**Capstone Project Submission**

**Instructions:**

i) Please fill in all the required information.

ii) Avoid grammatical errors.

|  |
| --- |
| **Team Member’s Name, Email and Contribution:** |
| Name: Pooja Potdar  Email: [poojapotdar38@gmail.com](mailto:poojapotdar38@gmail.com)  **OBJECTIVE:**  The main objective is to create a recommendation system to recommend relevant books to users based on popularity and user interests.  A recommendation engine is a class of machine learning which offers relevant suggestions to the customer.  Before the recommendation system, the major tendency to buy was to take a suggestion from friends. But Now Google knows what news you will read, YouTube knows what type of videos you will watch based on your search history, watch history, or purchase history. A recommendation system helps an organization to create loyal customers and build trust by them desired products and services for which they came on your site. The recommendation system today is so powerful that they can handle the new customer too who has visited the site for the first time. They recommend the products which are currently trending or highly rated and they can also recommend the products which bring maximum profit to the company.  A recommendation system is usually built using 3 techniques which are content-based filtering, collaborative filtering, and a combination of both. **Dataset Description** we have 3 files in our dataset which is extracted from some books selling websites.  Books – first are about books which contain all the information related to books like an author, title, publication year, etc.  Users – The second file contains registered user’s information like user id, location.  ratings –  Ratings contain information like which user has given how much rating to which book. So based on all these three files we can build a powerful collaborative filtering model. **2.Load Data** 1.let us start while importing libraries and load datasets. while loading the file we have some problems like. The values in the CSV file are separated by semicolons, not by a comma. There are some lines which not work like we cannot import it with pandas and It throws an error because python is Interpreted language.  Encoding of a file is in Latin **3.Preprocessing Data** Now in the books file, we have some extra columns which are not required for our task like image URLs. And we will rename the columns of each file as the name of the column contains space, and uppercase letters so we will correct as to make it easy to use. 4 **Approach to a problem statement**  1. We do not want to find a similarity between users or books. we want to do that If there is user A who has read and liked x and y books, and user B has also liked this two books and now user A has read and liked some z book which is not read by B so we have to recommend z book to user B. This is what collaborative filtering is. So this is achieved using Matrix Factorization, we will create one matrix where columns will be users and indexes will be books and value will be rating. Like we have to create a Pivot table.   **5Conclusion:**   1. A recommendation system helps an organization to create loyal customers. The recommendation system today is very powerful that they can handle the new customer too who has visited the site for the first time. They recommend the products which are currently trending or highly rated and they can also recommend the products which bring maximum profit to the company.   GITHUB LINK: https: https://github.com/poojapotdar38/EDA--Hotel-Bookings/blob/main/final\_book\_recommendation\_system\_proj.ipynb |
|  |
|  |
|  |
|  |