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MASTER'S INTELLIGENT SYSTEMS ENGINEERING

ARTIFICIAL INTELLIGENCE

REPORT

EXPERT SYSTEM IMPLEMENTATION

—

MOVIES / SERIES SUGGESTION SYSTEM

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1. Introduction

The Prolog Movie and Series Recommendation System is a project designed to provide personalized recommendations to users based on their preferences. Utilizing Prolog as the programming language, the system uses a base of facts as predicates of movies and series to generate suggestions. This report outlines the project's objectives, features, structure, and how users can interact with the recommendation system.

2. Objectives

The primary objectives of the Movie and Series Recommendation System include:

Providing a user-friendly interface for inputting preferences.

Generating personalized movie and series recommendations based on user criteria.

Implementing a modular design for easy maintenance and updates.

3. Project Structure

The project is structured as follows:

recommendation_system.pl: The main Prolog file containing predicates for recommendation and user interaction, as well as databases of movies and series.

4. Features

Key features of the recommendation system:

- User-Friendly Interface: The system allows users to input preferences such as age, mood, director, and streaming platform in an intuitive manner.

```
suggest_movie_or_serie(M) :-  
    write('Choose one option:\n 1. Movie\n 2. Short  
Series\n'),  
    read(Option),  
    (Option = 1 ->  
        suggest_movie(M)  
    ; Option = 2 ->  
        suggest_serie(M)  
    ;  
        write('Invalid option. Please choose either 1 or 2.\n'),  
        suggest_movie_or_serie(M)  
    ).
```

- Personalized Recommendations: Using Prolog predicates, the system filters and recommends movies or series based on user criteria. The **list_movie** and **list_serie** predicates use a combination of movie and series attributes to narrow down the recommendations.

```
list_movie(Director, Categories, Min, Max, Stream, Theme, Origin, Gender, L)  
:-  
    list_movie(Director, Categories, Min, Max, Stream, Theme, Origin, Gender,  
    [], L).
```

```

list_movie(Director, Categories, Min, Max, Stream, Theme, Origin, Gender,
Acc, L) :-
    movie(Movie, Director, Category, Length, Streamings, Themes,
MovieOrigin, MovieGender),
    elems(Theme, Themes),
    elem(Stream, Streamings),
    elem(Category, Categories),
    Length > Min-1,
    Length < Max+1,
    is_origin(Origin, Movie),
    has_gender(Gender, Movie),
    \+ elem(Movie, Acc), !,
    list_movie(Director, Categories, Min, Max, Stream, Theme, Origin, Gender,
[Movie | Acc], L).

```

- Modular Design: The project is designed with modularity in mind, making it easy to maintain and update.

5. Usage

To use the Movie and Series Recommendation System:

- Clone the repository to your local machine.
- Open the Prolog interpreter in the terminal.
- Load the main Prolog file: **consult('recommendation_system.pl')**.
- Run the recommendation system: **suggest_movie_or_serie(M)**.

6. How It Works

The user provides input for age, mood, director, streaming platform, and other preferences. The recommendation system queries the databases of movies and series to generate personalized suggestions. Prolog predicates are used to filter and recommend movies or series based on user criteria

7. Usage Example

```
?- suggest_movie_or_serie(M).
Choose one option:
  1. Movie
  2. Short Series
|: 1.
Type your age: |: 20.
Choose your mood:
  happy  sad  angry  scared
|: happy.
Choose a director from:
List of Movie Directors:
ridley_scott
andrew_adamson
taika_waititi
george_lucas
zack_snyder
steven_spielberg
richard_lester
bernardo_bertolucci
christopher_nolan
roger_michell
rian_johnson
oriol_paulo
drancis_ford_coppola
quentin_tarantino
robert_zemeckis
ron_howard
brad_bird
james_cameron
sam_mendes
james_marshall
todd_phillips
andrew_stanton
david_fincher
nathan_greno
frank_darabont
peter_jackson
nancy_meyers
mark_osborne
kelly_asbury
clint_eastwood
nick_cassavetes
david_russell
jon_watts
cary_fukunaga
denis_villeneuve
wes_anderson
chloe_zhao
cate_shortland
destin_daniel_cretton
steven_soderbergh
darren_lynn_bousman
craig_gillespie
james_gunn
rodono_safran
jason_reitman
rawson_marshall_thurber
lana_wachowski
andy_serkins
derek_drymon
sam_raimi
|: kelly_asbury.
Choose your streaming platform:
  netflix  hbogo  prime  disney :
|: netflix.
Type minimum length of film in minutes: |: 20.
Type maximum length of film in minutes: |: 180.
Choose the origin:
  usa  uk  ....
|: usa.
Choose the main actor's gender:
  male  female  diverse
|: male.

M = [spirit_stallion_of_the_cimarron].
```

8. Future Considerations

- Potential areas for future improvement or expansion:
- Incorporating user feedback to enhance the recommendation algorithm.
- Adding support for additional user preferences and criteria.
- Expanding the base of fact of movies and series to provide a broader range of recommendations.

9. Conclusion

The Prolog Movie and Series Recommendation System is a versatile and user-friendly project that leverages Prolog's capabilities for recommendation purposes. With its modular design, the system is well-positioned for future enhancements and improvements.