**Simple Text Based Recommendation System**

**Introduction:**  
In this project, students will create a simple recommendation system that suggests items (like books, movies, or products) based on what the user likes. The system will make recommendations by looking at keywords or categories the user provides. For example, if the user says they like "action" movies or "poetry" books, the system will suggest similar items from a pre-made list. The main focus will be on processing text input and building a simple, functional system.

### Functional Requirements:

1. **Users and Authentication:** There will be two types of users, Admin and Viewer. The admin will handle the data and user accounts. Whereas users can sign up and use the features listed below.
2. **Item List**: The system should have a predefined list of items (e.g., movies, books, or products) with categories or keywords associated with them.
3. **User Input**: Users will input their preferences or interests (e.g., "I like action movies" or "I like mystery books").
4. **Keyword Matching**: Based on the user input, the system will match the keywords and recommend relevant items from the predefined list.
5. **Recommendation Output**: The system will display a list of recommended items based on the user’s input (e.g., a list of movie titles or book names).
6. **Basic User Interface**: Provide either a simple web-based interface where users can enter their preferences and view recommendations.
7. **Multiple Categories**: Allow recommendations from different categories, such as "Movies," "Books," and "Products," so users can specify their category of interest.
8. **User Feedback**: Allow the user to rate the recommendations (e.g., “Good recommendation” or “Not what I was looking for”). This will help in refining the system later.
9. **Search Functionality**: Allow users to search for specific items by keyword (e.g., if they want books about “space” or movies with “superheroes”).
10. **User Profile**: The system can remember a user’s previous preferences or ratings and suggest items based on those past preferences.

**Data**: A simple list or CSV or Excel file of items with categories or keywords (e.g., a list of 20-50 movies or books with associated tags). A sample of such data file is provided below, **but you should use a proper data file having at least 3 unique categories. It should have 150 rows for each category, so 450 rows in total, at least.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Item ID** | **Name** | **Category** | **Keywords** |
| 1 | The Dark Knight | Movie | action, superhero, thriller |
| 2 | Inception | Movie | action, sci-fi, thriller |
| 3 | The Shawshank Redemption | Movie | drama, classic, suspense |
| 4 | Brave New World | Book | dystopian, classic, political |
| 5 | The Matrix | Movie | action, sci-fi, thriller |
| 6 | To Kill a Mockingbird | Book | drama, classic, legal |
| 7 | The Great Gatsby | Book | classic, poetry |
| 8 | 1984 | Book | dystopian, classic, political |
| 9 | Pride and Prejudice | Book | historical |
| 10 | The Catcher in the Rye | Book | classic, coming-of-age, drama |
| 11 | Interstellar | Movie | sci-fi, space, drama |
| 12 | Avatar | Movie | action, sci-fi, adventure |
| 13 | Jurassic Park | Movie | action, adventure, dinosaurs |

**Tools and Technologies**:

You can use any web development tools set for this project. Similar any tool for DBMS/Data Storage.

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