Project Name: A content-based Book Recommending System

Course: CSE 299

Section: 17

Group: 02

Faculty name: Shaikh Shawon Arefin Shimon

Submitted by:

Fatema Tuz Zohra

ID: 1620191042

Email: [fatema.zohra01@northsouth.edu](mailto:fatema.zohra01@northsouth.edu)

Ishrat Jahan Ananya

ID: 1631636042

Email: [ishrat.jahan16@northsouth.edu](mailto:ishrat.jahan16@northsouth.edu)

Git repository: <https://github.com/coreprinciple97/SU19CSE299S17G02NSU>

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**Project Idea:**

Technological advancement has open doors to a vast world of information. There are tons of books, articles and what not available at the palms of our hand. With great knowledge comes great responsibility and so as a book enthusiast many find it difficult to organize and keep track of all the books they have ever read. An avid reader is always on the lookout for new books to read and discover stories that suit their individual taste. This is where ‘**Bookworm**’ comes into play.

**Bookworm** is a content-based book recommending system. It is a web application where the user can get new book recommendations based on the books they have read. It is accessible, user friendly, visually attractive web application that brings everything in one place. The user can make an organized library in their profile to keep track of all the books they read. This helps user know what they have read and make a Wishlist of the books they want to read in the future. The user will also be able to search for books by filters like genre, title, author etc. Best feature of Bookworm is that it will recommend books to the user based on their personal library with incredible accuracy!

**Features:**

1. Register – User will create an account by registering with their email address and password and would be able to edit account details.

2. Federated User Credentials - In addition to making their own accounts whose credentials are stored in the project’s database, users will have the option of using their Google accounts to log in. As Google is one of the largest and widely used platforms on the internet, many of our users may already have their own Google accounts. This would reduce the hassle for a new user of the website and improve ease of access.

3. Book library – User will have a library of books they have read in their profile. It is basically a list of books with their details found in the user’s profile. They can add, delete and edit accordingly.

4. Search engine – Users can search for books from a vast collection using filters like genre, title, author name etc.

5. Recommendation – Users will be recommended new books to read that are similar to the books they have in their library.

6. Admin – An admin account will be there for the creators to add more books to the collection or remove any if necessary. The admin will also be able to access the database and user’s information.

**Technology:**

The front-end will be a series of web pages. The web pages will be made using Django web framework, HTML, CSS and JavaScript.

The back-end will consist of a Database system and a Web Server to host and run our program. Django, Python will be heavily used in the backend for the database and also the recommending algorithm.

**Recommending Algorithm:**

Bookworm will recommend based on content which means books with similar plotline are likely to be recommended by our algorithm. For the purpose of this project we are using the ‘CMU book summary’ dataset that has a large collection of books including some metadata such as author, publisher and genre etc and also a short description of the book extracted from the Wikipedia. We will first clean out the data and then train this data to filter out important ‘words’ from the description attribute using natural language processing techniques and apply the cosine similarity on it to get the desired results. Cosine similarity is basically a metric system used to determine the similarities between datasets irrespective of their sizes. This is mainly done by counting maximum number of common words between the documents in comparison.

**Operating Environment:**

As it is a webpage, this product can be used on all desktop and mobile operating systems that support the use of a web browser. This product should function properly in all major web browsers including but not limited to Internet Explorer, Microsoft Edge, Google Chrome, Mozilla Firefox, Opera etc.

**Monetization/Business Plan:**

Bookworm will allow user to register and create their personal library of books read and discover many more in our vast collection. We will monetize this web application by displaying relevant advertisements on the side panels of the website. In order to get rid of these advertisements and use the recommender and other features the user have to pay a monthly subscription. The payment procedure can be done through Bkash or credit card. Users can also donate a certain amount of money for further development of the site or the Bookworm community. These ensures the continuous monetary support for the product.