

IT - ITes SSC
NASSCOM



SMART FASHION RECOMMENDER APPLICATION

IBM – DOCUMENTATION

UNDER THE GUIDANCE OF

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ENGINEERING

VAIGAI COLLEGE OF ENGINEERING

ANNA UNIVERSITY :: 2019 – 2023

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

Nowadays, fashion applications and e-commerce are growing more and more, and it also has some problems when finding the customer's wanted product in the web applications. Having a chatbot that understands the algorithm of a specific application can be of great aid. We are implementing such a chat bot in a web application, which is fed with the knowledge of the application's algorithm and helps the user completely from finding their needs to processing the payment and initiating delivery. It works as an advanced filter search that can bring the user what they want with the help of pictorial and named representation by getting simple user information and activities. The application also has two main UI interactions: one is the user panel and the other one is the admin panel. Users can interact with the chat bot to search for products, order them from the manufacturer or distributor through chatbot AI, and it can also make payment transactions, track the delivery, and so on. The admin interface enables the user to upload products' details, user details, orders and find how many products have been bought; supervise the stock availability; and interact with the buyer regarding the product reviews.

We have come up with 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 chat bot.

In this project you will be working on two modules:

1. Admin and
2. User

Admin:

The role of the admin is to check out the database about the stock and have a track of all the things that the users are purchasing.

User:

The user will login into the website and go through the products available on the website. Instead of navigating to several screens for booking products online, the user can directly talk to Chat bot regarding the products. Get the recommendations based on information provided by the user.

1.2 PURPOSE

- a) Using chatbot we can manage user's choices and orders.
- b) The chatbot can give recommendations to the users based on their interests.
- c) It can promote the best deals and offers on that day.
- d) It will store the customer's details and orders in the database.
- e) The chatbot will send a notification to customers if the order is confirmed.
- f) Chatbots can also help in collecting customer feedback.

2. LITERATURE SURVEY

FOR

SMART FASHION RECOMMENDER

S.no	Title	Abstract	Reference
1	A Semantic Approach for Fashion Recommendation Using Logistic Regression and Ontologies	Due to the increased prevalence of web recommendation systems after years of research, it has unarguably become the ultimate solution for efficient functioning of any e-commerce or user supportive digital domain. Though a variety of algorithms have been tested to meet the expectations of users in order to be decision supportive, this paper proposes a potential framework for recommendation of men's clothing. The focus of the system is to improve the efficiency of the recommendation to cope up to the speed of the user's thought process and expectations..	https://ieeexplore.ieee.org/abstract/document/9633891
2	Scenery-Based Fashion Recommendation with Cross-Domain Generative Adversarial Networks	To build an effective fashion recommendation system is a still challenging issue due to its high complexity. Previous research works generally have focused on how to provide fashion items visually similar to the user's current fashion taste. However, a scenery (natural landscape) around users is also an important affective factor in recommending fashions.	https://ieeexplore.ieee.org/abstract/document/8679117

3	Decentralized Construction of Knowledge Graphs for Deep Recommender Systems Based on Blockchain-Powered Smart Contracts	<p>Since first coined by Google in 2012, knowledge graph has received extensive attention from both industry and academia, and has been widely used in many scenarios with success, e.g. information retrieval, online recommendation, question-answering, and so on. However, traditional centralized construction of knowledge graph faces many challenges, such as laborious and time-consuming, vulnerable to manipulation or tampering, lacking scrutiny, among others. Therefore, in this paper, we propose a novel decentralized knowledge graph construction method by means of crowdsourcing..</p>	https://ieeexplore.ieee.org/abstract/document/884472 4
4	CFRS: A Trends-Driven Collaborative Fashion Recommendation System	<p>Fashion has a great impact in everyday life and therefore, people pay close attention to the way they dress. Fashion item recommendation is typically a manual, curated process, where experts recommend items and trends to large populations. However, there is increasing use of automated, personalized recommendation systems, which have valuable applications in e-commerce websites. In this paper, we propose a collaborative fashion recommendation system, called CFRS.</p>	https://ieeexplore.ieee.org/abstract/document/890068 1
5	Smart Recommender System using Deep Learning	<p>Deep neural system has been succeeded in solving recent complex problems in AI, image processing, and natural language processing. In recommendation system innovation, deep learning is an enormous thing. Deep learning is applicable in various systems like music recommendation, speech recognition, book suggestion, and video on demand.</p> <p>Deep learning solves complex relations so many researchers use the deep neural network in their task. Most of the time task requires complex computation. Two models are proposed in the system.</p>	https://ieeexplore.ieee.org/abstract/document/9358580

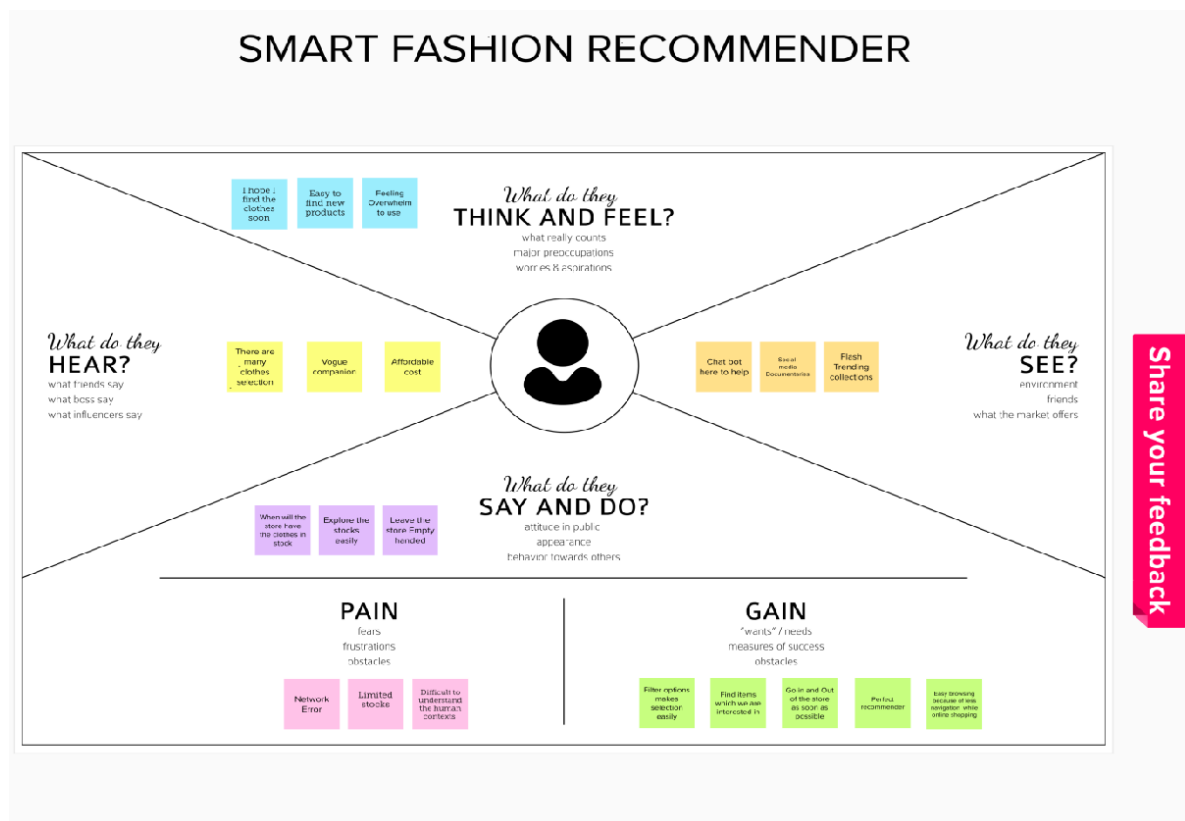
3.Ideation Phase

Empasize & Discover

Empathy Map


Ideation phase

Brainstorm & Idea prioritation Template






Step-1: Team Gathering, Collaboration and Select the Problem Statement

Template




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

[Share template feedback](#)



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.

[Open article](#) 

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


How might we [your problem statement]?


In online shopping, there is too much of navigations. In order to reduce the navigations, we propose a chatbot as a recommender system that generates recommendations for the user based on an input given.





Key rules of brainstorming


To run an smooth and productive session


 Stay in topic.

 Encourage wild ideas.

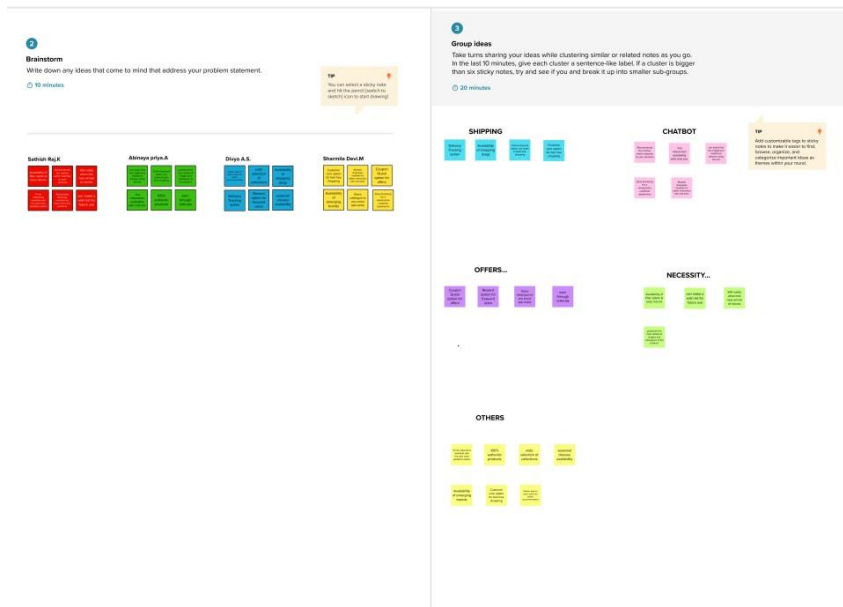
 Defer judgment.

 Listen to others.

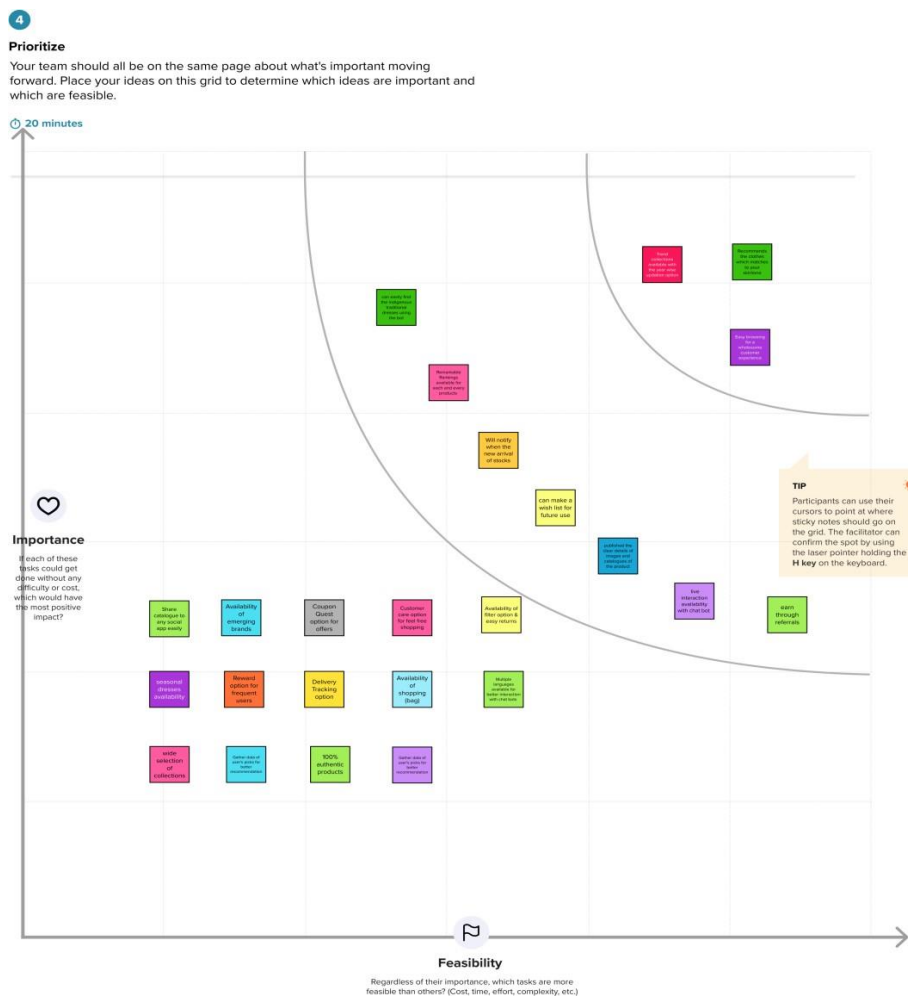
 Go for volume.

 If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping



Step-3: Idea Prioritization



Proposed Solution Template

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In Online Shopping, there is too much of navigations. This is the Main Reason is that website visitors usually move their eyes much faster than they move their mouse. While searching a Required product, user get too much confusions also.
2.	Idea / Solution description	In order to reduce the navigations, we propose a chatbot as a recommender system that generates recommendations for the user based on an input given.
3.	Novelty / Uniqueness	Easy browsing through a chat bot for a wholesome customer experience, no need to search. Navigations also reduced.
4.	Social Impact / Customer Satisfaction	Customer satisfied with the reduced navigation during the shopping
5.	Business Model (Revenue Model)	An effective recommendation system is a crucial tool for successfully conducting an e- commerce business. They are among the most powerful machine learning systems that online retailers implement in order to drive sales. The suggestion of the most relevant items to buy and as a result, increase a company's revenue
6.	Scalability of the Solution	A Chatbot efficiently scales horizontally to handle millions of users and interactions per day. Chatbots can increase engagement by up to 80% and sales by 60%

SOLUTION FIT TEMPLATE

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CUSTOMER SEGMENT(S)

Buyer, who needs to reduce the navigations in the application while online shopping

6. CUSTOMER CONSTRAINTS

Network connection , Available devices, Budget.

5. AVAILABLE SOLUTIONS

The applications that contains a search option and a bot to generate the recommendation based on the input given by the users

2. JOBS-TO-BE-DONE / PROBLEMS

Purchaser, who needs a convenient shopping of required products, we added a chat bot availability in the applications for better shopping experience.

9. PROBLEM ROOT CAUSE

Customer have to do it because they want to explore the products quickly and accurately.

7. BEHAVIOUR

A chat bot that suggests properly fitting clothing and apparel as well as styles based on factors that include color, color pattern and clothing shapes.

<p>3. TRIGGERS</p> <p>Seeing friends and relatives easily explore the products in online shopping with less time.</p>	<p>10. OUR SOLUTION</p> <p>In this project, we proposed a personalized fashion recommendation system that generates recommendations for the user based on an input given. This project aims at using a chat bot as a user-friendly recommendation.</p>	<p>8. CHANNELS of BEHAVIOUR</p> <p>8.1 online It is easy to access, highly available, visually appealing and can place orders instantly.</p> <p>8.2 offline It is exhausting and time-consuming and the number of varieties is limited..</p>
<p>4. EMOTIONS: BEFORE / AFTER</p> <p>Before: Feeling exhausted because of so many navigations and the difficulty to reach the required products</p> <p>After: feeling time utilised, better shopping companion and easy to reach the products</p>		

4.REQUIREMENT ANALYSIS

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirements	Sub Registration
FR-1	Registration	Registration can be done using mobile number or Gmail and needed some user information
FR-2	Login Delivery	User only log in by user id and password, Which is given during registration
FR-3	confirmation	Confirmation via email and phone number.
FR-4	Assistance	Bot is integrated with the application to make the usability simple
FR-5	Super-fast checkout	Online transfer, Credit card payment, Paying with mobile wallets

Non-Functional Requirements:

Following are the Non-Functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	A user-friendly interface with chat bot to make usability efficient
NFR-2	Security	Secured connection HTTPS should be established for transmitting requests and responses
NFR-3	Reliability	The system should handle excepted as well as unexpected errors and exceptions to avoid termination of the program
NFR-4	Performance	The system shall be able to handle multiple requests at any given point in time and generate an appropriate response.
NFR-5	Availability	It is a cloud based web application so user can access without any platform limitations ,just using a browsers with a internet connection is enough for use the application
NFR-6	Scalability	It has a quick request and response time, high throughput, enough network resources and so on.

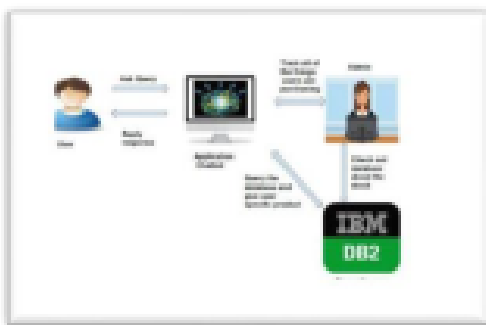
5.PROJECT DESIGN

Data Flow Diagram & User Stories

Data Flow Diagrams:

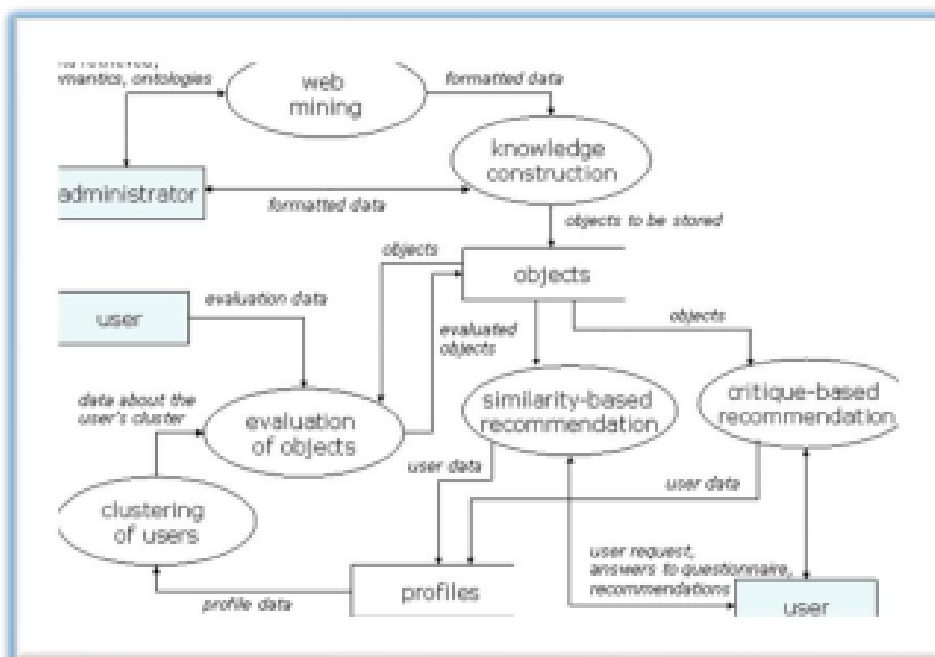
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: [\(Simplified\)](#)



User Flow :

User Sign up / Login Chatbot Purchasing Product



Work Flow :

Chatbot IBM Cloud IBM DB2 Watson Assistant

Container Registry Docker Kubernetes

User Stories :

Use the below template to list all the user stories for the product.

Customer (Mobile 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-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can register & access the dashboard with Gmail login	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can login into the application with Gmail login	High	Sprint-1
	Dashboard	USN-5	As a user, I can log access the dashboard of the application by logging into the application	I can access the dashboard by logging into the application	High	Sprint-1

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Web user)	Registration	USN-1	As a user ,I can register for the web page by entering the 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 web-pages	I can register & access the dashboard with Gmail login	High	Sprint-1
		USN-3	As a user, I can register for the web-page through Email	I can register & access the dashboard with Gmail Login	Low	Sprint-2

		USN-4	As a user, I can register for the web-page through Email	I can register & access the dashboard with Gmail Login	Medium	Sprint-1
	login	USN-5	As a user, I can log into the web-page by entering my username/email & password	I can login into the application with Gmail Login	High	Sprint-1
	Dashboard	USN-5	As a user, I can log access the dashboard by logging into the web-page	I can access the dashboard by logging into the web-page	High	Sprint-1
Customer Care Executive	Login	USN-1	As a customer care executive, I can log into the application by entering my executive email id & password	I can log into the application with Gmail login	High	Sprint-1
	Dashboard	USN-1	As a customer care executive, I can access the dashboard of the application by logging into the application	I can access the dashboard by logging into the application	High	Sprint-1

	Service	USN-1	As a customer Care Executive, I can access the customer care service page of the application by logging and accessing the page	I can access the service page by logging & accessing the page	High	Sprint-1
Administrator	Login	USN-1	As a administrator, I can log into the application by entering my administrator email id & password	I can log into the application with Gmail application	High	Sprint-1
	Dashboard	USN-1	As a Administrator, I can access the dashboard of the application by logging into the application	I can access the dashboard by logging into the application.	High	Sprint-1

Project Design Phase-II

Solution Architecture

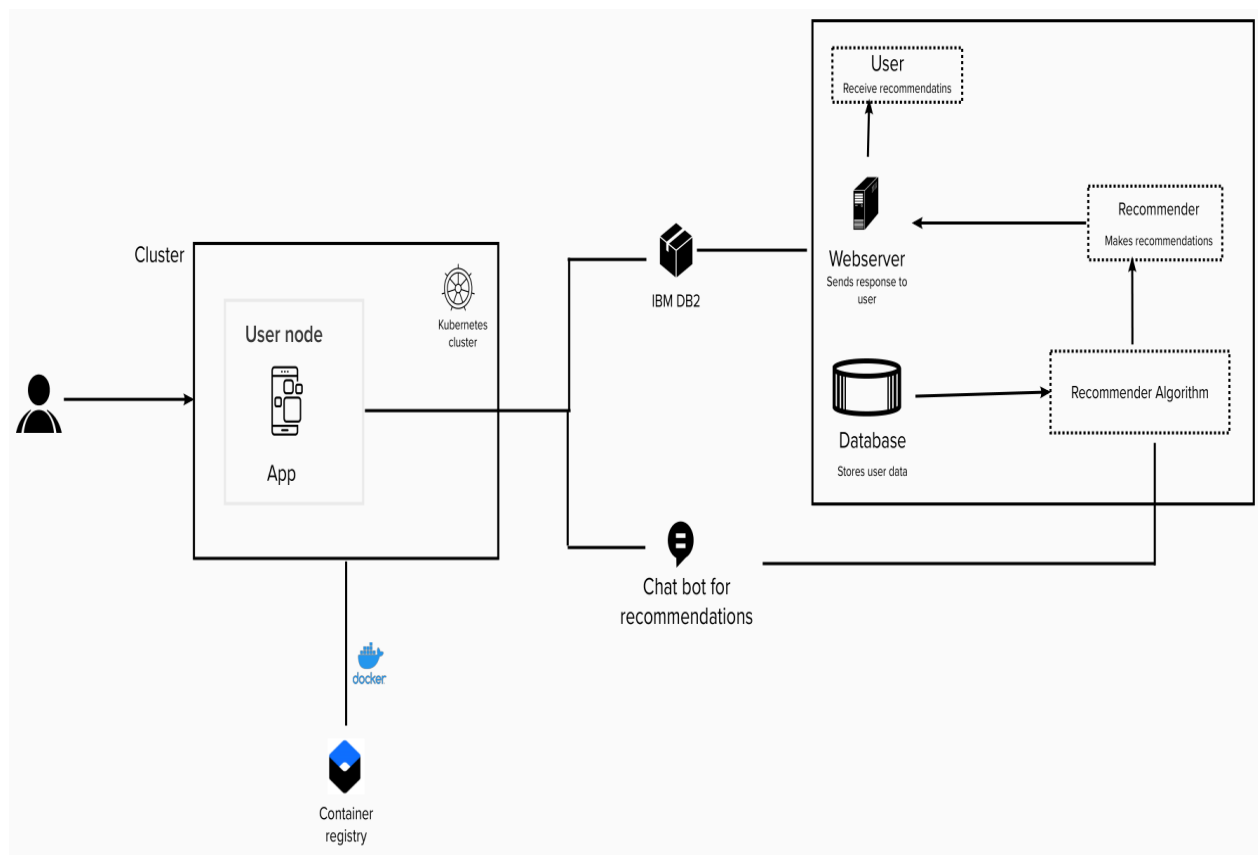
Solution Architecture:

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.

Example - Solution Architecture Diagram:



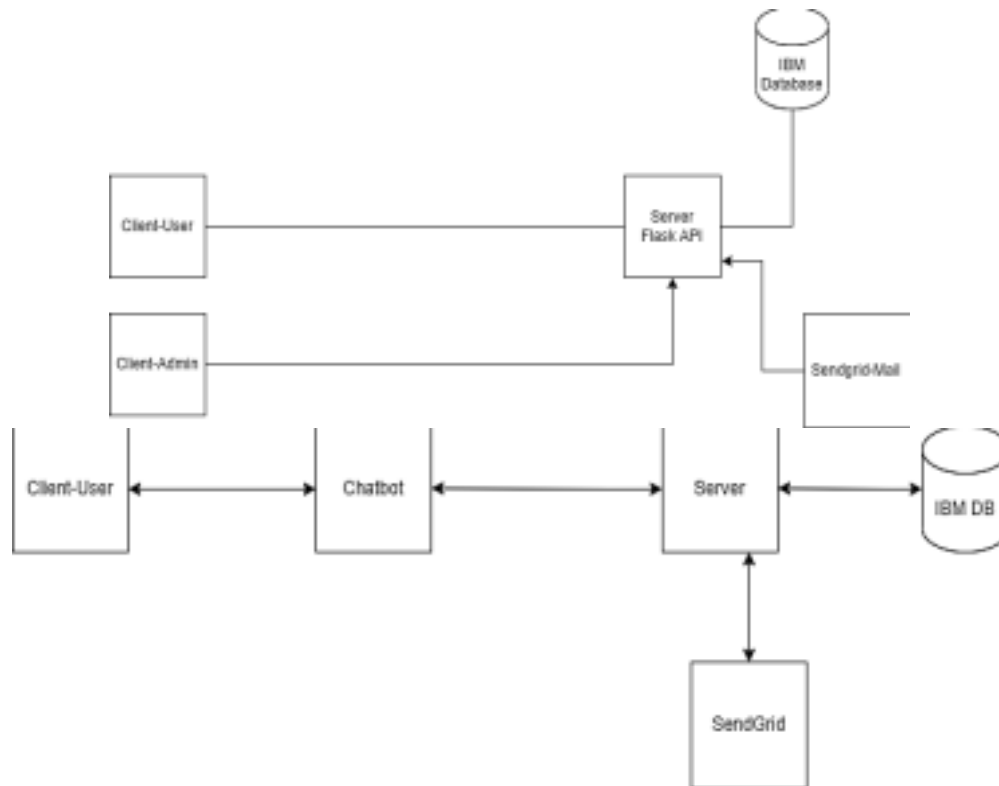
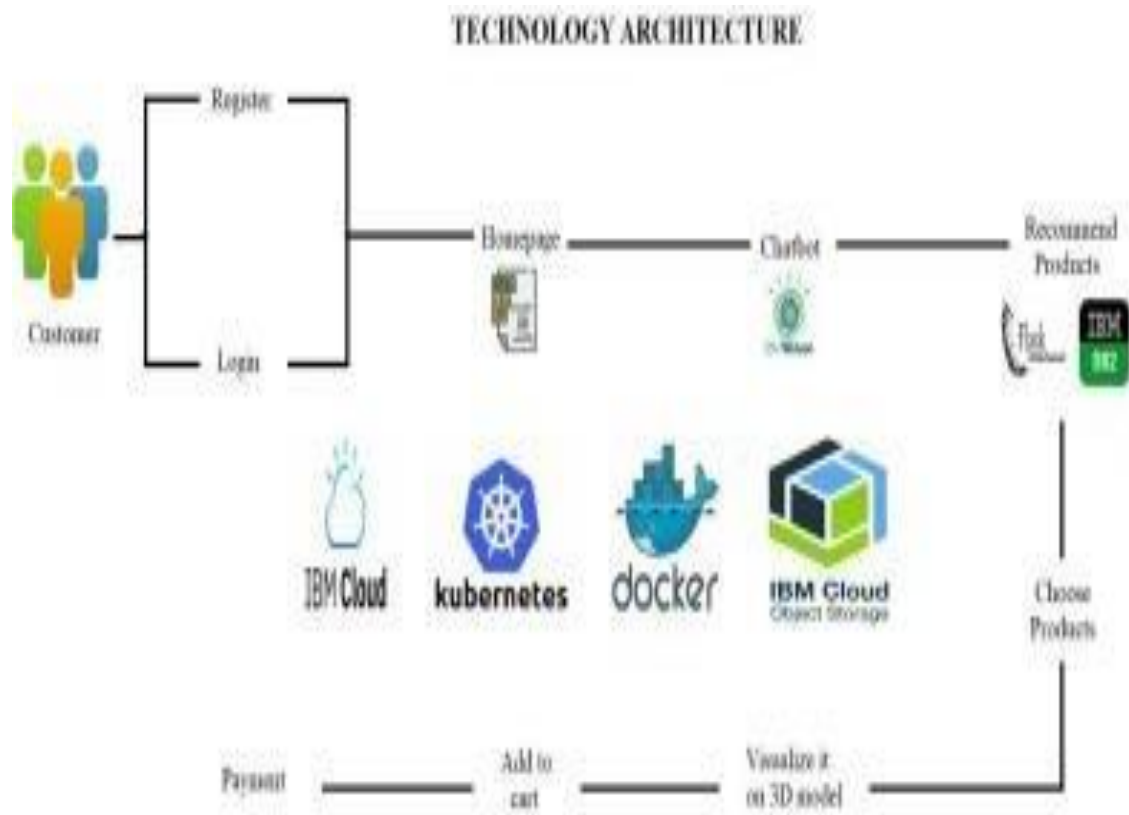


Figure 1: Architecture and data flow of the smart fashion recommendation system

Technology stack (Architecture & stack);

Diagram - Architecture :



Way Chatbot:

FLASK IBM CLOUD IBM DB2 KUBERNETES DOCKER

Table-1 : Components & Technologies:

S.No	Component	Technology	Description
1.	User Interface	HTML, CSS, JavaScript / AngularJs / React Js.	User can interact with the application through Chatbot for good Human-computer interface.
2.	Application Logic-1	Java Python	The application will have the login/sign up page where the user can login into the main dashboard or they can register into the application.
3.	Application Logic-2	IBM Watson STT service	The application contains a Chatbot where the user needs to give their details like <ul style="list-style-type: none">• gender,• age• type of product these were they wish to buy using Watson assistant through chatbot.
4.	Application Logic-3	IBM Watson Assistant	User's will get the recommendations based on their interests, can get the details about offers, discounts and chatbot will send a notification to customers if the order is confirmed.
5.	Database	MySQL, NoSQL,	Customer's details and order are stored in the database and whenever we can be fetch and retrieve data from database.
6.	Cloud Database	IBM DB2, IBM Cloudant	With use of Database Service on Cloud, user can access all the data stored in the cloud over a network from any device and user's data are stored in a well secure manner.
7.	File Storage	IBM Block Storage or Other Storage Service or Local Filesystem	Previously ordered product details and other customer details can be stored in the IBM Block Storage as the data kept inside are highly protected.

8.	Infrastructure (Server / Cloud)	Local, Cloud Foundry, Kubernetes, Docker	Chatbot with updated services can be deployed in an IBM cloud by using Watson assistant.
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Table-2: Application Characteristics:

S. No	Characteristics	Technology	Description
1.	Open-Source Frameworks	Python - Flask	<ul style="list-style-type: none"> Flask is a web framework in Python is used in the implementation of smart fashion recommender application.
2.	Security Implementations	Container Registry, Kubernetes Cluster.	<ul style="list-style-type: none"> This application uses Container Registry in IBM cloud so that the user details are kept as more secure and confidential. User have to confirm the login while logging in to avoid any misuse of the credentials.
3.	Scalable Architecture	Container Registry, Kubernetes Cluster.	<ul style="list-style-type: none"> The Smart Fashion Recommender Application is more useful whenever user's make online purchase and it's demand increase at festival season's to know about the available offers and discounts.
4.	Availability	Docker, Kubernetes Cluster.	<ul style="list-style-type: none"> Docker helps to improve the network management so that the application can be accessed at anytime.
5.	Performance	Docker, Kubernetes Cluster.	<ul style="list-style-type: none"> The performance of this application is high. efficient as the network traffic can be easily managed.

MILESTONE AND ACTIVITY LIST

TITLE	DESCRIPTION	DATE
Literature Survey and Information gathering.	Literature survey on the selected project & gathering information by referring the technical paper research publications etc.	13 SEPTEMBER 2022.
Prepare Empathy Map.	Prepare Empathy Map Canvas to capture the user Pains & Gains, Prepare list of problem statements.	06 SEPTEMBER 2022.
Ideation.	List the idea by organizing the brainstorming session and prioritize the top 3 ideas based on the feasibility & importance.	12 SEPTEMBER 2022.
Proposed Solution.	Prepare the proposed solution document, which includes the novelty, feasibility of idea, business model, social impact, scalability of solution, etc.	06 SEPTEMBER 2022.
Problem Solution Fit.	Prepare problem - solution fit document.	02 SEPTEMBER 2022.
Solution Architecture.	Prepare solution architecture document.	01 OCTOBER 2022.
Customer Journey.	Prepare the customer journey maps to understand the user interactions & experiences with the application.	14 OCTOBER 2022.
Data Flow Diagrams Draw the data flow.	Data Flow Diagrams, draw the data flow.	14 OCTOBER 2022.
Technology Architecture.	Architecture diagram.	03 OCTOBER 2022.

Prepare Milestone & Activity List.	Prepare the milestones & activity list of the project.	18 OCTOBER 2022.
Project Development - Delivery of sprint – 1,2,3 & 4	Develop & submit the developed code by testing it.	1. 29 OCTOBER 2022, 2. 05 NOVEMBER 2022, 3. 12 NOVEMBER 2022, 4. 19 NOVEMBER 2022

6.PROJECT PLANNING PHASE

Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	9	High	Sathish Raj.K
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	4	Low	Abinaya Priya.A
Sprint-1	Login (User)	USN-3	As a user, I can log into the application by entering email & password	7	Medium	Divya.A.S Sharmila Devi.M
Sprint-2	Welcome Page	USN-4	As a user, I can see the application environment and the available products	20	High	SharmilaD evi.M Sathish Raj.K Divya.A.S Abinayapriya.A

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3	Chat Bot	USN-5	As a user, I can directly get the recommendations and the product details through the Chatbot	20	High	Satish Raj.K Divya.A.S Abinayapriya.A Sharmila Devi.M
Sprint-4	Final delivery	USN-6	Container of application using docker, Kubernetes and deployment the application. Create the document and final submission of the application	20	High	Sathish Raj.K Sharmila Devi.M Abinayapriya.A Divya.A.S

Project Tracker, Velocity & Burndown Chart: (4 Marks)

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	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

Average Velocity = Story Points per Day

Sprint Duration =

Number of

(Duration) days per

Sprint Velocity =

Points per Sprint

$$AV = \frac{20}{5} \approx 4$$

Therefore, the **AVERAGE VELOCITY IS 4 POINTS PER SPRINT**

Burndown Chart:

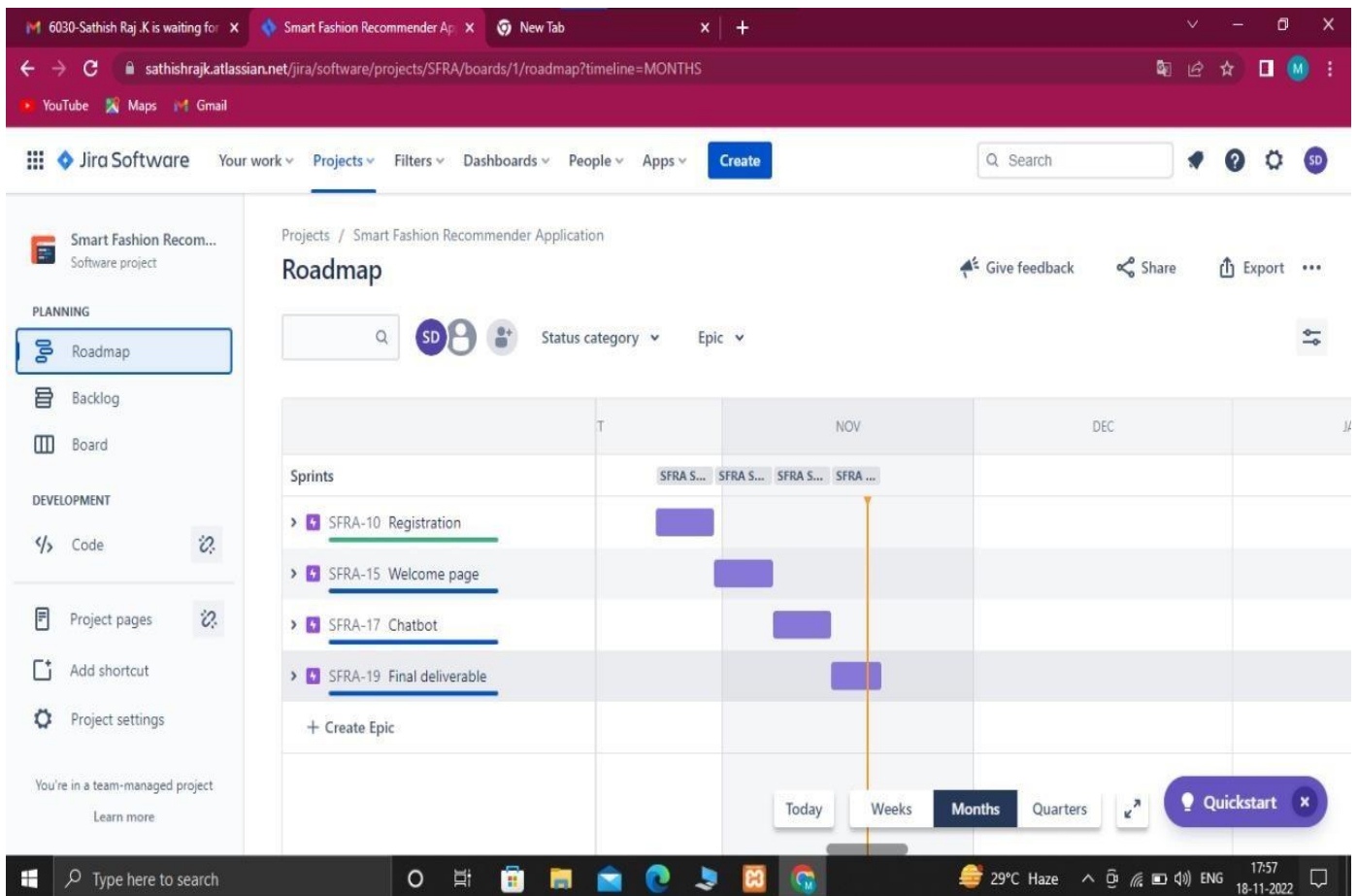


REPORTS FROM JIRA:

BACKLOG

The screenshot displays the Jira Software interface for a project named 'Smart Fashion Recommender Application'. The browser address bar shows the URL: `sathishrajk.atlassian.net/jira/software/projects/SFRA/boards/1/backlog`. The Jira navigation bar includes links for 'Your work', 'Projects', 'Filters', 'Dashboards', 'People', and 'Apps', along with a 'Create' button and a search bar. The left sidebar lists project navigation options: 'PLANNING' (Roadmap, Backlog, Board) and 'DEVELOPMENT' (Code, Project pages, Add shortcut, Project settings). The main content area is titled 'Backlog' and shows a list of issues organized by sprints. An 'Epic' sidebar on the left lists 'Issues without epic', 'Registration', 'Welcome page', 'Chatbot', and 'Final deliverable', with a '+ Create Epic' button at the bottom. The backlog contains two sprints: 'SFRA Sprint 2' (31 Oct – 6 Nov) with one issue 'SFRA-14 Creating the welcome page of the application' (WELCOME PAGE, IN PROGRESS), and 'SFRA Sprint 3' (7 Nov – 13 Nov) with one issue 'SFRA-16 Creating the chatbot to get recommendations' (CHATBOT, IN PROGRESS). Each sprint has a 'Start sprint' button and a '+ Create issue' link. A 'Quickstart' button is visible in the bottom right corner of the backlog area. The Windows taskbar at the bottom shows the system clock as 17:58 on 18-11-2022.

ROAD MAP



BOARD

The screenshot displays the Jira Software interface for a project named 'Smart Fashion Recommender Application'. The main view is the 'Board' for 'SFRA Sprint 4', which is currently in progress. The board is organized into three columns: 'TO DO', 'IN PROGRESS 1 ISSUE', and 'DONE'. A single issue is visible in the 'IN PROGRESS' column, titled 'Containerize the application and done the final submission'. This issue is labeled as a 'FINAL DELIVERABLE' and has the ID 'SFRA-18'. The sprint is scheduled to end in '0 days remaining'. The left sidebar shows the project's navigation menu, including 'Roadmap', 'Backlog', 'Board' (selected), 'Reports', 'Issues', 'Code', and 'Project pages'. The bottom of the screen shows the Windows taskbar with various application icons and system information like temperature and time.

6030-Sathish Raj .K is waiting for x SFRA board - Agile board - Jira x New Tab x (2) WhatsApp x +

sathishraj.k.atlassian.net/jira/software/projects/SFRA/boards/1

YouTube Maps Gmail

Jira Software Your work Projects Filters Dashboards People Apps Create

Smart Fashion Recom... Software project

PLANNING

Roadmap

Backlog

Board

Reports

Issues

DEVELOPMENT

Code

Project pages

You're in a team-managed project. Learn more

Projects / Smart Fashion Recommender Application

SFRA Sprint 4

Done the final submission of the application

0 days remaining Complete sprint

SD Epic

GROUP BY None Insights

TO DO

IN PROGRESS 1 ISSUE

DONE ✓

Containerize the application and done the final submission

FINAL DELIVERABLE

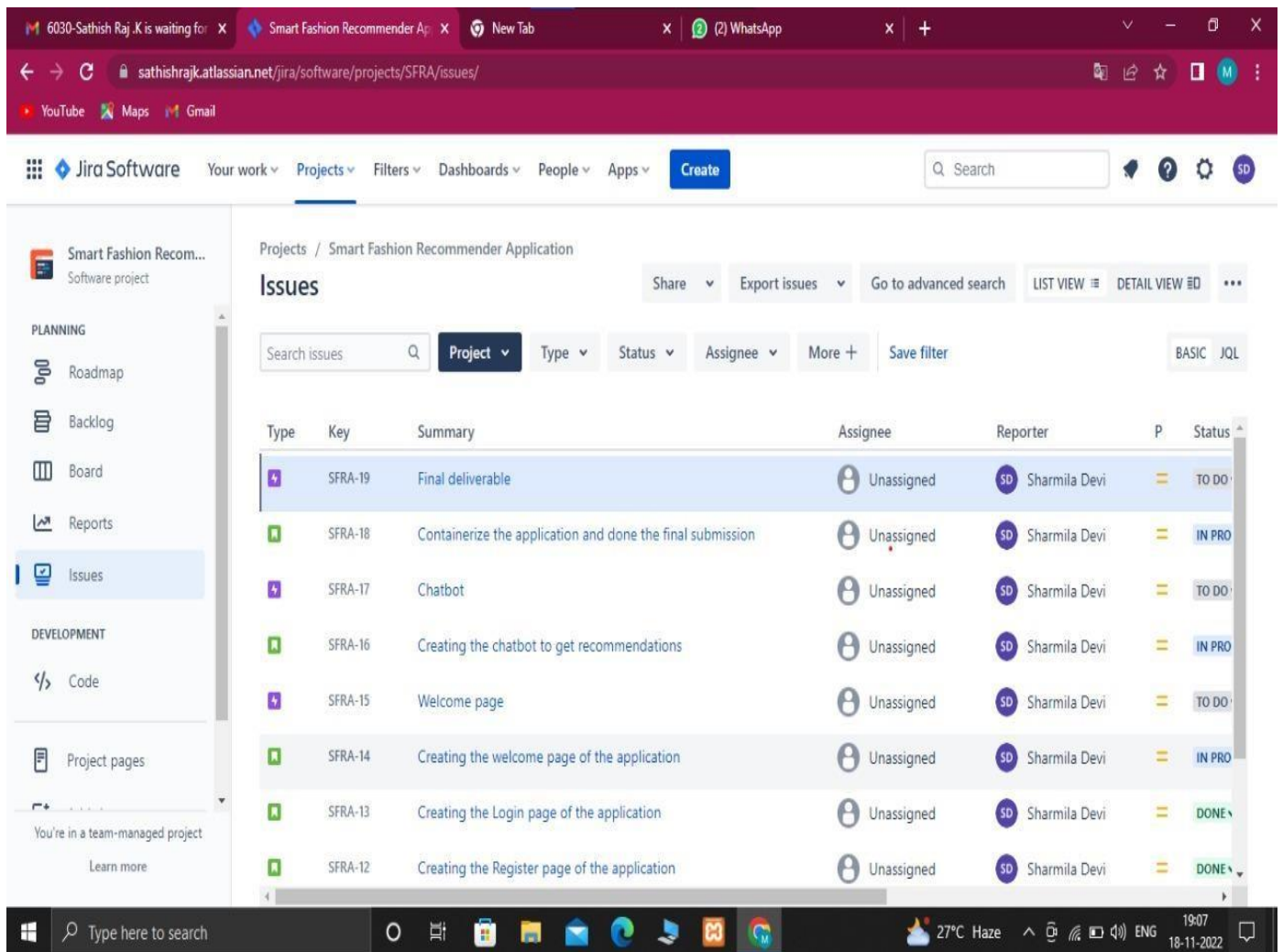
SFRA-18

Quickstart

Type here to search

27°C Haze 19:06 18-11-2022

ISSUES



The screenshot shows the Jira Software interface for the 'Smart Fashion Recommender Application' project. The 'Issues' page is displayed, showing a list of issues with columns for Type, Key, Summary, Assignee, Reporter, P, and Status. The issues are listed in descending order of priority, with SFRA-19 at the top and SFRA-12 at the bottom. The status of the issues varies, including 'TO DO', 'IN PRO', and 'DONE'.

Type	Key	Summary	Assignee	Reporter	P	Status
Task	SFRA-19	Final deliverable	Unassigned	SD Sharmila Devi	1	TO DO
Task	SFRA-18	Containerize the application and done the final submission	Unassigned	SD Sharmila Devi	2	IN PRO
Task	SFRA-17	Chatbot	Unassigned	SD Sharmila Devi	3	TO DO
Task	SFRA-16	Creating the chatbot to get recommendations	Unassigned	SD Sharmila Devi	4	IN PRO
Task	SFRA-15	Welcome page	Unassigned	SD Sharmila Devi	5	TO DO
Task	SFRA-14	Creating the welcome page of the application	Unassigned	SD Sharmila Devi	6	IN PRO
Task	SFRA-13	Creating the Login page of the application	Unassigned	SD Sharmila Devi	7	DONE
Task	SFRA-12	Creating the Register page of the application	Unassigned	SD Sharmila Devi	8	DONE

10 . PERFORMANCE METRICS TESTING

NFT - Risk Assessment									
S.No	Project Name	Scope/feature	Functional Changes	Hardware Changes	Software Changes	Impact of Downtime	Load/Volume Changes	Risk Score	Justification
1	Smart Fashion Recommender Application	New	Low	No Changes	Moderate		>5 to 10%	ORANGE	As we have seen the changes

NFT - Detailed Test Plan				
S. No	Project Overview	NFT Test approach	Assumptions/Dependencies/Risks	Approvals/Sign Off
1	Smart Fashion Recommender Application	Manual testing	laptop or mobile with internet connection	Sathish Raj

End Of Test Report								
S. No	Project Overview	NFT Test approach	NFR - Met	Test Outcome	GO/NO-GO decision	Recommendations	Identified Defects (Detected/Closed/Open)	Approvals/Sign Off
1	Smart Fashion Recommender Application	Manual		Worked as we expected		Use Laptop / desktop Mode	No Defects	Sathish Raj

Date	03-Nov-22
TEAM ID	PNT2022TMID48401
Project Name	SMART FASHION RECOMMENDER APPLICATION

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	5	5	2	3	21
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	14	13	26	77

11.ADVANTAGES & DISADVANTAGES

ADVANTAGES:

- Its helps to user Shopping with Assistant
- Its helps to user manage there order list
- Its helps to user shopping at home

DISADVANTAGES:

- User have fear about online shopping
- User have sometimes received wrong items
- User have fear about online payment

12. CONCLUSION

Recommendation systems have the potential to explore new opportunities for retailers by enabling them to provide customized recommendations to consumers based on information retrieved from the Internet. They help consumers to instantly find the products and services that closely match with their choices. Moreover, different state-of-the-art algorithms have been developed to recommend products based on users' interactions with their social groups. Therefore, research on embedding social media images within fashion recommendation systems has gained huge popularity in recent times. This paper presented a review of the fashion recommendation systems, algorithmic models and filtering techniques based on the academic articles related to this topic. The technical aspects, strengths and weaknesses of the filtering techniques have been discussed elaborately, which will help future researchers gain an in-depth understanding of fashion recommender systems. However, the proposed prototypes should be tested in commercial applications to understand their feasibility and accuracy in the retail market, because inaccurate recommendations can produce a negative impact on a customer. Moreover, future research should concentrate on including time series analysis and accurate categorization of product images based on the variation in color, trend and clothing style in order to develop an effective recommendation system. The proposed model will follow brand 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.

13.FUTURE SCOPE

There has been significant progress recently in fashion recommendation system research, which will benefit both consumers and retailers soon. The use of product and user images, textual content, demographic history, and cultural information is crucial in developing recommendation frameworks. Product attributes and clothing style matching are common features of collaborative and content-based filtering techniques. Researchers can develop more sophisticated hyper personalized filtering techniques considering the correlation between consumers' clothing styles and personalities. The methods based on employing a scoring system for quantifying each product attribute will be helpful in increasing the precision of the model. The use of virtual sales advisers in an online shopping portal would provide consumers with a real time offline shopping experience. Retailers can collect the data on users' purchase history and product reviews from the recommendation system and subsequently use them in style prediction for the upcoming seasons. The integration of different domain information strengthens the deep learning paradigm by enabling the detection of design component variation, which improves the performance of the recommendation system in the long run. Deep learning approaches should be more frequently used to quickly explore fashion items from different online databases to provide prompt recommendations to users or consumers.

14. APPENDIX

Chat Bot Source Code:

```
<!Doctype html>  
<html>  
  <head>
```

```

<title>CHATBOT</title>

</head>
<body background="https://dress33.s3.jp-tok.cloud-object-
storage.appdomain.cloud/appFront.html">
  <script style="width:200%;">
    window.watsonAssistantChatOptions = {
      integrationID: "c0816979-54c9-42be-8f22-556b4ba44449", // The ID
of this integration.
      region: "au-syd", // The region your integration is hosted in.
      serviceInstanceID: "4c820579-5399-4e3d-a550-51286c5d7367", //
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>
</body>
</html>

```

GITHUB LINK: <https://github.com/IBM-EPBL/IBM-Project-41795-1660644961>