CUSTOMER CARE REGISTRY

PROJECT REPORT

Domain: Cloud Application Development

Submitted by

Team ID: PNT2022TMID10753

TEAM MEMBERS:

Lavanya B

Narmatha T

Lavanya Kumari R

Gayathri S

Nishandhini S

Industry Mentor(s) Name : Vasudeva Hanush

Faculty Mentor(s) Name : Dharani Devi P

PROJECT OVERVIEW

1. **INTRODUCTION**

    1.1 Project Overview

    1.2 Purpose

2. **LITERATURE SURVEY**

    2.1 Existing problem

    2.2 References

    2.3 Problem Statement Definition

3. **IDEATION & PROPOSED SOLUTION**

    3.1 Empathy Map Canvas

    3.2 Ideation & Brainstorming

    3.3 Proposed Solution

    3.4 Problem Solution fit

4. **REQUIREMENT ANALYSIS**

    4.1 Functional requirement

    4.2 Non-Functional requirements

5. **PROJECT DESIGN**

    5.1 Data Flow Diagrams

    5.2 Solution & Technical Architecture

    5.3 User Stories

6. **PROJECT PLANNING & SCHEDULING**

    6.1 Sprint Planning & Estimation

7. **CONCLUSION**

8. **APPENDIX**

1. INTRODUCTION

Customer care registry is used to build relationship between agents and customer. It helps customer to clear their dilemmas and agents can get customer feedback side by side. This makes clear customer agent relationship.

1.1 **PROJECT OVERVIEW**

The project design is completely focused on providing a better experience for the customers and agents. It makes them to have clear feedback and new feature of messaging in their well-known language and clear explanation of queries via call service. These are implemented with the help of software like Flask, Docker, SendGrid and IBM Watson.

1.2 **PURPOSE**

The purpose of project is to make agent customer relations stronger. This helps agents to have clear feedback of customers. And customer can easily clear their doubts in their well-known language.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM

After a survey of a number of papers, it can be stated that customer care registry has number of facilities for customers but only by message in common English language. But people who don't know that language can't able to get use of the service. Similarly the use of both call service and message service is not provided.

2.2 REFERENCES

TITLE AND AUTHOR(S)	YEAR	TECHNIQUE (S)	FINDINGS	PROS AND CONS
Customer Service Culture at VP-Bank in Vietnam Nguyen Hoang Tien1 , Dinh Ba Hung Anh2 , Nguyen Thanh Vu3.	2022	CRM technology	They are tried to contribute a very small part to the development and building of a customer service culture for an organization	P:Effective customer care C:Less number of benefits customers
Product Quality And Service Quality Yusuf Indra Wibowo Management Program, Open University, Indonesia.	2022	PT. PLN (Persero)	There are many other factors that affect Customer Satisfaction and Complaint Levels, apart from Customer Satisfaction and Complaint Levels at all types.,	P: Prices, Promotions and Digital Services. C: Supports theoretical studies.

2.3 PROBLEM STATEMENT DEFINITION

- Transferring customer calls.
- Dealing with the angry customers.
- Lack of employee engagement.
- Misunderstanding customer expectations.
- Hard to handle multi language customers.
- Making customers wait too long.
- Irrelevant Chat to the query asked.
- Chat experiences like scripted.
- Poor quality of online chats.
- Employee burnout.

3. IDEATION AND PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS
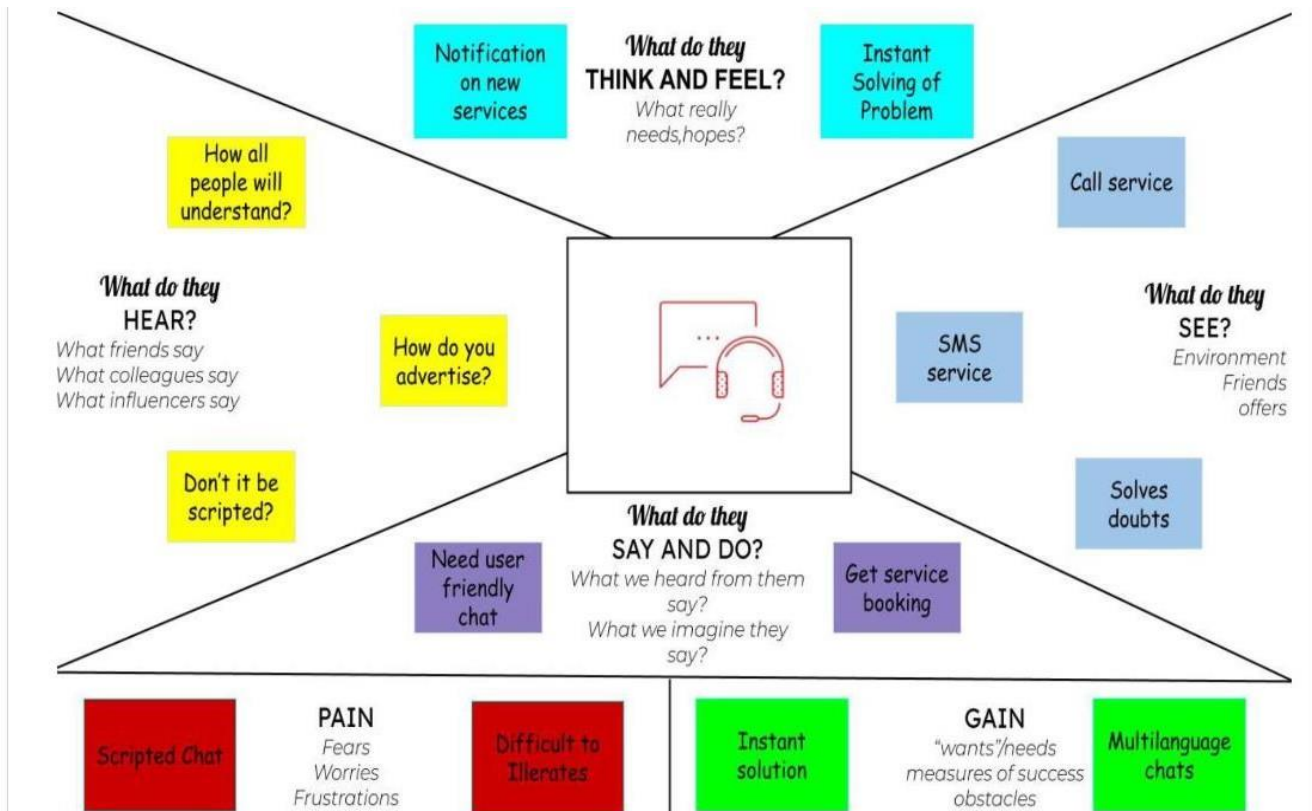
3.2 IDEATION AND BRAINSTORMING

Lavanya B

Automated Chatbot	Get feedback to improve further while leaving chat
Problem solved notification	Use Emoji's

Nishanthini S

Automatic call connection to employee if needed	24x7 service
Avoid continuous Number dialling	Attractive Screens

Narmatha T

Multiple langauage support	Fast Response
Relevant offers notification	Attractive pictures in Dashboard

Lavanya Kumari R

Provide history of call or product if needed	Display any information if needed
Recharge remainders in chat bot	Use friendly language than formal language

Gayathri S

Frequently Asked Questions in Dashboard	Give response without delay
If Needed provide chat with customer service provider and employee	Display Pros about network while leaving chat

Automatic Chatbot and Get Feedback while leaving chat

Multiple language support

Provide history of call or product if needed

Problem solved notification

Frequently Asked Questions in Dashboard

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.
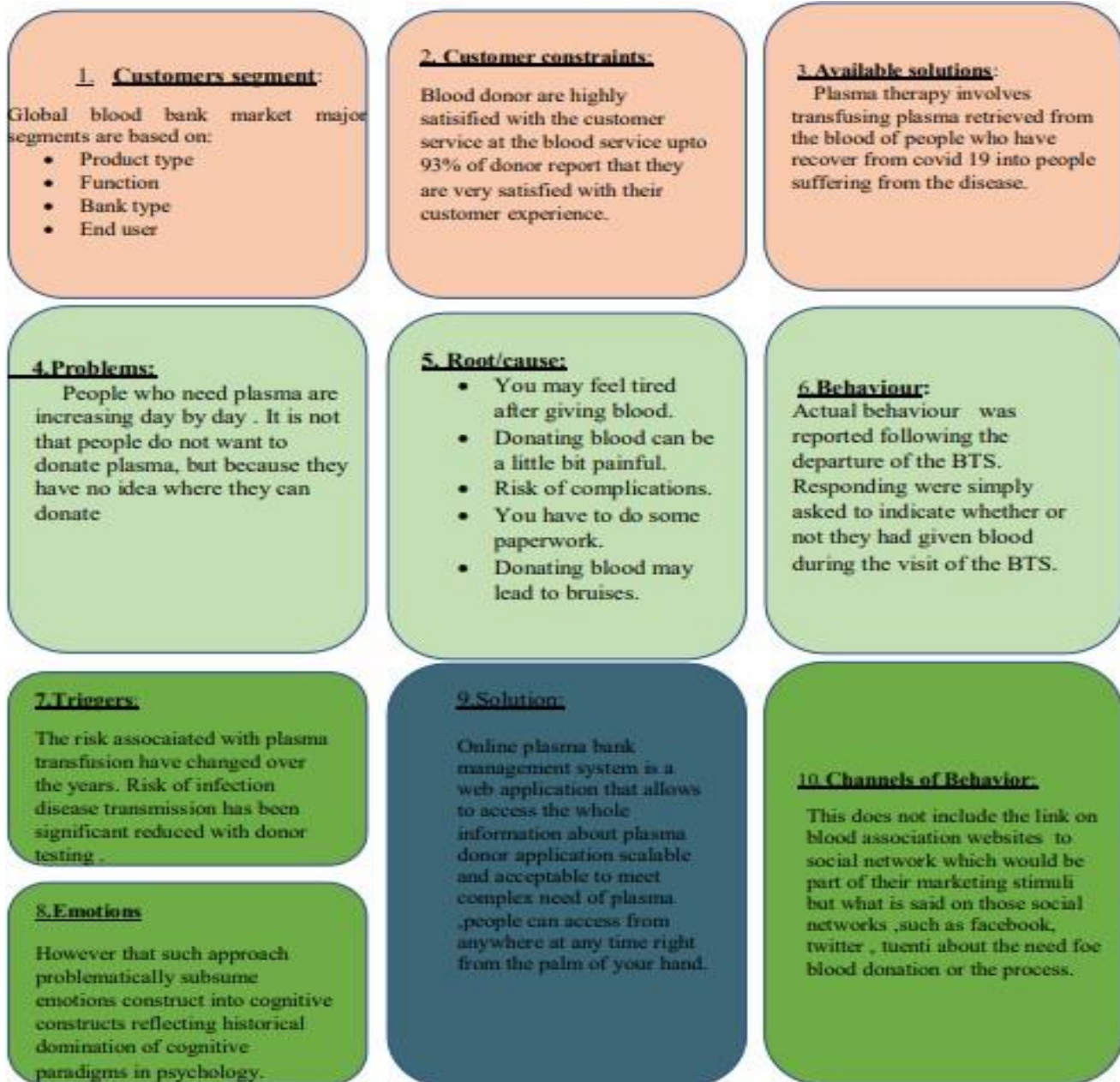
Feasibility

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

3.3 PROPOSED SOLUTION

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Today people started to using many online applications for shopping, buying medicines and foods. They facing many problems. They need to report their problems through customer care. Many problems will occur in that such as transferring customer calls, dealing with the angry customers, Lack of employee engagement, misunderstanding customer expectations, Hard to handle multi language customers, making customers wait too long. Irrelevant Chat to the query asked, Chat experiences like scripted, Poor quality of online chats, Employee burnout. To prevent these problems, we are designing a customer care registry using cloud computing.
2.	Idea / Solution description	An automatic chatbot will be available it chats with multiple language support and also give feedback while leaving. It will provide the history of call or product if needed. It will show the relevant offers and automatically connect the call to the employee 24/7. It will show the frequently asked queries in the dashboard, attractive emojis and screens are displayed.
3.	Novelty / Uniqueness	This solution has the uniqueness that we can chat in multiple language so that all people can able to communicate with their queries. It also has availability of connecting the call 24/7. Problem solved notification will be also provided.
4.	Social Impact / Customer Satisfaction	The customer care registry can be useful for people who had queries about their product and available in multiple language might be useful for all. They will not charge for of their customer care service and the problems can be solved quickly.
5.	Business Model (Revenue Model)	These registry will need not to install any application only internet is needed. Once they had search for the service it will automatically redirect to the dashboard and ask queries. It will not show any popups or ads. People can use it safely and easily.
6.	Scalability of the Solution	Customer care registry will cover the additional time zones if our customers are geographically dispersed. Further it will be encouraging more conversations Adding live chat support or phone call support. Improve the auto-replies for the customers.

3.4 PROBLEM SOLUTION FIT

1. Customers segment:

Global blood bank market major segments are based on:
- Product type
- Function
- Bank type
- End user

2. Customer constraints:

Blood donor are highly satisified with the customer service at the blood service upto 93% of donor report that they are very satisfied with their customer experience.

3. Available solutions:

Plasma therapy involves transfusing plasma retrieved from the blood of people who have recover from covid 19 into people suffering from the disease.

4. Problems:

People who need plasma are increasing day by day . It is not that people do not want to donate plasma, but because they have no idea where they can donate

5. Root/cause:

- You may feel tired after giving blood.
- Donating blood can be a little bit painful.
- Risk of complications.
- You have to do some paperwork.
- Donating blood may lead to bruises.

6. Behaviour:

Actual behaviour was reported following the departure of the BTS. Responding were simply asked to indicate whether or not they had given blood during the visit of the BTS.

7. Triggers:

The risk assocaiated with plasma transfusion have changed over the years. Risk of infection disease transmission has been significant reduced with donor testing .

8. Emotions

However that such approach problematically subsume emotions construct into cognitive constructs reflecting historical domination of cognitive paradigms in psychology.

9. Solution:

Online plasma bank management system is a web application that allows to access the whole information about plasma donor application scalable and acceptable to meet complex need of plasma .people can access from anywhere at any time right from the palm of your hand.

10. Channels of Behavior:

This does not include the link on blood association websites to social network which would be part of their marketing stimuli but what is said on those social networks ,such as facebook, twitter , tuenti about the need foe blood donation or the process.

4. REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS

FR No	Functional Requirement(Epic)	Sub Requirement(Story/ Sub-Task)
1	User Registration	Registration through Gmail Registration through Form Registration through Google
2	User Confirmation	Confirmation using Email Confirmation using OTP
3	User Login	Login through Google Login with the use of Email id and Password
4	Admin Login	Login via Google Login using Email id and Password
5	Query Form	Any issues Contact information
6	E-mail	Login alertness

4.2 NON-FUNCTIONAL REQUIREMENTS

| FR No	Non-Functional Requirement	Description
1	Usability	Provide correct solution to the problem
2	Security	Tracking of login authentication
3	Reliability	Tracking of status through email
4	Performance	Development of web application
5	Availability	24/7 services are available
6	Scalability	Agents scalability is based on the number of customers

S.NO	COMPONENT	DESCRIPTION	TECHNOLOGY
1	User Interface	User interaction with the application, for example Web UI, mobile apps, chatbots, etc.	JavaScript, AngularJS, ReactJS, HTML, CSS, etc.
2	Application Logic-1	The Justification behind an application's process	Python
3	Application Logic-2	The Justification behind an application's process	Watson STT from IBM
4	Application Logic-3	The justification behind an application's process	Watson Assistant by IBM
5	Database	Data Type, Configurations etc	MySQL etc.,
6	Cloud Database	Cloud database service	IBM Cloudant, IBM DB2, etc.
7	File Storage	Storage needs for files	IBM Block Storage, other storage options, or Domestic Filesystem
8	Infrastructure (Server / Cloud)	Local Server Configuration: Cloud Server / Application Deployment on Local System	local, cloud-based, Kubernetes, etc.

5. PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS
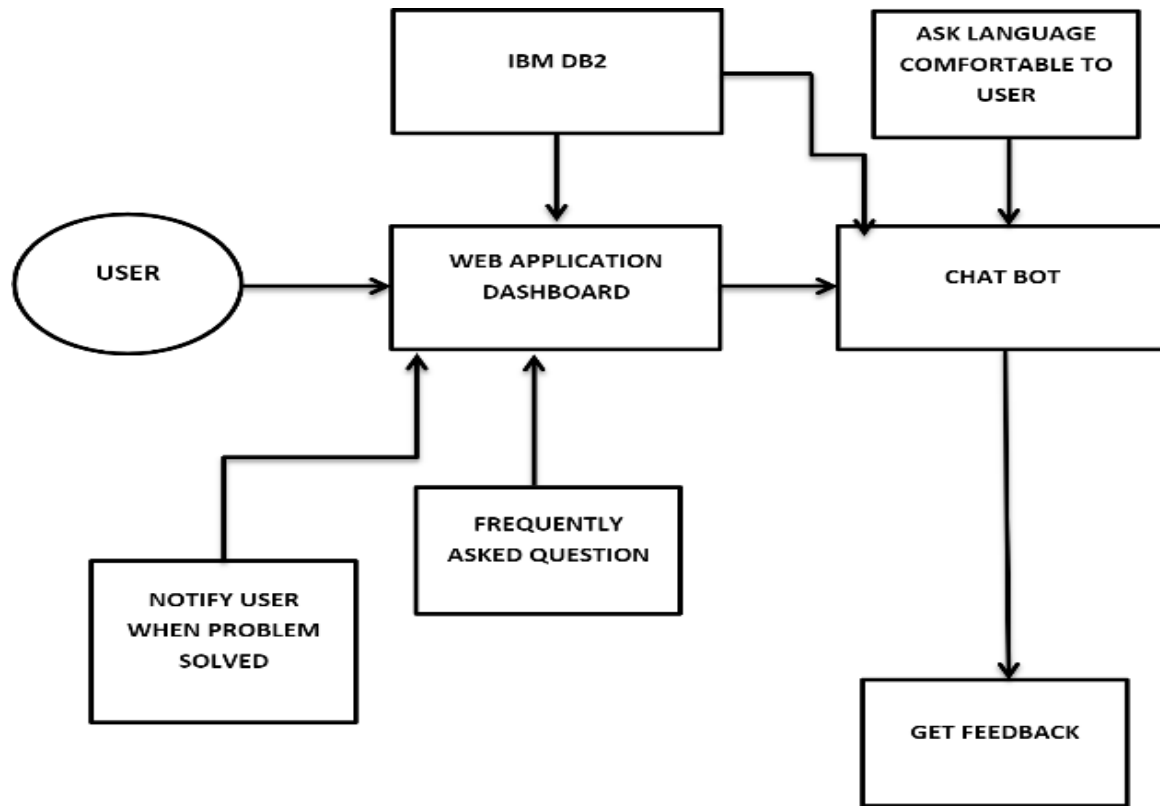
5.2 SOLUTION & TECHNICAL ARCHITECTURE
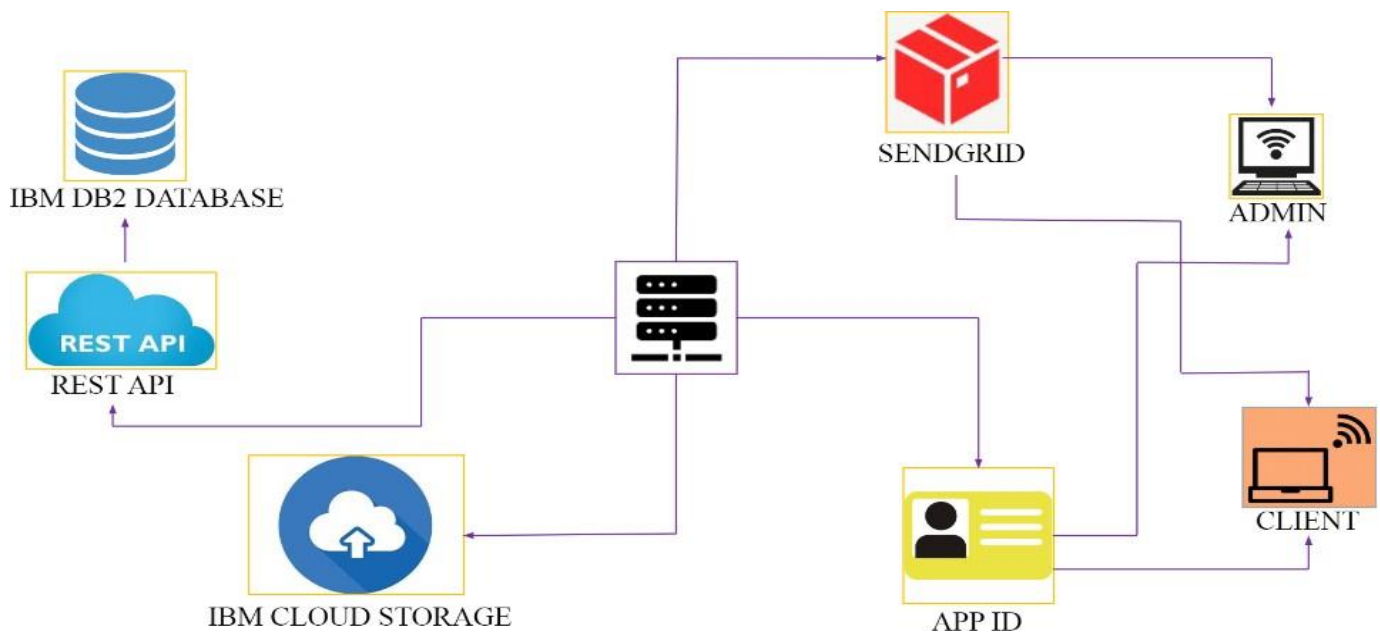
5.3 USER STORIES

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	By entering email, mobile number, password and confirming the password the user can register the application.	Customer can access their account or dashboard	High	Sprint-1
	login	USN-2	Customer can login to the application by entering correct email or phone number and password.	I have access to my dashboard and account.	High	Sprint-2
	Dashboard	USN-3	Customer can see all the orders, ordered by them.	My dashboard provides all the information I require.	Low	Sprint-3
	Order creation	USN-4	Customer can place my order with the detailed description of my query	Query can be asked by customers.	Medium	Sprint-2
	Address Column	USN-5	Customer can have conversations with the agent and the queries can be cleared.	My queries are clarified.	High	Sprint-3
	Forgot password	USN-6	Customer can reset the password by using this option incase they forget the password.	I get access to my account again	Medium	Sprint-4
	Order details	USN-7	Customer can see the status for their ordered things.	I get a good understanding	Medium	Sprint-1
Agent (web user)	Login	USN-1	Agent can login to their respective application by entering their email or phone number and password.	Agent can access their account or dashboard.	High	Sprint-3
	Dashboard	USN-2	Agent can see the order details assigned by admin.	I can see the tickets that need responses.	High	Sprint-3
	Address column	USN-3	Agent have conversations with the customer and clear his/er queries.	Agent clarifies the queries of customer	High	Sprint-2
	Forgot password	USN-4	Agent can reset their password by thisoption in case password is forgotten.	I can get access to my account again.	Medium	Sprint-4

6. PROJECT PLANNING AND SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	User Panel	USN-1	By login through the website the user can go through the services provided.	20	High	Lavanya.B Narmatha.T Lavanya Kumari.R Gayathri.S
Sprint-2	Admin panel	USN-2	Check out the database about the availability and have a track of all the things that the users are going to service by the admin.	20	High	Gayathri.S Nishandhini.S Lavanya.B
Sprint-3	Chat Bot	USN-3	By using chatbot the user can directly talk about the services and the user get recommendations based on data given by the user.	20	High	Narmatha.T LavanyaKumari.R Nishandhini.S Gayathri.S
Sprint-4	final delivery	USN-4	Docker Kubernetes having Container of applications and deployment the application.Create the documentation and final submit the application	20	High	Nishandhini.S Lavanya.B Narmatha.T Lavanyakumari.R

PROJECT TRACKER:

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	26 Oct 2022	01 Nov 2022		01 Nov 2022
Sprint-2	20	6 Days	2 Nov 2022	07 Nov 2022		06 Nov 2022
Sprint-3	20	6 Days	08 Nov 2022	13 Nov 2022		12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022		19 Nov 2022

Velocity Estimation:

If sprint duration is 10 days 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).

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

7. CONCLUSION

Customer Care Registry is an important factor which makes agents to improve the quality and helps to get good customer agent relation. Hence it should be useful to all people from various places. Even the people who doesn't know the English language well needs its help. Similarly both call and message service needed to get clear about their doubts. Hence it needs these two features to work efficiently and in order to attract more customers to use our registry.

8. APPENDIX

GitHub Repo link:

https://github.com/IBM-EPBL/IBM-Project-15325-1659597270