**Recommender System for books**

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What should a particular user who is reading a book on R Programming be recommended to read next? If this user reads computer-related books and children’s books, how do we represent his or her interest in books?

This recommender system answers questions like these. It makes a book reader’s experience both an exciting and rewarding one when buying books. The reader gets recommendations personally made for him or her, based on certain attributes: the reader’s age, the book’s publication date, etc.

The recommender system utilizes techniques which were covered in this class’s curriculum and will be used to represent a user’s interest in books. Collaborative algorithms such as the user based and item based, along with the Content based method, may also be built.

Data References:

Dataset will be downloaded from IIF (Institute for Informatik Freiburg). The dataset comprises of three files in csv format – users, books and ratings.

Users.csv file has the userid, location and age.

Books.csv file has ISBN, BookTitle, BookAuthor, YearofPublication, Publisher, ImageURLSizeS,ImageURLSizeM,ImageURLSizeL

Ratings.csv file has userid,ISBN and the rating.

Problem Statement:

User is interested in a book on R programming and also one of Harry potter book. User may also like Practical Statistics for Data Scientists or even love The Cicada Prophecy, where scientists discover a cure for aging and everyone rushes to drink from the fountain of youth.

Methodology & Evaluation Measures:

R programming language will be used to accomplish the task. Time permitting, Simio, a simulation software may be utilized to present the topic on July 20th.

Assumptions:

The model will be based on reasonable assumptions about the character of the user pool.

The types and the number of recommenders could change, as the project develops.

Journal References:

1. **Content-based Recommender Systems: State of the Art and Trends** -by Pasquale Lops, Marco de Gemmis and Giovanni Semeraro

The authors provide an overview of content-based recommender systems and discuss in detail about the advantages and the drawbacks. Some of the widely used techniques for representing items and user profiles are discussed. It also discusses the trends that may lead to the next generation of systems. Taking evolving vocabularies into account and using serendipity when recommending are some of the topics discussed.

<https://link.springer.com/chapter/10.1007/978-0-387-85820-3_3>

1. **Hybrid Recommender Systems: Survey and Experiments**

-by Robin Burke

The author talks about improving performance when knowledge based system is combined with collaborative filtering to recommend restaurants. How semantic ratings collected from knowledge-based enhances the effectiveness of collaborative filtering.

<https://link.springer.com/article/10.1023%2FA%3A1021240730564?LI=true>

**3. Other references:** **Recommender systems – How they work and their impacts**

<http://findoutyourfavorite.blogspot.com/2012/04/content-based-filtering.html>(Over specialization and new user topics are discussed along with flow charts.)

http://isbndb.com/authors

(key word searches based on Author or publisher’s name )

Tentative Flow chart:

The flow chart below represents a few scenarios and more scenarios will be added once the project takes shape.



