Project Report

ON

"Recommendation System"

(using HTML CSS JavaScript and Python)

Department of Computer Science & Application

Institute of Engineering & Technology

Under the Supervision of-

Dr. Sumit Nagar

Submitted by: -

Anurag Singh(201500127)

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Divyansh Bhargava(201500231)

ACKNOWLEDGMENT

It gives us great pleasure to present the synopsis of the B.Tech Mini Project (Recommendation System) undertaken during B. Tech III Year. This project is going to be an acknowledgment of the inspiration, drive,and technical assistance that will be contributed to it by many individuals.

We owe a special debt of gratitude to **Dr. Sumit Nagar (Technical Trainer Department of T&D),** for providing us with an encouraging platform to develop this project, which thus helped in shaping my abilities towards a constructive goal, through his constantsupport and guidance to our work.

We also do not like to miss the opportunity to acknowledge the contribution of all department faculty members for their kind guidance and cooperation.

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ABSTRACT

The project aims to generate meaningful recommendations to a collection of users for movies or books that might interest them. Recommender system tries to filter the users' data to come up with the exact amount of information required according to the needs and preferences of the users. Hence there is an increase in the demand of recommender system to tackle the data overload.
The ML algorithms for these recommendation systems use the data about this user from the system's database

The algorithm is designed to provide the resources in a more easy way so that the user doesn't have to search for any movie or book. Through this, the user can save time and see/read their favourite movies/books more efficiently.

The technologies we have used are HTML, CSS, JavaScript and Python.

Computer Engineering and Application

GLA University, Mathura

BONAFIDE CERTIFICATE

Certified that this project report **"Recommendation System"** is the bonafide work of **the Team (Anurag Singh**(201500127)**, Aryan Gupta** (201500150), **Divyansh Bhargava**(201500231)) who carried out the project work under my supervision.

Mentor: ***Dr.Sumit Nagar***

Signature:

Submitted for the project :**28-April -2023**

INTERNAL EXAMINER :

EXTERNAL EXAMINER:

DECLARATION

We hereby declare that the work presented in this dissertation entitled "**Recommendation System"** has been done byme under the guidance of our mentor **Dr.Sumit Nagar**, and this dissertation embodies our work.

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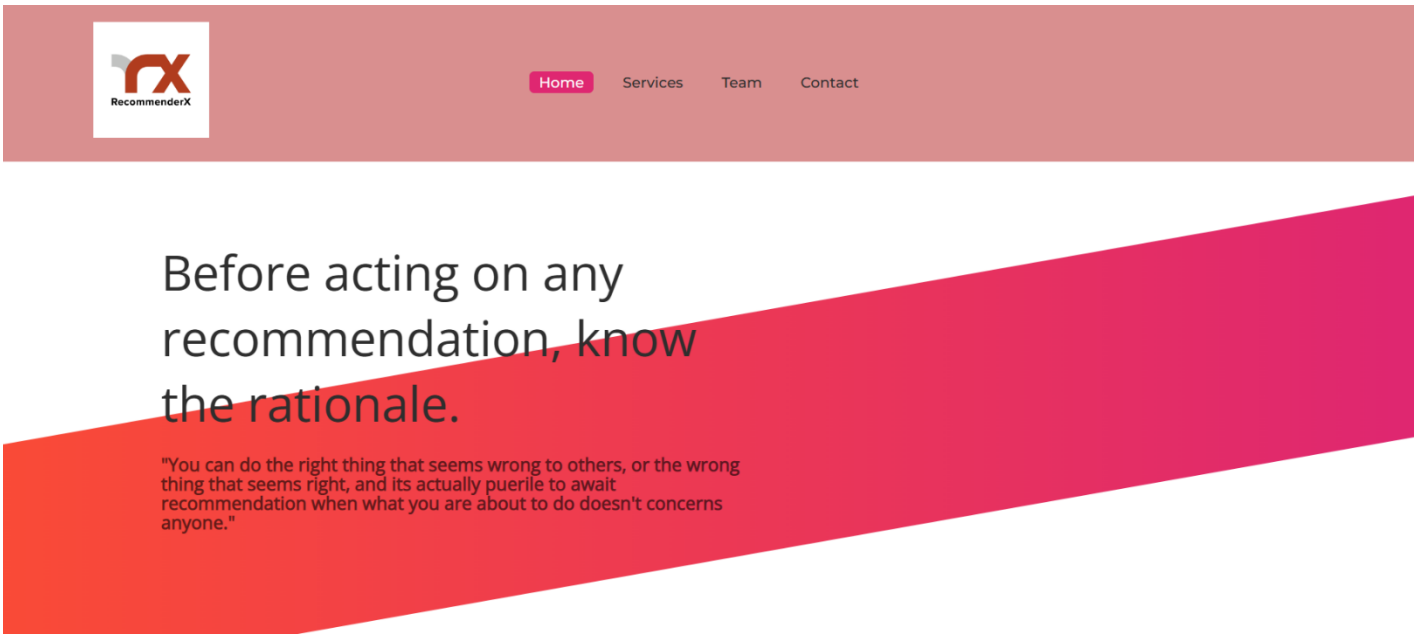
INTRODUCTION

In this, we will build one interesting application that will related with the recommendations provided to the users.To build this application we will use HTML, CSS, JavaScript and Python. This is one of the exciting and thrilling applications. While building this application we have used various libraries.

In our Project, there are two recommendation systems, one of which is for Movies and the other one is of Books. In the Movies section, the user have to search the movie in the search bar, based on the type of the movie searched and user personality, the system will show the recommended movies to the user.

Similarly, goes with the Books section, the user have to give the name of the book, based on the above parameters, the system will recommended the resulting books.

The algorithm is designed to provide better recommendations to the user.



ABOUT THE PROJECT

JavaScript:

JavaScript (JS) is a light-weight object-oriented programming language which is used by several websites for scripting the webpages. It is an interpreted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document.

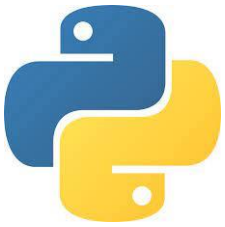
With JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses js to provide several forms of interactivity and simplicity.

1. It is a light-weighted and interpreted language.
2. It is a case-sensitive language.
3. JavaScript is supportable in several operating systems including, Windows, macOS, etc.
4. It provides good control to the users over the web browsers.

HTML AND CSS:

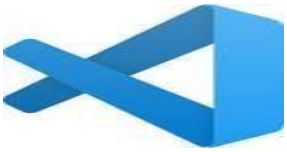
HTML is an acronym which stands for **Hyper Text Markup Language** which is used for creating web pages and web applications. Let's see what is meant by Hypertext Markup Language, and Web page. HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser. An HTML document is made of many HTML tags and each HTML tag contains different content.

CSS stands for Cascading Style Sheets. It is a style sheet language which is used to describe the look and formatting of a document written in markup language. It provides an additional feature to HTML. It is generally used with HTML to change the style of web pages and user interfaces



Python:

Python is a high-level, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation via the off-side rule. Python is dynamically typed and garbage-collected.



Vs Code Editor:

Visual Studio Code is a free coding editor that helps you start coding quickly. Use it to code in any programming language, without switching editors. VisualStudio Code has support for many languages, including Python, Java, C++, JavaScript, and more. Visual Studio Code gives you suggestions to complete Lines of code and quick fixes for common mistakes.

Google Colab:

Google Colab is a product from Google Research. Colab allows anybody to write and execute arbitrary python code through the browser, and is especially well suited to machine learning, data analysis and education.

It is based on Jupyter notebook and supports collaborative development.

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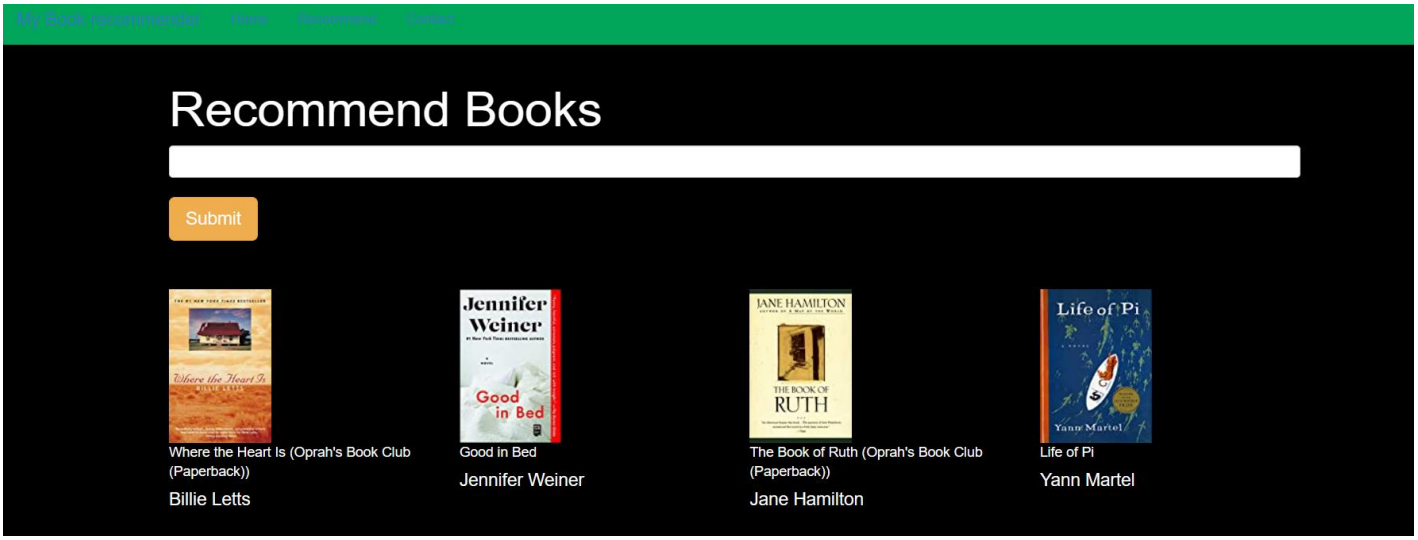
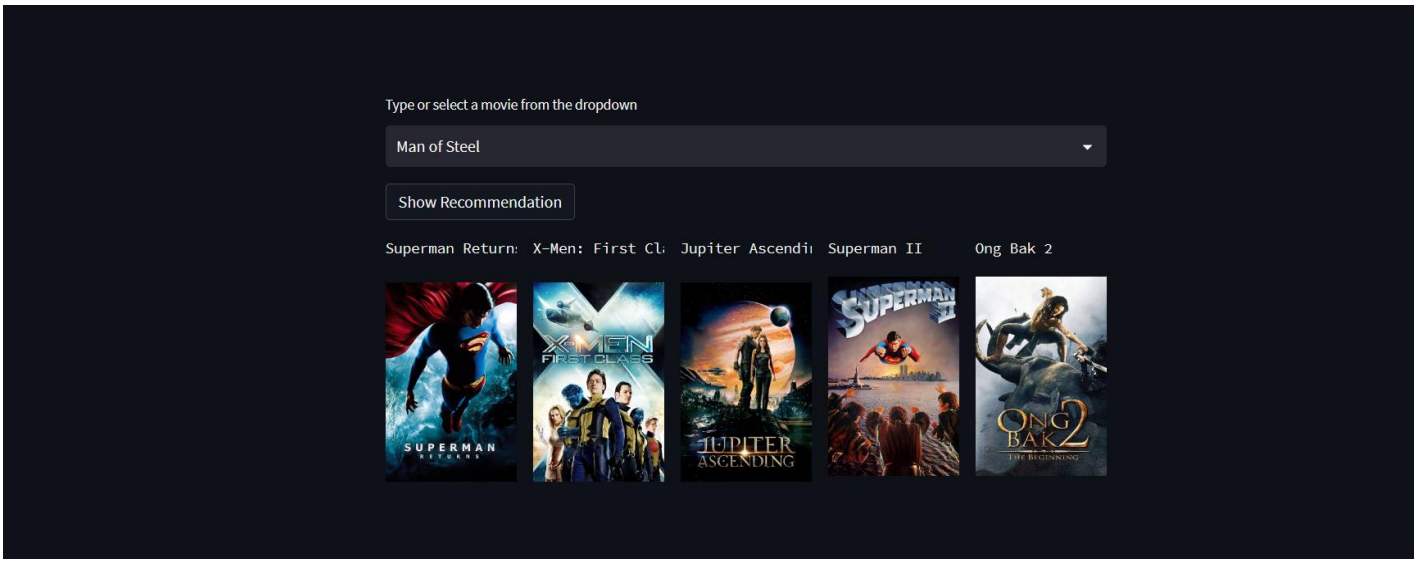
OBJECTIVE OF THE PROJECT

The objective of the project is to provide recommendations based on recorded information on the users' preferences.
These systems use information filtering techniques to process information and provide the user with potentially more relevant items.

Recommender system tries to filter the users' data to come up with the exact amount of information required according to the needs and preferences of the users. Hence there is an increase in the demand of recommender system to tackle the data overload.





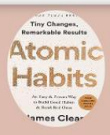
Some Popular Movies To See

Avatar: The Way of Water

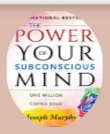
Oppenheimer

Shang-Chi And The Legend Of The Ten Rings

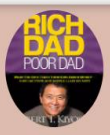
Some Popular Books To See



Atomic Habits



The Power Of Your Subconscious Mind



RichDAD PoorDad

Services

Movies

Books

RecommenderX

Home Services Team Contact

We're the Creators

Anurag Singh

"People don't know what they want until you show it to them"

Follow +

Aryan Gupta

"People don't know what they want until you show it to them"

Follow +

Divyansh Bhargav

"People don't know what they want until you show it to them"

Follow +

My Book recommender | Home | Recommend

Top 50 Books

Harry Potter and the Prisoner of Azkaban (Book 3)

J. K. Rowling

Votes - 428

Rating - 5.852803738317757

Harry Potter and the Goblet of Fire (Book 4)

J. K. Rowling

Votes - 387

Rating - 5.8242894056847545

Harry Potter and the Sorcerer's Stone (Book 1)

J. K. Rowling

Votes - 278

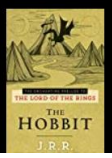
Rating - 5.737410071942446

Harry Potter and the Order of the Phoenix (Book 5)

J. K. Rowling

Votes - 347

Rating - 5.501440922190202

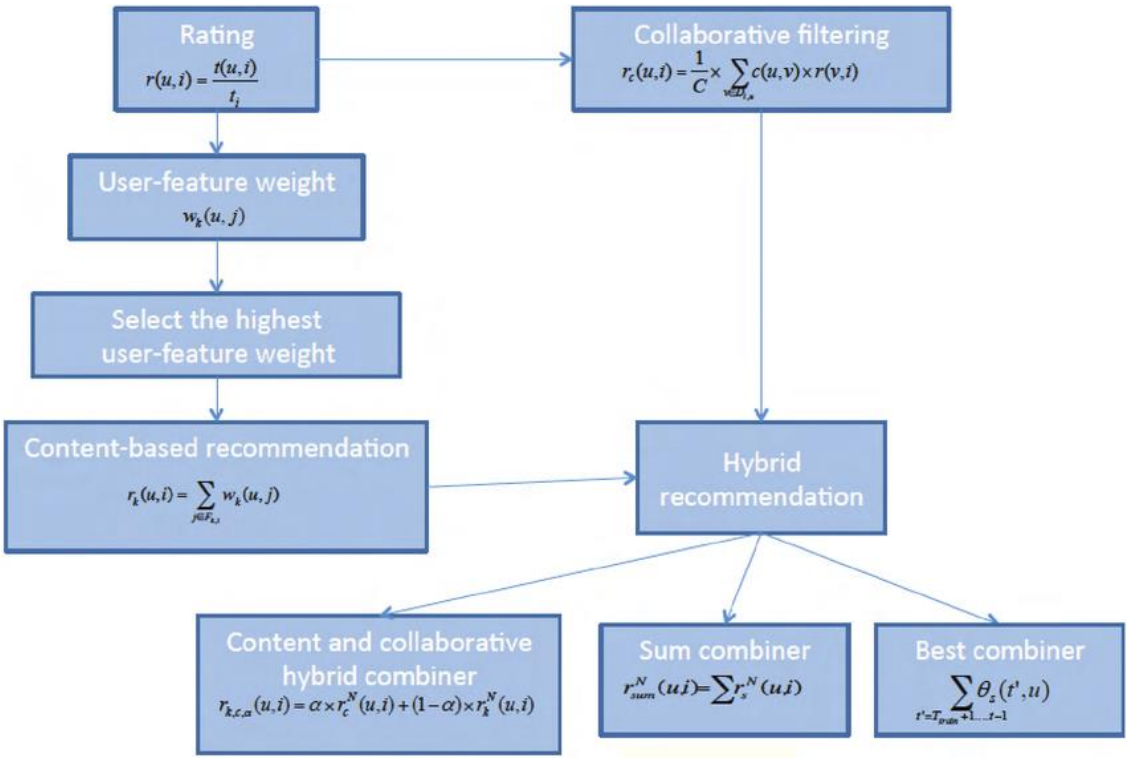


THE PROCESS USED FOR STUDY MATERIAL

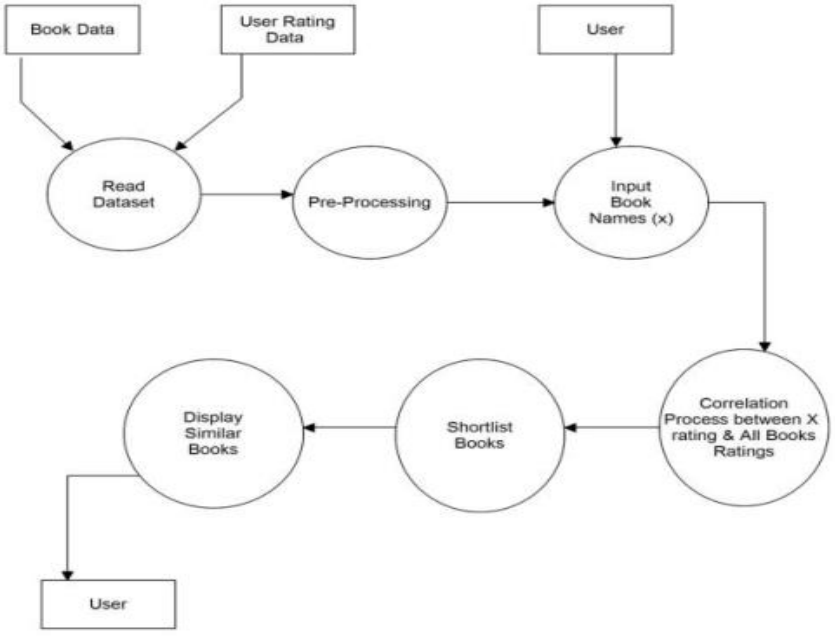
- *Step 1: Welcome to the recommendation system site.*
- *Step 2: Go to services.*
- *Step3: Choose one option book recommendation or movie recommendation.*
- *Step 4: If we choose movie recommendation option then search for a movie , we will get all other similar movies.*
- *Step 5: If we choose book recommendation option then search for a book, we will get all other similar books.*

DATA FLOW DIAGRAMS

1) Movie Recommendation System



2) Book Recommendation System



Home Page Code:

1) HTML Code :

```
    <!DOCTYPE html>
<html lang="en">
<head>
    <link rel="shortcut icon" type="png" href="./images/logo.png">
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Comaptible" content="IE=edge">
    <title>Recommendation_System</title>
    <meta name="desciption" content="">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" type="text/css" href="./CSS/style.css">
    <script type="text/javascript" src="./JS/script.js"></script>
    <script src="https://code.jquery.com/jquery-3.2.1.js"></script>
</head>
<body>
<!-- Navigation Bar -->
    <header id="header">
        <nav class="navbar">
            <div class="logo"><img src="./images/logo.png" alt="logo"></div>
            <ul>
                <li><a class="active" href="">Home</a></li>
                <li><a href="#services_section">Services</a></li>
                <li><a href="#team_section">Team</a></li>
                <li><a href="#contactus_section">Contact</a></li>
            </ul>
            <!-- <div class="srch"><input type="text" class="search" placeholder="Search
here..." id="new_id">
                <div id = "stri">
                    <div onclick="f()"><img src="images/icon/search.png" alt="search"></div>
                </div>
                <script>
```

```
                    function f() {
                        var requi = document.getElementById("new_id").value;
                        var res = requi.replace(/ /g, "+");
                        console.log(res);
                        var here = '<a
href="https://www.youtube.com/results?search_query=' + res + ' " target="_blank"><img
src="images/icon/search.png" alt="search"></a>' ;
                        var ser = document.getElementById("stri");
                        ser.innerHTML=here;
                    }
                </script>
            </div> -->
            <!-- <a class="get-started" href="login.html">Get Started</a> -->
        </nav>

        <div class="head-container">
            <div class="quote">
                <p>Before acting on any recommendation, know the rationale.</p>
                <h3>"You can do the right thing that seems wrong to others, or the
wrong thing that seems right, and its actually puerile to await recommendation when what
you are about to do doesn't concerns anyone."</h3>
            </div>
            <!-- <div class="pic">
                <img src="./images/extra/recommender system.png" class="ok" alt="">
            </div> -->
        </div>
        <div class="side-menu" id="side-menu">
            <div class="close" onclick="sideMenu(1)"><img src="images/icon/close.png"
alt=""></div>
            <div class="user">
                <img src="images/creator/Anurag.jpeg" alt="Username">
                <p>Anurag Singh</p>
            </div>
            <ul>
                <li><a href="#about_section">About</a></li>
                <li><a href="#portfolio_section">Portfolio</a></li>
```

```
                <li><a href="#team_section">Team</a></li>
                <li><a href="#services_section">Services</a></li>
                <li><a href="#contactus_section">Contact</a></li>
                <li><a href="#feedBACK">Feedback</a></li>
            </ul>
        </div>
    </header>

    <div class="title">
        <span>Some Popular Movies To See</span>
    </div>
    <br><br>
    <div class="course">
        <!-- <centre><div class="cbox">
        <div class="det"><a href="subjects/jee.html"><img
src="images/courses/book.png">JEE Preparation</a></div>
        <div class="det"><a href="subjects/gate.html"><img
src="images/courses/d1.png">GATE Preparation</a></div>
        <div class="det"><a href="subjects/jee.html#sample_papers"><img
src="images/courses/paper.png">Sample Papers</a></div>
        <div class="det"><a href="subjects/quiz.html"><img
src="images/courses/d1.png">Daily Quiz</a></div>
        </div></centre>
        <div class="cbox">
        <div class="det"><a href="subjects/computer_courses.html"><img
src="images/courses/computer.png">Computer Courses</a></div>
        <div class="det"><a href="subjects/computer_courses.html#data"><img
src="images/courses/data.png">Data Structures</a></div>
        <div class="det"><a href="subjects/computer_courses.html#algo"><img
src="images/courses/algo.png">Algorithm</a></div>
        <div class="det det-last"><a href="subjects/computer_courses.html#projects"><img
src="images/courses/projects.png">Projects</a></div>
        </div> -->
        <div class="totalcard">
```

```
                <div class="card">
                    <center><img src="./images/avatar.jpg"></center>
                    <center><div class="card-title">Avatar: The Way of Water</div>
                    <div id="detail">
                                                </center>
                </div>
                <div class="card">
                    <center><img src="./images/openheimer.jpeg"></center>
                    <center><div class="card-title">Oppenheimer</div>
                    <div id="detail">


                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/shangchi.jpg"></center>
                    <center><div class="card-title">Shang-Chi And The Legend Of The Ten
Rings</div>
                    <div id="detail">


                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/brahmastra.jpg"></center>
                    <center><div class="card-title">Brahmastra</div>
                    <div id="detail">


                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/sanju.jpg"></center>
                    <center><div class="card-title">Sanju</div>
                    <div id="detail">
```

```
                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/RRR.PNG"></center>
                    <center><div class="card-title">RRR</div>
                    <div id="detail">


                    </center>
                </div>
            </div>
        </div>
    </div>
<!-- Some Popular Subjects -->
    <div class="title">
        <span>Some Popular Books To See</span>
    </div>
    <br><br>
    <div class="course">
        <!-- <centre><div class="cbox">
        <div class="det"><a href="subjects/jee.html"><img
src="images/courses/book.png">JEE Preparation</a></div>
        <div class="det"><a href="subjects/gate.html"><img
src="images/courses/d1.png">GATE Preparation</a></div>
        <div class="det"><a href="subjects/jee.html#sample_papers"><img
src="images/courses/paper.png">Sample Papers</a></div>
        <div class="det"><a href="subjects/quiz.html"><img
src="images/courses/d1.png">Daily Quiz</a></div>
        </div></centre>
        <div class="cbox">
        <div class="det"><a href="subjects/computer_courses.html"><img
src="images/courses/computer.png">Computer Courses</a></div>
        <div class="det"><a href="subjects/computer_courses.html#data"><img
src="images/courses/data.png">Data Structures</a></div>
```

```
        <div class="det"><a href="subjects/computer_courses.html#algo"><img
src="images/courses/algo.png">Algorithm</a></div>
        <div class="det det-last"><a href="subjects/computer_courses.html#projects"><img
src="images/courses/projects.png">Projects</a></div>
        </div> -->
        <div class="totalcard">


                <div class="card">
                    <center><img src="./images/AtomicHabits.jpg"></center>
                    <center><div class="card-title">Atomic Habits</div>
                    <div id="detail">

                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/subconsciousmind.jpg"></center>
                    <center><div class="card-title">The Power Of Your Subconscious
Mind</div>
                    <div id="detail">


                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/richdad.jpeg"></center>
                    <center><div class="card-title">RichDAD PoorDad</div>
                    <div id="detail">

                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/doglapan.jpg"></center>
                    <center><div class="card-title">Doglapan</div>
                    <div id="detail">
```

```
                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/palace.webp"></center>
                    <center><div class="card-title">The Palace Of Illusions</div>
                    <div id="detail">

                    </center>
                </div>
                <div class="card">
                    <center><img src="./images/harry potter.jpg"></center>
                    <center><div class="card-title">Harry Potter And the Cursed
Child</div>
                    <div id="detail">

                    </center>
                </div>
            </div>
        </div>
    </div>


<!-- ABOUT -->
    <div class="diffSection" id="about_section">
        <center><p style="font-size: 50px; padding: 100px;">About</p></center>
        <div class="about-content">
                <div class="side-image">
                    <img style="width: 500px; height: 400px;" class="sideImage"
src="./images/extra/RecommendationEngine.png">
                </div>
                <div class="side-text">
                    <h2>What you think about us ?</h2>
                    <p>A recommender system, or a recommendation system (sometimes
replacing 'system' with a synonym such as platform or engine), is a subclass of information
filtering system that provide suggestions for items that are most pertinent to a particular
user.<br>Typically, the suggestions refer to various decision-making processes, such as which
```

```
movie to see, or which book to read·<br>Using HTML(HyperText Markup Language),
CSS(Cascading Style Sheet), JavaScript and Python , we can make the Recommendation
System more easier and in a interesting way·</p>
                </div>
        </div>
    </div>


<!-- PORTFOLIO -->
    <div class="diffSection" id="portfolio_section">
        <center><p style="font-size: 50px; padding: 100px; padding-bottom:
40px;">Portfolio</p></center>
        <div class="content">
            <p>
                "The best recommendation I can have is my own talents, and the fruits of
my own labors, and what others will not do for me, I will try and do for myself·"
            </p>
        </div>
    </div>
    <div class="extra">
        <p>We're increasing this data every year</p>
        <div class="smbox">
        <span><center><div class="data">4500</div><div class="det">Total
Movies</div></center></span>
        <span><center><div class="data">242135</div><div class="det">Total
Books</div></center></span>
        <span><center><div class="data">75</div><div
class="det">Reviews</div></center></span>
        <span><center><div class="data">427</div><div class="det">Total
Searches</div></center></span>
        </div>
    </div>


<!-- TEAM -->
    <div class="diffSection" id="team_section">
```

```
        <center><p style="font-size: 50px; padding-top: 100px; padding-bottom:
60px;">We're the Creators</p></center>
        <div class="totalcard">
            <div class="card">
                <center><img src="images/creator/Anurag.jpeg"></center>
                <center><div class="card-title">Anurag Singh</div>
                <div id="detail">
                    <p>"People don't know what they want until you show it to
them"</p>
                    <div class="duty"></div>
                    <a href="https://www.linkedin.com/in/anurag-singh-0204a71b8/"
target="_blank"><button class="btn-roshan">Follow +</button></a>
                </div>
                </center>
            </div>
            <div class="card">
                <center><img src="./images/creator/aryan.jpg"></center>
                <center><div class="card-title">Aryan Gupta</div>
                <div id="detail">
                    <p>"People don't know what they want until you show it to
them"</p>
                    <div class="duty"></div>
                    <a href="https://www.linkedin.com/in/aryan-gupta-
b6a659200?lipi=urn%3Ali%3Apage%3Ad_flagship3_profile_view_base_contact_details%3BNyEm
DAwJRuSymEXht065LQ%3D%3D" target="_blank"><button class="btn-roshan">Follow
+</button></a>
                </div>
                </center>
            </div>
            <div class="card">
                <center><img src="./images/creator/divyansh.jpg"></center>
                <center><div class="card-title">Divyansh Bhargav</div>
                <div id="detail">
                    <p>"People don't know what they want until you show it to
them"</p>
                    <div class="duty"></div>
```

```
                    <a href="https://www.linkedin.com/in/anurag-singh-0204a71b8/"
target="_blank"><button class="btn-roshan">Follow +</button></a>
                </div>
                </center>
            </div>
                </center>
            </div>
        </div>
    </div>


<!-- SERVICES -->
    <div class="service-swipe">
        <div class="diffSection" id="services_section">
        <center><p style="font-size: 50px; padding: 100px; padding-bottom: 40px; color:
#fff;">Services</p></center>
        </div>
        <a style="font-size: 30px;" href="http://localhost:8501/"><div class="s-card"><img
style="width: 140px;" src="./images/icon/atm_neon_dribbble.webp"><p>Movies</p></div></a>
        <a style="font-size: 30px;" href="http://127.0.0.1:5000/"><div class="s-
card"><img style="width: 140px" src="images/icon/help.png"><p>Books</p></div></a>
    </div>

<!-- Reviews by Students -->
<div id="makeitfull">
    <a href="#review_section"><img src="images/icon/makeitfull.png"></a>
</div>
<div class="review">
    <div class="diffSection" id="review_section">
        <center><p style="font-size: 40px; padding: 100px; padding-bottom: 40px; color:
#2E3D49;">What our Users Say About Us?</p></center>
    </div>
    <div class="rev-container">
        <div class="rev-card">
            <div class="identity">
                <img src="images/creator/humanNotExist1.jpg"><p>Sophie Daniel</p>
```

```
                <div class="rating"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"></div>
            </div>
            <div class="rev-cont">
                <p id="title">Review:</p>
                <p id="content">
                    Today, i saw Shang-Chi And The Legend Of the Ten Rings.Everything
comes in it beautiful science fiction and beautiful mythical creatures. Sometimes you have
creatures that don't seem real, but these just seemed real. Well done! There was a bit of
avatar feeling in it. Fighting for the safekeeping of peace.
                </p>
            </div>
        </div>
        <div class="rev-card">
            <div class="identity">
                <img src="images/creator/humanNotExist2.jpg"><p>Clayton Clair</p>

                <div class="rating"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"></div>
            </div>
            <div class="rev-cont">
                <p id="title">Review:</p>
                <p id="content">
                    I have seen "Zindagi Na Milagi Dubara" this morning and all the efforts
put in are worth the movie. As expected, this is a good movie about grown up men and
their emotional problems, which is naturally expected from the team that gave us Dil
Chahta Hai and Rock On. All the credit goes to RecommenderX.</p>
            </div>
        </div>
        <div class="rev-card">
            <div class="identity">
                <img src="images/creator/humanNotExist3.jpg"><p>Devyn Sethi</p>
```

```
                <div class="rating"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"></div>
            </div>
            <div class="rev-cont">
                <p id="title">Review:</p>
                <p id="content">
                    RecommenderX was an amazing experience. I recommend everyone to
use it.
                </p>
            </div>
        </div>
        <div class="rev-card">
            <div class="identity">
                <img src="images/creator/humanNotExist4.jpg"><p>Rylee Phillips</p>

                <div class="rating"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"><img
src="images/icon/star.png"><img src="images/icon/star.png"></div>
            </div>
            <div class="rev-cont">
                <p id="title">Review:</p>
                <p id="content">
                    RecommenderX recommends me this book "The Power Of Your
Subconscious Mind". It combines his spiritual experience and scientific studies to show how
the subconscious mind may have a big impact on our daily lives.

                </p>
            </div>
        </div>
    </div>
</div>

<!-- CONTACT US -->
    <div class="diffSection" id="contactus_section">
        <center><p style="font-size: 50px; padding: 100px">Contact Us</p></center>
```

```
        <div class="csec"></div>
        <div class="back-contact">
            <div class="cc">
            <form action="mailto:anuragsingh20112002@gmail.com" method="post"
enctype="text/plain">
                <label>First Name <span class="imp">*</span></label><label style="margin-
left: 185px">Last Name <span class="imp">*</span></label><br>
                <center>
                <input type="text" name="" style="margin-right: 10px; width: 175px"
required="required"><input type="text" name="lname" style="width: 175px"
required="required"><br>
                </center>
                <label>Email <span class="imp">*</span></label><br>
                <input type="email" name="mail" style="width: 100%"
required="required"><br>
                <label>Message <span class="imp">*</span></label><br>
                <input type="text" name="message" style="width: 100%"
required="required"><br>
                <label>Additional Details</label><br>
                <textarea name="addtional"></textarea><br>
                <button type="submit" id="csubmit">Send Message</button>
            </form>
            </div>
        </div>
    </div>


<!-- FEEDBACK -->
    <div class="title2" id="feedBACK">
        <span>Give Feedback</span>
        <div class="shortdesc2">
            <p>Please share your valuable feedback to us</p>
        </div>
    </div>

    <div class="feedbox">
        <div class="feed">
```

```
            <form action="mailto:harshit@gmail.com" method="post" enctype="text/plain">
                <label>Your Name</label><br>
                <input type="text" name="" class="fname" required="required"><br>
                <label>Email</label><br>
                <input type="email" name="mail" required="required"><br>
                <label>Additional Details</label><br>
                <textarea name="addtional"></textarea><br>
                <button type="submit" id="csubmit">Send Message</button>
            </form>
        </div>
    </div>

<!-- Sliding Information -->
    <marquee style="background: linear-gradient(to right, #FA4B37, #DF2771); margin-top: 50px;" direction="left" onmouseover="this.stop()" onmouseout="this.start()" scrollamount="20"><div class="marqu">"The best recommendation I can have is my own talents, and the fruits of my own labors, and what others will not do for me, I will try and do for myself."</div></marquee>

<!-- FOOTER -->
    <footer>
        <div class="footer-container">
            <div class="left-col">
                <img src="./images/logo.png" style="width: 200px;">
                <div class="logo"></div>
                <div class="social-media">
                    <a href="#"><img src="images/icon\fb.png"></a>
                    <a href="#"><img src="images/icon\insta.png"></a>
                    <a href="#"><img src="images/icon\tt.png"></a>
                    <a href="#"><img src="images/icon\ytube.png"></a>
                    <a href="#"><img src="images/icon\linkedin.png"></a>
                </div><br><br>
                <p class="rights-text">Copyright © 2023 Created By Anurag Singh, Aryan Gupta, Divyansh Bhargav All Rights Reserved.</p>
                <br><p><img src="images/icon/location.png"> GLA University<br>Mathura, Uttar Pradesh</p><br>
```

```
                <p><img src="images/icon/phone.png" alt=""> +91-1234-567-890<br><img
src="images/icon/mail.png">  RecommenderX_Uponline@gmail.com</p>
            </div>
            <div class="right-col">
                <h1 style="color: #fff">Our Newsletter</h1>
                <div class="border"></div><br>
                <p>Enter Your Email to get our News and updates.</p>
                <form class="newsletter-form">
                    <input class="txtb" type="email" placeholder="Enter Your Email">
                    <input class="btn" type="submit" value="Submit">
                </form>
            </div>
        </div>
    </footer>

</body>
</html>
```

For the full code, access the Google Drive:

https://drive.google.com/drive/folders/1fsOxs2j7LV4XhBtcV2bghUlmi0Di54s6?usp=sharing

Python Code for Movie Recommendation System:

```
    import pickle
# import scikit_learn
from sklearn.metrics.pairwise import cosine_similarity
from nltk.stem.porter import PorterStemmer
import nltk

from sklearn.feature_extraction.text import CountVectorizer
import ast
import numpy as np  # linear algebra
import pandas as pd  # data processing, CSV file I/O (e.g. pd.read_csv)
movies = pd.read_csv('input/tmdb_5000_movies.csv')
credits = pd.read_csv('input/tmdb_5000_credits.csv')
movies = movies.merge(credits, on='title')
movies = movies[['movie_id', 'title', 'overview',
                 'genres', 'keywords', 'cast', 'crew']]
# print(movies.head())


def convert(text):
    L = []
    for i in ast.literal_eval(text):
        L.append(i['name'])
    return L

# print(movies.duplicated().sum())
# print(movies.isnull().sum())


movies.dropna(inplace=True)
movies['genres'] = movies['genres'].apply(convert)
# print(movies.head())
```

```
movies['keywords'] = movies['keywords'].apply(convert)
# print(movies.head())


def convert3(text):
    L = []
    counter = 0
    for i in ast.literal_eval(text):
        if counter < 3:
            L.append(i['name'])
        counter += 1
    return L


movies['cast'] = movies['cast'].apply(convert3)
# print(movies['cast'])


def fetch_director(text):
    L = []
    for i in ast.literal_eval(text):
        if i['job'] == 'Director':
            L.append(i['name'])
    return L


movies['crew'] = movies['crew'].apply(fetch_director)
movies['overview'] = movies['overview'].apply(lambda x: x.split())
# print(movies['overview'])


def collapse(L):
    L1 = []
    for i in L:
        L1.append(i.replace(" ", ""))
    return L1
```

```
movies['cast'] = movies['cast'].apply(collapse)
movies['crew'] = movies['crew'].apply(collapse)
movies['genres'] = movies['genres'].apply(collapse)
movies['keywords'] = movies['keywords'].apply(collapse)
# print(movies)

movies['tags'] = movies['overview'] + movies['genres'] + movies['keywords']
new_df = movies.drop(
    columns=['overview', 'genres', 'keywords', 'cast', 'crew'])
# print(new_df.head());

new_df['tags'] = new_df['tags'].apply(lambda x: " ".join(x))
print(new_df['tags'])
new_df['tags'].apply(lambda x: x.lower())


cv = CountVectorizer(max_features=5000, stop_words='english')

# !pip install nltk
ps = PorterStemmer()


def stem(text):
    y = []
    for i in text.split():
        y.append(ps.stem(i))
    return " ".join(y)


new_df['tags'] = new_df['tags'].apply(stem)

vector = cv.fit_transform(new_df['tags']).toarray()

similarity = cosine_similarity(vector)

new_df[new_df['title'] == 'The Lego Movie'].index[0]
```

```
def recommend(movie):
    index = new_df[new_df['title'] == movie].index[0]
    distances = sorted(
        list(enumerate(similarity[index])), reverse=True, key=lambda x: x[1])
    for i in distances[1:6]:
        print(new_df.iloc[i[0]].title)


recommend('Titanic')

# pickle.dump(new_df, open('movie_list.pkl', 'wb'))
# pickle.dump(similarity, open('similarity.pkl', 'wb'))
```

For the full code, access the Google Drive:

https://drive.google.com/drive/folders/1fsOxs2j7LV4XhBtcV2bghUlmi0Di54s6?usp=sharing

MOTIVATION

The motivation to create this project is to provide better recommendations to the user. Based on the movie/book searched and its type, the system will recommend the following Movies/Books.

We hope that this project will enhance the user experience and save their time.

FUTURE SCOPE

The future of recommender systems is real-time machine learning. Here's everything you need to know about what that means for enterprise applications. The future of machine learning is real-time and, when it comes to recommender systems, companies took several steps to help lay the foundation for that this year.

BIBLOGRAPHY

REFERENCES:

- https://realpython.com/tutorials/advanced/
- https://www.w3schools.com/w3css/w3css_color_libraries.asp
- https://www.quackit.com/html/codes/html_code_library.cfm

BOOKS:

Learning Web Design: A Beginner's Guide To HTML, CSS, JavaScript, and Web Graphics

Responsive Web Design with HTML5 and CSS3

Google Drive link:

https://drive.google.com/drive/folders/1fsOxs2j7LV4XhBtcV2bghUlmi0Di54s6?usp=sharing

FACULTY GUIDELINES:

Dr. Sumit Nagar (Technical Trainer Department of T&D)