**MOVIE RECOMMENDATION BASED ON EMOTION USING WEB SCRAPING USING IBM**

An Internship Project Report Submitted by

BATCH NO: B009

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**CHAPTER 1**

**INTRODUCTION**

**1.1 Overview:**

The goal of this Recommended system is to create a model that suggests the best fit movies based upon the emotion of the user on a particular instance. The data that we are going to consider is the IMDB dataset. Presently IMDB is not providing API’s. So, we are using the concept of web scrapping, which scraps the data from the IMDB website and we can able to process the data. Let’s understand the data we are working with and give a brief overview of what each feature represents or should represent.

1. Movie name
2. Genre

**1.2 Purpose:**

Recommender systems have become an answer to the need for personalization. The customer usually provides the recommender system with data such as the characteristics of the product he is looking for, his ratings, demographic data, etc. The recommender system applies one or several recommendation techniques to these data and then recommends products to the customers. In order to provide reliable recommendations, the recommender system needs to capture exactly the customer's needs and preferences. However, for subjective and complex products such as movies, music, perfume, the task of rating or describing the desired product characteristics is quite difficult for customers. Moreover, as user preferences for these subjective products change constantly according to their emotions, the traditional user profile is not sufficient to understand and capture these changes. To solve these problems, we propose to use an Emotion-based Recommender System (E-MRS) that can capture customer preferences according to their emotions. Emotion plays an important role in rational and intelligent behaviour; thus, we incorporate user emotions into the recommendation process.

By the end of this project, you will:

* know fundamental concepts of Python.
* gain a broad understanding of Web Scraping.
* know how to install necessary packages and setting up the environment.
* know how to build a web application using the Flask framework.

**CHAPTER 2**

**LITERATURE SURVEY**

**2.1 Existing Problem:**

ELECTRONIC Commerce is the movement of everything involving business on the Internet and the World Wide Web. Electronic Commerce will lead to simpler, faster and more efficient business transactions because the customers can benefit from the increasing range and ease of access to information, products and services. However, in today’s competitive business environment, providing value to the customer is very important for businesses to survive. The most effective way to provide value is to know the customers and serve them as individuals. Customers need to feel they have a unique personal relationship with the business.

**2.2 Proposed Solution:**

Recommender systems have become an answer to the need of personalization. The customer usually provides the recommender system with data such as the characteristics of the product he is looking for, his ratings, demographic data, etc. The recommender system applies one or several recommendation techniques on these data and then recommends products to the customers. In order to provide reliable recommendation, the recommender system needs to capture exactly the customer needs and preferences. However, for subjective and complexes products such as movies, music, perfume, the task of rating or describing the desired product characteristics is quite difficult for customers. Moreover, as user preferences for these subjective products change constantly according to their emotions, the traditional user profile is not sufficient to understand and capture these changes. To solve these problems, we propose to use an Emotion-based Recommender System (E-MRS) that can capture customer preferences according to their emotions. Emotion plays an important role in rational and intelligent behaviour; thus, we incorporate user emotions into the recommendation process.

**CHAPTER 3**

**THEORTICAL ANALYSIS**

**3.1 Block Diagram:**

**A picture containing text

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**3.2 HARDWARE/SOFTWARE DESIGNING**

|  |  |
| --- | --- |
| **REQUIREMENT** | **SPECIFICATION** |
| Anaconda Navigator | You must have anaconda installed in your device prior to begin. |
| Spyder, Jupyter Notebook, Flask  Framework | 1. One should have Spyder and Jupyter notebook. 2. One should install flask framework through anaconda prompt for running their web application 3. We need to build the model using jupyter notebook with all the imported packages. |
| Web browser | For all Web browsers, the following must be enabled:   * cookies * JavaScript |

**CHAPTER 4**

**EXPERIMENTAL INVESTIGATIONS**

Analysis or the investigation made while working on the solution:

While working on the solution we investigated on what is Recommendation System, types of recommendation system, web Scrapping, Beautiful Soup, IBM cloud, IBM Watson studio, Cloud Object Storage. The key role on investigation is collection of datasets.

**IBM Cloud Account**:

IBM Acquired soft layer, a public cloud platform, to serve as the foundation for its IaaS offering. In October 2016, IBM rolled the soft layer brand under its blue mix brand of PaaS offerings, giving users to access both IaaS and PaaS resources from a single console. IBM cloud provides a full-stack, public cloud platform with various products in the catalo, including options for compute, storage, networking, end to end developer solutions for app development, testing and deployment, security databases, and cloud native services.

Creating the IBM cloud account by going to the IBM cloud login page and click create on IBM cloud account. Enter our IBM id and an ID is created based on the email that we enter. Completing the remaining fields with our information and click create account by this the account is created.

**CHAPTER 5: FLOW CHART**

**Data Pre-processing:**

**Step 1: Import Necessary Libraries**

**A screenshot of a computer

Description automatically generated with medium confidence**

**Step 2: Creating our flask application:**

**Text

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**Step 3: Routing to the HTML Page:**

**Text

Description automatically generated**

**Text

Description automatically generated**

**Step 4: Classify the emotion associated with the Genre of Movie**

**Text

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**Step 5: Scraping the Web Page:**

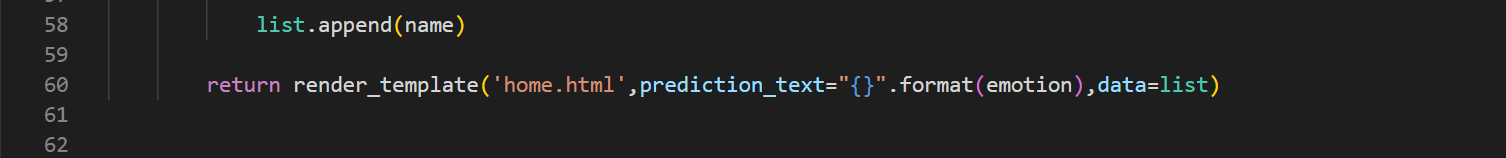
**Text

Description automatically generated**

****

**Text

Description automatically generated**

****

**Step 6: Main Function:**

**A screenshot of a computer screen

Description automatically generated with low confidence**

**CHAPTER 6: RESULTS**

**Graphical user interface, text, application

Description automatically generated**

**Graphical user interface

Description automatically generated with medium confidence**

**CHAPTER 7**

**ADVANTAGES:**

* Drive Traffic
* Deliver Relevant Content
* Engage Shoppers
* Convert Shoppers to Customers
* Increase Average Order Value
* Increase Number of Items per Order
* Control Merchandising and Inventory Rules
* Reduce Workload and Overhead
* A Recommendation Engine Provides Reports
* Offer Advice and Direction

**DISADVANTAGES:**

* Lack Of Data
* Changing Data
* Changing User Interface
* Unpredictable Items
* The stuff is Complex

**CHAPTER 8: APPLICATIONS**

1. **Product Recommendation:**

Based on the user previous selected items and the most user’s choice this recommendation system will help the use to recommend a Product.

1. **Music Recommendation:**

Based on the user choice the system will provide the music on his mood.

1. **Loan Recommendation:**

Based on the user Civil score of the user, the Loan recommendation system will identify a person either he is eligible to Loan or not.

1. **Movie Recommendation:**

Based on the user emotion, the Movie recommendation system will let the users know the best suitable Movie.

1. **Search Recommendation:**

Based on the previous search History the users will be provided with the related content from the search.

1. **Book Recommendation:**

Based on the Users choice the suitable books are recommended.

**CHAPTER 9: CONCLUSION**

The Movie Recommendation system based on the Emotion using Web scrapping will let the user know the best fit movies. Since we are using Web scrapping, it will let us get the data Dynamically and the latest movies will be recommended. We are Deploying the model in the IBM cloud which let the user to access the application anywhere through the internet.

**CHAPTER 10: FUTURE SCOPE**

This Movie recommendation system can be further be modified as:

* We can also be further developed which also recommends the movies based on the views, ratings, latest releases.
* We can also include machine learning concepts for intelligently recommending the movies to the user.

**CHAPTER 11: BIBILOGRAPHY**

References of previous works or websites visited/books referred for analysis about the project, previous solution findings.

towards data science:

https://towardsdatascience.com/the-4-recommendation-engines-that-can-predict-your-movie-tastes-109dc4e10c52