HX8001 - PROFESSIONAL READINESS FOR INNOVATION, EMPLOYABILITY AND ENTREPRENEURSHIP

SMART FASHION RECOMMENDER APPLICATION

A PROJECT REPORT

TEAM ID:PNT2022TMID50137

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ABSTRACT

Fashion is perceived as a meaningful way of self-expressing that people use for different purposes. It seems to be an integral part of every person in modern societies, from everyday life to exceptional events and occasions. Fashionable products are highly demanded, and consequently, fashion is perceived as a desirable and profitable industry. Although this massive demand for fashion products provides an excellent opportunity for companies to invest in fashion-related sectors, it also faces different challenges in answering their customer needs. In recent years, the textile and fashion industries have witnessed an enormous amount of growth in fast fashion. On e-commerce platforms, where numerous choices are available, an efficient recommendation system is required to sort, order, and efficiently convey relevant product content or information to users. Smart Fashion Recommender Application have attracted a huge amount of attention from fast fashion retailers as they provide a personalized shopping experience to consumers. Smart Fashion Recommender Application have been introduced to address these needs.

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CHAPTER-1
INTRODUCTION

1.1 PROJECT OVERVIEW

The Fashion industry is one of the larger industries around the world. One of the things that has remained constant throughout human civilization is humans covering their bodies with a piece of cloth. Initially, this cloth was worn as protection from the harsh climates of those ages. Later on, as we humans learned to fend for ourselves from the unforgiving climates, the cloth started to serve a different purpose. Fashion these days showcases the individuality of the person. There are many things that can be said about a person based on their fashion sense.

1.2 PURPOSE

There is currently no existing system that is capable of recommending clothes based on the occasion. Different occasions call for different clothing. Moreover, a lot of fashion is based on the color combinations of outfits. A person with no or little fashion sense will have a hard time to decide on clothes that leave a lasting impression. The proposed Fashion Recommendation System is intended to be used by individual users in order to store images of the clothes that they own in what is called a digital wardrobe and also to get recommendations by the system on what clothes to wear for a given occasion. The main aim of the project is to recommend the most appropriate clothes for a given occasion based on the clothes existing in the user's wardrobe to relieve the user of the burden of making decisions about what clothing to wear. Such a system should be capable of helping someone who has no fashion sense to wear clothes that leave a good impression on others. The system should be such that it is easily accessible and easy to take advantage of the various features that it provides. One of the features should be the ability to store images that the user uploads into a wardrobe. A wardrobe is a very useful entity that the user can use to view and manage the images of clothes that they have uploaded. This feature can also be used by the recommendation algorithm to recommend the clothes. Another feature is the classification of the type and color of the clothing that is uploaded by the user. The system should be capable of handling the 4 basic clothing types: Shirt, T-Shirt, Pants and Shoes.

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CHAPTER-2
LITERATURE SURVEY

</div>

2.1 EXISTING PROBLEM:

In existing system only simple web application and their rating has been implemented in existing system, An ecommerce product recommendation engine is a piece of technology that displays recommended products to shoppers throughout your store. It uses machine learning to get smarter and show increasingly relevant products to shoppers based on their interests and previous browsing behavior

2.2 REFERENCE

Paper 1: A Review of Modern Fashion Recommender Systems

A Review of Modern Fashion Recommender Systems, Yashar Deldjoo, Fatemeh Nazary, Amau Ramisa, Julian McAuley ,Giovanni Pellegrini , Alejandro Bellogin, and Tommaso Di Noia, December2021, ACMComput.Surv.37,4.Articlel11(December2021).

The textile and apparel industries have grown tremendously over the last years. Customers no longer have to visit many stores, stand in long queues, or try on garments in dressing rooms as millions of products are now available in online catalogs. However, given the plethora of options available, an effective recommendation system is necessary to properly sort, order, and communicate relevant product material or information to users. Effective fashion RS can have a noticeable impact on billions of customers' shopping experiences and increase sales and revenues on the provider-side. The goal of this survey is to provide a review of recommender systems that operate in the specific vertical domain of garment and fashion products. We have identified the most pressing challenges in fashion RS research and created a taxonomy that categorizes the literature according to the objective they are trying to accomplish and type of side-information (users, items, context). We have also identified the most important evaluation goals and perspectives and the most commonly used datasets and evaluation metrics.

Paper 2: Design of Garment Style Recommendation System Based on Interactive Genetic Algorithm

Recommender systems provide users with product information and suggestions, which has gradually become an important research tool in e-commerce IT technology, which has attracted a lot of attention of researchers. Collaborative filtering recommendation technology has been the most successful recommendation technology so far, but there are two major problems—recommendation quality and scalability. At present, research at home and abroad mainly focuses on recommendation quality, and there is less discussion on scalability. -e scalability problem is that as the size of the system increases, the response time of the system increases to a point where users cannot afford it. Existing solutions often result in a significant drop in recommendation quality while reducing recommendation response time. In this paper, the clustering analysis subsystem based on the genetic algorithm is innovatively introduced into the traditional collaborative filtering recommendation system, and its design and implementation are given. In addition, when obtaining the nearest neighbors, only the clustered users of the target user are searched, making it a collaborative filtering recommender system based on genetic clustering. -e experimental results show that the response time of the traditional collaborative filtering recommender system increases linearly with the increase in the number of users while the response time of the collaborative filtering recommender system based on genetic clustering remains unchanged with the increase in the number of users.

Paper 3: Fashion Recommendation System Model and Methods

In recent years, the textile and fashion industries have witnessed an enormous amount of growth in fast fashion. On e-commerce platforms, where numerous choices are available, an efficient recommendation system is required to sort, order, and efficiently convey relevant product content or information to users. Image-based fashion recommendation systems (FRSs) have attracted a huge amount of attention from fast fashion retailers as they provide a personalized shopping experience to consumers. With the technological advancements, this branch of artificial intelligence exhibits a tremendous amount of potential in image processing, parsing, classification, and segmentation. Despite its huge potential, the number of academic articles on this topic is limited. The available studies do not provide a rigorous review of fashion recommendation systems and the corresponding filtering techniques. To the best of the authors' knowledge, this is the first scholarly article to review the state-of-the-art fashion recommendation systems and the corresponding filtering techniques. In addition, this review also explores various potential models that could be implemented to develop fashion recommendation systems in the future. This paper will help researchers, academics, and practitioners who are interested in machine learning, computer vision, and fashion retailing to understand the characteristics of the different fashion recommendation systems.

Paper 4: A Review on Outfit Fashion recommendation System

A Review on Outfit Fashion recommendation System, Bhagyshree Pravin Bhure, Pratiksha Tulshiram Bansod, Monali ShivramAmgaokar, Savita Pralhad Lodiwale, Anjali pravin, ashish Mohod, 18 May 2021.

With the quick rise in living standards, people's shopping passion grew, and their desire for clothing grew as well. A growing number of people are interested in fashion these days. However, when confronted with a large number of garments, consumers are forced to try them on multiple times, which takes time and energy. As a result of the suggested Fashion Recommendation System, a variety of online fashion businesses and web applications allow buyers to view collages of stylish items that look nice together. Clients and sellers benefit from such recommendations. On the one hand, customers can make smarter shopping decisions and discover new articles of clothes that complement one other. Complex outfit recommendations, on the other hand, assist vendors in selling more products, which has an impact on their business. Fashion Net is made up of two parts: a feature network for extracting features and a matching network for calculating compatibility. A deep convolutional network is used to achieve the former. For the latter, a multi-layer completely connected network topology is used. For Fashion Net, you must create and compare three different architectures. To achieve individualised recommendations, a two-stage training technique was created.

Paper 5: A Review on Clothes Matching and Recommendation Systems based on user Attributes

A Review on Clothes Matching and Recommendation Systems based on user Attributes,   Atharv Pandit, Kunal Goe1, Manav Jain, Neha Katre,03-09-2020, **IJERT.**

Dressing appropriately is very important when going out in the real world. Wearing clothes properly that show some level of style and wearing them such that they adhere to the norms of social standards uplifts the confidence of the person and creates a very good impression. The study focuses on helping the user to find optimized matching pair of clothes taking into account intricate details like style, patterns, colors, textures, etc. also keeping in mind users attributes like age, skin tone, favorite color etc. It aims to help the user choose clothes that are fashionable and organize their closet. It tries to help the user to wear clothes that are suitable to occasions and helps user to buy clothes that would suit their style. In this paper, an in depth study is performed of various systems that are developed for the various features that must be kept in mind for making a robust system that finds matching clothes of the user as well as makes recommendations. Systems developed to make recommendations of clothes using various approaches have been studied and their merits and demerits high-lighted. Systems that are used for clothes detection have also been studied to make the system user- friendly while the user provides input.

2.3 PROBLEM STATEMENT DEFINITION

The personal information collected by recommenders raises the risk of unwanted exposure of that information. Also, malicious users can bias or sabotage the recommendations that are provided to other users.In recent years, the textile and fashion industries have witnessed an enormous amount of growth in fast fashion. On e-commerce platforms, where numerous choices are available, an efficient recommendation system is required to sort, order, and efficiently convey relevant product content or information to users.

> ➤ The problem of the work is to design static web applications deployments with customer deployment
> ➤ Lack of interaction between application and user
> ➤ User need to navigate across multiple pages to choose right product
> ➤ Confusion in choosing product
> ➤ Lack of sales
> ➤ Complex User Interface.
> ➤ Lack of proper guidance.

CHAPTER-3
IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes. It is a useful tool to helps teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges. An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers.

Reference:
https://app.mural.co/invitation/mural/fashionrecommderapplication7598/1664037379529?sender=ueb3338e9f75abcd9a7456911&key=5b4777b7-745a-4236-a581-ef8455d48eaa
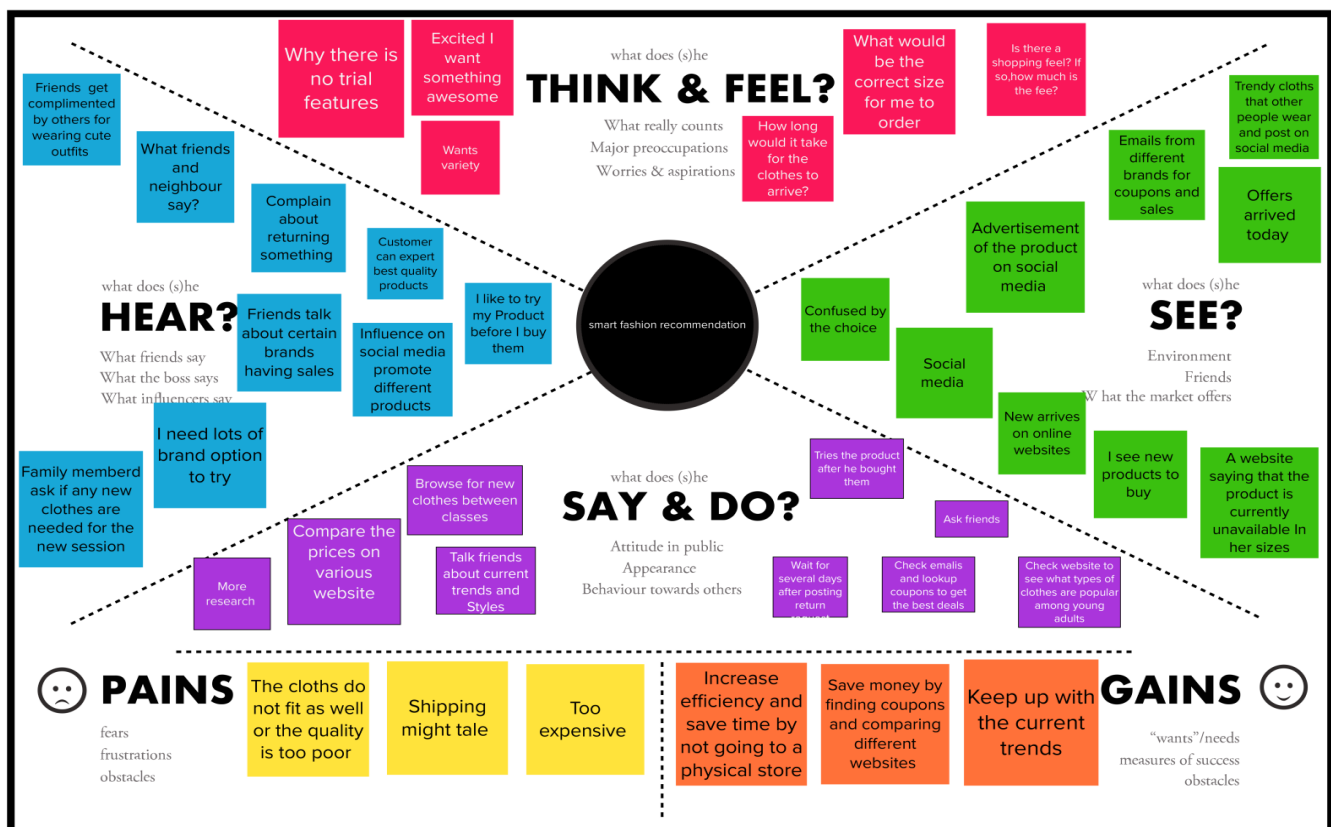
3.2 IDEATION & BRAINSTROMING:

A group problem-solving technique that involves the spontaneous contribution of ideas from all members of the group. The mulling over of ideas by one or more individuals in an attempt to devise or find asolution to a problem.

3.3 PROPOSED SOLUTION:

S. No.	Parameter	Description
1.	Problem Statement	How can we make online fashion shoppingeven smarter ? Even though online shopping is convenient , the main problem is that a shopping cart cannot say"This dress looks like it was made especially for you ,mam" or " May I suggest a top that perfectly matches with the pant ?"
2.	Idea / Solution description	• **Chatbot** helps the customer in selecting an Outfit • Customer can easily ask for what theywant and it filters the various collection to suggest the products fitting their style. • The Bot will assist the customers till the purchase is done.
3.	Novelty / Uniqueness	• With the help of IBM Cloud Object Storage, we are going to store and manage large amount of data which ishighly scalable and secure. • Give recommendation based on customer interest. • The chatbot indeed keeps you engaged and perfectly fits the designer's goal of"Going directly to the consumer".
4.	Social Impact / Customer Satisfaction	• Fashion recommending chatbots , the automated and smart contextual messaging system act as a personal stylists. • Integrated customer Feedback collecting system. • Advertise best deals and offers on that day.

5.	Business Model (Revenue Model)	• Simple and easy UI to enable end-user for seamless and smart purchase experience. • Get many inputs such as: Gender, Age, Dress size, Dress category, Color preference, Price filter etc.. for better recommendation. • Easy monitoring of customers, products as well as feedback database in dedicated Admin dashboard.
6.	Scalability of the Solution	• Large and Varied collection of fashion apparels in database for more personalised search results. • Cloud integration of Chatbot for quick and efficient recommendation system. • Chatbots may be seen as a user interface for fashion applications by providing recommendations, exploring and searching huge catalogues , complementing virtual fitting room features and delivering customer services.

3.4 PROBLEM SOLUTION FIT

PROJECT TITLE: SMART FASHION RECOMMENDATION SYSTEM   PROJECT DESIGN PHASE 1-SOLUTION FIT   TEAM ID: PNT2022TMID50137

1. CUSTOMER SEGMENT(S) — CS

Who is your customer?
working parents of 06 yo kids

IN CUSTOMER SEGMENTATION WE ARE DIVIDING THE CONSUMERS INTO DIFFERENT CATEGORIES BASED ON DISTINGUISHING CHARACTERISTICS.

1. GENDER BASED SEGMENTS
2. AGE RELATED SEGMENTS
3. GEOGRAPHIC SEGMENTS
4. LIFE STYLE BASED SEGMENTS

6. CUSTOMER CONSTRAINTS — CC

What constraints prevent your customers from taking action or limit their choices of solutions? spending power, budget, no cash, network connection, available devices.

1. SIMPLE RECOMMENDERS
2. CONTENT-BASED RECOMMENDERS
3. COLLOBATIVE RECOMMENDERS
4. HYBRID RECOMMENDERS

5. AVAILABLE SOLUTIONS — AS

Which solutions are available to the customers when they face the problem? need to get the job done? What have they tried in the past? What pros & cons do these solutions have? pen and paper is an alternative to digital solutions.

TITLE
1) A Review on the Literature of Fashion Recommender System.
2) Fashion Recommendation Systems, Models and Methods A review
3) Content Based Apparel Recommendation System for Fashion Industry
4) A Review on Clothes Matching and Recommendation Systems based on user Attributes

(side bar: Explore AS, differentiate)
(side bar: Define CS, fit into CC)

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Which jobs-to-done (or problems) do you address for your customers? There could be more than one; explore different sides.

JOBS TO BE DONE:

1) COLLECTION OF DATA
   (INPUT OF IMPLICIT FEEDBACK
   INPUT OF EXPLICIT FEEDBACK
   INPUT OF HYBRID FEEDBACK)
2) LEARNING PHASE
3) RECOMMENDATION PHASE

9. PROBLEM ROOT CAUSE — RC

What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations.

1) SHOP BREAKAGES
2) POOR QUALITY OR INCOMPLETE
3) MISLEADING PRICE OR ADVERTISING
4) INACCURATE PRODUCTS

7. BEHAVIOUR — BE

What does your customer do to address the problem and get the job done? directly related: get the right solar panel installer, calculate usage and saving. indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

1) Behavior encompasses the entire process related to clothing, that is clothing choice criteria's, clothing interests, selection of clothes, views about clothing, clues collected.

2) Imparted from clothing worn, practices followed during purchase and purchase decision, appearance and management.

(side bar: Focus on J&P, tap into BE, understand RC)
(side bar: Focus on J&P, tap into BE, understand and RC)

1. TRIGGERS — TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

SMART FITTING ROOM CAN OFFER A TOUCHSCREEN DISPLAY (FITTED WITH COMPUTER/MOBILE VISION CAMERA)

4. EMOTIONS: BEFORE / AFTER — EM

How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure, in control - use it in your communication strategy & design.

1) JOY
2) TRUST
3) BELONGINGS

10. YOUR SOLUTION — SL

If you are working on an existing business, write down your current solution in the canvas and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

1) It enables human knowledge and human emotions on garment design to be extracted, formalized, updated and applied to recommendations.
2) The proposed system originally combines all three factors of fashion design (style, colour and material), enabling more complete design solutions to be obtained, which can be easily evaluated by non-professional consumers.

8. CHANNELS of BEHAVIOUR — CH

ONLINE
What kind of actions do customers take online? Extract online channels from #7

Understanding the mechanisms of virtual shopping and the behavior of the online consumer is a priority issue for practitioners competing in the fast expanding virtual marketplace.

OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

Offline consumer buying behaviour refers to the buying behaviour of the ultimate consumer who prefers to visit traditional stores or contact salesman/use magazine catalogues per telephonic order for buying any product/service.

(side bar: Identify strong TR & EM)
(side bar: Extract online & offline CH of BE)

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CHAPTER-4
REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENT:

Following are the functional requirements of the proposed solution.

| FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form
FR-2	User Interaction	Interact through the Chat Bot
FR-3	Buying Products	Through the chat Bot Recommendation
FR-4	Track Products	Ask the Chat Bot to Track my Orders
FR-5	Return Products	Through the chat Bot
FR_6	New Collections	Recommended from chat Bot

4.2 NON-FUNCTIONAL REQUIREMENTS:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Using Android or IOS or windows applications.
NFR-2	**Security**	The user data is stored securely in IBM cloud.
NFR-3	**Reliability**	The Quality of the services are trusted.
NFR-4	**Performance**	I ts Provide smooth user experience.
NFR-5	**Availability**	The services are available for 24/7.
NFR-6	**Scalability**	Its easy to scalable size of users and products.

CHAPTER-5
PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.
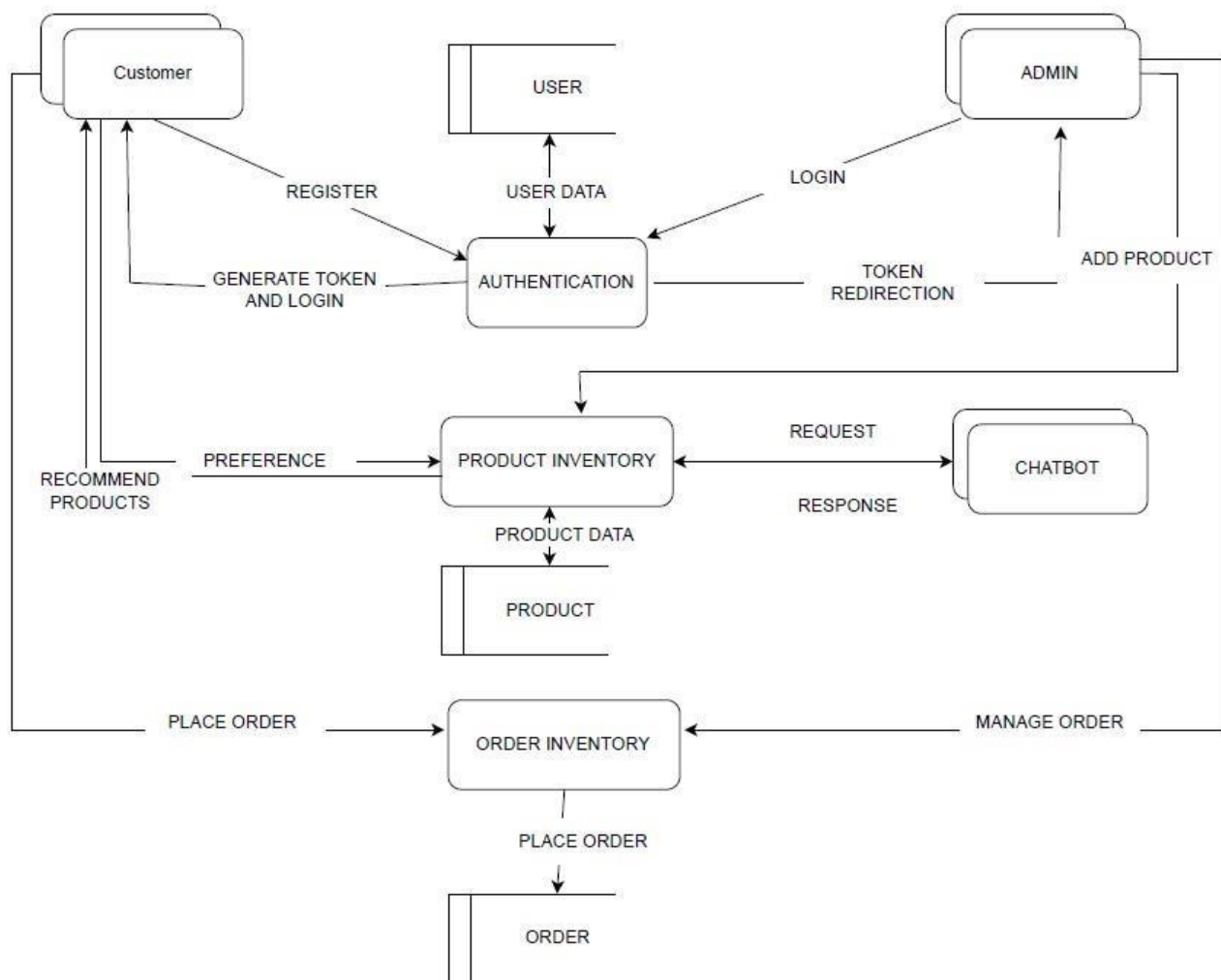
5.2 SOLUTION & TECHNICAL ARCHITECTURE:

We have developed a new innovative solution through which you can directly do your online shopping based on your choice without any search. It can be done by using the chatbot. In this project you will be working on two modules:

• Admin

• User

Instead of searching for products in the search bar and navigating to individual products to find required preferences, this project leverages the use of chatbots to gather all required preferences and recommend products to the user. The solution is implemented in such a way as to improve the interactivity between customers and applications. The chatbot sends messages periodically to notify offers and preferences. For security concerns, this application uses a token to authenticate and authorize users securely. The token has encoded user id and role. Based on the encoded information, access to the resources is restricted to specific users.
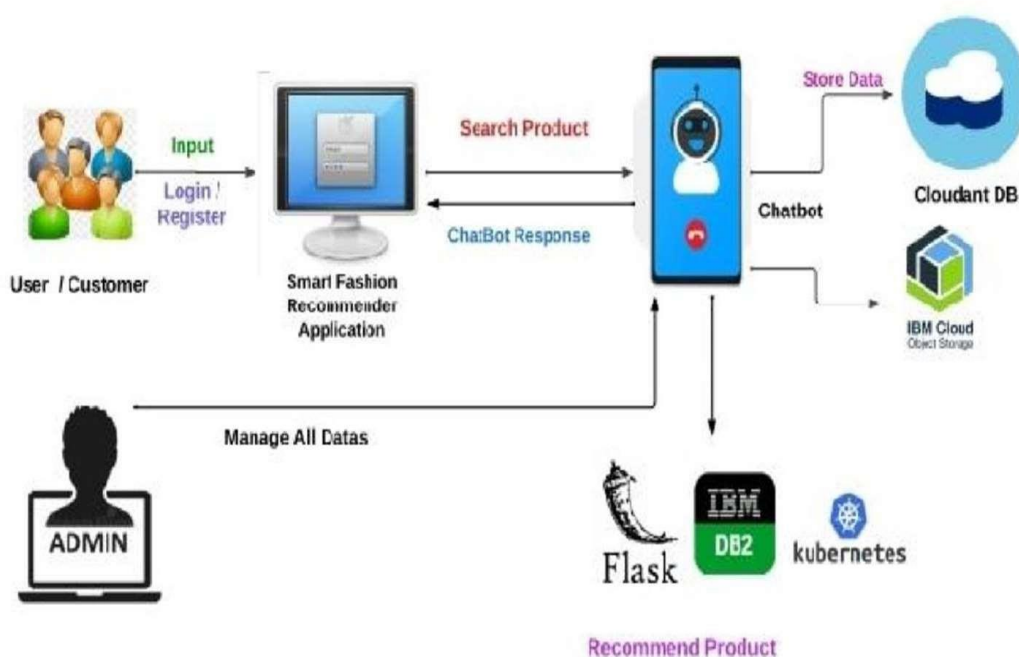
5.3 USER STORIES :

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirmingmy password.	I can access my account /dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the applicationthrough Facebook	I can register & access thedashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access and make purchases.	\High	Sprint-1
	Dashboard					
Customer (Webuser)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirmingmy password.	I can access my account /dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the applicationthrough Facebook	I can register & access thedashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
		USN-5	As a user, I can log into the application by entering email & password	I can access and make purchases.	High	Sprint-1
Administrator	Login	USN-1	I enter my mail and password on organisation's approval	I can approve products and purchases	High	Sprint-1 Administrator

6.PROJECT PLANNING & SCHEDULE

6.1 SPRINT PLANNING & ESTIMATION:

Milestones	Activities	Description
Project Development Phase	Delivery of Sprint – 1,2,3,4	To develop the code and submit the developed code by testing it
Setting up App environment	Create IBM Cloud account	Signup for an IBM Cloud account
	Create flask project	Getting started with Flask to create project
	Install IBM Cloud CLI	Install IBM Command LineInterface
	Docker CLI Installation	Installing Docker CLI on laptop
	Create an account in send grid	Create an account in sendgrid. Use the service as email integration to our application for sending emails
Implementing web Application	Create UI to interact with Application	Create UI · Registration page · Login page · View products page · Add products page
	Create IBM DB2 & connect with python	Create IBM DB2 service in IBM Cloud and connect with python code with DB
Integrating sendgrid service	Sendgrid integration with python	To send emails form the application we need to integrate the Sendgrid service
Developing a chatbot	Building a chatbot and Integrate to application	Build the chatbot and Integrate it to the flask application
Deployment of App in IBMCloud	Containerize the App	Create a docker image of your application and push it to the IBM container registry
	Upload image to IBM container registry	Upload the image to IBM container registry
	Deploy in kubernetes cluster	Once the image is uploaded to IBM Container registry deploy the image to IBM Kubernetes cluster
Ideation Phase	Literature Survey	Literature survey on the selected project & information gathering
	Empathy Map	Prepare Empathy map to capture the user Panis & Gains, prepare list of problem statement
	Ideation	Organizing the brainstorming session and priorities the top 3 ideas based on feasibility & Importance
Project Design Phase I	Proposed Solution	Prepare proposed solution document which includes novelty, feasibility of ideas, business model, social impact, Scalability of solution
	Problem Solution Fit	Prepare problem solution fit document
	Solution Architecture	Prepare solution architecture document
Project Design Phase II	Customer Journey	Prepare customer journey map to understand the user interactions & experience with the application
	Functional requirement	Prepare functional & non functional requirement document
	Data Flow Diagram	Prepare Data Flow Diagramand user stories
	Technology architecture	Draw the technology architecture diagram
Project Planning Phase	Milestones & Activity list	Prepare milestones and activity list of the project
	Sprint Delivery Plan	Prepare sprint delivery plan

6.2 SPRINT DELIVERY SCHEDULE:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story points	Priority	Team Members
Sprint -1	Setting up App environment	USN-1	As a user, I can register in ICTA Academy and create IBM cloudaccount.	2	High	Gokul S Jesu Denison K
Sprint -1		USN-2	As a user, I will create a flaskproject	1	Low	John Prakash I John Stephen J
Sprint -1		USN-3	As a user, I will install IBM CloudCLI	2	Medium	Gokul S Jesu Denison K
Sprint -2	Setting up App environment	USN-4	As a user, I can install Docker CLI	1	Low	John Prakash I John Stephen J
Sprint -2		USN-5	As a user, I will Create an accountin sendgrid	2	Medium	Gokul S Jesu Denison K

Sprint-3	Implementing web application	USN-6	As a user, I Create UI to interact with the application	1	High	John Prakash I John Stephen J
Sprint-3		USN-7	As a user, I Create IBM DB2 and connect with Python	3	High	Gokul S
Sprint-3	Integrating sendgrid service	USN-8	As a user, I will integrating sendgrid with python code	2	High	Jesu Denison K
Sprint-3	Developing a chatbot	USN-9	As a user, I have to build a chatbot and Integrate to application	1	Medium	John Prakash I
Sprint-4	Development of App in IBM Cloud	USN-10	As a user, I will Containerize the App	1	Low	John Stephen J
Sprint-4		USN-11	As a user, I will upload image to IBM Container registry	2	Medium	John Stephen J
Sprint-4		USN-12	As a user, I will deploy App in Kebernetes cluster	3	High	John Prakash I
Sprint-4	User panel		As a user ● Register, Login, Email, Verification ● Manual Search ● Order placement, OrderDetails	3	High	Gokul S Jesu Denison K John Prakash I John Stephen J

| Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	18	6 Days	24 Oct 2022	29 Oct 2022	24	29 Oct 2022
Sprint-2	18	6 Days	31 Oct 2022	05 Nov 2022	24	05 Nov 2022
Sprint-3	18	6 Days	07 Nov 2022	12 Nov 2022	24	12 Nov 2022
Sprint-4	18	6 Days	14 Nov 2022	19 Nov 2022	24	19 Nov 2022

Velocity

Imagine we have a 6-day sprint duration, and the velocity of the team is 18(points per sprint). Let's calculate the team's averagevelocity (AV) per iteration unit (story points per day)

$$AV = Sprint\ Duration\ /\ Velocity$$

$$AV = 24/6 = 4$$

6.3 REPORTS FROM JIRA:

   A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software developmentmethodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.


Goal : 80 hours in 4 weeks
Burndown Chart
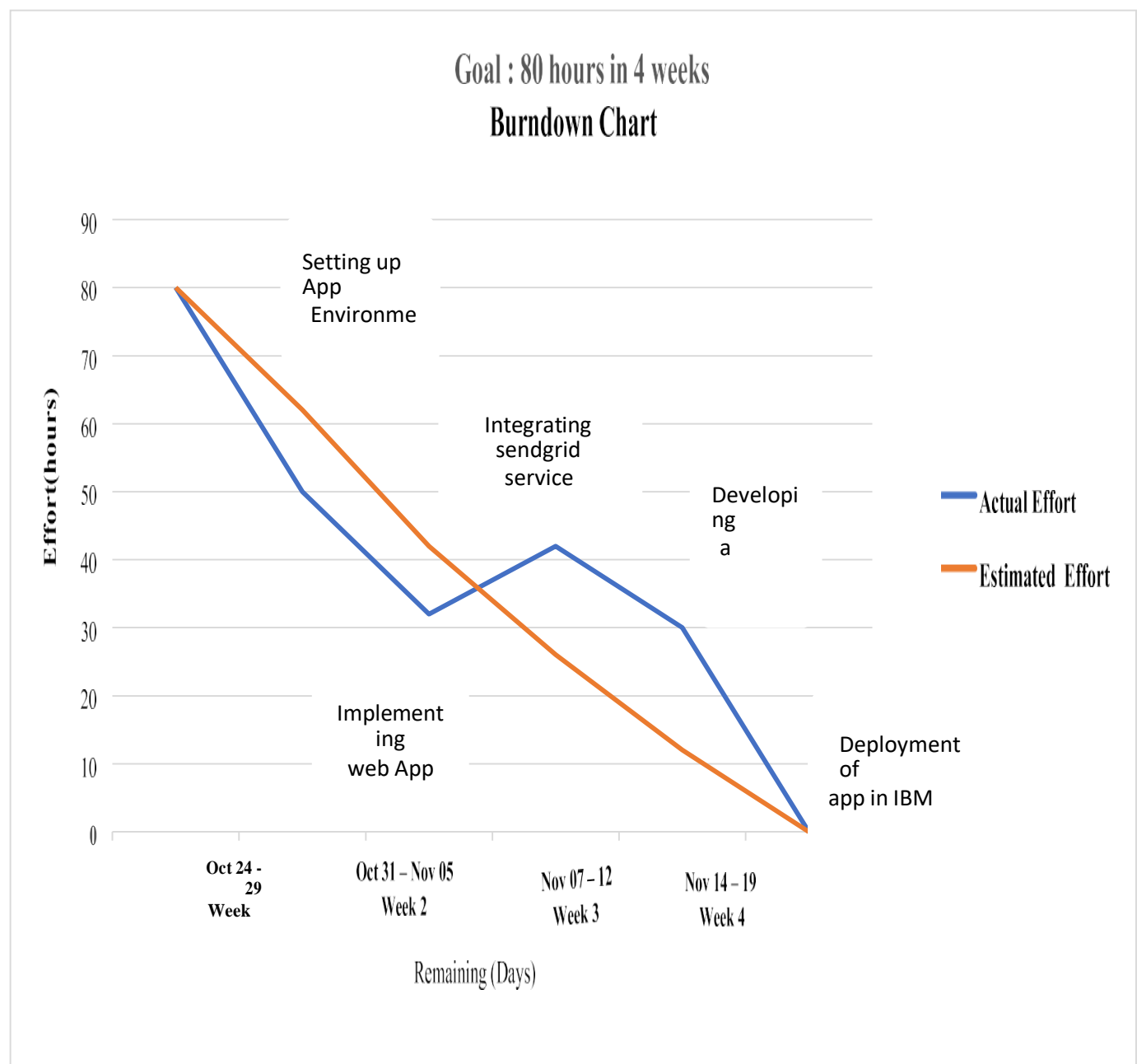
CHAPTER-7
CODING & SOLUTIONING
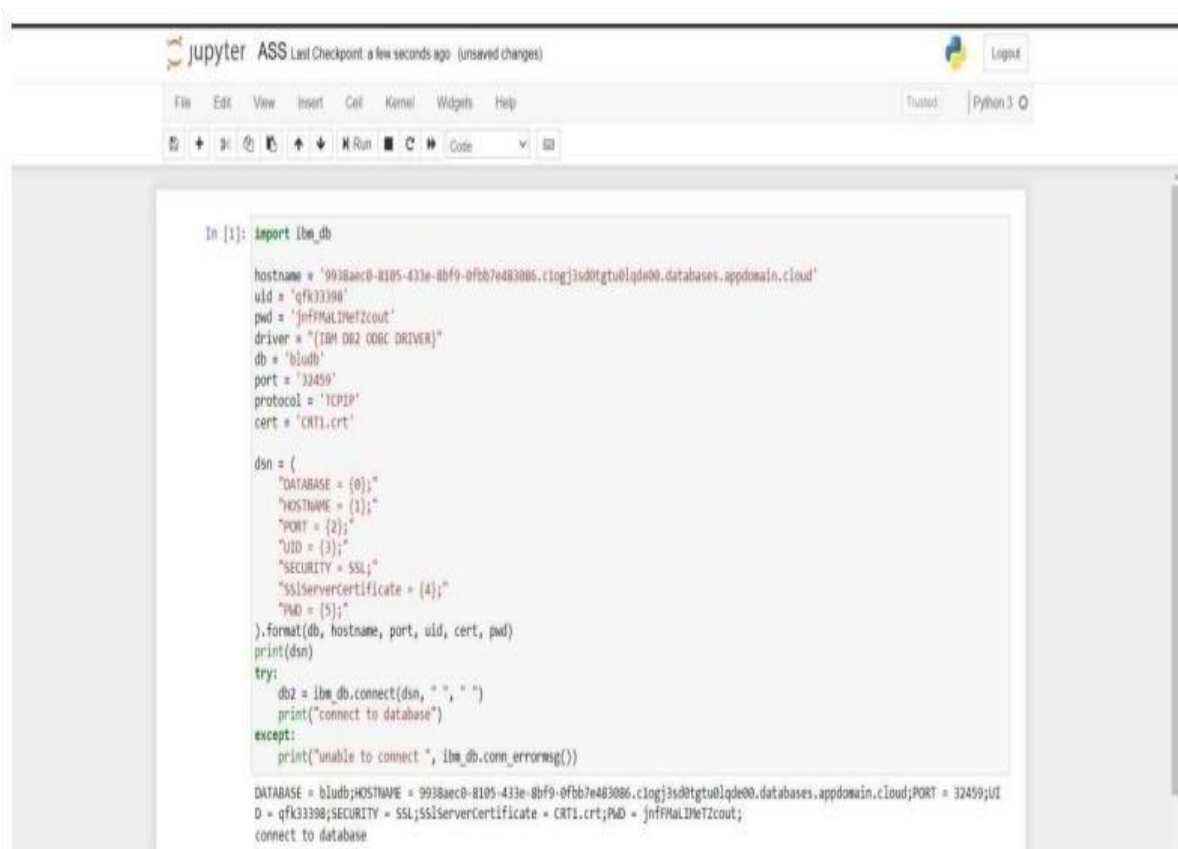
7.1 FIGURE 1:
HOME PAGE:
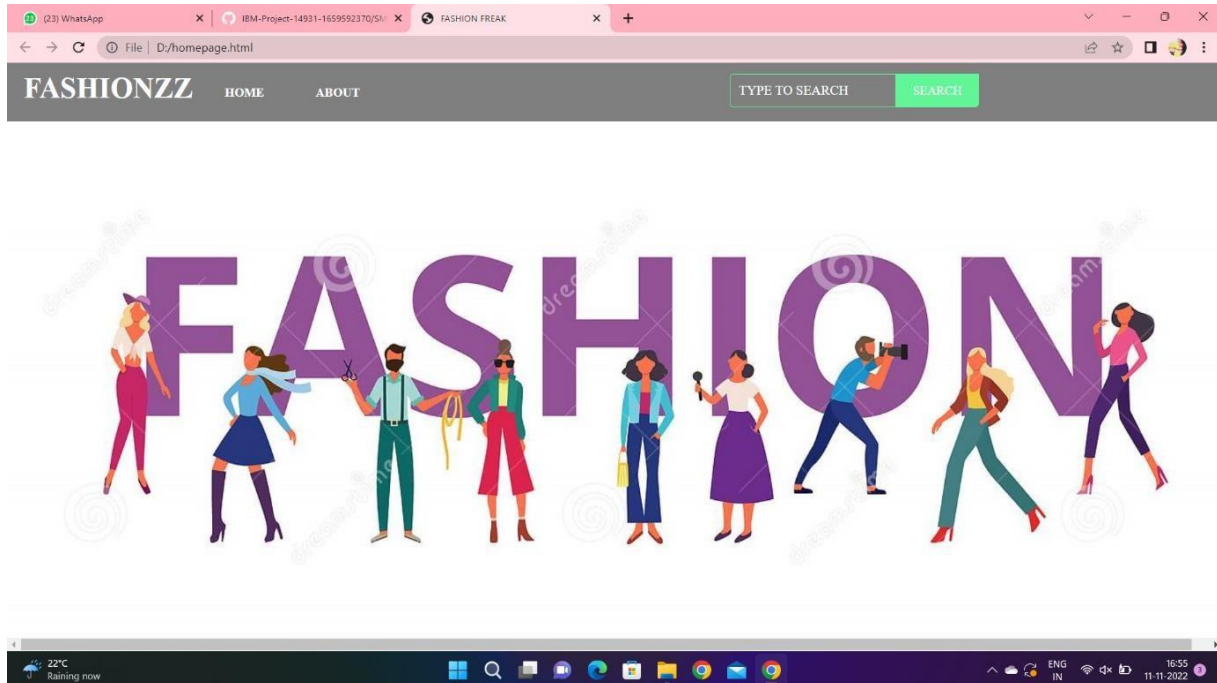
7.2 FIGURE :
FINAL PAGE:
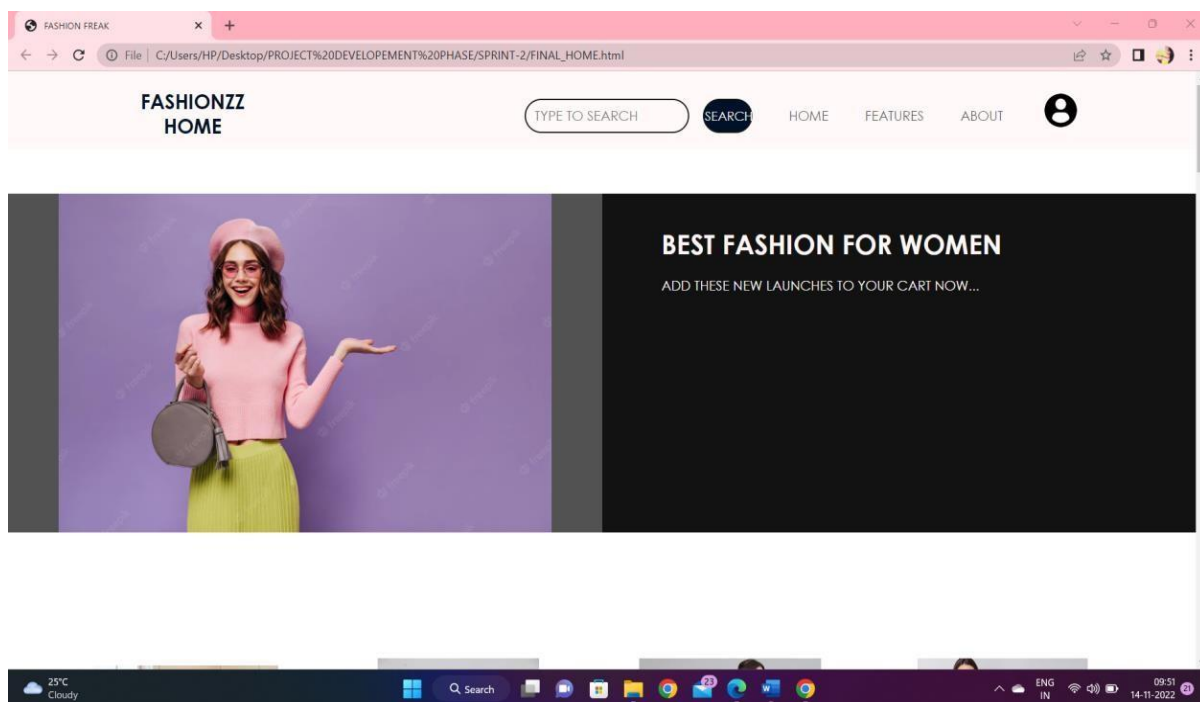
7.3 DATABASE SCHEMA:


```
In [1]: import ibm_db

        hostname = '9938aec0-8105-433e-8bf9-0fbb7e483086.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud'
        uid = 'qfk33398'
        pwd = 'jnfFMaLIMeTZcout'
        driver = "{IBM DB2 ODBC DRIVER}"
        db = 'bludb'
        port = '32459'
        protocol = 'TCPIP'
        cert = 'CRT1.crt'

        dsn = (
            "DATABASE = {0};"
            "HOSTNAME = {1};"
            "PORT = {2};"
            "UID = {3};"
            "SECURITY = SSL;"
            "SSlServerCertificate = {4};"
            "PWD = {5};"
        ).format(db, hostname, port, uid, cert, pwd)
        print(dsn)
        try:
            db2 = ibm_db.connect(dsn, " ", " ")
            print("connect to database")
        except:
            print("unable to connect ", ibm_db.conn_errormsg())

        DATABASE = bludb;HOSTNAME = 9938aec0-8105-433e-8bf9-0fbb7e483086.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT = 32459;UI
        D = qfk33398;SECURITY = SSL;SSlServerCertificate = CRT1.crt;PWD = jnfFMaLIMeTZcout;
        connect to database
```

CHAPTER-8
TESTING

8.1 USER ACCPTENCE TESTING:

	Project Name	Movie Tracker Application
	Maximum Marks	4 marks

| Test case ID	Feature Type	Compon ent	Test Scenario	Pre-Requisite	Steps To Execute	Test Data	Expected Result	Actual Result	Stat us	Comments	TC for Automation(Y/N)	BUG ID	Executed By
LoginPage_TC_0 01	Functional	Home Page	Verify user is able to see the Login/Signup popup when user clicked on My account button		1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Signup popup displayed or not	https://shopnow.com/	Login/Signup popup should display	Working as expected	Pass				Karuppaiah
LoginPage_TC_0 02	UI	Home Page	Verify the UI elements in Login/Signup popup		1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify login/Signup popup with below UI elements a.email text box b.password text box c.Login button d.New customer? Create account link e.Lost password? Recovery password link	https://shopnow.com/	Application should show below UI elements: a.email text box b.password text box c.Login button with orange colour d.New customer? Create account link e.Lost password? Recovery password link	Working as expected	Fail	Steps are not clear to follow		BUG-1234	Konstick Srinivas
LoginPage_TC_0 03	Functional	Home page	Verify user is able to log into application with Valid credentials		1.Enter URL(https://shopnow.com/) and click go 2.Click on My Account dropdown button 3.Enter Valid username in Email text box 4.Enter valid password in password text box 5.Click on login button	Username: chslam@gmail.com password:Testing123	User should navigate to next account homepage						Naranath
LoginPage_TC_0 04	Functional	Login page	Verify user is able to log into application with InValid credentials		1.Enter URL(https://shopnow.com/) and click go 2.Click on My Account dropdown button 3.Enter InValid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username: chslam@gmail password:Testing123	Application should show 'Incorrect email or password 'validation message.						Nareen Raja
LoginPage_TC_0 04	Functional	Login page	Verify user is able to log into application with InValid credentials		1.Enter URL(https://shopnow.com/) and click go 2.Click on My Account dropdown button 3.Enter Valid username in Email text box 4.Enter Invalid password in password text box 5.Click on login button	Username: chslam@gmail.com password: Testing123676886786676 676	Application should show 'Incorrect email or password 'validation message.						Naranath
LoginPage_TC_0 05	Functional	Login page	Verify user is able to log into application with InValid credentials		1.Enter URL(https://shopnow.com/) and click go 2.Click on My Account dropdown button 3.Enter InValid username/email in Email text box 4.Enter Invalid password in password text box	Username: chslam password: Testing123676886786676 876	Application should show 'Incorrect email or password 'validation message.						Nareen Raja

CHAPTER-9
ADVANTAGES & DISADVANTAGES

ADVANTAGES:

- Smart fashion recommender application is the user friendly.

- With the help of chatbot user cand find the products very easily.

- This application used to discover the product based on the user's choice , very easily and quickly.

- It have ability to reduce transaction costs for consumers,and increase revenue for retailers.

DISADVANTAGES:

- It need active internet connection.

- Privacy concerns.

- Too many choices.

- Cold-start problem.
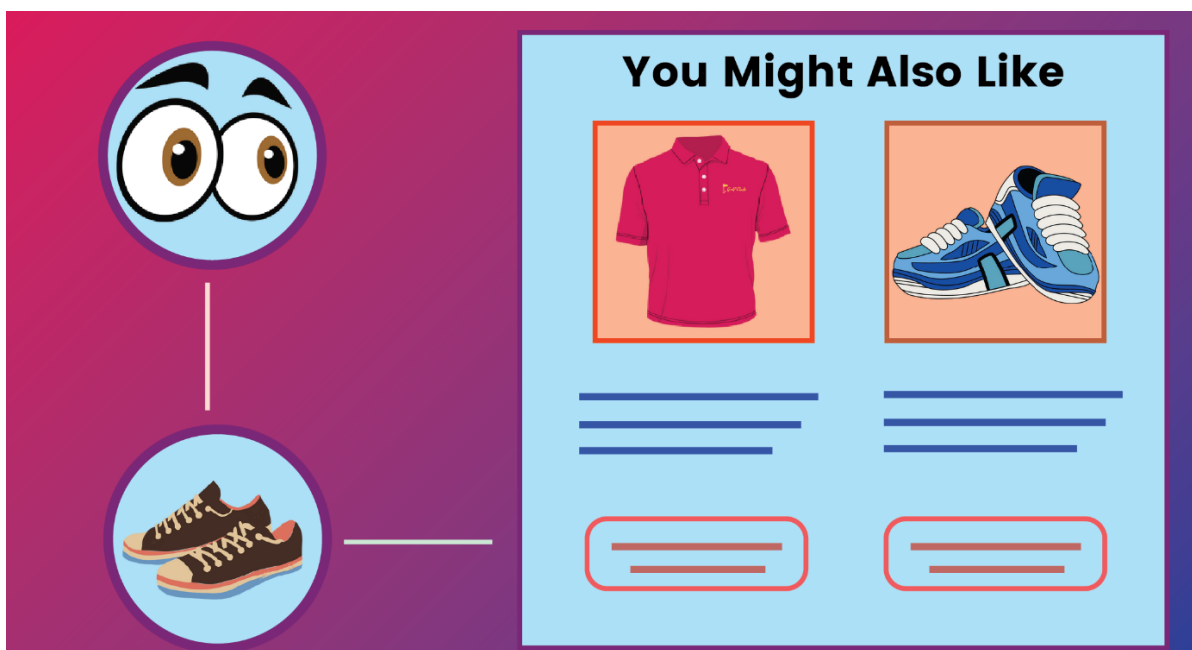
CHAPTER-10
CONCLUSION

The Fashion Recommendation System is mainly used to recommend the best possible outfit combinations to a user who has no fashion sense based on their wardrobe . It may not always provide the best possible outfit to wear for an occasion as the system is dependent completely on the clothes present in the user's wardrobe. Also another reason is that fashion is highly dependent on the time period. However the system does a great job in inculcating a fashion sense among the users and can provide the best recommendations based on the user's wardrobe. Since the system is implemented as a website, it is very easy for the end users to access as well as use. The scope of this system can be expanded by including the ability to detect the various design and patterns on clothing, and to increase the number of occasions.

CHAPTER-11
FUTURE SCOPE

In the future, to implement this recommendation system to be extended to include male and non-binary fashion items including apparel, footwear, accessories etc. This work can further be enhanced to predict fashion items based on the skin colour and weather conditions.

Future research should concentrate on including time series analysis and accurate categorization of product images based on the variation in colour, trend and clothing style in order to develop an effective recommendation system. The proposed model will followbrand-specific personalization campaigns and hence it will ensure highly curated and tailored. offerings for users. Hence, this research will be highly beneficial for researchers interested in using augmented and virtual reality features to develop recommendation systems.

CHAPTER-12
APPENDIX

12.1 SOURCE CODE:

HOMEPAGE.HTML:

```html
<html>
  <head>
    <title>FASHIONFREAK</title>


  </head>
  <style>
    *{margi
  n:0;
  padding:0;
  font-family:"TimesNewRoman",Times,serif;


}
.main{
  width:100%;
  background: linear-gradient(to
  top,rgba(0,0,0,0.5),rgba(0,0,0,0.5)50%);background-position:center;
  background-size:
  cover;height: 100%;
  font-family:"Times NewRoman",Times,serif;



}

.navbar{
  width:
  100%;height:
```

```css
            75px;margin:
            auto;
         }
.icon{
            width:
            200px;float:
            left;height:70
            px;
         }


         .logo{
            color:#FFFFFF;
            font-size:35px;


            padding-left:
            20px;float: left;
            padding-top:10px;
         }


         .menu{
            width:
            400px;float:
            left;height:70
            px;
         }


         ul{
            float:
            left;display:f
            lex;
            justify-content:
            center;align-
            items:center;
```

35

```css
}

ul li{
  list-style:
  none;margin-left:
  62px;margin-top:
  27px;font-size:
  15px;

}

ul lia{
  text-decoration:
  none;color:#FFFFFF;

  font-weight:
  bold;transition:0.4sease-in-
  out;
}

ul li a:hover{
  color:rgb(98,246,152);

}

.search{
  width:
  330px;float:
  left;
  margin-left:270px;
}

.srch{
```

```css
    width:
    200px;height:
    40px;
    background:transparent;
    border: 1px solid rgb(98, 246,
    152);margin-top: 13px;
    color:
    #FFFFFF;border-
    right: none;font-
    size:
    16px;float:left;pad
    ding: 10px;
    border-bottom-left-radius:
    5px;border-top-left-radius:5px;
}

.btn{
    width:
    100px;height:
    40px;
    background:rgb(98,246,152);
    border: 2px solid rgb(98, 246,
    152);margin-top: 13px;
    color:
    #FFFFFF;font-
    size:15px;
    border-bottom-right-radius:
    5px;border-bottom-right-
    radius:5px;
}

.btn:focus{outli
```

```
        ne:none;

    }


    .srch:focus{outli

        ne:none;

    }


    .content{

        width:

        1200px;height:

        auto;margin:

        auto;color:

        #800080;position

        :relative;

    }

.content.par

        padding-left:

        20px;padding-

        bottom:25px;


        letter-spacing:

        1.2px;line-height:

        30px;

    }


    .content h1{


        font-size:

        50px;padding-left:

        20px;margin-top:

        9%;letter-

        spacing:2px;
```

38

```css
}

.content
.cn{width:
160px;height:
40px;
background: rgb(98, 246,
152);border: none;
margin-bottom:
10px;margin-left:
20px;font-size:
18px;border-radius:
10px;cursor:
pointer;transition:.4se
ase;
}
.content .cna{
text-decoration:
none;color:
#FBE7A1;transition:.
3sease;
}

background-color:#FBE7A1;
}

.content
span{color:rgb(98, 246,
152);font-size: 60px;
}

.form{
width:
```

```
        250px;height:

        380px;

        background: linear-gradient(to top,hsla(89, 43%, 51%,

        0.3));position:absolute;

        top: -

        20px;left:8

        70px;

        border-radius:

        10px;padding:

        25px;

    }


    .formh2{width:

        220px;


        text-align:

        center;color:rgb(98,

        246, 152);font-size:

        22px;

border-radius:

    .cn:hover{

        10px;margin:

        2px;padding: 8px;

    }

    .form

        input{width:

        240px;height:

        35px;

        background:rgba(0,255,0,0.5);

    }


    .form
```

40

```css
input{width:
240px;height:
35px;
background:rgba(0,255,0,0.5);
border-bottom: 1px solid rgb(98, 246,
152);border-top: none;
border-right:
none;border-left:
none;color:#fff;
font-size:
15px;letter-
spacing:
1px;margin-
top:30px;

}

.form
    input:focus{out
    line:none;
}

::placeholder{
    color:#fff;
}

.btnn{
    width:
    240px;height:
    40px;
```

```css
    background: rgb(98, 246,
    152);border: none;
    margin-top:
    30px;font-size:
    18px;border-radius:
    10px;cursor:
    pointer;color:
    #fff;transition:0.4se
    ase;
}


.btnn:hover{backgr
    ound:#fff;
    color:rgb(98,246,152);
}


.btnna{
    text-decoration:
    none;color:#000;
    font-weight:bold;
}


.form .link{

    font-size:
    17px;padding-top:
    20px;text-
    align:center;
}


.form .linka{
    text-decoration:
    none;color:rgb(98,246,152
```

```
    );
}
.liw{
  padding-top:
  15px;padding-bottom:
  10px;text-align:
  center;
}
  </style>
  <body>

    <divclass="main">
      <divclass="navbar">
        <divclass="icon">
          <h2class="logo">FASHIONZZ</h2>
        </div>

        <divclass="menu">
          <ul>
            <li><ahref="#">HOME</a></li>
            <li><ahref="#">ABOUT</a></li>

          </ul>
        </div>

        <divclass="search">
          <inputclass="srch"type="search"name=""placeholder="TYPETOSEARCH">
          <ahref="#"><buttonclass="btn">SEARCH</button></a>
        </div>
                <img src="C:\Users\HP\Downloads\fashion-banner-people-cartoon-characters-flat-
vector-illustration-isolated-fashion-banner-people-cartoon-characters-190292392.jpg">


      </div>
```

43

```
        </div>


      </body>
    </html>




FINALHOME.HTML:
   <html>
     <head>
<metaname="viewpoint"content="width=device-width,initial-scale=1.0">
        <title>FASHIONFREAK</title>
        <link rel="stylesheet" href="https://storagedemo-madzh.s3.jp-tok.cloud-object-
    storage.appdomain.cloud/MadmukFinalhomecss.css">
      </head>


      <body>


        <nav>
          <aclass="logo"href="MadFinalhome.html"><h2>FASHIONZZHOME</h2></a>
          <ul>
```

```html
            <li><inputclass="srch"type="search"name=""placeholder="TYPETO
SEARCH">
            <ahref="#"><buttonclass="btn">SEARCH</button></a></li>
            <li><ahref="#">HOME</a></li>
            <li><ahref="#">FEATURES</a></li>
            <li><ahref="#">ABOUT</a></li>


        </ul>
        <imgsrc="https://storagedemo-madzh.s3.jp-tok.cloud-object-
storage.appdomain.cloud/images/profile.jpeg"class="user-pic"onclick="toggleMenu()">


        <divclass="sub-menu-wrap"id="subMenu">
          <divclass="sub-menu">
            <divclass="user-info">
                <imgsrc="https://storagedemo-madzh.s3.jp-tok.cloud-object-
storage.appdomain.cloud/images/profile.jpeg">
                <h2>NAME</h2>
            </div>
            <hr>


            <ahref="#"class="sub-menu-link">
                <imgsrc="https://storagedemo-madzh.s3.jp-tok.cloud-object-
storage.appdomain.cloud/images/profile.jpeg">
                <p>EDITPROFILE</p>


            </a>


            <ahref="#"class="sub-menu-link">
                <imgsrc="https://storagedemo-madzh.s3.jp-tok.cloud-object-
storage.appdomain.cloud/images/settings.jpeg">
                <p>SETTING&PRIVACY</p>


            </a>
```

```
<ahref="#"class="sub-menu-link">

    <imgsrc="https://storagedemo-madzh.s3.jp-tok.cloud-object-
storage.appdomain.cloud/images/help.jpeg">

        <p>HELP</p>


    </a>


    <ahref="/Login"class="sub-menu-link">

        <imgsrc="https://cdn-icons-png.flaticon.com/512/56/56805.png">

        <p>LOGOUT</p>


    </a>

  </div>

 </div>


 </nav>


<divclass="Banner">
   <div class="Bannerimg1"><imgimg class="image" src="https://img.freepik.com/free-
photo/joyful-parisian-woman-beret-sunglasses-points-place-text-purple-wall_197531-
24604.jpg?w=2000"></div>
   <divclass="Adcontent">
      <h1><br>BESTFASHIONFORWOMEN</br></h1>
      <br>ADDTHESENEWLAUNCHESTOYOURCARTNOW...</br>
   </div>
</div>


<divclass="rowstart">
   <div class="columnst"><div class="depimg"><img
class="image"src="https://cdn0.weddingwire.in/article/2617/original/1280/jpg/107162-
wedding-dresses-for-girls-6.jpeg"></div><divclass="Bottom">WEDDING&
FESTIVE</div></div>


   <div class="columnst"><div class="depimg"><img
class="image"src="https://previews.123rf.com/images/vadymvdrobot/vadymvdrobot1801/vadymvdro
```

46

bot18

0102335/94122785-full-length-image-of-smiling-asian-woman-in-business-clothes-and-eyeglasses-holding-smartphone-while.jpg"></div><div class="Bottom">BACK TODESK</div></div>

```
        <div class="columnst"><div class="depimg"><img
class="image"src="https://i.pinimg.com/474x/29/00/fa/2900fa4d1599631766420338e531b2b
2.jpg"></div>
<divclass="Bottom">VACAYMOOD</div></div>


        <div class="columnst"><div class="depimg"><img
class="image"src="https://img.faballey.com/images/Product/DRS02948Z/1.jpg
"></div><divclass="Bottom">PARTYALL NIGHT</div></div>

    </div>


    <divclass="Banner">

        <div class="Bannerimg2"><imgimg
class="image"src="https://bluejay.com.my/wp-content/uploads/2021/12/Kids-
clothes-Hong-Kong-seed.jpg"></div>

        <divclass="Adcontent2">

          <h1><br>KIDSFASHION</br></h1>

          <br>LETOUR FUTUREBESTYLISH.......</br>

        </div>

    </div>


    <divclass="row">


        <div class="column"><div class="depimg"><img
class="image"src="https://cdn.shopify.com/s/files/1/0266/6276/4597/files/floral_ethnic_wear_for_kid
s_by_utsa.jpg?v=1597833877"></div><div class="Bottom">ETHNICWEAR</div></div>


        <div class="column"><div class="depimg"><img
class="image"src="https://i.pinimg.com/736x/8a/f8/59/8af859d60ef9667726b206e1be2378e
4.jpg"></div>
<divclass="Bottom">WINTERWEAR</div></div>


        <div class="column"><div class="depimg"><img
class="image"src="https://i.pinimg.com/474x/9a/c2/85/9ac28569bd3bade0aa23bd74aaa8c0a
9.jpg"></div>
```

```html
<divclass="Bottom">DRESSES&JUMPSUITS</div></div>

        <div class="column"><div class="depimg"><img
class="image"src="https://i.pinimg.com/564x/1b/c1/d5/1bc1d56f08959760738a0386f231d3f
c.jpg"></div>
<divclass="Bottom">TOPS&TEES</div></div>

    </div>


    <divclass="Banner">

    <div class="Bannerimg1"><imgimg
class="image"src="https://images.hindustantimes.com/rf/image_size_630x354/HT/p2/2018/01/30/Pict
ures/
_21667342-05ba-11e8-90ea-37dc70df54a3.jpg"></div>

        <divclass="Adcontent">

          <h1><br>MENSFASHION</br></h1>

          <br>WE ALSO PROVIDE TRENDY COLLECTIONS FOR
MEN..ALWAYS"MENWILL BE MEN"</br>

        </div>

    </div>


    <divclass="row">

    <div class="column"><div class="depimg"><img
class="image"src="https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRPYVjlrL-
LxLn_nhnDfHJx09_dUQsTRgkM69nENo7WKE6EKe555GjYDI7leLNGsKyGvR8&usqp=
CAU"></div><div class="Bottom">T-SHIRTS& POLOS</div></div>


    <div class="column"><div class="depimg"><img
class="image"src="https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcTIFeIqHpb2srr3FnKvSDnAUdz225j0v_Ijo-
KuIZzvS2O5LHuyxBNYzfy8HgQ_Hi6WbDQ&usqp=CAU"></div><divclass="Bo
ttom">CASUALSHIRTS</div></div>


    <div class="column"><div class="depimg"><img
class="image"src="https://assets.myntassets.com/dpr_1.5,q_60,w_400,c_limit,fl_progressive/
assets/images/ 10498568/2020/6/10/f1bc48ac-9997-4be1-8ce3-
81cc6d5e61061591736177979-HRX-by-
Hrithik-Roshan-Men-Grey-Solid-Regular-Fit-Training-Jo-
1.jpg"></div><divclass="Bottom">SPORTSWEAR</div></div>


    <div class="column"><div class="depimg"><img
```

```
class="image"src="https://images.express.com/is/image/expressfashion/0037_04105431_051
2?cache=on&
wid=361&fmt=jpeg&qlt=75,1&resmode=sharp2&op_usm=1,1,5,0&defaultImage=Photo-
Coming-Soon"></div><divclass="Bottom">SWEATSHIRTS&JACKETS</div></div>


        </div>


    <divclass="Banner">

        <div class="Bannerimg2"><img
class="image"src="https://lh3.googleusercontent.com/KDJ_WZU_7c-
GHi14G03oqXb6ZSgTiDJr8L7Rid5jA9pRPAdUOgfQQYAPDLGN9Sn3eJC6B1F4qchid_0
mHWn_jficXrs=w400-rw"></div>

        <divclass="Adcontent2">

            <h1><br>ACCESSORIES</br></h1>

            <br>THE ANOTHER THING WHICH MAKES A PERSON FASHIONABLE
ISACCESSORIES</br>

            </div>

        </div>


        <divclass="rowend">

        <div class="columnend"><div class="depimg"><img
class="image"src="https://5.imimg.com/data5/FJ/AH/MY-42396081/combo-sets-
28american-diamond-jewellery-29-
500x500.jpg"></div><divclass="Bottom">JEWELLERY</div></div>


        <div class="columnend"><div class="depimg"><img
class="image"src="https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcTaoxLoX2lgaVWFtaGkCvyrozucBLTpaV4LJd9xx
2sRoqoums9kp9soRVXOKw6_rkVxsZk&usqp=CAU"></div><divclass="Bottom">SUNG
LASSES</div></div>


        <div class="columnend"><div class="depimg"><img
class="image"src="https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcRJKjvaIU1qatbXinxMNRfWE338fXEl7t69TQ&usq
p=CAU"></div><div class="Bottom">WATCHES</div></div>


        <div class="columnend"><div class="depimg"><img
class="image"src="https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcQSWDKgpQeZ-3VNR7-
9SfaVGVvqOawrkZiLdNfSpjNNQJNI6hl8cJg0Qs_DZfpJtizUst0&usqp=CAU"></div>
```

```
<divclass="Bottom">HANDBAGS&CLUTCHES</div></div>


        </div>
    <script>
        letsubMenu =
        document.getElementById("subMenu");functiontoggle
        Menu(){
            subMenu.classList.toggle("open-menu");
        }
    </script>


    </body>
    <footer>
        <divclass="footer"><H1>BEHAPPY</H1></div>


    </footer>
</html>
```

12.2 GITHUB & PROJECT DEMO LINK

GITHUB LINK:

 https://github.com/IBM-EPBL/IBM-Project-44659-1660725977

VIDEO LINK:

https://youtu.be/2UUYP08q8Q8