Project Report

Smart Fashion Recommender System

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Team Member 2 - Aldrin Gnanoj G

Team Member 3 - Amirtharaj M

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1. INTRODUCTION

1.1 Project Overview

In shopping apps navigating to the desired product is very difficult and no proper assistance will be provided. Instead of navigating to several screens for booking products online the user can directly talk to Chatbot regarding the products. Which you can directly do your online shopping based on your choice without any search.

1.2 Purpose

- To come up with a solution that can do online shopping without searching.
- To develop two modules one for admin and another one for user.
- To build a chatbot to give recommendation based on user interests.

2. LITERATURE SURVEY

2.1 Existing problem

In shopping apps navigating to the desired product is very difficult and no proper assistance will be provided. User recommendations are required. No proper guidance while navigating across the website in shopping.

2.2 References

a. L. C. Wang, X. Y. Zeng, L. Koehl and Y. Chen, "**Intelligent Fashion Recommender System: Fuzzy Logic in Personalized Garment Design**," in IEEE Transactions on Human-Machine Systems, vol. 45, no. 1, pp. 95-109, Feb. 2015, doi: 10.1109/THMS.2014.2364398.

b. X. Zhang et al., "**Trip Outfits Advisor: Location-Oriented Clothing Recommendation**," in IEEE Transactions on Multimedia, vol. 19, no. 11, pp. 2533-2544, Nov. 2017, doi: 10.1109/TMM.2017.2696825.

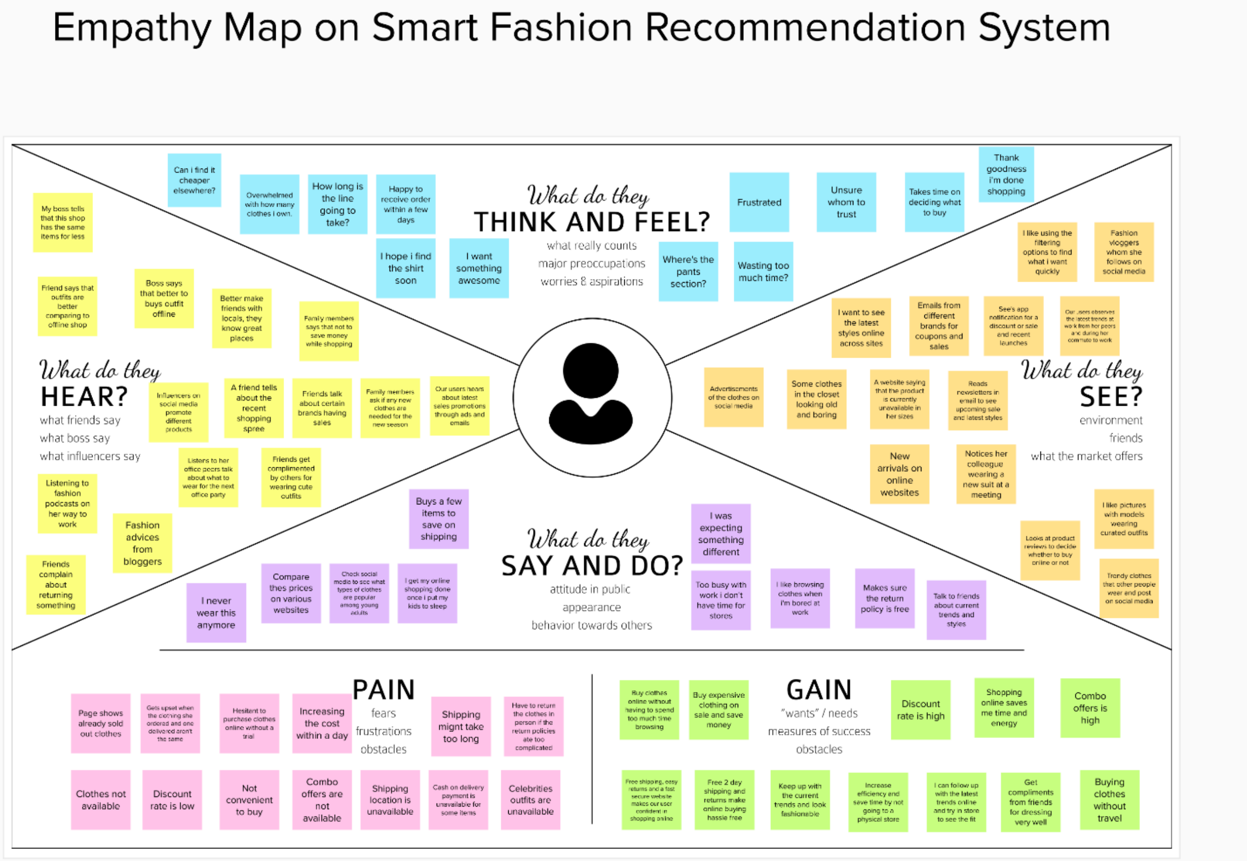
c. Y. Ding, Y. Ma, W. K. Wong and T. -S. Chua, "**Modeling Instant User Intent and Content-Level Transition for Sequential Fashion Recommendation**," in IEEE Transactions on Multimedia, vol. 24, pp. 2687-2700, 2022, doi: 10.1109/TMM.2021.3088281.

2.3 Problem Statement Definition

By using a Chatbot powered by IBM Watson solves the problem of time consuming and provides some quick links to provide a better solution. The chatbot also provides the fashion recommendation about the recent trend.

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



Empathy Map on Smart Fashion Recommendation System

What do they THINK AND FEEL?

what really counts
major preoccupations
worries & aspirations

Can i find it cheaper elsewhere?

Overwhelmed with how many clothes i own.

How long is the line going to take?

Happy to receive order within a few days

I hope i find the shirt soon

I want something awesome

Where's the pants section?

Wasting too much time?

Frustrated

Unsure whom to trust

Takes time on deciding what to buy

Thank goodness i'm done shopping

What do they HEAR?

what friends say
what boss say
what influencers say

My boss tells that this shop has the same items for less

Friend says that outfits are better comparing to offline shop

Boss says that better to buys outfit offline

Better make friends with locals, they know great places

Family members says that not to save money while shopping

Influencers on social media promote different products

A friend tells about the recent shopping spree

Friends talk about certain brands having sales

Family members ask if any new clothes are needed for the new season

Our users hears about latest sales promotions through ads and emails

Listens to her office peers talk about what to wear for the next office party

Friends get complimented by others for wearing cute outfits

Listening to fashion podcasts on her way to work

Fashion advices from bloggers

Friends complain about returning something

What do they SEE?

environment
friends
what the market offers

I like using the filtering options to find what i want quickly

Fashion vloggers whom she follows on social media

I want to see the latest styles online across sites

Emails from different brands for coupons and sales

See's app notification for a discount or sale and recent launches

Our users observes the latest trends at work from her peers and during her commute to work

Advertisements of the clothes on social media

Some clothes in the closet looking old and boring

A website saying that the product is currently unavailable in her sizes

Reads newsletters in email to see upcoming sale and latest styles

New arrivals on online websites

Notices her colleague wearing a new suit at a meeting

I like pictures with models wearing curated outfits

Looks at product reviews to decide whether to buy online or not

Trendy clothes that other people wear and post on social media

What do they SAY AND DO?

attitude in public
appearance
behavior towards others

Buys a few items to save on shipping

I never wear this anymore

Compare thes prices on various websites

Check social media to see what types of clothes are popular among young adults

I get my online shopping done once i put my kids to sleep

I was expecting something different

Too busy with work i don't have time for stores

I like browsing clothes when i'm bored at work

Makes sure the return policy is free

Talk to friends about current trends and styles

PAIN

fears
frustrations
obstacles

Page shows already sold out clothes

Gets upset when the clothing she ordered and one delivered aren't the same

Hesitent to purchase clothes online without a trial

Increasing the cost within a day

Shipping mignt take too long

Have to return the clothes in person if the return policies ate too complicated

Clothes not available

Discount rate is low

Not convenient to buy

Combo offers are not available

Shipping location is unavailable

Cash on delivery payment is unavailable for some items

Celebrities outfits are unavailable

GAIN

"wants" / needs
measures of success
obstacles

Buy clothes online without having to spend too much time browsing

Buy expensive clothing on sale and save money

Discount rate is high

Shopping online saves me time and energy

Combo offers is high

Free shipping, easy returns and a fast secure website makes our user confident in shopping online

Free 2 day shipping and returns make online buying hassle free

Keep up with the current trends and look fashionable

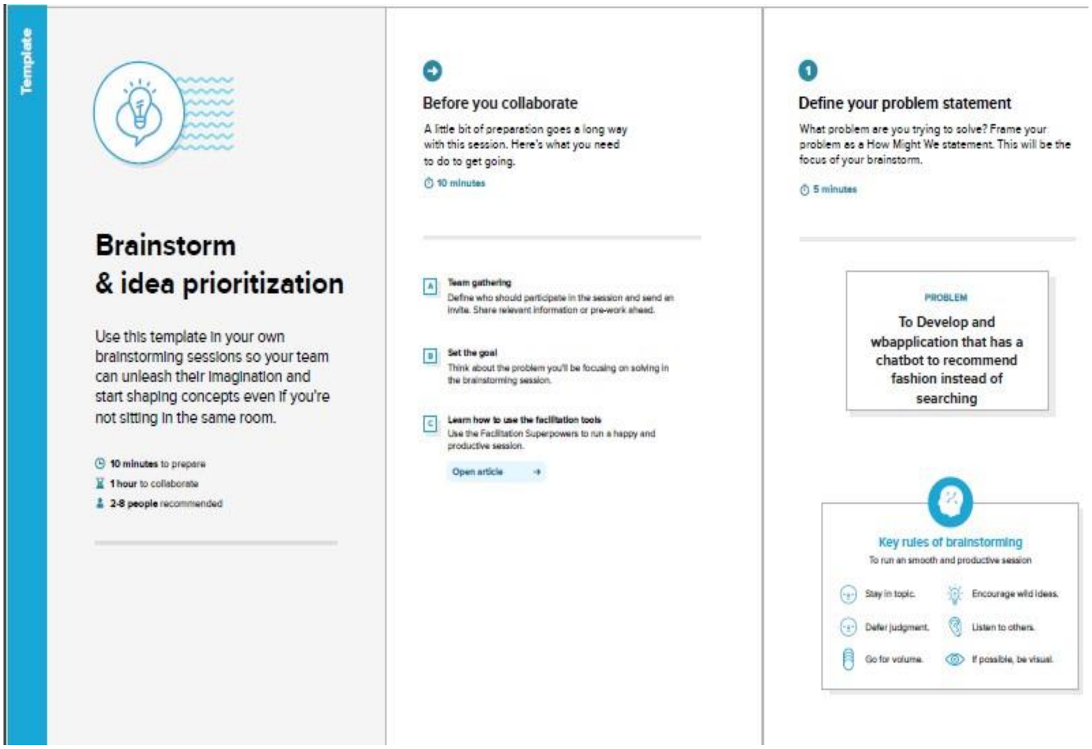
Increase efficiency and save time by not going to a physical store

I can follow up with the latest trends online and try in store to see the fit

Get compliments from friends for dressing very well

Buying clothes without travel

3.2 Ideation & Brainstorming



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

10 minutes to prepare
1 hour to collaborate
2-8 people recommended

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

A Team gathering
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

B Set the goal
Think about the problem you'll be focusing on solving in the brainstorming session.

C Learn how to use the facilitation tools
Use the Facilitation Superpowers to run a happy and productive session.

1 Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

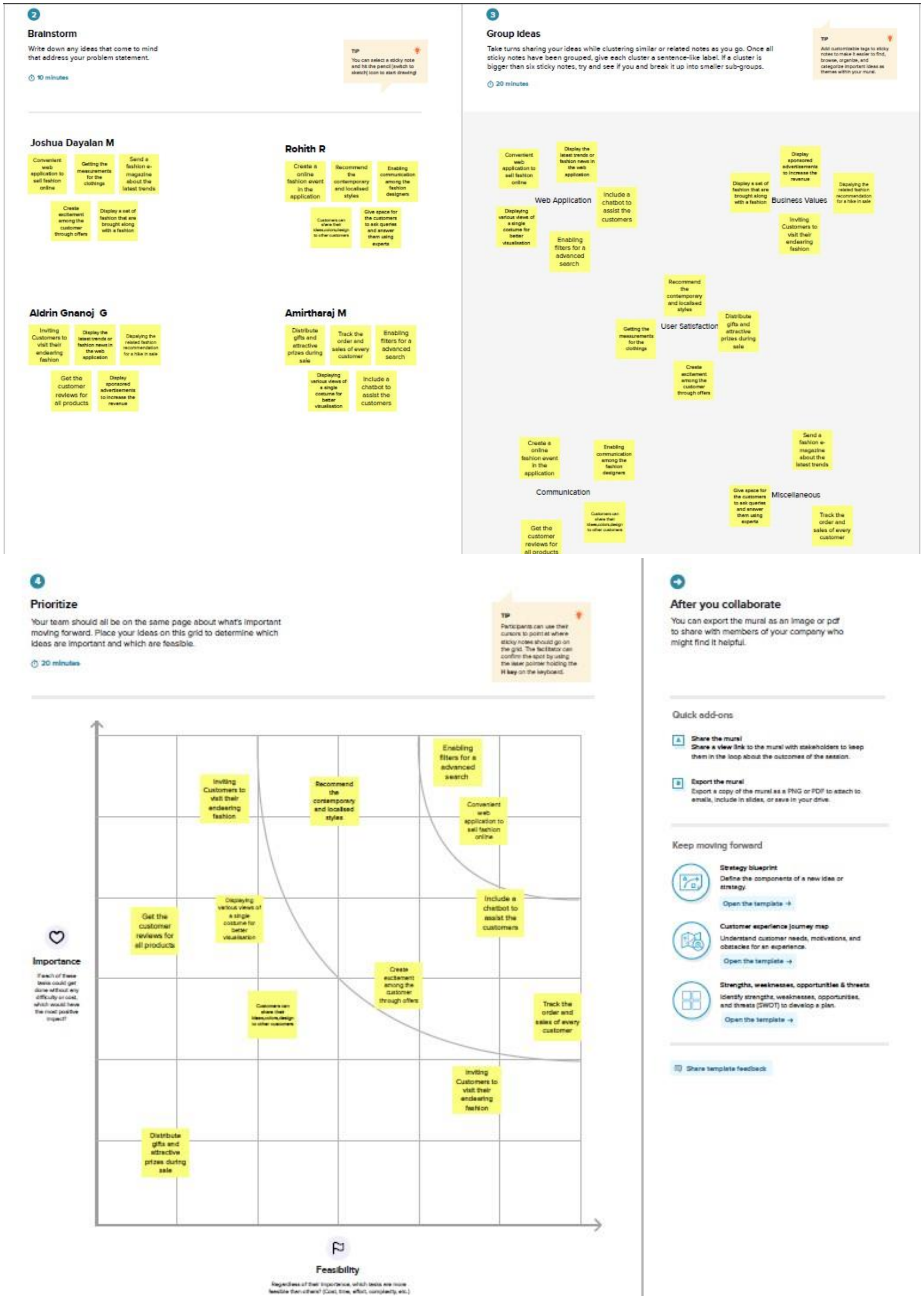
PROBLEM

To Develop and wbapplication that has a chatbot to recommend fashion instead of searching

Key rules of brainstorming

To run an smooth and productive session

Stay in topic.
Encourage wild ideas.
Defer judgment.
Listen to others.
Go for volume.
If possible, be visual.



2 Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

TIP
You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

Joshua Dayalan M

- Convenient web application to sell fashion online
- Getting the measurements for the clothings
- Send a fashion e-magazine about the latest trends
- Create excitement among the customer through offers
- Display a set of fashion that are brought along with a fashion

Rohith R

- Create a online fashion event in the application
- Recommend the contemporary and localised styles
- Enabling communication among the fashion designers
- Customers can share their ideas,colors,design to other customers
- Give space for the customers to ask queries and answer them using experts

Aldrin Gnanoj G

- Inviting Customers to visit their endearing fashion
- Display the latest trends or fashion news in the web application
- Dispalying the related fashion recommendation for a hike in sale
- Get the customer reviews for all products
- Display sponsored advertisements to increase the revenue

Amirtharaj M

- Distribute gifts and attractive prizes during sale
- Track the order and sales of every customer
- Enabling filters for a advanced search
- Displaying various views of a single costume for better visualisation
- Include a chatbot to assist the customers

3 Group Ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

20 minutes

TIP
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Web Application

- Convenient web application to sell fashion online
- Display the latest trends or fashion news in the web application
- Include a chatbot to assist the customers
- Displaying various views of a single costume for better visualisation
- Enabling filters for a advanced search

Business Values

- Display sponsored advertisements to increase the revenue
- Display a set of fashion that are brought along with a fashion
- Dispalying the related fashion recommendation for a hike in sale
- Inviting Customers to visit their endearing fashion

User Satisfaction

- Recommend the contemporary and localised styles
- Getting the measurements for the clothings
- Distribute gifts and attractive prizes during sale
- Create excitement among the customer through offers

Communication

- Create a online fashion event in the application
- Enabling communication among the fashion designers
- Customers can share their ideas,colors,design to other customers
- Get the customer reviews for all products

Miscellaneous

- Send a fashion e-magazine about the latest trends
- Give space for the customers to ask queries and answer them using experts
- Track the order and sales of every customer

4 Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

TIP
Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

- Enabling filters for a advanced search
- Inviting Customers to visit their endearing fashion
- Recommend the contemporary and localised styles
- Convenient web application to sell fashion online
- Get the customer reviews for all products
- Displaying various views of a single costume for better visualisation
- Include a chatbot to assist the customers
- Create excitement among the customer through offers
- Customers can share their ideas,colors,design to other customers
- Track the order and sales of every customer
- Inviting Customers to visit their endearing fashion
- Distribute gifts and attractive prizes during sale

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

Quick add-ons

Share the mural
Share a view link to the mural with stakeholders to keep them in the loop about the outcomes of the session.

Export the mural
Export a copy of the mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

Strategy blueprint
Define the components of a new idea or strategy.
Open the template →

Customer experience journey map
Understand customer needs, motivations, and obstacles for an experience.
Open the template →

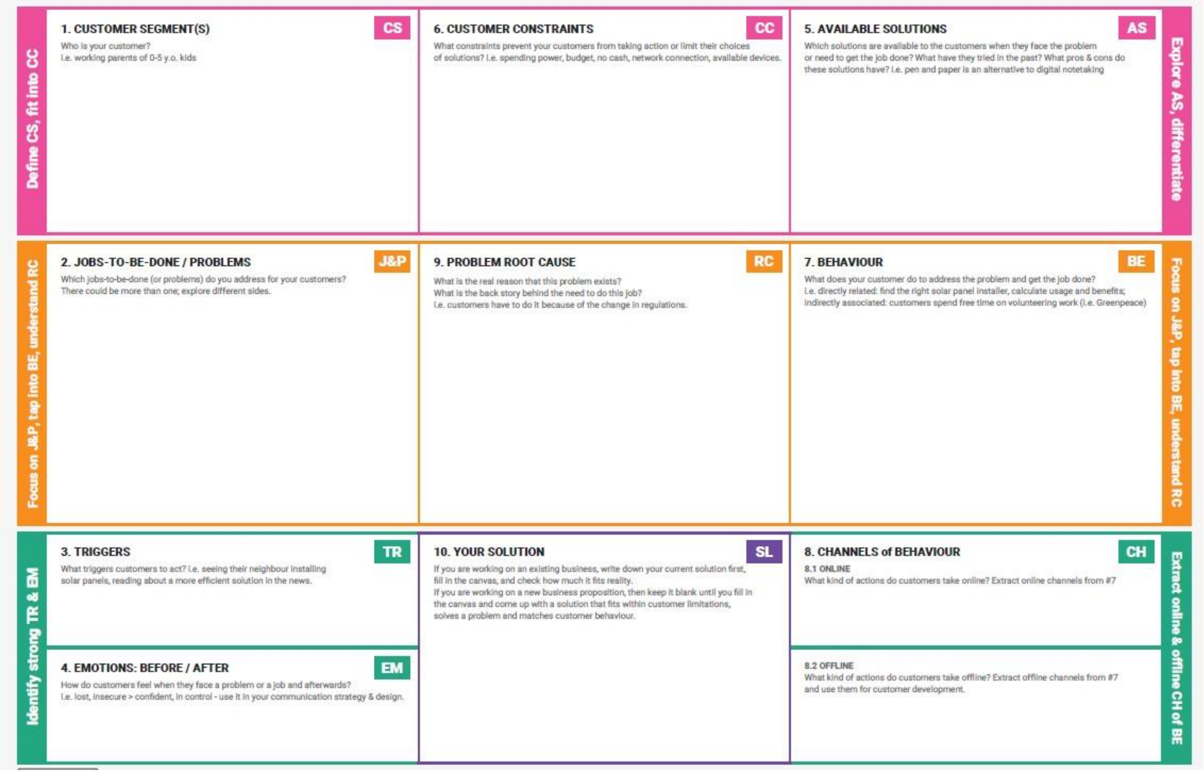
Strengths, weaknesses, opportunities & threats
Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.
Open the template →

Share template feedback

3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In shopping apps navigating to the desired product is very difficult and no proper assistance will be provided. Build a smart fashion recommender application to provide solution for this time-consuming process of searching.
2.	Idea / Solution description	Instead of navigating to several screens for booking products online the user can directly talk to Chatbot regarding the products.
3.	Novelty / Uniqueness	Including a chatbot recommendation in a shopping app is a novel idea which is an evolving trend in the artificial intelligence technology.
4.	Social Impact / Customer Satisfaction	This application can recommend products that are suitable and can also save lot of time. By just giving a keyword of the users' interests the chatbot is capable to recommend to the fashion products on user preferences.
5.	Business Model (Revenue Model)	This idea would surely increase the customer satisfaction since it significantly reduces the searching time and leads customers to better experience and feasibility. Hence, by providing this service to the companies would yield a higher economic growth in the companies' revenue due to the better customer support.
6.	Scalability of the Solution	This proposed model is a cloud-based web application which can be accessed through all web browsers. In future, this can be developed and deployed as a downloadable application for any operating systems. This solution is not only applicable for fashion industry but for all kind of online shopping applications.

3.4 Problem Solution fit



Define CS, fit into CC

1. CUSTOMER SEGMENT(S) CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

6. CUSTOMER CONSTRAINTS CC

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

5. AVAILABLE SOLUTIONS AS

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

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS J&P

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

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.

7. BEHAVIOUR BE

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

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS TR

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

4. EMOTIONS: BEFORE / AFTER EM

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

10. YOUR SOLUTION SL

If you are working on an existing business, write down your current solution first, fill 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.

8. CHANNELS of BEHAVIOUR CH

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

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

Extract online & offline CH of BE

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

FR No.	**Functional Requirement (Epic)**	**Sub Requirement (Story / Sub-Task)**
FR-1	User Registration	Signup Form UI Registration through Form
FR-2	User Confirmation	Login form UI Confirmation via Email
FR-3	Admin Login	One specific account for admin
FR-4	Chatbot	IBM Watson account registration Creation of Actions and Steps Recommender module
FR-5	Home Page	Create a Flask Webpage Dashboard for User Activities Integrate Chatbot Listing the products Enabling recommendations

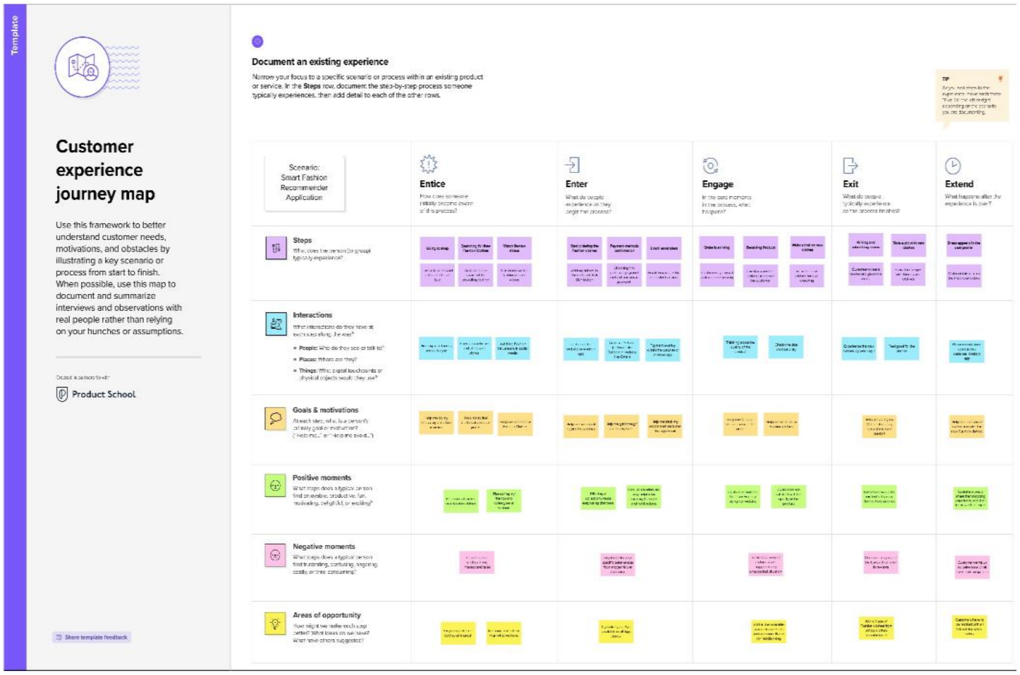
FR-6	Notifications	SendGrid Account Registration Tracking the Orders Mail Confirmations
FR-7	User Database	IBM DB2 account Registration IBM Cloud CLI Installation Maintain User table through UI
FR-8	Product Database	Creation of Tables Manage Product list through UI
FR-9	Add Products Page (Admin)	UI Development for managing Products
FR-10	Cluster	Creation of Container and Registry Deploy application through IBM Kubernetes

4.2 Non-Functional requirements

NFR No.	**Non-Functional Requirement**	**Description**
NFR-1	**Usability**	All Kinds of users can view, search and purchase the fashion products available in the website.
NFR-2	**Security**	The web application is safe both in terms of policies and user privacy. The credentials and user preferences are stored in the IBM DB2 which ensures the data security.
NFR-3	**Reliability**	The website works using the Kubernetes and containerized using Docker which ultimately increases the reliability of the Application.
NFR-4	**Performance**	The website performance is dependent on the network facility. Since, the data is fetched from the cloud.
NFR-5	**Availability**	The Website and its services are available 24/7.
NFR-6	**Scalability**	The Smart Fashion Recommender application is a web-oriented application. This can be extended to a downloadable version. And the Chatbot can be extended to multipurpose chatbot. The purchase option can be developed and deployed in later version.

5. PROJECT DESIGN

5.1 Data Flow Diagrams



Template

Customer experience journey map

Use this framework to better understand customer needs, motivations, and obstacles by illustrating a key scenario or process from start to finish. When possible, use this map to document and summarize interviews and observations with real people rather than relying on your hunches or assumptions.

Created in partnership with

Product School

Share template feedback

Document an existing experience

Narrow your focus to a specific scenario or process within an existing product or service. In the **Steps** row, document the step-by-step process someone typically experiences, then add detail to each of the other rows.

TIP

Scenario: Smart Fashion Recommender Application

Entice
How does someone initially become aware of this process?

Enter
What do people experience as they begin the process?

Engage
In the core moments in the process, what happens?

Exit
What do people typically experience as the process finishes?

Extend
What happens after the experience is over?

Steps
What does the person (or group) typically experience?

Interactions
What interactions do they have at each step along the way?

- **People:** Who do they see or talk to?
- **Places:** Where are they?
- **Things:** What digital touchpoints or physical objects would they use?

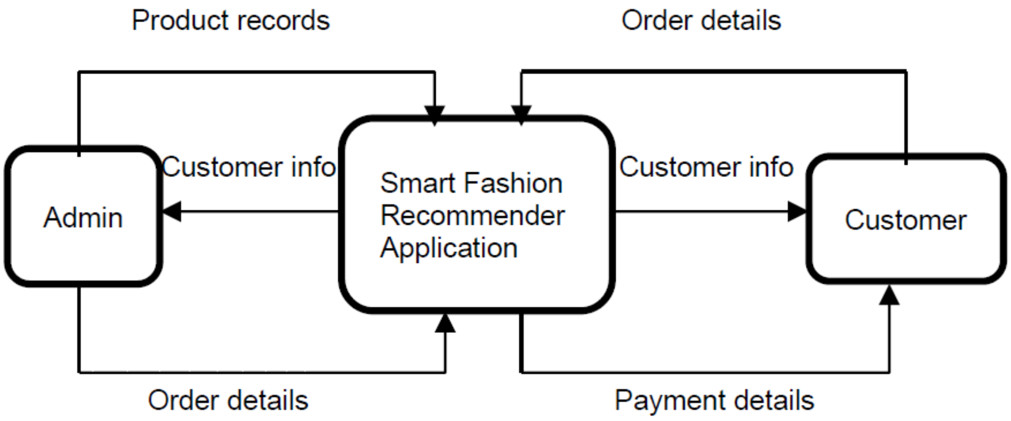
Goals & motivations
At each step, what is a person's primary goal or motivation? ("Help me..." or "Help me avoid...")

Positive moments
What steps does a typical person find enjoyable, productive, fun, motivating, delightful, or exciting?

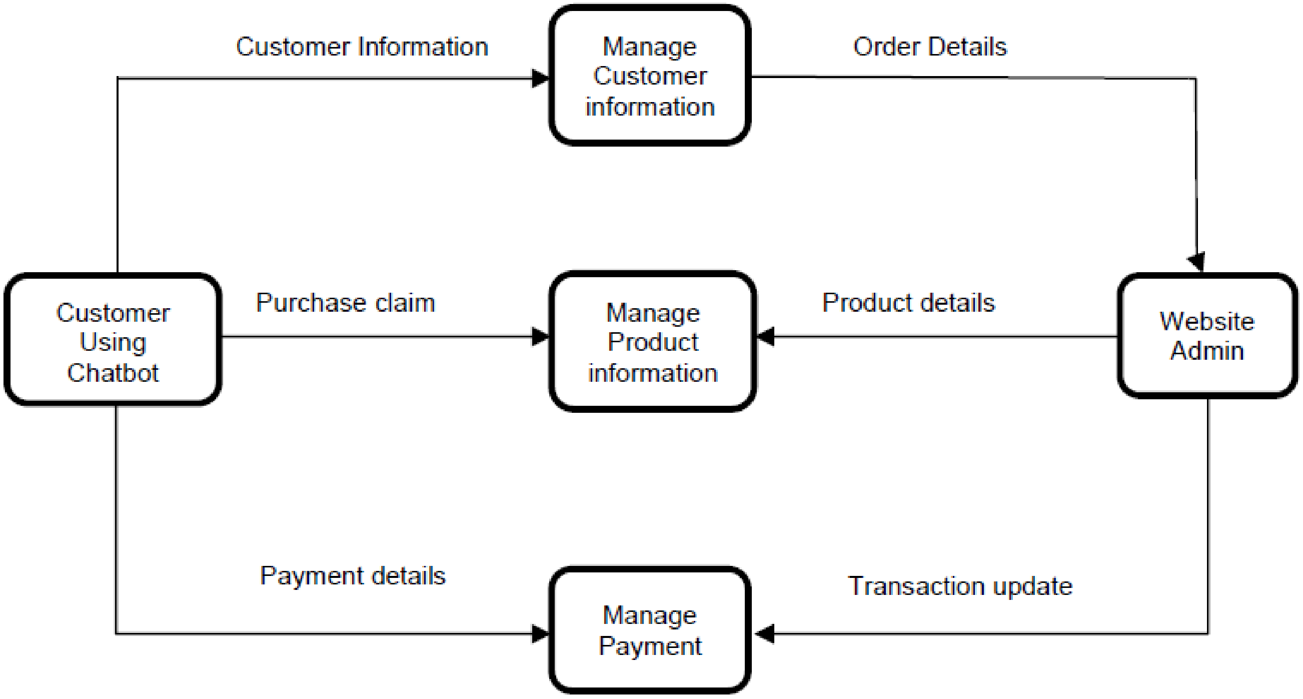
Negative moments
What steps does a typical person find frustrating, confusing, angering, costly, or time-consuming?

Areas of opportunity
How might we make each step better? What ideas do we have? What have others suggested?

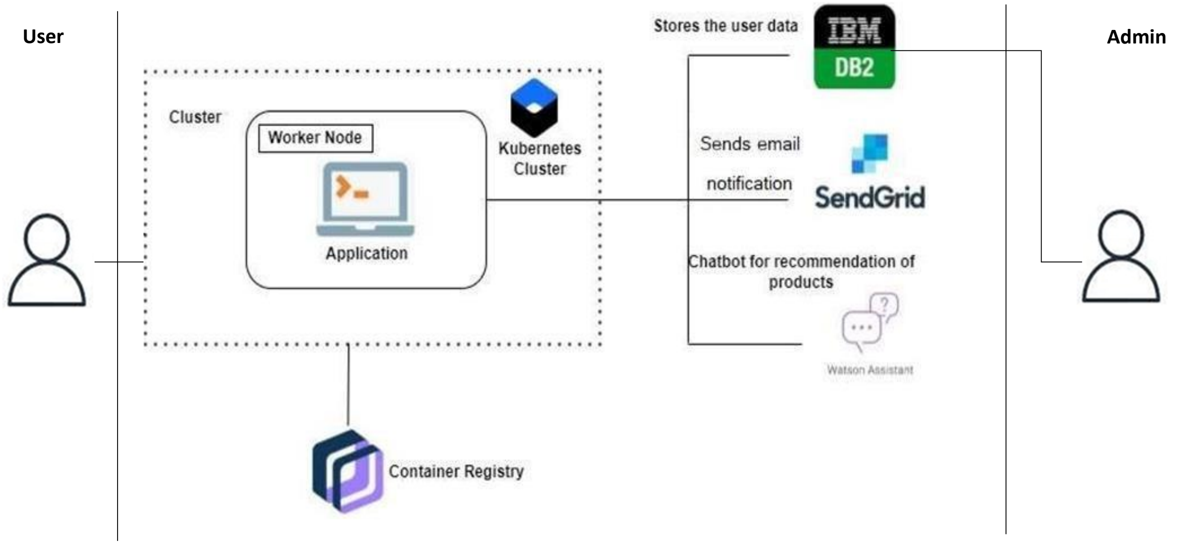
DFD Level 0



DFD Level 1



5.2 Solution & Technical Architecture



S. No	Component	Description	Technology
1.	User Interface	The user and admin have individual logins containing add products and view products UI.	HTML, CSS, JavaScript, Flask, Bootstrap
2.	Application Logic-1	Admin can add manage the products and the customers can view those products.	Python, JavaScript
3.	Application Logic-2	A chatbot is used in website which helps the user in recommendation of products.	IBM Watson Assistant
4.	Database (Cloud)	Data about the list of user login and passwords and product details are stored.	IBM DB2
6.	File Storage	File storage requirements for images and buckets.	IBM Object Storage
7.	Mailing APIs	To send emails from the application to the customers about the orders.	SendGrid
8.	Cloud Infrastructure	Application Deployment on Cloud	Docker, Kubernetes, IBM Cloud

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask is an open-source web framework. The web application is built using Flask	Flask
2.	Security Implementations	Kubernetes-native security provides richer insights by tying into Kubernetes' declarative data to discover vulnerabilities in Kubernetes as well as containers.	Kubernetes, Containers
3.	Scalable Architecture	Handles large number users on demand with increased security	Container registry, Kubernetes
4.	Availability	The application can be accessed at any time due to cloud database.	Docker, IBM Cloud

5.	Performance	Handles many numbers of user's requests without ambiguity	Docker, Kubernetes

5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
User	Registration	USN - 1	As a user, I can register for the application by entering my email, password, and confirming my 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-4
	Login	USN - 3	As a user, I can login for the application by entering email & password	I can login for the application by entering email & password	High	Sprint-1
	View Products Page	USN - 4	The dashboard of the user has the list of fashion products available in the application.	I can purchase product using chatbot instead of searching	High	Sprint-1
	Chatbot	USN - 5	The chatbot can give recommendations to the users based on their interests.	I can view related products of my interests	High	Sprint-1
		USN - 6	The chatbot will send a notification to customers if the order is confirmed.	I get confirmation message	High	Sprint-3
	Email Notifications	USN - 7	The Applications should send email alerts to the user about the application and	I can view offers and prizes	High	Sprint-4
Admin	Add Products Page	USN – 8	Admin can maintain the record of users registered in the application	I can view the list of users in the application	High	Sprint-1
		USN – 9	Admin is able to create, remove, update the list of products available in the website.	I can create, update and delete the products	High	Sprint-2

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members

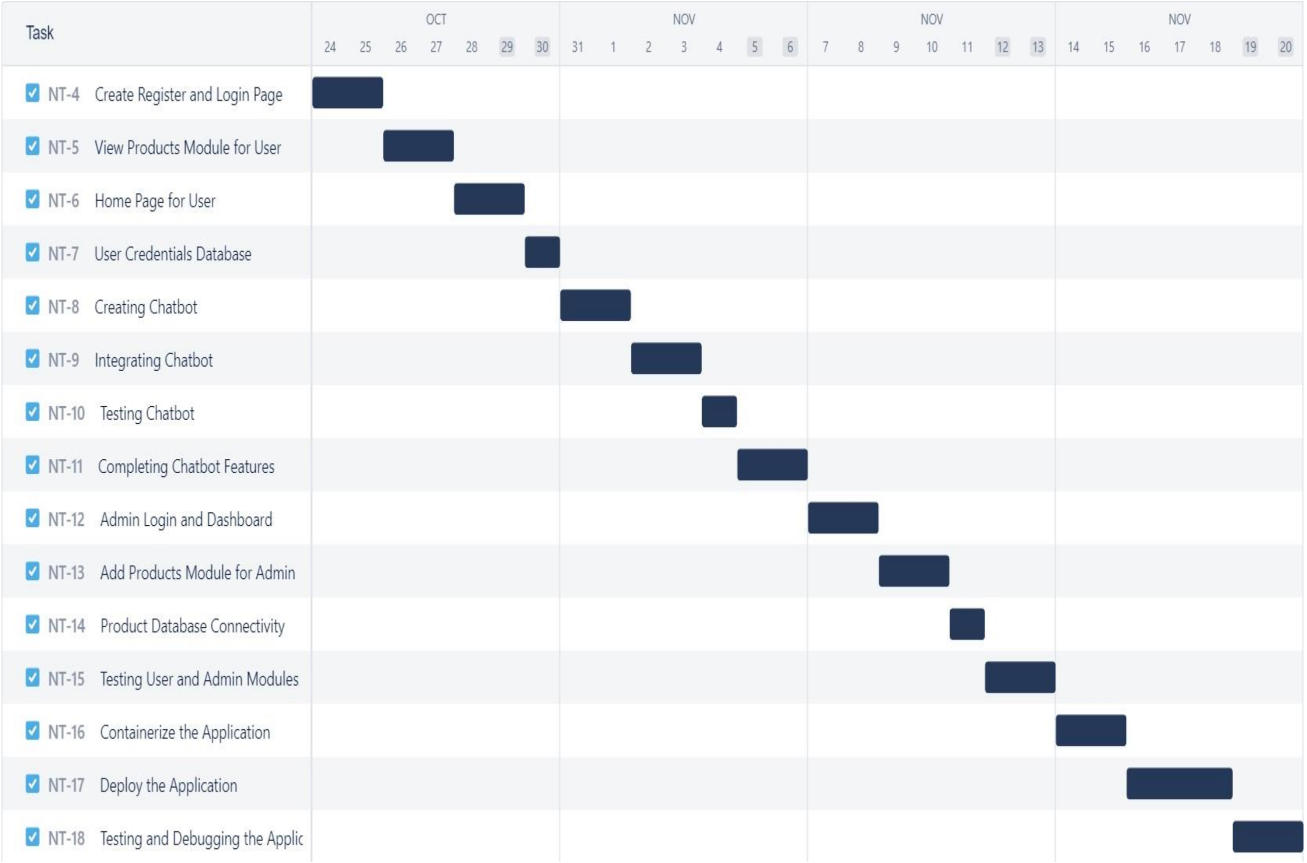
Sprint - 1	Registration	USN – 1	As a new user, I can register a new account using username, password, confirm password and email address	2	High	Rohith, Aldrin
Sprint - 2		USN – 2	As a new user, I should receive confirmation email once I have registered for the application	1	Medium	Rohith, Aldrin
Sprint – 3		USN – 3	As a new user, I can login through gmail, Facebook	1	Low	Rohith, Aldrin
Sprint – 1	Login	USN - 4	As an existing user, I can login to the application using username and password	2	High	Joshua, Rohith
Sprint – 3		USN – 5	As an existing user, I can login using other application logins like gmail, Facebook	1	Low	Joshua, Rohith
Sprint - 1	Chatbot	USN – 6	As a user, I can view chatbot and its conversations	2	High	Joshua
Sprint – 2		USN – 7	As a user, I get recommendations from the chatbot based on my preferences	2	High	Joshua, Amirtharaj
Sprint - 1	User Dashboard	USN – 8	As a user, I can view the list of the products available in the application.	2	High	Rohith, Aldrin
Sprint – 3		USN – 9	As a user, I need notifications of recently added products.	1	Medium	Rohith, Amirthara
Sprint - 1	Admin Dashboard	USN - 10	As a Admin, I can add, remove and update the products into the database.	2	High	Rohith, Aldrin
Sprint – 4	Notifications	USN – 11	As a user, I must get notifications and alerts about the updates in products.	2	Medium	Joshua, Rohith
Sprint – 4	Delivery	USN – 12	Containerize the Application and deploy the application in cloud	2	High	Joshua, Amirtharaj

6.2 Sprint Delivery Schedule

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	10	6 Days	24 Oct 2022	29 Oct 2022		

Sprint-2	10	6 Days	31 Oct 2022	05 Nov 2022		
Sprint-3	10	6 Days	07 Nov 2022	12 Nov 2022		
Sprint-4	10	6 Days	14 Nov 2022	19 Nov 2022		

6.3 Reports from JIRA



Task
☑ NT-4 Create Register and Login Page
☑ NT-5 View Products Module for User
☑ NT-6 Home Page for User
☑ NT-7 User Credentials Database
☑ NT-8 Creating Chatbot
☑ NT-9 Integrating Chatbot
☑ NT-10 Testing Chatbot
☑ NT-11 Completing Chatbot Features
☑ NT-12 Admin Login and Dashboard
☑ NT-13 Add Products Module for Admin
☑ NT-14 Product Database Connectivity
☑ NT-15 Testing User and Admin Modules
☑ NT-16 Containerize the Application
☑ NT-17 Deploy the Application
☑ NT-18 Testing and Debugging the Applic

7. CODING & SOLUTIONING

7.1 Signup and Login Page

The User Interface for the application contains Signup and Login pages for both admin and user. A unique login credential is given for the Admin.

CODE:

```
</head>
```

```
    <body>

    <div class="login-wrap">

        <div class="login-html">

        <form action="/login" method="post">


                <input id="tab-1" type="radio" name="tab" class="sign-in" checked><label for="tab-1" class="tab">Sign In</label>

                <input id="tab-2" type="radio" name="tab" class="sign-up"><label for="tab-2" class="tab">Sign Up</label>

                <div class="login-form">

                        <div class="sign-in-htm">

                                <div class="group">

                                        <label for="nm" class="label">Username</label>

                                        <input id="nm" name="nm" type="text" class="input">

                                </div>

                                <div class="group">

                                        <label for="passi" class="label">Password</label>

                                        <input id="passi" name="passi" type="password" class="input" data-type="password">

                                </div>

                                <div class="group">

                                        <input id="check" type="checkbox" class="check" checked>

                                        <label for="check"><span class="icon"></span> Keep me Signed in</label>

                                </div>

                                <div class="group">

                                        <input type="submit" class="button" value="Sign In">

                                </div>

                                <div class="hr"></div>

                                <div class="foot-lnk">
```

```
                    <a href="#forgot"><p class="nn">{{msg}}</p></br></br>Forgot Password?</a>
                </div>
            </div>
            </form>
            <form action="/register" method="post">
            <div class="sign-up-htm">
                <div class="group">
                    <label for="nm" class="label">Username</label>
                    <input id="nm" name="nm" type="text" class="input">
                </div>
                <div class="group">
                    <label for="passi" class="label">Password</label>
                    <input id="passi" name="passi" type="password" class="input" data-type="password">
                </div>
                <div class="group">
                    <label for="repassi" class="label">Repeat Password</label>
                    <input id="repassi" name="repassi" type="password" class="input" data-type="password">
                </div>
                <div class="group">
                    <label for="email" class="label">Email Address</label>
                    <input id="email" name="email" type="email" class="input">
                </div>
                <div class="group">
                    <input type="submit" class="button" value="Sign Up">
                </div>
                <div class="hr"></div>
```

```
                                   <div class="foot-lnk">
                                             <label for="tab-1">Already Member?</a>
                                   </div>
                         </div>
                         </form>
               </div>
     </div>
</div>
</form>
</body>
```

7.2 Add Products Page

On the successful Login of the Admin credential, it directs to the add products page. It is available only for the admin.

CODE:

```
<html>
<body>
<p>
   <marquee width="100%" direction="left" height="50px" scrollamount="25"><h1
style="background-color:black; color:white">Welcome Admin You can manage your
shop!</h1></marquee></p>

   <form action="/insert" method="post" enctype="multipart/form-data" >
      Image<input type="file" name="imgup" value="image" id="imgup" />
      <br><br>
      <label>Product Id <input type="text" id="pid" name="pid" /></label>
      <br><br>
      <label>Brand<input type="text" id="b1" name="b1" /></label>
      <br><br>
      <label>Product Type <input type="text" id="pptype" name="pptype" /></label>
      <br><br>
      <label>Offer <input type="text" id="o1" name="o1" /></label>
      <br><br>
      <label>Price <input type="number" id="price" name="price" /></label>
      <br><br>
```

```
        <input type="submit"  class="button button5" value="submit" name="submit" />

    </form>
</p>
</body>
</html>
```

7.3 View Products page

Both the admin and the users can view all the products from the database in the single page.

CODE:

```
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Document</title>
  <link rel="stylesheet" href="\static\css\bootstrap.min.css">
  <script src="\static\js\bootstrap.bundle.min.js"></script>
  <script src="\static\js\bootstrap.min.js"></script>
    {% for product in products %}
    <div class="card m-2" style="width:20%;">
      <a href="http://127.0.0.1:5500/templates/base.html">
        <img src="https://prieeass1.s3.jp-tok.cloud-object-storage.appdomain.cloud/{{product[0]}}"
class="card-img-top"
          height="400px" width="25px" alt="product" /></a>
      <div class="card-body">
        <p class="card-text fw-bold">
          {{product[1]}}
        </p>
        <small class="text-secondary">
          Rs.{{product[5]}}
        </small>
      </div>
    </div>
    {% endfor %}
  </div>
  <a href="./base.html" class="btn btn-outline-dark my-5">View All Products</a>
  <div class="d-flex justify-content-between align-items-center flex-column flex-lg-row my-5">
    <section class="my-5 mx-auto py-5" style="max-width: 25em;">
```

```
        <h2>Subscribe To Our Newsletter</h2>
        <form class="d-flex my-4">
          <input class="form-control me-2" type="email" placeholder="Your Email" />
          <button class="btn-outline-dark" type="submit">Subscribe</button>
        </form>
      </section>
    </div>
```

7.4 IBM Watson Assistant

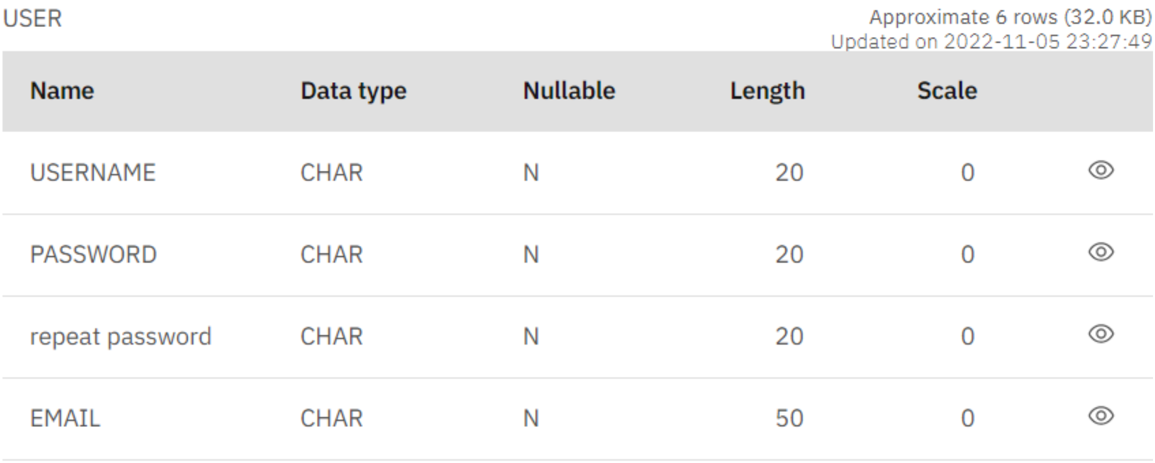
A chatbot must be built and to be integrated with the application for recommendation. The chatbot has IBM Watson Assistant to recommend the fashion based on the taste of the users.

CODE:

```
  <script>
window.watsonAssistantChatOptions = {
  integrationID: "eb2259f3-2f07-4f26-9490-245b15cec951", // The ID of this integration.
  region: "us-south", // The region your integration is hosted in.
  serviceInstanceID: "009a5aaa-148c-4708-8fa2-ce7e287f5bc9", // The ID of your service instance.
  onLoad: function (instance) { instance.render(); }
};
setTimeout(function () {
  const t = document.createElement('script');
  t.src = "https://web-chat.global.assistant.watson.appdomain.cloud/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";
  document.head.appendChild(t);
});
</script>
```

7.5 Database Schema

USER TABLE

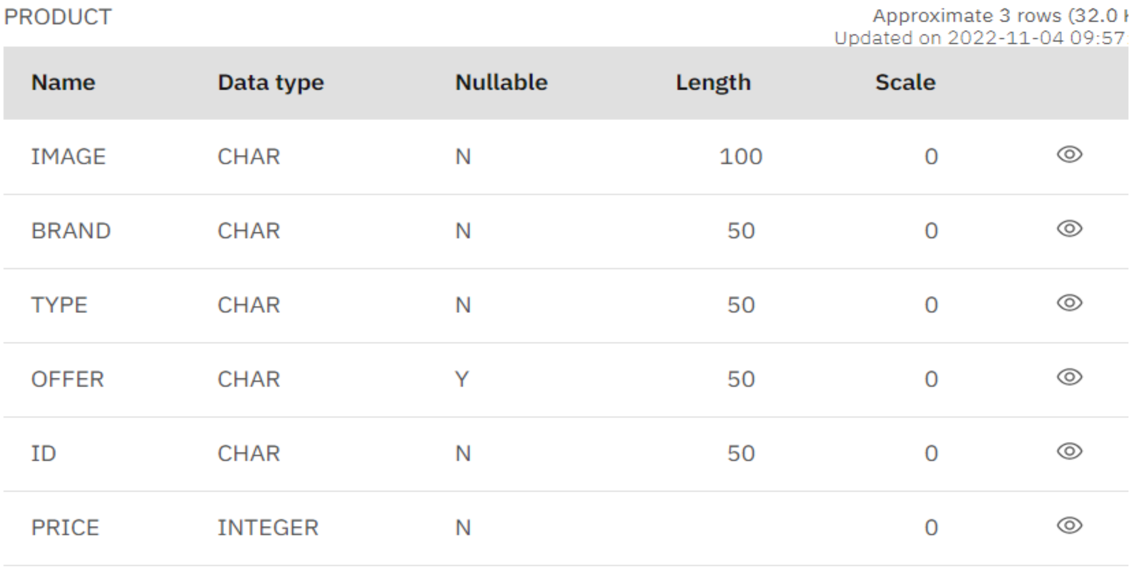


USER

Approximate 6 rows (32.0 KB)
Updated on 2022-11-05 23:27:49

Name	Data type	Nullable	Length	Scale	
USERNAME	CHAR	N	20	0	👁
PASSWORD	CHAR	N	20	0	👁
repeat password	CHAR	N	20	0	👁
EMAIL	CHAR	N	50	0	👁

PRODUCT TABLE



PRODUCT

Approximate 3 rows (32.0
Updated on 2022-11-04 09:57

Name	Data type	Nullable	Length	Scale	
IMAGE	CHAR	N	100	0	👁
BRAND	CHAR	N	50	0	👁
TYPE	CHAR	N	50	0	👁
OFFER	CHAR	Y	50	0	👁
ID	CHAR	N	50	0	👁
PRICE	INTEGER	N		0	👁

8. TESTING

8.1 Test Cases

a. Register Page

Sl. No.	Input	Output	Status
1	Rohith, rohith123, rohith123, rohith@gmail.com	Registration Successful	Success
2	Rohith, rohith123, rohith, rohith@gmail.com	Password Mismatch	Fail

3	Rohith, rohith123, rohith123, rohith.com	No Valid Mail	Fail

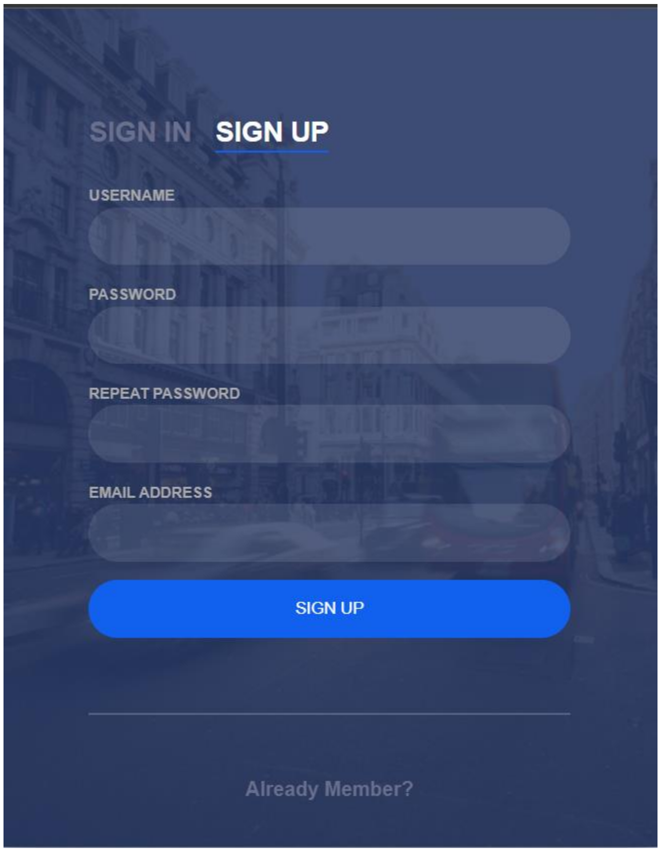
b. Signup Page

Sl. No.	Input	Output	Status
1	Rohith, rohith123	Login Successful	Success
2	Rohith, rohith	Password Mismatch – Login Failed	Fail

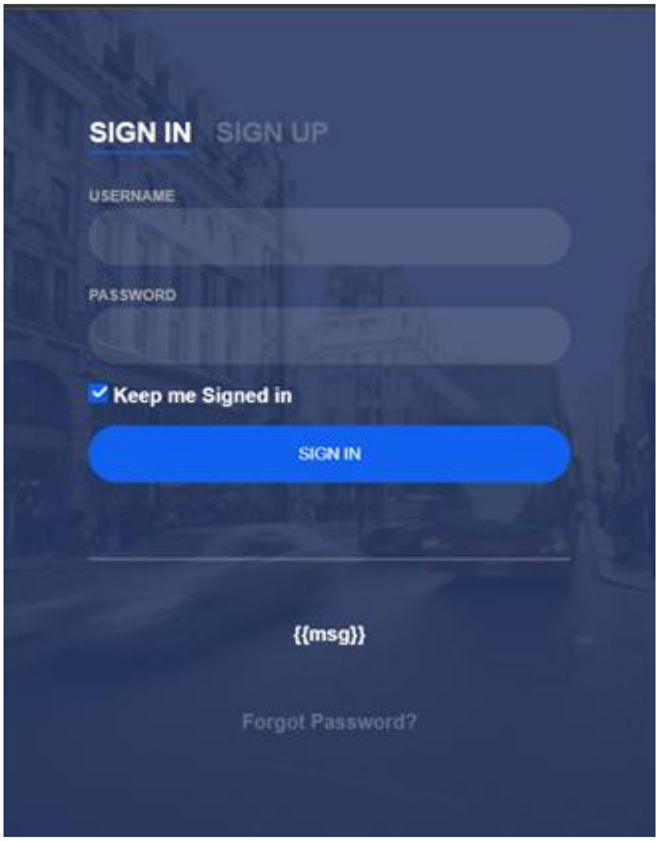
9. RESULTS

Screenshots for Outputs:

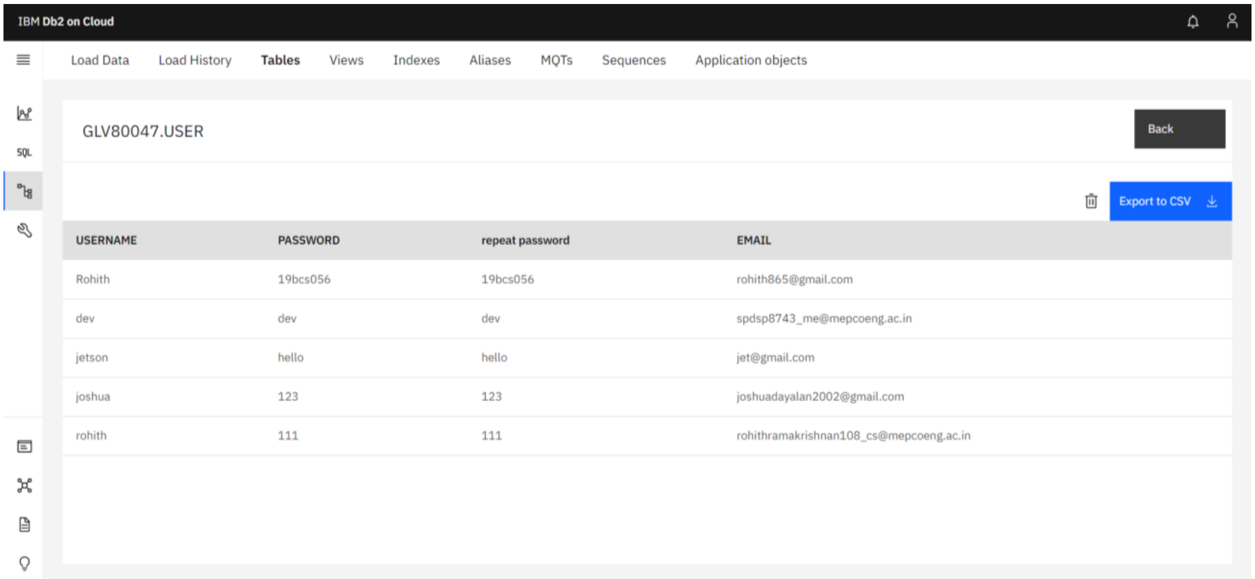
Signup Page:



Login Page:

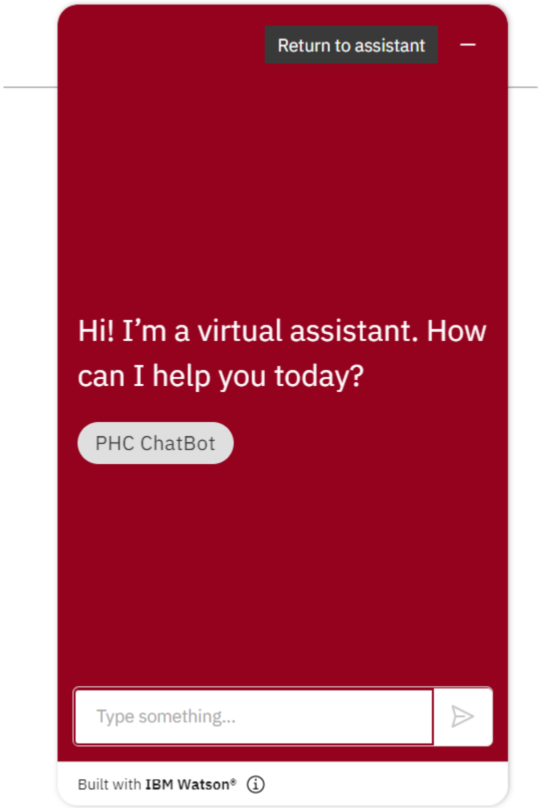


User Database:



GLV80047.USER

USERNAME	PASSWORD	repeat password	EMAIL
Rohith	19bcs056	19bcs056	rohith865@gmail.com
dev	dev	dev	spdsp8743_me@mepcoeng.ac.in
jetson	hello	hello	jet@gmail.com
joshua	123	123	joshuadayalan2002@gmail.com
rohith	111	111	rohithramakrishnan108_cs@mepcoeng.ac.in



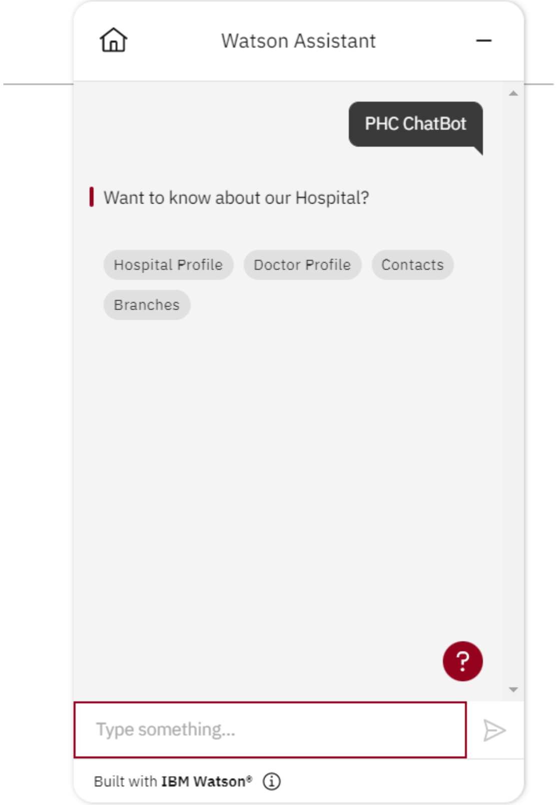
Return to assistant

Hi! I’m a virtual assistant. How can I help you today?

PHC ChatBot

Type something...

Built with **IBM Watson®**



Watson Assistant

PHC ChatBot

Want to know about our Hospital?

Hospital Profile

Doctor Profile

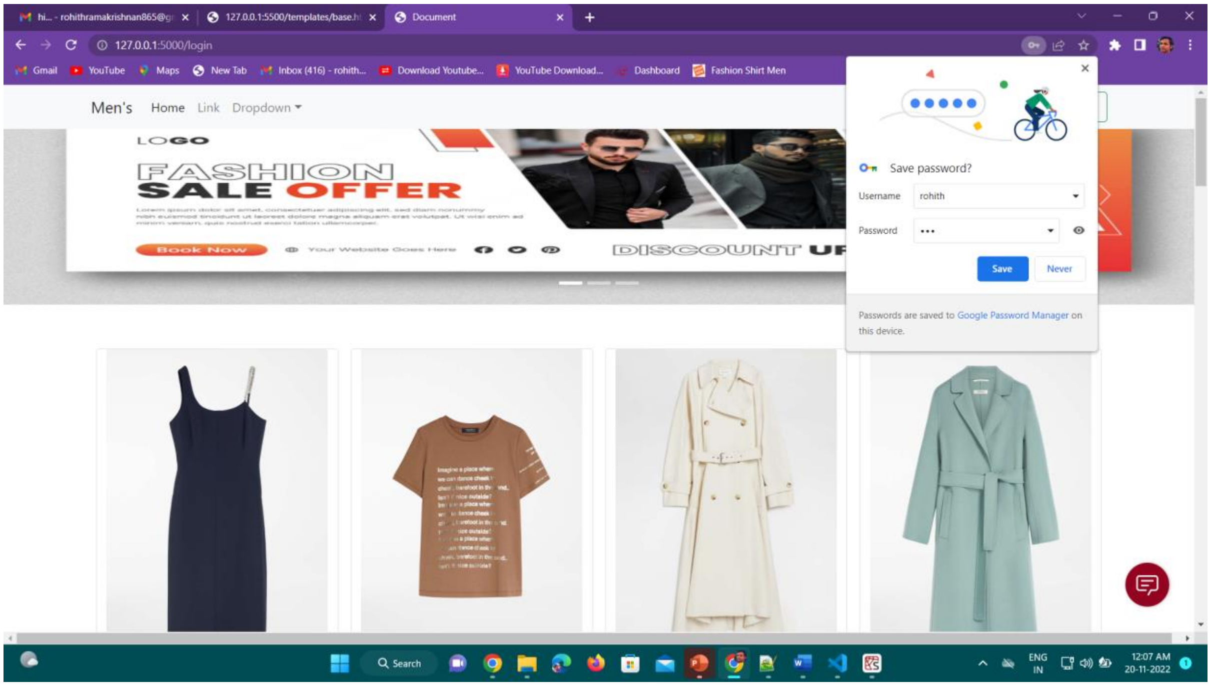
Contacts

Branches

Type something...

Built with **IBM Watson®**

Dashboard – View Products Page



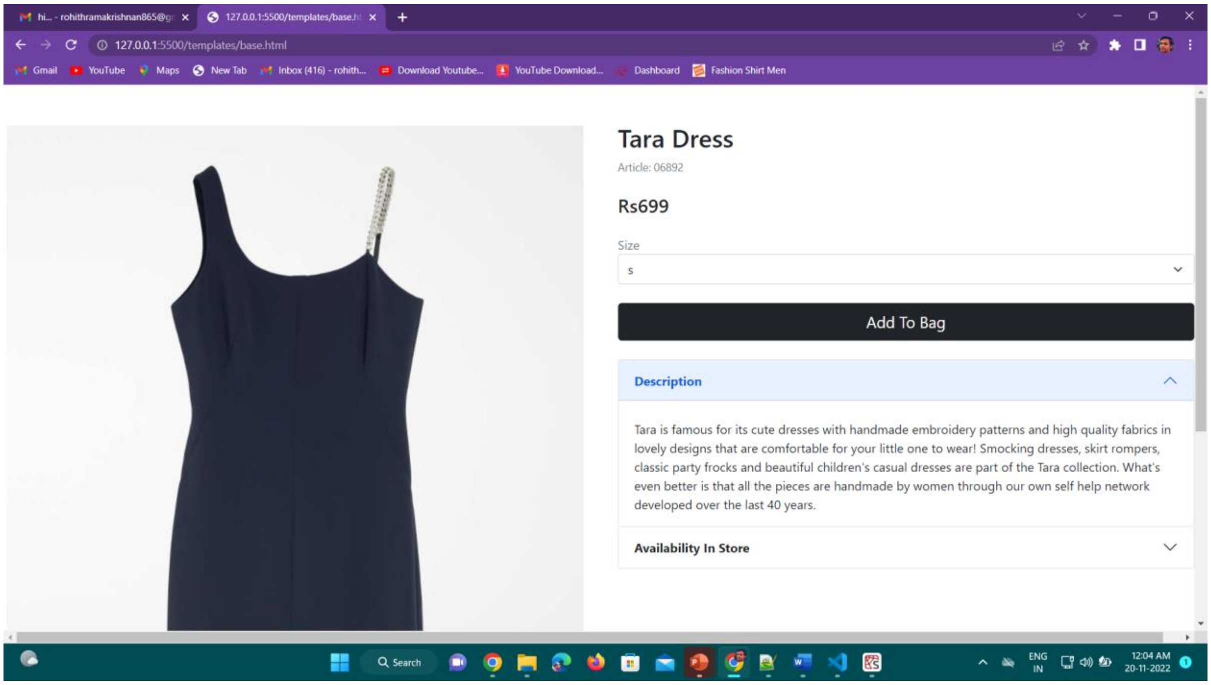
Save password?

Username rohith

Password •••

Save Never

Passwords are saved to Google Password Manager on this device.



Tara Dress

Article: 06892

Rs699

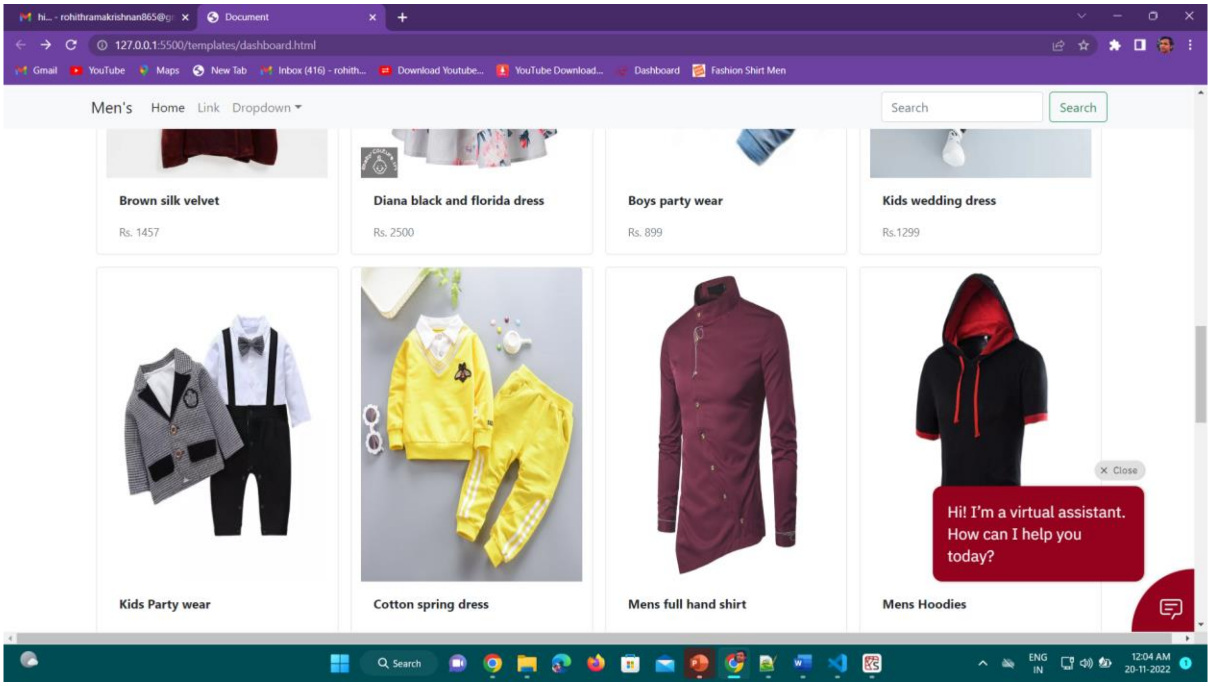
Size

s

Description

Tara is famous for its cute dresses with handmade embroidery patterns and high quality fabrics in lovely designs that are comfortable for your little one to wear! Smocking dresses, skirt rompers, classic party frocks and beautiful children's casual dresses are part of the Tara collection. What's even better is that all the pieces are handmade by women through our own self help network developed over the last 40 years.

Availability In Store



Brown silk velvet

Rs. 1457

Diana black and florida dress

Rs. 2500

Boys party wear

Rs. 899

Kids wedding dress

Rs.1299

Kids Party wear

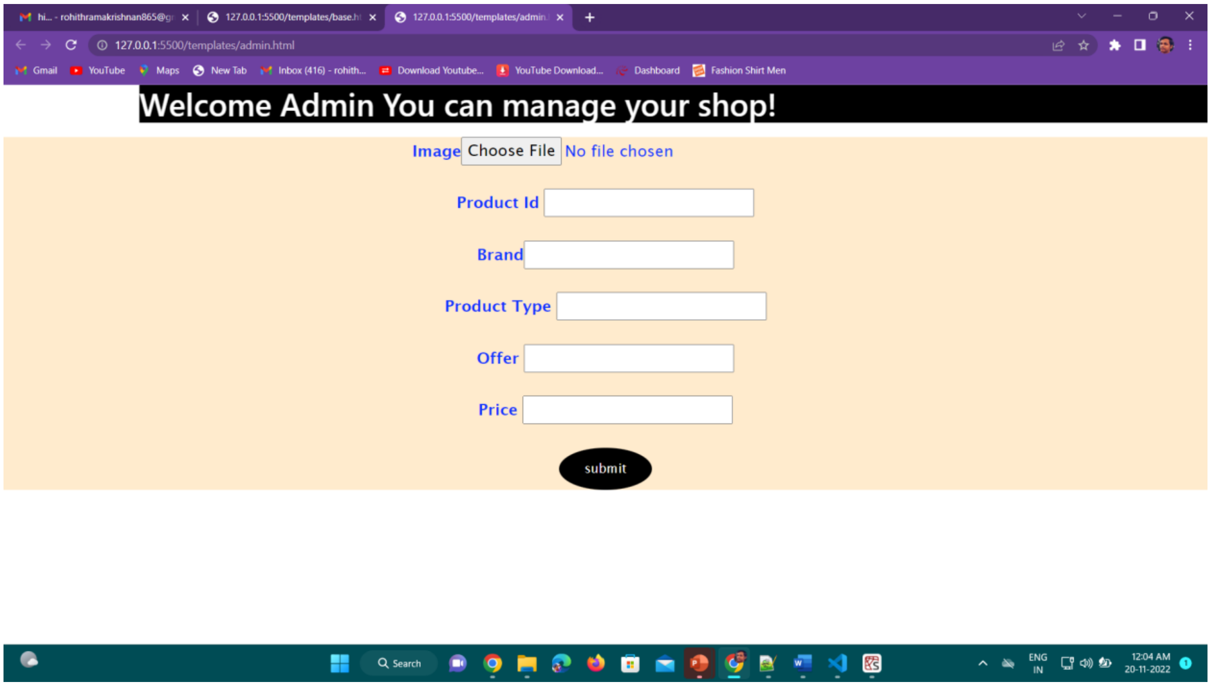
Cotton spring dress

Mens full hand shirt

Mens Hoodies

Hi! I'm a virtual assistant. How can I help you today?

Add Products Page for Admin



Welcome Admin You can manage your shop!

Image Choose File No file chosen

Product Id

Brand

Product Type

Offer

Price

submit

10. ADVANTAGES

- Very easy navigation
- Less time Consuming
- User Friendly

DISADVANTAGES

- Should be scalable
- Recommendation needed
- Increase Security

11. CONCLUSION

Thus, the smart fashion recommender system is implemented to reduce the time taken for navigation. Additionally, the chatbot is used for recommending the fashion products.

12. FUTURE SCOPE

This recommender application can be made for future scope. Like increasing the recommendation in IBM Watson for better user interactions and reducing the time taken for user navigations.

13. APPENDIX

Source Code

Signup-login.html

```
<html>
<head>
<style>
body{
    margin:0;
    color:#6a6f8c;
    background:#c8c8c8;
    font:600 16px/18px 'Open Sans',sans-serif;
}
*,:after,:before{box-sizing:border-box}
.clearfix:after,.clearfix:before{content:";display:table}
.clearfix:after{clear:both;display:block}
a{color:inherit;text-decoration:none}
.nn{
color:white;
}
.login-wrap{
    width:100%;
    margin:auto;
    max-width:525px;
    min-height:670px;
    position:relative;
    background:url(https://raw.githubusercontent.com/khadkamhn/day-01-login-form/master/img/bg.jpg) no-repeat center;
    box-shadow:0 12px 15px 0 rgba(0,0,0,.24),0 17px 50px 0 rgba(0,0,0,.19);
}
.login-html{
    width:100%;
    height:100%;
    position:absolute;
    padding:90px 70px 50px 70px;
    background:rgba(40,57,101,.9);
}
.login-html .sign-in-htm,
.login-html .sign-up-htm{
    top:0;
    left:0;
    right:0;
    bottom:0;
    position:absolute;
    transform:rotateY(180deg);
    backface-visibility:hidden;
    transition:all .4s linear;
}
.login-html .sign-in,
.login-html .sign-up,
.login-form .group .check{
    display:none;
}
.login-html .tab,
.login-form .group .label,
.login-form .group .button{
    text-transform:uppercase;
}
.login-html .tab{
    font-size:22px;
    margin-right:15px;
    padding-bottom:5px;
    margin:0 15px 10px 0;
    display:inline-block;
    border-bottom:2px solid transparent;
}
.login-html .sign-in:checked + .tab,
.login-html .sign-up:checked + .tab{
    color:#fff;
    border-color:#1161ee;
}
.login-form{
    min-height:345px;
    position:relative;
    perspective:1000px;
    transform-style:preserve-3d;
}
.login-form .group{
    margin-bottom:15px;
}
.login-form .group .label,
.login-form .group .input,
.login-form .group .button{
    width:100%;
    color:#fff;
    display:block;
}
.login-form .group .input,
.login-form .group .button{
    border:none;
    padding:15px 20px;
    border-radius:25px;
    background:rgba(255,255,255,.1);
}
.login-form .group input[data-type="password"]{
    text-security:circle;
    -webkit-text-security:circle;
}
.login-form .group .label{
    color:#aaa;
    font-size:12px;
}
```

```
.login-form .group .button{
      background:#1161ee;
}
.login-form .group label .icon{
      width:15px;
      height:15px;
      border-radius:2px;
      position:relative;
      display:inline-block;
      background:rgba(255,255,255,.1);
}
.login-form .group label .icon:before,
.login-form .group label .icon:after{
      content:";
      width:10px;
      height:2px;
      background:#fff;
      position:absolute;
      transition:all .2s ease-in-out 0s;
}
.login-form .group label .icon:before{
      left:3px;
      width:5px;
      bottom:6px;
      transform:scale(0) rotate(0);
}
.login-form .group label .icon:after{
      top:6px;
      right:0;
      transform:scale(0) rotate(0);
}
.login-form .group .check:checked + label{
      color:#fff;
}
```

```
    .login-form .group .check:checked + label .icon{
        background:#1161ee;
    }
    .login-form .group .check:checked + label .icon:before{
        transform:scale(1) rotate(45deg);
    }
    .login-form .group .check:checked + label .icon:after{
        transform:scale(1) rotate(-45deg);
    }
    .login-html .sign-in:checked + .tab + .sign-up + .tab + .login-form .sign-in-htm{
        transform:rotate(0);
    }
    .login-html .sign-up:checked + .tab + .login-form .sign-up-htm{
        transform:rotate(0);
    }

    .hr{
        height:2px;
        margin:60px 0 50px 0;
        background:rgba(255,255,255,.2);
    }
    .foot-lnk{
        text-align:center;
    }
    </style>
    </head>
    <body>
    <div class="login-wrap">
        <div class="login-html">
        <form action="/login" method="post">

                <input id="tab-1" type="radio" name="tab" class="sign-in" checked><label
for="tab-1" class="tab">Sign In</label>
```

```
        <input id="tab-2" type="radio" name="tab" class="sign-up"><label for="tab-2" class="tab">Sign Up</label>
        <div class="login-form">
            <div class="sign-in-htm">
                <div class="group">
                    <label for="nm" class="label">Username</label>
                    <input id="nm" name="nm" type="text" class="input">
                </div>
                <div class="group">
                    <label for="passi" class="label">Password</label>
                    <input id="passi" name="passi" type="password" class="input" data-type="password">
                </div>
                <div class="group">
                    <input id="check" type="checkbox" class="check" checked>
                    <label for="check"><span class="icon"></span> Keep me Signed in</label>
                </div>
                <div class="group">
                    <input type="submit" class="button" value="Sign In">
                </div>
                <div class="hr"></div>
                <div class="foot-lnk">
                    <a href="#forgot"><p class="nn">{{msg}}</p></br></br>Forgot Password?</a>
                </div>
            </div>
            </form>
            <form action="/register" method="post">
            <div class="sign-up-htm">
                <div class="group">
                    <label for="nm" class="label">Username</label>
                    <input id="nm" name="nm" type="text" class="input">
                </div>
                <div class="group">
                    <label for="passi" class="label">Password</label>
                    <input id="passi" name="passi" type="password"
class="input" data-type="password">
                </div>
                <div class="group">
                    <label for="repassi" class="label">Repeat
Password</label>
                    <input id="repassi" name="repassi" type="password"
class="input" data-type="password">
                </div>
                <div class="group">
                    <label for="email" class="label">Email Address</label>
                    <input id="email" name="email" type="email"
class="input">
                </div>
                <div class="group">
                    <input type="submit" class="button" value="Sign Up">
                </div>
                <div class="hr"></div>
                <div class="foot-lnk">
                    <label for="tab-1">Already Member?</a>
                </div>
            </div>
            </form>
        </div>
    </div>
  </div>
  </form>
  </body>
```

Admin.html

```
  <html>
```

```
        <head>
            <link rel="stylesheet" href="\static\css\bootstrap.min.css">
            <script src="\static\js\bootstrap.bundle.min.js"></script>
            <script src="\static\js\bootstrap.min.js"></script>
          </head>
     <style>
        form  {
         color: #1234ff;
     background-color: blanchedalmond;
     text-align: center;
     font-size: 20;
     font-family: 'Lucida Sans', 'Lucida Sans Regular', 'Lucida Grande', 'Lucida Sans Unicode',
Geneva, Verdana, sans-serif;
     font-weight: bold;

        }
        .button {
      background-color: black; /* Green */
      border: none;
      color: white;
      padding: 15px 32px;
      text-align: center;
      text-decoration: none;
      display: inline-block;
      font-size: 16px;
    }
    .button5 {border-radius: 50%;}

     </style>
    <body>
    <p>
        <marquee width="100%" direction="left" height="50px" scrollamount="25"><h1
style="background-color:black; color:white">Welcome Admin You can manage your
shop!</h1></marquee></p>
```

```
    <form action="/insert" method="post" enctype="multipart/form-data" >
        Image<input type="file" name="imgup" value="image" id="imgup" />
        <br><br>
        <label>Product Id <input type="text" id="pid" name="pid" /></label>
        <br><br>
        <label>Brand<input type="text" id="b1" name="b1" /></label>
        <br><br>
        <label>Product Type <input type="text" id="pptype" name="pptype" /></label>
        <br><br>
        <label>Offer <input type="text" id="o1" name="o1" /></label>
        <br><br>
        <label>Price <input type="number" id="price" name="price" /></label>
        <br><br>
        <input type="submit"  class="button button5" value="submit" name="submit" />

    </form>
</p>
</body>
</html>
```

3.Base.html

```
<head>
  <link rel="stylesheet" href="\static\css\bootstrap.min.css">
  <script src="\static\js\bootstrap.bundle.min.js"></script>
  <script src="\static\js\bootstrap.min.js"></script>
</head>
<body>
  <div class="row py-5 g-5">
    <div class="col-12 col-lg-6">
      <img src="\static\images\img1.jpg" class="m-1 w-100 sliderMainImage" data-bs-toggle="modal"
        data-bs-target="#imageModal" />
```

```
          </div>
          <div class="col-12 col-lg-6">
            <h2 id="productName">Tara Dress</h2>
            <small class="text-muted">Article: 06892</small>
            <h4 class="my-4">
              Rs<span id="price">699</span></h4>
            <label for="selectSize" class="text-muted">Size</label>
            <select class="form-select" name="selectSize" id="size">
              <option selected>s</option>
              <option value="1">M</option>
              <option value="2">L</option>
              <option value="3">XL</option>
              <option value="4">XLL</option>
            </select>
            <div class="d-grid my-4">
              <button class="btn btn-lg btn-dark" type="button" id="bagBtn">Add To Bag</button>
            </div>
            <div class="accordion">
              <div class="accordion-item">
                <h2 class="according-header" id="headingOne">
                  <button class="accordion-button" type="button" data-bs-toggle="collapse" data-bs-
target="#collapseOne"
                    aria-expanded="true" aria-controls="collapseOne">
                    <strong>Description</strong>
                  </button>
                </h2>
                <div id="collapseOne" class="accordion-collapse collapse show" aria-
labelledby="headingOne">
                  <div class="accordion-body">
                    Tara is famous for its cute dresses with handmade embroidery patterns and high
quality fabrics in
                    lovely designs that are comfortable for your little one to wear! Smocking dresses,
                    skirt rompers, classic party frocks and beautiful children's casual dresses are part of
the Tara
```

```
          collection. What's even better is that all the pieces are handmade by women through
our own self help
          network developed over the last 40 years.

         </div>
        </div>
       </div>
      </div>
      <div class="accordion-item">
       <h2 class="accordion-header" id="headingTwo">
        <button class="accordion-button collapsed" type="button" data-bs-toggle="collapse"
         data-bs-target="#collapseTwo" aria-expanded="false" aria-controls="collapseTwo">
         <strong>Availability In Store</strong>
        </button>
       </h2>
       <div id="collapseTwo" class="accordion-collapse collapse" aria-
labelledby="headingTwo"></div>
      </div>
     </div>
    </div>
   </body>
```

4.Dashboard.html

```
<!DOCTYPE html>
<html lang="en">

<head>
 <meta charset="UTF-8">
 <meta http-equiv="X-UA-Compatible" content="IE=edge">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Document</title>
 <link rel="stylesheet" href="\static\css\bootstrap.min.css">
 <script src="\static\js\bootstrap.bundle.min.js"></script>
```

```
  <script src="\static\js\bootstrap.min.js"></script>
  <style>
    .navbar {
      z-index: 99;
    }

    .sliderFade {
      animation: fade 0.5s ease;
    }

    .sliderThumb,
    .sliderMainImage {
      cursor: pointer;
    }

    @keyframes fade {
      0% {
        opacity: 0;
      }

      100% {
        opacity: 1;
      }
    }
  </style>
  <script type="text/javascript">
    const reloadtButton = document.querySelector("#reload");
// Reload everything:
function reload() {
    reload = location.reload();
}
// Event listeners for reload
reloadButton.addEventListener("click", reload, false);
window.history.forward();
```

```
     function noBack()
     {
       window.history.forward();
     }
    </script>
   </head>

   <body>
    <div id="carouselId" class="carousel slide" data-bs-ride="carousel">
     <ol class="carousel-indicators">
      <li  data-bs-target="#carouselId"  data-bs-slide-to="0"  class="active"  aria-current="true"
aria-label="First slide">
      </li>
      <li data-bs-target="#carouselId" data-bs-slide-to="1" aria-label="Second slide"></li>
      <li data-bs-target="#carouselId" data-bs-slide-to="2" aria-label="Third slide"></li>
     </ol>
     <div class="carousel-inner" role="listbox">
      <div class="carousel-item active">
       <img
        src="https://img.freepik.com/premium-psd/fashion-sale-social-media-facebook-cover-
design-template_169307-1003.jpg?w=2000"
        class="w-100 d-block" alt="First slide" style="height:280px ;">
      </div>
      <div class="carousel-item">
       <img style="height:280px ;"
        src="https://img.freepik.com/premium-vector/iconic-fashion-sale-social-media-post-
templates_48159-857.jpg"
        class="w-100 d-block" alt="second slide">
      </div>
      <div class="carousel-item">
       <img style="height:280px;"
        src="https://marketplace.canva.com/EAFCQvbIa5Q/2/0/1600w/canva-colorful-playful-
kids-%26-baby-store-presentation-aRe9FAB3yLs.jpg"
        class="w-100 d-block" alt="Third slide">
```

```
            </div>
          </div>
          <button class="carousel-control-prev" type="button" data-bs-target="#carouselId" data-bs-slide="prev">
            <span class="carousel-control-prev-icon" aria-hidden="true"></span>
            <span class="visually-hidden">Previous</span>
          </button>
          <button class="carousel-control-next" type="button" data-bs-target="#carouselId" data-bs-slide="next">
            <span class="carousel-control-next-icon" aria-hidden="true"></span>
            <span class="visually-hidden">Next</span>
          </button>
        </div>
        <nav class="navbar navbar-expand-sm navbar-light bg-light fixed-top">
          <div class="container">
            <a class="navbar-brand" href="#mens">Men's</a>
            <button class="navbar-toggler d-lg-none" type="button" data-bs-toggle="collapse"
              data-bs-target="#collapsibleNavId" aria-controls="collapsibleNavId" aria-expanded="false"
              aria-label="Toggle navigation">
              <span class="navbar-toggler-icon"></span>
            </button>
            <div class="collapse navbar-collapse" id="collapsibleNavId">
              <ul class="navbar-nav me-auto mt-2 mt-lg-0">
                <li class="nav-item">
                  <a class="nav-link active" href="#" aria-current="page">Home <span
                      class="visually-hidden">(current)</span></a>
                </li>
                <li class="nav-item">
                  <a class="nav-link" href="#">Link</a>
                </li>
                <li class="nav-item dropdown">
                  <a class="nav-link dropdown-toggle" href="#" id="dropdownId" data-bs-toggle="dropdown" aria-haspopup="true"
          aria-expanded="false">Dropdown</a>
         <div class="dropdown-menu" aria-labelledby="dropdownId">
          <a class="dropdown-item" href="#">Action 1</a>
          <a class="dropdown-item" href="#">Action 2</a>
         </div>
        </li>
       </ul>
       <form class="d-flex my-2 my-lg-0">
        <input class="form-control me-sm-2" type="text" placeholder="Search">
        <button class="btn btn-outline-success my-2 my-sm-0"
type="submit">Search</button>
       </form>
      </div>
     </div>
    </nav>
    <div class="row d-flex justify-content-center mt-5">
     <div class="card m-2" style="width:20%;">
      <a href="./base.html">
       <img src="\static\images\img1.jpg" class="card-img-top" height="400px" width="25px"
alt="product" /></a>
      <div class="card-body">
       <p class="card-text fw-bold">
        Tara Dress
       </p>
       <small class="text-secondary">
        Rs.699
       </small>
      </div>
     </div>
     <div class="card m-2" style="width:20%;">
      <a href="./base.html">
       <img src="\static\images\img2.jpg" class="card-img-top" height="400px" width="25px"
alt="product" /></a>
      <div class="card-body">
    <p class="card-text fw-bold">
      RB T shirt
    </p>
    <small class="text-secondary">
      Rs.499
    </small>
  </div>
</div>
<div class="card m-2" style="width:20%;">
  <a href="./base.html">
    <img src="\static\images\img3.jpg" class="card-img-top" height="400px" width="25px" alt="product" /></a>
  <div class="card-body">
    <p class="card-text fw-bold">
      NightDress
    </p>
    <small class="text-secondary">
      Rs.799
    </small>
  </div>
</div>
<div class="card m-2" style="width:20%;">
  <a href="./base.html">
    <img src="\static\images\img4.jpg" class="card-img-top" height="400px" width="25px" alt="product" /></a>
  <div class="card-body">
    <p class="card-text fw-bold">
      Max mara pauline coat
    </p>
    <small class="text-secondary">
      Rs.999
    </small>
  </div>
</div>
```

```
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img src="\static\images\img5.jpg" class="card-img-top" height="400px" width="25px"
alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Muschio flora
              </p>
              <small class="text-secondary">
                Rs.699
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img src="\static\images\img6.jpg" class="card-img-top" height="400px" width="25px"
alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Hola Bointa
              </p>
              <small class="text-secondary">
                Rs.1999
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img src="\static\images\img7.jpg" class="card-img-top" height="400px" width="25px"
alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Harald max mara
              </p>
              <small class="text-secondary">
                Rs. 1799
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img src="\static\images\img8.jpg" class="card-img-top" height="400px" width="25px" alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Legins pant
              </p>
              <small class="text-secondary">
                Rs. 1499
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img src="\static\images\img9.jpg" class="card-img-top" height="400px" width="25px" alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Brown silk velvet
              </p>
              <small class="text-secondary">
                Rs. 1457
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
```

```
              <img
src="https://cdn.babycouture.in/pub/media/catalog/product/cache/0b315228ed332efca91f606c91
ba025b/d/i/diana_black_floral_kids_dress.jpg"
                class="card-img-top" height="400px" width="25px" alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Diana black and florida dress
              </p>
              <small class="text-secondary">
                Rs. 2500
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img
                src="https://greentikki.com/wp-content/uploads/2021/03/WhatsApp-Image-2021-03-
16-at-4.19.13-PM-350x435.jpeg"
                class="card-img-top" height="400px" width="25px" alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Boys party wear
              </p>
              <small class="text-secondary">
                Rs. 899
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img
                src="https://cdn.shopify.com/s/files/1/0029/7041/9313/products/Baby-Boys-Clothes-
Suits-for-Wedding-Kids-British-Style-Birthday-Dress-Boy-Gentleman-Suit-3pcs-
set_large.jpg?v=1535735873"
```

```
      class="card-img-top" height="400px" width="25px" alt="product" /></a>
  <div class="card-body">
    <p class="card-text fw-bold">
      Kids wedding dress
    </p>
    <small class="text-secondary">
      Rs.1299
    </small>
  </div>
</div>
<div class="card m-2" style="width:20%;">
  <a href="./base.html">
    <img src="https://s.alicdn.com/@sc04/kf/H7a283856a28f46049bd97190f774bf0ce.jpg" class="card-img-top"
      height="400px" width="25px" alt="product" /></a>
  <div class="card-body">
    <p class="card-text fw-bold">
      Kids Party wear
    </p>
    <small class="text-secondary">
      Rs.1899
    </small>
  </div>

</div>
<div class="card m-2" style="width:20%;">
  <a href="./base.html" id="mens">
    <img src="https://n2.sdlcdn.com/imgs/i/y/5/Boys-clothing-sets-spring-autumn-SDL575955769-1-08386.jpg"
      class="card-img-top" height="400px" width="25px" alt="product" /></a>
  <div class="card-body">
    <p class="card-text fw-bold">
      Cotton spring dress
    </p>
    <small class="text-secondary">
      Rs. 699
    </small>
  </div>
</div>

<div class="card m-2" style="width:20%;">
  <a href="./base.html">
    <img
      src="https://cdn11.bigcommerce.com/s-pkla4xn3/images/stencil/1280x1280/products/11753/114418/2018-Fashion-New-Male-Shirt-Long-Sleeve-Mens-Clothes-Oblique-Button-Dress-Shirts-Mandarin-Collar-Men__02469.1574244136.jpg?c=2"
      class="card-img-top" height="400px" width="25px" alt="product" /></a>
  <div class="card-body">
    <p class="card-text fw-bold">
      Mens full hand shirt
    </p>
    <small class="text-secondary">
      Rs.699
    </small>
  </div>
</div>
<div class="card m-2" style="width:20%;">
  <a href="./base.html">
    <img
      src="https://ae01.alicdn.com/kf/HTB1I6BNQVXXXXbRXXXXq6xXFXXXT/2017-New-Arrival-Summer-mens-Hooded-t-shirt-fashion-cap-t-shirts-men-casual-crop-short.jpg"
      class="card-img-top" height="400px" width="25px" alt="product" /></a>
  <div class="card-body">
    <p class="card-text fw-bold">
      Mens Hoodies
    </p>
    <small class="text-secondary">
```

```
                Rs.1399
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html">
              <img src="https://content.jdmagicbox.com/rep/b2b/mens-fashion-shirt/mens-fashion-shirt-8.jpg"
                class="card-img-top" height="400px" width="25px" alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Coat cotton shirt
              </p>
              <small class="text-secondary">
                Rs. 11699
              </small>
            </div>

          </div>
          <div class="card m-2" style="width:20%;">
            <a href="./base.html" id="mens">
              <img src="https://m.media-amazon.com/images/I/71dol5U2hcL._UX569_.jpg" class="card-img-top" height="400px"
                width="25px" alt="product" /></a>
            <div class="card-body">
              <p class="card-text fw-bold">
                Full hand cotton Dress
              </p>
              <small class="text-secondary">
                Rs. 1499
              </small>
            </div>
          </div>
          <div class="card m-2" style="width:20%;">
```

```
       <a href="./base.html">
        <img
         src="https://rukminim1.flixcart.com/image/332/398/xif0q/fabric/x/p/6/no-2-35-m-
unstitched-na-gras-trijal-fab-original-imagahyhxy6xgmsr-bb.jpeg?q=50"
         class="card-img-top" height="400px" width="25px" alt="product" /></a>
       <div class="card-body">
        <p class="card-text fw-bold">
         lycra shirt
        </p>
        <small class="text-secondary">
         Rs.499
        </small>
       </div>
      </div>
      <div class="card m-2" style="width:20%;">
       <a href="https://www.waamall.com/?product_id=156371602_31">
        <img src="https://cdn3.volusion.com/ba3tg.hs2vg/v/vspfiles/photos/g7760-0601-2.jpg"
class="card-img-top"
         height="400px" width="25px" alt="product" /></a>
       <div class="card-body">
        <p class="card-text fw-bold">
         Men designer fashion dress


        </p>
        <small class="text-secondary">
         Rs. 2999
        </small>
       </div>
      </div>
      {% for product in products %}
      <div class="card m-2" style="width:20%;">
       <a href="http://127.0.0.1:5500/templates/base.html">
        <img src="https://prieeass1.s3.jp-tok.cloud-object-
storage.appdomain.cloud/{{product[0]}}" class="card-img-top"
```

```
        height="400px" width="25px" alt="product" /></a>
    <div class="card-body">
      <p class="card-text fw-bold">
        {{product[1]}}
      </p>
      <small class="text-secondary">
        Rs.{{product[5]}}
      </small>
    </div>

  </div>
  {% endfor %}
</div>
<a href="./base.html" class="btn btn-outline-dark my-5">View All Products</a>
<div class="d-flex justify-content-between align-items-center flex-column flex-lg-row my-5">
  <section class="my-5 mx-auto py-5" style="max-width: 25em;">
    <h2>Subscribe To Our Newsletter</h2>
    <form class="d-flex my-4">
      <input class="form-control me-2" type="email" placeholder="Your Email" />
      <button class="btn-outline-dark" type="submit">Subscribe</button>
    </form>
  </section>
</div>
<script>
  window.watsonAssistantChatOptions = {
    integrationID: "eb2259f3-2f07-4f26-9490-245b15cec951", // The ID of this integration.
    region: "us-south", // The region your integration is hosted in.
    serviceInstanceID: "009a5aaa-148c-4708-8fa2-ce7e287f5bc9", // The ID of your service instance.
    onLoad: function (instance) { instance.render(); }
  };
  setTimeout(function () {
    const t = document.createElement('script');
```

```
      t.src = "https://web-chat.global.assistant.watson.appdomain.cloud/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";
      document.head.appendChild(t);
    });
  </script>
  <footer class="d-flex justify-content-between my-5 text-start flex-wrap">
    <ul class="nav flex-column">
      <li class="fw-bold nav-item">
        <a href="#" class="nav-link text-dark">Product</a>
      </li>
      <li class="nav-item">
        <a href="#" class="nav-link text-muted">Clothing</a>
      </li>
    </ul>
  </footer>
</body>
</html>
```

5.Logindb.py

```
# -*- coding: utf-8 -*-
"""
Created on Thu Oct  6 18:55:33 2022
@author: Rohith
"""
import ibm_boto3
from ibm_botocore.client import Config, ClientError
from collections import UserDict
from threading import activeCount
from turtle import st
import ibm_db
import ibm_db_dbi
import re
import io
```

```
from flask import Flask, redirect, session,url_for, request,render_template
COS_ENDPOINT="https://s3.jp-tok.cloud-object-storage.appdomain.cloud"
COS_API_KEY_ID="jTuq9SgGUGZ7PB3kbz8PO34PIjfnvbC_w03eD0_MyzU4"
COS_INSTANCE_CRN="crn:v1:bluemix:public:cloud-object-storage:global:a/76d200e982db41eabf28071cb42c5c4e:7de5a48d-85a5-4730-aeb0-b8571a96124c::"
cos = ibm_boto3.resource("s3",
    ibm_api_key_id=COS_API_KEY_ID,
    ibm_service_instance_id=COS_INSTANCE_CRN,
    config=Config(signature_version="oauth"),
    endpoint_url=COS_ENDPOINT
)
app=Flask(__name__)
app.secret_key='a'
#print('hi')
conn=ibm_db.connect("DATABASE=bludb;HOSTNAME=125f9f61-9715-46f9-9399-c8177b21803b.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=30426;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=glv80047;PWD=VDWHzoVzcvVLbUVx;",",")
@app.route('/')
def homer():
    return render_template('signuplogin.html')
@app.route('/login',methods=["GET",'POST'])
def login():
    global userid
    msg=' '
    if request.method == 'POST':
        username=request.form['nm']
        password=request.form['passi']
        if(username=="123456" and password=="123456"):
            return render_template('admin.html',msg=msg)
        else:
            sql= "SELECT * FROM user where username=? AND password=?"
            stmt=ibm_db.prepare(conn, sql)
            ibm_db.bind_param(stmt,1,username)
            ibm_db.bind_param(stmt,2,password)
            ibm_db.execute(stmt)
            account=ibm_db.fetch_assoc(stmt)
            print(account)
            if account:
                session['Loggedin']=True
                session['id']=account['USERNAME']
                userid=account['USERNAME']
                session['username']=account['USERNAME']
                msg='logged in successfully'
                query="select * from product"
                stmt=ibm_db.prepare(conn,query)
                ibm_db.execute(stmt)
                products=[]
                while True:
                    obj=ibm_db.fetch_tuple(stmt)
                    if(obj):
                        products.append(obj)
                    else:
                        break
                print(products)
                return render_template('dashboard.html',products=products)
            else:
                msg='Incorrect user credentials'
                return render_template('signuplogin.html',msg=msg)
    else:
        return render_template('signuplogin.html')
@app.route('/register',methods=['GET','POST'])
def register():
    msg=' '
    if request.method=='POST':
        username=request.form['nm']
        password=request.form['passi']
        repeatpass=request.form['repassi']
        email=request.form['email']
        sql="SELECT * FROM user WHERE username=?"
        stmt=ibm_db.prepare(conn,sql)
        ibm_db.bind_param(stmt,1,username)
        ibm_db.execute(stmt)
        account=ibm_db.fetch_assoc(stmt)
        print(account)
        if account:
            msg='Account already exists !'
        elif not re.match(r'[^@]+@[^@]+\.[^@]+',email):
            msg='Invalid email address and enter all details!'

        elif not re.match(r'[A-Za-z0-9]+', username):
            msg= 'name must contain only characters and numbers !'
        else:
            insert_sql="INSERT INTO user VALUES(?,?,?,?)"
            prep_stmt=ibm_db.prepare(conn,insert_sql)
            ibm_db.bind_param(prep_stmt,1,username)
            ibm_db.bind_param(prep_stmt,2,password)
            ibm_db.bind_param(prep_stmt,3,repeatpass)
            ibm_db.bind_param(prep_stmt,4,email)
            ibm_db.execute(prep_stmt)
            msg='You have successfully registered !'
    elif request.method == 'POST':
        msg='Please fill out the form !'
    return render_template('signuplogin.html',msg=msg)
@app.route('/insert',methods=['GET','POST'])
def insert():
    msg=' '
    print("working1")
    if request.method=='POST':
        pname=request.form['b1']
        pid=request.form['pid']
```

```
ptype=request.form['pptype']
offer=request.form['o1']
price=request.form['price']
sql="SELECT * FROM PRODUCT WHERE BRAND=?"
stmt=ibm_db.prepare(conn,sql)
ibm_db.bind_param(stmt,1,pname)
ibm_db.execute(stmt)
account=ibm_db.fetch_assoc(stmt)
print(account)
if account:
    msg='Product already exists !'
else:
    f = request.files['imgup']
    prod_img_name=f"img_{pid}"
    print(prod_img_name)
    try:
        part_size = 1024 * 1024 * 5
       file_threshold = 1024 * 1024 * 15
       transfer_config = ibm_boto3.s3.transfer.TransferConfig(
       multipart_threshold=file_threshold,
                multipart_chunksize=part_size
            )
        content = f.read()
        cos.Object('prieeass1', prod_img_name).upload_fileobj(
                    Fileobj=io.BytesIO(content),
                    Config=transfer_config
                )
    except ClientError as be:
            # print("CLIENT ERROR: {0}\n".format(be))
            return redirect(url_for('login'))
    except Exception as e:
            # print("Unable to complete multi-part upload: {0}".format(e))
            return redirect(url_for('login'))
    insert_sql="INSERT INTO product VALUES(?,?,?,?,?,?)"
```

```
            prep_stmt=ibm_db.prepare(conn,insert_sql)
            ibm_db.bind_param(prep_stmt,1,prod_img_name)
            ibm_db.bind_param(prep_stmt,2,pname)
            ibm_db.bind_param(prep_stmt,3,ptype)
            ibm_db.bind_param(prep_stmt,4,offer)
            ibm_db.bind_param(prep_stmt,5,pid)
            ibm_db.bind_param(prep_stmt,6,price)
            ibm_db.execute(prep_stmt)
            msg='Product details successfully registered !'
    elif request.method == 'POST':
        msg='Please fill out the form !'
    return render_template('signuplogin.html',msg=msg)
if __name__=='__main__':
    app.run()
```

Project Demo Link:
https://drive.google.com/file/d/11NK7HJAO6oZ21acydsRroJBhAkxJGs26/view?usp=sharing

GitHub Link: https://github.com/IBM-EPBL/IBM-Project-2508-1658473056