) Concept:**

The UI would feature a minimalist design with a focus on intuitive navigation.

- A prominent search bar for title searches.

- Filter options for genre, director, release year, etc.

- Movie cards displaying key information (title, poster, rating) in a grid layout.

- Detailed view with additional information upon clicking a movie card.

**User Interaction**:

- Adding New Movies: Users can submit new movies through a form-based interface.

- Search: Users can search for specific titles using the search bar.

- Updating Movie Information: An edit button on the detailed view allows users to modify movie details.

**Creating a Recommendation Plan**

**Recommendation Criteria:**

1. Similarity Clustering: Recommend movies clustered together with those the user has liked, based on features like genre, director, and plot summary.

2. Collaborative Filtering: Recommend movies liked by users with similar tastes, based on their historical ratings.

3. Content-based Filtering: Recommend movies based on the user's past preferences, focusing on specific genres, directors, or actors.

**Personalization Aspect:**

1. Recently Watched: Prioritize recommendations based on movies recently watched by the user.

2. Mood-based: Allow users to input their mood, influencing movie recommendations (e.g., recommending comedies for a cheerful mood).

**Feedback and Improvement Mechanism**

**Feedback Collection:**

Users can provide feedback through a thumbs up/down or star rating system for recommended movies.

**Improvement Plan:**

- Utilize feedback to adjust clustering algorithms, ensuring more accurate movie groupings.

- Incorporate user feedback into collaborative and content-based filtering models to enhance recommendation accuracy.

- Monitor user interactions and update recommendation algorithms regularly to reflect changing preferences.

**Reporting**

**Overview of the Movie Catalog and its Features:**

The movie catalog employs k-means clustering for flexible categorization and recommendation algorithms based on similarity clustering, collaborative filtering, and content-based filtering. The UI provides intuitive navigation, and personalization aspects enhance the user experience.

**Detailed Description of the Recommendation Criteria and Personalization Aspects:**

Recommendations are tailored to users' preferences using similarity clustering, collaborative filtering, and content-based filtering. Personalization aspects include considering recently watched movies and user inputted moods.

**Feedback Collection and Improvement Mechanism:**

Feedback is collected through a simple rating system and used to refine clustering and recommendation algorithms. Continuous monitoring of user interactions ensures recommendations remain relevant over time.

**Reflection:**

The catalog and recommendation system offer users a sophisticated platform for discovering movies tailored to their tastes. By leveraging clustering algorithms and personalized recommendation criteria, the system enhances the movie-watching experience, providing users with relevant and engaging movie suggestions.

**References**

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