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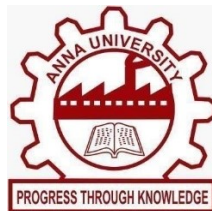
**PROFESSIONAL READINESS FOR INNOVATION
EMPLOYABILITY AND ENTERPREURSHIP REPORT**

Submitted by

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*In partial fulfillment for the award of the degree
of*

**BACHELOR OF ENGINEERING
IN
COMPUTER SCIENCE AND
ENGINEERING**



**KATHIR COLLEGE OF ENGINEERING
WISDOM TREE NEELAMBUR COIMBATORE
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BONAFIDE CERTIFICATE

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ABSTRACT

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

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CHAPTER 1

INTRODUCTION

1. Project Overview

The era of recommendation systems originally started in the 1990s based on the widespread research progress in Collective Intelligence. During this period, recommendations were generally provided to consumers

based on their rating structure. The first consumer-focused recommendation system was developed and commercialized by Goldberg, Nichols, Oki and Terry in 1992. Tapestry, an electronic messaging system was developed to allow users only to rate messages as either a good or bad product and service. However, now there are plenty of methods to obtain information about the consumer's liking for a product through the Internet. These data can be retrieved in the forms of voting, tagging, reviewing and the number of likes or dislikes the user provides. It may also include reviews written in blogs, videos uploaded on YouTube or messages about a product. Regardless of communication and presentation, medium preferences are expressed in the form of numerical values . presents the history of the progress of fashion recommendation systems over the last few decades.

E-commerce retailers started implementing fashion recommendation systems in the early 2000s. However, implementation was mostly in the development stage until 2007–2008. As with other products such as electronics and books, fashion products were also recommended based on the user's previous purchase history. With the continuous progress in computer vision algorithms, personalized recommendations utilizing personal factors and user reviews have become more popular today.

CHAPTER 2

LITERATURE SURVEY

2.1 Existing Problem

2.1.1. CASE STUDY 1

Redefining the Offline Retail Experience: Designing Product Recommendation Systems for Fashion Stores - Hanke, Jannis and Hauser, Matthias and Alexander and Thiesse, 2018.

PROJECT DESCRIPTION

Our research particularly aims at answering the issues of whether and to what extent (i) the sensing capabilities of smart fashion retail environments and (ii) the integration of contextual information can improve the quality of such

recommendations. To this end, we consider smart fitting rooms with the ability to detect products and customers as a showcase; a transaction dataset from a leading German fashion retailer; and contextual information about the time of purchase, the store type, and the wheather condition.

2.1.2. CASE STUDY 2

Interactive design recommendation using sensor based smart wear and weather WebBot -Chung, Kyung-Yong and Na, Young-Joo and Lee, Jung-Hyun, 2013.

PROJECT DESCRIPTION

The first is to apply several Supervised Machine Learning algorithms namely Linear Regression, Support Vector Regression, Decision Tree Regression, and Random Forest Regression. The second purpose is to compare and evaluate algorithms used to create a predictive model based on various evaluation metrics. The last purpose is to determine the most important parameters that influence the chance of admission. The experimental results showed that the Random Forest Regression is the most suitable Machine Learning algorithm for predicting university admission .

2.1.3. CASE STUDY 3

A framework for robust feature selection for real-time fashion style recommendation - Chao, Xiaofei and Huiskes, Mark J and Gritti, Tommaso and Ciuhu, Calina,2009.

PROJECT DESCRIPTION

The system uses intelligent vision technology to recognize clothing styles and supports realtime fashion recommendation. An important design challenge is to achieve sufficiently high style recognition accuracy while simultaneously offering robustness to input variations occurring in practice. We propose a framework for the selection of features that offer robust performance by assessing various evaluation measures under realistic deviations of optimal input data.

2.1.4. CASE STUDY 4

A semantic approach for fashion recommendation using logistic regression and ontologies - Yethindra, D Naga and Deepak, Gerard ,2021.

PROJECT DESCRIPTION

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 at the same time generate only those options that have been validated closely to the user's style hunt trajectory. In the presented approach the user's historical click data and searches is preprocessed and converted into the query words.

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2.2 References

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2.3 Problem Statement Definition

The main objective of this project is to help the students to save their time and money that they have to spend at the education consultancy firms. And also it will help them to limit their number of application to a small number by proving them the suggestion of the universities where they have the best chance of securing admission thus saving more money on the application fees. University Prediction would be the easiest mode to predict the university/colleges person is

applicable for as well as it would unbiased and totally transparent. Individually would no more need to depend upon the consultancies who may be slightly deviated towards the list of colleges/university that may be having contract with them. More over applying to only that colleges/university where the student has genuine chance would even reduce application process. Additionally living expense of the area where colleges/university is located would also be provided on website. In today's era we see a lot of students pursuing their education away from their home countries. The main country targeted by these international students is The United States of America. Majority of the international students in the United States of America are from India and China. In the past decade the number of Indian students pursuing post graduate education from the USA has rapidly increased. With the increase in the number of international students studying in the USA, each applicant has to face a tough competition to get admission in their dream university. Generally as the students don't have much idea about the procedures, requirements and details of the universities in the USA they seek help from the education consultancy firms to help them successfully secure admission in the universities which are best suitable for their profile, for this they have to invest huge amount of money as consultancy fees. Apart from these the education consultancy firms there are few websites and blogs that guide the students on the admission procedures. The drawback of the currently available resources is that they are very limited and also they are not truly dependable taking into consideration of their accuracy and reliability. The aim of this research is to develop a system using machine learning algorithms, we will name it as University Admit Eligibility Predictor (UAEP). It will help the students to identify the chances of their application to an university being accepted. Also it will help them in identifying the universities which are best suitable for their profile and also provide them with the details of those universities. A simple user interface will be developed for the users to access the UAEP system.

IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas

An empathy map is a collaborative visualization used to articulate what we know about a particular type of user. It externalizes knowledge about users in order to 1) create a shared understanding of user needs, and 2) aid in decision making. An empathy map canvas serves as a foundation for outstanding user experiences, which focus on providing the experience customers want rather than forcing design teams to rely on guesswork. Empathy map canvases help identify exactly what it is that users are looking for so brands can deliver. They can be particularly beneficial for getting teams on the same page about who users are and what they want from the brand. An empathy map canvas is a more in-depth version of the original empathy map, which helps identify and describe the user's needs and pain points. And this is valuable information for improving the user experience. Teams rely on user insights to map out what is important to their target audience, what influences them, and how they present themselves. This information is then used to create personas that help teams visualize users and empathize with them as individuals, rather than just as a vague marketing demographic or account number.

1

Build empathy and keep your focus on the user by putting yourself in their shoes.

Share your feedback

Reading list

Bookmarks

X

You'll find your reading list here

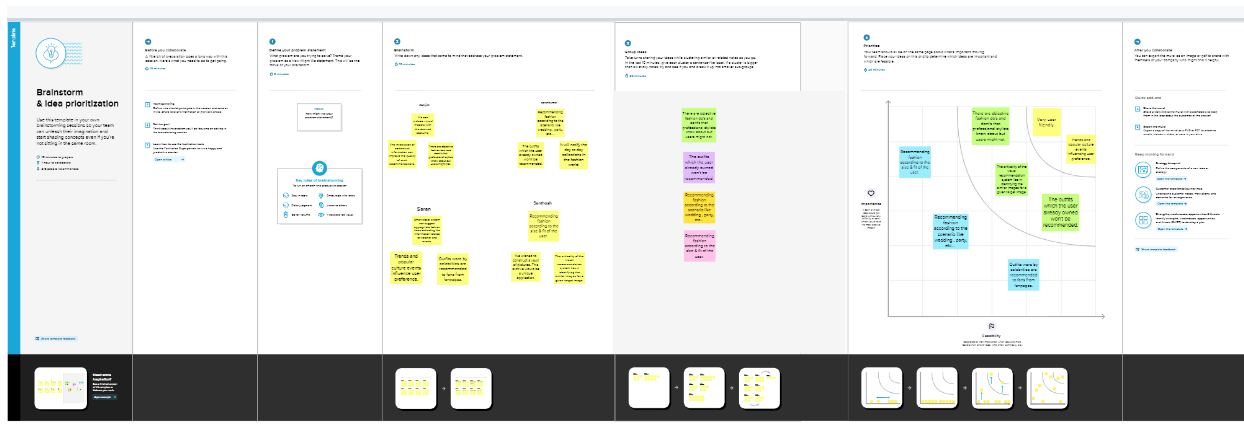
To add a page to read later, click the button

+ Add current tab

3.2 Ideation & Brainstorming

Brainstorming combines a relaxed, informal approach to problem solving with lateral thinking. It encourages people to come up with thoughts and ideas that can, at first, seem a bit crazy. Some of these ideas can be crafted into original, creative

solutions to a problem, while others can spark even more ideas. This helps to get people unstuck by "jolting" them out of their normal ways of thinking. Therefore, during brainstorming sessions, people should avoid criticizing or rewarding ideas. You're trying to open up possibilities and break down incorrect assumptions about the problem's limits. Brainstorming is a method of generating ideas and sharing knowledge to solve a particular commercial or technical problem, in which participants are encouraged to think without interruption. Brainstorming is a group activity where each participant shares their ideas as soon as they come to mind. At the conclusion of the session, ideas are categorized and ranked for follow-on action. When planning a brainstorming session it is important to define clearly the topic to be addressed. A topic which is too specific can constrict thinking, while an ill-defined topic will not generate enough directly applicable ideas. The composition of the brainstorming group is important too. It should include people linked directly with the subject as well as those who can contribute novel and unexpected ideas. It can comprise staff from inside or outside the organization.



3.3 Proposed Solution

Your proposed solution section should offer your solution specifically, with enough detail so that your reader understands exactly what you're proposing. Indicate how your proposed solution will solve the problem and provide tangible benefits. Specifically, explain how it will meet the objectives and abide by the constraints outlined in the problem definition.

Project Design Phase-I Proposed Solution Template

Date	24 September 2022
Team ID	PNT2022TMID42734
Project Name	Smart fashion recommender Application
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Most of the people are unaware about fashion knowledge and trending collections in the modern world. There is a need of recommendation system to develop fashion culture and also to increase the sales.
2.	Idea / Solution description	We have proposed a solution that recommends the fashion according to the user preferences instead of spending time in searching through various number of pages.
3.	Novelty / Uniqueness	It has chatbot with which the user can ask questions and get suggested by Artificial Intelligence.
4.	Social Impact / Customer Satisfaction	It helps the customer to improve the fashion knowledge and gain confidence.
5.	Business Model (Revenue Model)	A good recommendation is needed to make the user use the application repeatedly. It will ultimately increase the sales. Also being tied up with small and local companies to support small scale industries.
6.	Scalability of the Solution	The user data will be highly customisable like favourite colour, shirt, trouser size, etc. As this application is fully focused on recommending fashion , in future it can be scaled to an all-rounder chatbot to recommend products in every categories in a e-commerce website.

S

3.4 Problem Solution Fit

The Problem-Solution Fit canvas is based on the principles of Lean Startup, LUM (Lazy User Model) and User Experience design. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why. It is a template to help identify solutions with higher chances of solution adoption, reduce time spent on testing and get a better overview of the current situation. My goal was to create a tool that translates a problem into a

solution, taking into account customer behavior and the context around it. None of the existing canvases or frameworks were giving me an overview and insight into the real customer situation during his/her decision-making process. With this template you will be able to take important information into consideration at an earlier stage and look at problem solving in depth. It increases your chances of finding problem-solution and product-market fit.

PROBLEM-SOLUTION FIT

TEAM ID	PN120221MH042734
PROJECT NAME	Smart Fashion Recommender Application
DATE	7 10 2022

Focus on J&P, tap into BE, understand RC	1. CUSTOMER SEGMENT(S) CS The jobs to be done are : a. Upload inventory data b. Update stocks & price c. Set recommending algorithm The problems are : a. Wrong input b. Poor network standard	4. CUSTOMER CONSTRAINTS CC . a. Easy to use b. Get best recommendations c. Save money d. Information about offers and discounts	5. AVAILABLE SOLUTIONS AS The motivation of the app is to save time of the user by recommending trending and best fashion according to the individual user instead of searching many number of pages.	Focus on J&P, tap into BE
	2. JOBS TO BE DONE / PROBLEMS J&P The customer segments are : a. Registration b. Login c. View d. Chat e. Orders	6. PROBLEM ROOT CAUSE RC In order to purchase a product customer need to search various tabs , its hard and time consuming. Customer needs new recommendations according to their needs , individual fit and trending, also need to notify about sale, discounts and offers.	7. BEHAVIOUR BE When user needs recommendation , they will be interacting with the chatbot and they will also save money and time.	
Identify	3. TRIGGERS Retail inventory management techniques help stores and commerce sellers satisfy customers, reduce costs and increase profits ecommerce sellers satisfy customers, reduce costs and	10. YOUR SOLUTION ST The chatbot understand the need of the user and saves time by showing recommendations instead of browsing through many number of pages.	8. CHANNELS of BEHAVIOUR a. Update recommendation algorithm b. Update stocks c. Stores user data	Extract online & offline customer
	Increase profits. 1R 4. EMOTIONS: BEFORE / AFTER Before user will be frustrated by browsing through various pages and after it becomes easy with chatbot EM			

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CHAPTER IV REQUIREMENTS ANALYSIS

4.1 Functional requirements

Functional requirements are product features or functions that developers must implement to enable users to accomplish their tasks. So, it's important to make them clear both for the development team and the stakeholders. Generally, functional requirements describe system behavior under specific conditions. For example: The system sends an approval request after the user enters personal information. A search feature allows a user to hunt among various invoices if they want to credit an issued invoice. The system sends a confirmation email when a new user account is created. These are the requirements that the end user specifically demands as basic facilities that the system should offer. All these functionalities need to be necessarily incorporated into the system as a part of the contract.

Project Design Phase-II Solution Requirements (Functional & Non-functional)

Date	12 October 2022
Team ID	PNT2022TMID42734
Project Name	Project - Smart fashion recommender application
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP

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4.2 Non Functional Requirements

These are basically the quality constraints that the system must satisfy according to the project contract. The priority or extent to which these factors are implemented varies from one project to other. They are also called non-behavioral requirements. They basically deal with issues like: Portability ,Security

Maintainability, Reliability, Scalability.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The application is build user friendly which requires no technical knowledge to use it. There is a consistency in all the modules and webpage. There is a proper instruction on each page.
NFR-2	Security	User personal details, bank account details and transactions will be kept in a secured way.
NFR-3	Reliability	Each data is stored on a well-built efficient database schema. There is no risk of data loss. The internal evaluation of data is well coded.
NFR-4	Performance	User can interact with the chatbot to get the best recommendation out there by also considering the users preference. This saves time otherwise the user needs to browse around many number of webpages.
NFR-5	Availability	The system is available all the time, no time constraint and the user can login it from anywhere.
NFR-6	Scalability	It not only recommends dresses it also recommends accessories to match the outfit. It provides high scalability by login one or more profile in a single device and also the recommendations are clearly for the user.

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CHAPTER V

PROJECT DESIGN

5.1 Data Flow Diagrams

A data flow diagram (DFD) maps out the flow of information for any process or system. It uses defined symbols like rectangles, circles and arrows, plus short text labels, to show data inputs, outputs, storage points and the routes between each destination. Data flowcharts can range from simple, even hand-drawn process overviews, to in-depth, multi-level DFDs that dig progressively deeper into how the data is handled. They can be used to analyze an existing system or model a new one. Like all the best diagrams and charts, a DFD can often visually “say”

things that would be hard to explain in words, and they work for both technical and nontechnical audiences, from developer to CEO. That's why DFDs remain so popular after all these years.

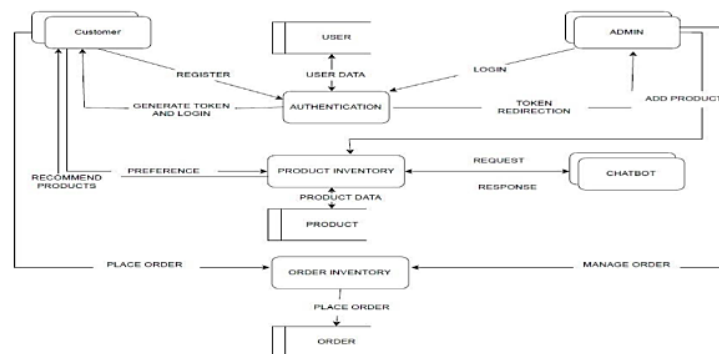
Project Design Phase-II Data Flow Diagram & User Stories

Date	24 October 2022
Team ID	PNT2022TMID42734
Project Name	Smart Fashion Recommender Application
Maximum Marks	4 Marks

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.

Data Flow Diagram for the proposed solution:



5.2 User Stories

A user story is the smallest unit of work in an agile framework. It's an end goal, not a feature, expressed from the software user's perspective. A user story is an informal, general explanation of a software feature written from the perspective of the end user or customer. The purpose of a user story is to articulate how a piece of work will deliver a particular value back to the customer. Note that "customers" don't have to be external end users in the traditional sense, they can also be internal customers or colleagues within your organization who depend on your team. User stories are a few sentences in simple language that outline the desired outcome. They don't go into detail. Requirements are added later, once agreed upon by the team. Stories fit neatly into agile frameworks like scrum and kanban. In scrum, user stories are added to sprints and "burned down" over the duration of the sprint. Kanban teams pull user stories into their backlog and run them through their workflow. It's this work on user stories that help scrum teams get better

at estimation and sprint planning, leading to more accurate forecasting and greater agility. Thanks to stories, kanban teams learn how to manage work-in-progress (WIP) and can further refine their workflows. User stories are also the building blocks of larger agile frameworks like epics and initiatives. Epics are large work items broken down into a set of stories, and multiple epics comprise an initiative. These larger structures ensure that the day-to-day work of the development team (on stories) contributes to the organizational goals built into epics and initiatives.

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User Stories

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

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and 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		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access and make purchases.	High	Sprint-1
	Dashboard					
Customer (Web 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		Medium	Sprint-1
		USN-5	As a user, I can log into the application by entering email & password	I can access and make purchases.	High	Sprint-1
Administrator	Login	USN-1	I enter my mail and password on organisation's approval	I can approve products and purchases	High	Sprint-1 Administrator

5.3 Solution & Technical Architecture

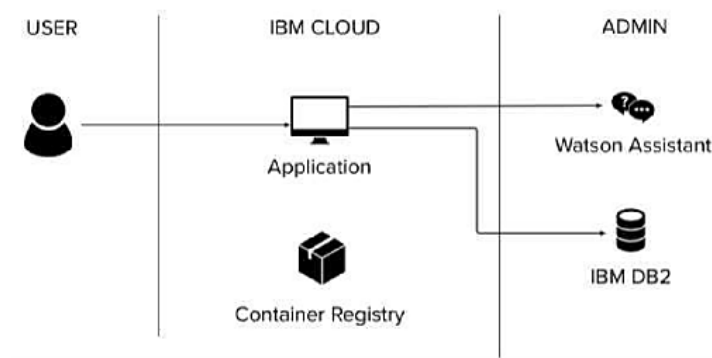
Technical architecture—which is also often referred to as application architecture, IT architecture, business architecture, etc.—refers to creating a

structured software solution that will meet the business needs and expectations while providing a strong technical plan for the growth of the software application through its lifetime. IT architecture is equally important to the business team and the information technology team. Technical architecture includes the major components of the system, their relationships, and the contracts that define the interactions between the components. The goal of technical architects is to achieve all the business needs with an application that is optimized for both performance and security. IT architects plan for things they know are coming in the future and for things they don't yet envision or dream. Taking the time to design the architecture at the start will prevent major design changes, code refactoring, and expensive rework later in the project.

**Project Design Phase-II
Technology Stack (Architecture & Stack)**

Date	26 October 2022
Team ID	PNT2022TMID42734
Project Name	Project – Smart Fashion Recommender
Maximum Marks	4 Marks

Technical Architecture:



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CHAPTER VI

PROJECT PLANNING AND SCHEDULING

6.1 Sprint Planning & Estimations

Sprint planning is an event in scrum that kicks off the sprint. The purpose of sprint planning is to define what can be delivered in the sprint and how that work will be achieved. Sprint planning is done in collaboration with the whole scrum team. In scrum, the sprint is a set period of time where all the work is done.

However, before you can leap into action you have to set up the sprint. You need to decide on how long the time box is going to be, the sprint goal, and where you're going to start.

The sprint planning session kicks off the sprint by setting the agenda and focus. If done correctly, it also creates an environment where the team is motivated, challenged, and can be successful. Bad sprint plans can derail the team by setting unrealistic expectations. As described in the Scrum Guide, Sprint Planning initiates the Sprint by laying out the work to be performed for the Sprint. This resulting plan is created by the collaborative work of the entire Scrum Team. The product owner ensures that attendees are prepared to discuss the most important product backlog items and how they map to the Product Goal. The Scrum Team may also invite other people to attend Sprint Planning to provide advice.

Project Planning (Milestones & Activity List)

Date	3 November 2022
Team ID	PNT2022TMID42734
Project Name	Smart Fashion Recommender Application

Remaining tasks (Milestones & Activities) to be completed

Milestones	Activities	Description
Project Development Phase	Delivery of Sprint – 1,2,3,4	To develop the code and submit the developed code by testing it
Setting up App environment	Create IBM Cloud account	Signup for an IBM Cloud account
	Create flask project	Getting started with Flask to create project
	Install IBM Cloud CLI	Install IBM Command Line Interface
	Docker CLI Installation	Installing Docker CLI on laptop
	Create an account in sendgrid	Create an account in sendgrid. Use the service as email integration to our application for sending emails
Implementing web Application	Create UI to interact with Application	Create UI <ul style="list-style-type: none"> Registration page Login page View products page Add products page
	Create IBM DB2 & connect with python	Create IBM DB2 service in IBM Cloud and connect with python code with DB
Integrating sendgrid service	Sendgrid integration with python	To send emails from the application we need to integrate the Sendgrid service
Developing a chatbot	Building a chatbot and Integrate to application	Build the chatbot and Integrate it to the flask application
Deployment of App in IBM Cloud	Containerize the App	Create a docker image of your application and push it to the IBM container registry
	Upload image to IBM container registry	Upload the image to IBM container registry
	Deploy in Kubernetes cluster	Once the image is uploaded to IBM Container registry deploy the image to IBM Kubernetes cluster

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Finished tasks (Milestones & Activities)

Milestones	Activities	Description
Ideation Phase	Literature Survey	Literature survey on the selected project & information gathering
	Empathy Map	Prepare Empathy map to capture the user Pains & Gains, prepare list of problem statement
	Ideation	Organizing the brainstorming session and prioritize the top 3 ideas based on feasibility & Importance
Project Design Phase I	Proposed Solution	Prepare proposed solution document which includes novelty, feasibility of ideas, business model, social impact, Scalability of solution
	Problem Solution Fit	Prepare problem solution fit document
	Solution Architecture	Prepare solution architecture document
Project Design Phase II	Customer Journey	Prepare customer journey map to understand the user interactions & experience with the application
	Functional requirement	Prepare functional & non functional requirement document
	Data Flow Diagram	Prepare Data Flow Diagram and user stories
	Technology architecture	Draw the technology architecture diagram
Project Planning Phase	Milestones & Activity list	Prepare milestones and activity list of the project
	Sprint Delivery Plan	Prepare sprint delivery plan

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6.2 Sprint Delivery Schedule

The main event during agile methodology is the sprint, the stage where ideas turn into innovation and valuable products come to life. On one hand, agile sprints can be highly effective and collaborative. At the same time, they can be chaotic and inefficient if they lack proper planning and guidance. And for this reason, making a sprint schedule is one of the most important things you can do to ensure that your efforts are successful. If you're looking to schedule your next sprint,

you’ve come to the right place. Keep reading to learn everything you need to know about sprint scheduling, including some tips to drive the best results. Since sprints take place over a fixed period of time, it’s critical to avoid wasting time during planning and development. And this is precisely where sprint scheduling enters the equation. In case you’re unfamiliar, a sprint schedule is a document that outlines sprint planning from end to end. It’s one of the first steps in the agile sprint planning process—and something that requires adequate research, planning, and communication.

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

Date	2 November 2022
Team ID	PNT2022TMID42734
Project Name	Project – Smart fashion recommender application
Maximum Marks	8 Marks

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

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	4
Sprint-1	Verification	USN-2	As a user, I will receive confirmation email once I have registered for the application	2	High	4
Sprint-1	Login process	USN-3	As a user, I can register for the application by entering email and password.	2	Medium	4
Sprint-2	Chatbot assistant	USN-4	As a user, I can get recommendations by chatting with Chatbot.	2	Medium	4
Sprint-3	Feedback, comment section.	USN-5	As a user I can write a fashion review as both positive and negative.	2	High	4
Sprint-4	Fashion sector	USN-6	As a user I can behave differently according to the type of need.	2	High	4

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6.3 Reports from JIRA

One part of ensuring the success and smooth operations of your projects in JIRA is reporting. It involves gaining the knowledge about the health, progress and overall status of your JIRA projects through Gadgets, report pages or even third party applications. The goal of this guide is to provide an overview of the tools available to JIRA users today and how they can be used to fulfill the different types of reporting needs that users face today. JIRA offers reporting in a number of different formats. Project reports that are available from the home screen of the selected project, Gadgets that can be added and arranged in Dashboards and for each filter, the issue navigator offers various output formats that can be used in third party reporting software. Additionally, we will mention some advanced

methods that customers have been using. In JIRA, a project will automatically offer standard reports available to the user without any necessary configuration. These standard reports comprise a wide range of reporting applications such as time tracking, workload and also abstract reports like Pie Charts that can be used in various ways.

The basis of almost any custom reporting is the Issue Navigator that enables you to slice and dice the data in JIRA in almost any way imaginable. The queries in the Issue Navigator can be created by using either a simple search or a JQL statement in the advanced search. Most important for reporting is that the searches can be saved as filters which can be shared to an individual user, group, the entire organization and with a reporting Gadget. This allows a plug-and-play configuration of reporting gadgets with Filters created by the user itself or those shared with her/him. Issues resulting from filters are displayed in the Browser but can also be exported using various formats like Excel, XML, etc.

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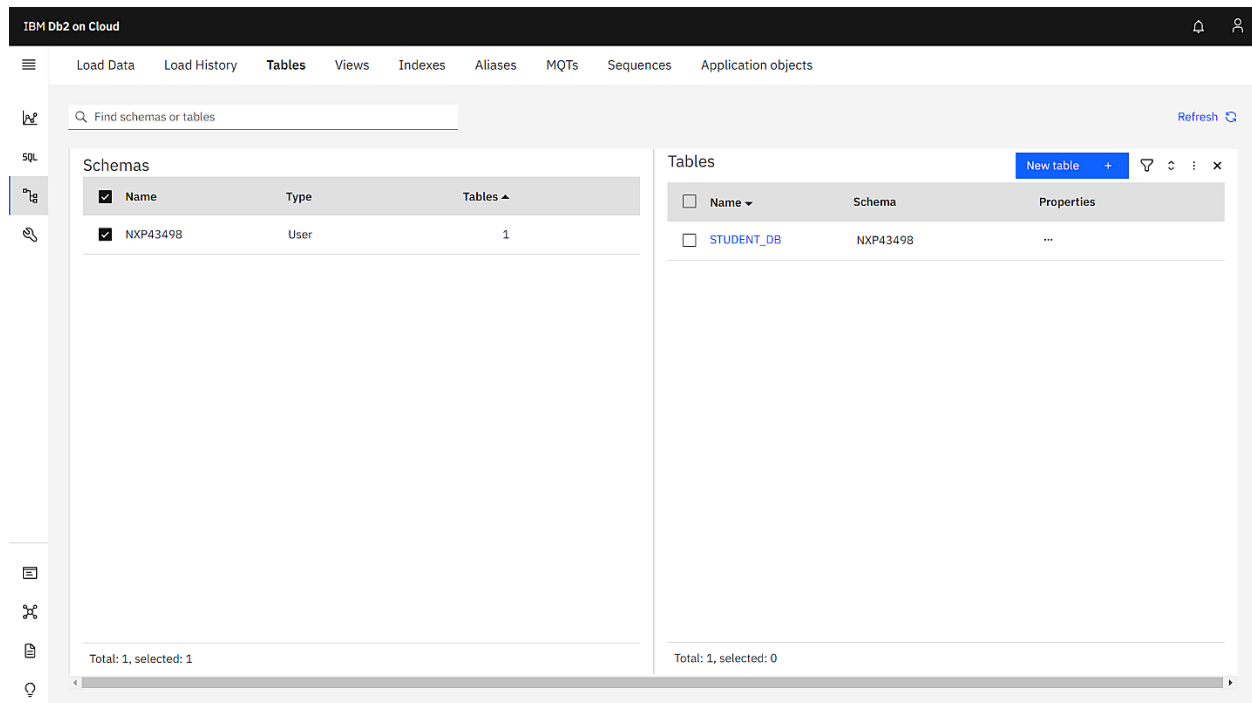
CHAPTER VII

CODING & SOLUTIONING

7.1 Feature I

DB2

DB2 is a database product from IBM. It is a Relational Database Management System (RDBMS). DB2 is designed to store, analyze and retrieve the data efficiently. DB2 product is extended with the support of Object-Oriented features and non-relational structures with XML.



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7.2 Feature II

Flask

Flask is a web framework that provides libraries to build lightweight web applications in python. It is developed by Armin Ronacher who leads an international group of python enthusiasts (POCCO). It is based on WSGI toolkit and jinja2 template engine. Flask is considered as a micro framework. Flask Tutorial provides the basic and advanced concepts of the Python Flask framework. Our Flask tutorial is designed for beginners and professionals. Flask is a web framework that provides libraries to build lightweight web applications in python. It is developed by Armin Ronacher who leads an international group of python enthusiasts (POCCO). Flask is a web framework, it's a Python module that lets you develop web applications easily. It's has a small and easy-to-extend core: it's a microframework that doesn't include an ORM (Object Relational Manager) or such features. It does have many cool features like url routing, template engine. It is a WSGI web app framework.

Docker

Docker is a software platform that allows you to build, test, and deploy

applications quickly. Docker packages software into standardized units called container that have everything the software needs to run including libraries, system tools, code, and runtime. Using Docker, you can quickly deploy and scale applications into any environment and know your code will run. Docker works by providing a standard way to run your code. Docker is an operating system for containers.

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CHAPTER VIII

TESTING

8.1 Test Cases

The test case is defined as a group of conditions under which a tester determines whether a software application is working as per the customer's requirements or not. Test case designing includes preconditions, case name, input conditions, and expected result. A test case is a first level action and derived from test scenarios. It is an in-details document that contains all possible inputs (positive as well as negative) and the navigation steps, which are used for the test execution process. Writing of test cases is a one-time attempt that can be used in the future at the time of regression testing. Test case gives detailed information about testing strategy, testing process, preconditions, and expected output. These are executed during the testing process to check whether the software application is performing the task for that it was developed or not. Test case helps the tester in defect reporting by linking defect with test case ID. Detailed test case documentation works as a full proof guard for the testing team because if developer missed something, then it can be caught during execution of these full-proof test cases.

8.2 User Acceptance Testing

User Acceptance Testing is a type of testing performed by the end user or the client to verify/accept the software system before moving the software application to the production environment. UAT is done in the final phase of testing after functional, integration and system testing is done. The main purpose of document is to validate end to end business flow. It does not focus on cosmetic errors, spelling mistakes or system testing. User Acceptance Testing is carried out

in a separate testing environment with production-like data setup. It is kind of black box testing where two or more end-users will be involved. UAT is performed by Client and End users need of user acceptance testing arises once software has undergone Unit, Integration and System testing because developers might have built software based on requirements document by their own understanding and further required changes during development may not be effectively communicated to them, so for testing whether the final product is accepted by client/end-user, user acceptance testing is needed.

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CHAPTER IX

RESULTS

9.1 Performance Metrics

Performance metrics are defined as figures and data representative of an organization's actions, abilities, and overall quality. There are many different forms of performance metrics, including sales, profit, return on investment, customer happiness, customer reviews, personal reviews, overall quality, and reputation in a marketplace. Performance metrics can vary considerably when viewed through different industries. Performance metrics are integral to an organization's success. It's important that organizations select their chief performance metrics and focus on these areas because these metrics help guide and gauge an organization's success. Key success factors are only useful if they are acknowledged and tracked. Business measurements must also be carefully managed to make sure that they give right answers, and that the right questions are being asked. Performance metrics are data used to track processes within a business. This is achieved using activities, employee behavior, and productivity as key metrics. These metrics are then used by employers to evaluate performance. This is in relation to an established goal such as employee productivity or sales objectives.

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CHAPTER X

ADVANTAGES & DISADVANTAGES

ADVANTAGES

1. Chatbots can be available to solve customer problems 24/7 whether it is day or night! They don't need to sleep after all! This is much more difficult to achieve using human customer service as it would require rotating teams that would be more complicated to manage as well. This means that chatbots can answer customer queries whenever customers have queries which help in increasing customer loyalty. If companies don't address customer problems as soon as possible, then the customers may switch to another company that provides better customer service.

2. Companies thrive on customer data! The more data they have, the better they can cater to their customers and be much more successful. That's where chatbots can be a big help. Whenever you interact with any chatbots on a company page, you provide basic data such as user preferences, buying habits, sentiments, etc. which can then be analyzed to understand market trends, operational risks, etc. And using this information, the company can solve customer issues much easier and create targeted products. This will help in increasing their customer loyalty!.

3. E-commerce companies also use chatbots to help their customer easily complete their transactions and also help them if any problems arise. These chatbots are specially designed to lead the customers from the starting which involves browsing the items on the E-commerce website and ending with purchasing to complete the transaction. If you are buying something on Amazon, the Amazon chatbot can guide you through the whole process of online shopping!

DISADVANTAGES

1. Chatbots are not human and so obviously they cannot interact as a human with customers. They sound too mechanical and can only give answers to problems that they have been programmed with. They cannot answer a customer according to the context and they cannot show any emotions if needed. Chatbots also cannot maintain a natural-sounding conversation in-depth with customers and that is why

they are only useful in solving basic queries. But this can create a disconnect with customers who prefer the human approach when solving their problems.

2. Chatbots are still a basic Artificial Intelligence technology and so they can only answer the basic questions of customers and provide general information that is already available to them. They cannot solve complicated queries or answer out of script questions and companies need to have human customer service employees that can manage these for them. However, this is changing with time and currently, more and more advanced chatbots are entering the market.

3. Chatbots are created using Natural Language Processing which is extremely popular for customer support applications. Natural Language Processing is a part of Machine Learning which can be used to interact with the users in textual form and solve their queries. However, this requires complex programming and is not easy for companies. This becomes especially difficult if companies have to create chatbots from scratch and that is why many online platforms help companies to build and manage chatbots easily.

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CONCLUSION

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

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CHAPTER XII

FUTURE SCOPE

we suggest some future research directions for fashion recommender systems. Considering the rapid growth of multimedia data, where visual information will be the critical component. More indepth research in applications of multi-model fusion and multi-task learning in fashion recommender systems are required to model recommender system to be capable of profiling users comprehensively. Besides, while the majority of researches in fashion recommender systems is mainly based on similaritybased retrieval techniques, there is a need for more studies in the development of new functions such as designing clothes, which are highly demanded in future fashion recommender systems. Furthermore, most of the current fashion datasets do not contain outfit compatibility annotations, or they are limited in terms of size and the type of annotations they provide. Consequently, most researchers built their dataset, which is a labor-costing process, and most of them are not accessible publicly for further research. So, the other future direction for subsequent studies may be focusing on developing automatic annotation methods, constructing large-scale rich annotated data sets for particular task definitions in fashion recommender systems. From an ethical perspective in fashion recommender systems also there is a need for performing the comprehensive study since it has not been studied in almost any of the researches, which have been reviewed through this thesis.

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CHAPTER 13

```
from flask import Flask ,render_template, request, redirect
import dbconn
import ibm_db
app = Flask(__name__)

@app.route("/")
def index():
    return render_template("reg.html")

@app.route("/home")
def home():
    return render_template("homef.html")
```

```

#registration page code

@app.route("/signup", methods=['POST'])
def signup():
    if request.method == 'POST':
        email = request.form.get('email')
        uname = request.form.get('uname')
        Pass = request.form.get('Pass')
        sql = "INSERT INTO STUDENT_DB (email,USERNAME, PASSWORD) VALUES
('{0}', '{1}', '{2}')"
        res = ibm_db.exec_immediate(dbconn.conn, sql.format( email,uname,
Pass))
        if sql:
            return redirect("/home")
        else:
            return redirect("/")
    else:
        print("Could'nt store anything...")

if __name__ == "__main__":
    app.run(debug=True)

```

APPENDIX

Dbconn.py

```

import ibm_db
try:
    conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=1bbf73c5-d84a-4bb0-85b9-
ab1a4348f4a4.c3n41cmd0nqnrk39u98g.databases.appdomain.cloud;PORT=32286;PRO
TOCOL=TCPIP;SECURITY=SSL; SSLServerCertificate=DigiCertGlobalRootCA.crt;
UID=nxp43498; PWD=mvsmq51v7jDuWj0I;", '', '')
    print("db connection successfully")
except:
    print("db connection failed")

```