

# **IBM NALAIYATHIRAN PROJECT REPORT**

**Domain :** Retails and E-Commerce (R&E)

**Title:** Customer Care Registry

*Submitted by*

**Team ID:** PNT2022TMID10783

## **Team Members:**

R. Shafferiyasudheen

S. Sharma

Gorla Panchala Narasimha

K. Sri Venkatesh

**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
- 6.2 Sprint Delivery Schedule

### **7. CODING & SOLUTIONING (Explain the features added in the project along with code)**

- 7.1 Feature 1
- 7.2 Feature 2

### **8. TESTING**

- 8.1 Test Cases
- 8.2 User Acceptance Testing

### **9. CONCLUSION**

### **10. FUTURE SCOPE**

### **11. APPENDIX**

# **1. INTRODUCTION**

An online comprehensive Customer Care Solution is to manage customer interaction and complaints with the Service Providers over phone or through and e-mail. The system should have capability to integrate with any Service Provider from any domain or industry like Banking, Telecom, Insurance, etc. Customer Service also known as Client Service is the provision of service to customers its significance varies by product, industry and domain. In many cases customer services is more important if the purchase relates to a service as opposed to a product. Customer Service may be provided by a Person or Sales & Service Representatives Customer Service is normally an integral part of a company's customer value proposition.

## **1.1 PROJECT OVERVIEW**

The Customer Service Desk is a web-based project. Customer Service also known as Client Service is the provision of service to customers. Its significance varies by product, industry and domain. In many cases customer services is more important if the information relates to a service as opposed to a customer. Customer Service may be provided by a Service Representatives Customer Service is normally an integral part of a company's customer value proposition. These are implemented with the help of software like Flask, Docker, SendGrid and IBM Watson.

## **1.2 PURPOSE**

The purpose of making this project is to make a customer interaction and solve the problems from customer and provide a valuable service. It is an integral part of each and every companies.

## **2. LITERATURE SURVEY**

### **2.1 EXISTING PROBLEM**

The existing system is a semi-automated at where the information is stored in the form of excel sheets in disk drives. The information sharing to the Volunteers, Group members, etc. is through mailing feature only. The information storage and maintenance is more critical in this system. Tracking the member's activities and progress of the work is a tedious job here. This system cannot provide the information sharing by 24x7 days.

### **2.2 REFERENCES**

- a) Real world smart chatbot for customer care using SaaS architecture - This paper deploys a chatbot from AWS cloud for customer care. This is done to provide human using LUIS and cognitive services.
- b) Artificial intelligence replacing human customer service - This paper deploy the chatbots for customer service. it uses the AI to take decision making and provide Service.
- c) Chatbot for customer service - In this paper the customer provides the asked info to the chatbot based on the data it provides the customer service.
- d) An intelligent cloud-based customer relationship management system to determine flexible pricing for customer retention - This paper proposes the behavior of the customer by analyzing the history pattern and use it for promotion.

## **2.3 PROBLEM STATEMENT DEFINITION**

A problem statement is a concise description of the problem or issues a project seeks to address. The problem statement identifies the current state, the desired future state and any gaps between the two. A problem statement is an important communication tool that can help ensure everyone working on a project knows what the problem they need to address is and why the project is important.

### 3. IDEATION & PROPOSED SOLUTION

#### 3.1 EMPATHY MAP CANVAS

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

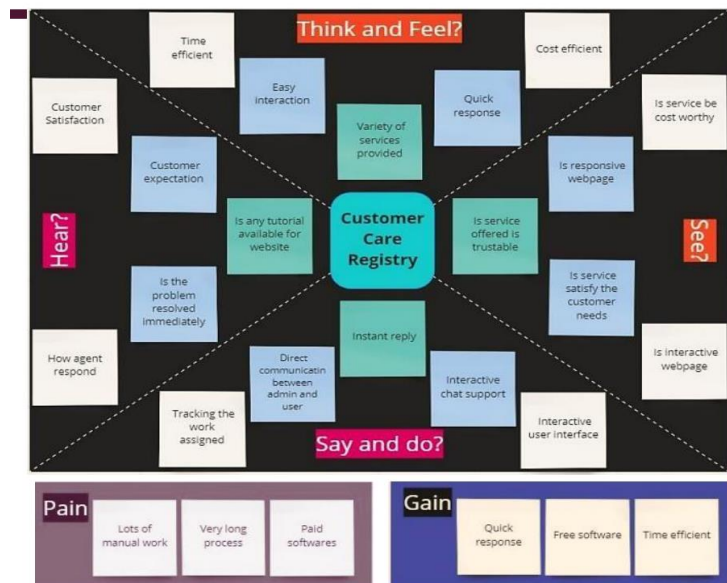


Fig 3.1: Empathy Map Canvas

#### 3.2 IDEATION AND BRAINSTORMING

1. What problems are you trying to solve? Identify the problems?
2. How might can we solve the problem? Which is raised by the customer?

## Brain Storming

### R. SHAFFERIYASUDHEEN

- Analyze the query of the customer
- Increase the number of agent.
- Improve the chatbot assistant

### S. SHARMA

- Improve the chatbot.
- Provide Quick response.

### GORLA PENCHALA NARASIMHA

- Provide live support.
- Increase the number of Agent.

### SRI VENKATESH.K

- Improve the UI interface
- Improve the chatbot design.

## Group Ideas

### Customer

- Immediate response for customer needs
- Inform the customer about queries
- Provide live support
- Resolve the problem quickly

### Feedback

- Agent review
- Feedback with thumbs up emoji

### Chatbot

- Live Chat
- 24/7 Response

## 3.3 PROPOSED SOLUTION

Allotted Agent routing can be resolved by directly routing to a dedicated agent about the issue using the email. Automated Ticket closure by using sync of the cloud database. Status shown to the customer can display the tickets to the customer. The goal of the customer care service is to provide the platform that will allow the customer specialist to be efficient. And the solve the query with less time.

## 4. REQUIREMENT ANALYSIS

### 4.1 FUNCTIONAL REQUIREMENTS

FR NO	Functional Requirement	Sub Registry
1	User Registration	Registration through Form Registration through Gmail Registration through Google
2	User Confirmation	Confirmation via mail Confirmation via OTP
3	User Login	Login via Google login with Email id and password.
4	Admin Login	Login via Google login with Email id and password.
5	Query login	Description of the issues contact information.
6	E-mail	Login status
7	Feed Back	Customer Feedback



## 4.2 NON-FUNCTIONAL REQUIREMENTS

FR NO	Functional Requirement	Sub Registry
1	Usability	To provide the solution to the problems
2	Security	Track of login authentication
3	Reliability	Tracking of decade status through email
4	Performance	Effective development of web application
5	Availability	24/7 Service
6	Scalability	Agents' scalability as per the number of customers

## 5. PROJECT DESIGN

### 5.1 DATA FLOW DIAGRAM

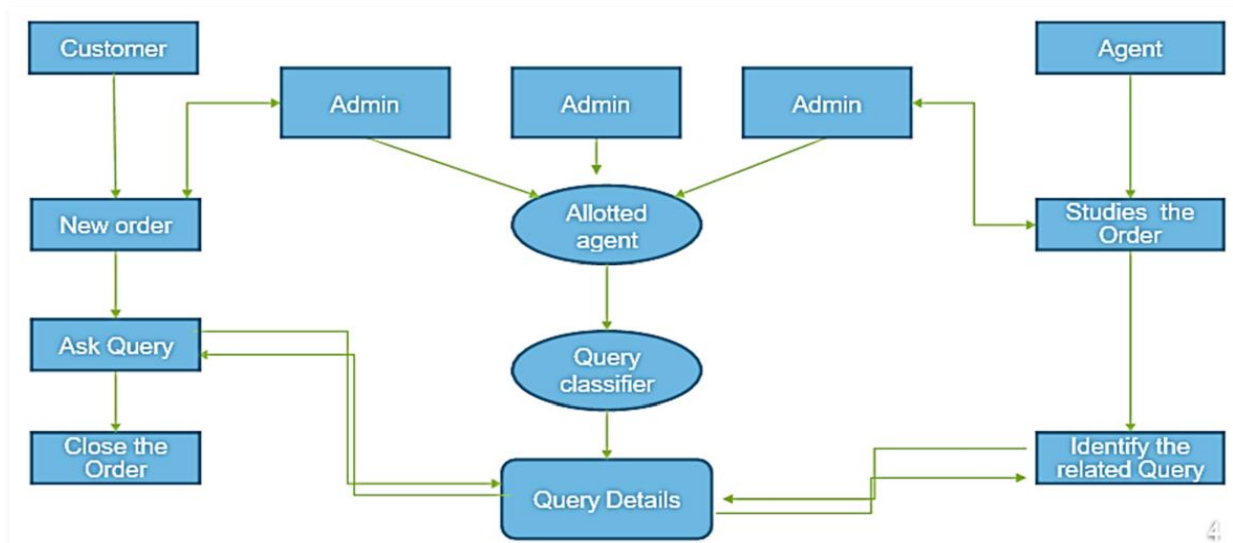


Fig 5.1: Data Flow Diagram

### 5.2 SOLUTION AND TECHNICAL ARCHITECTURE

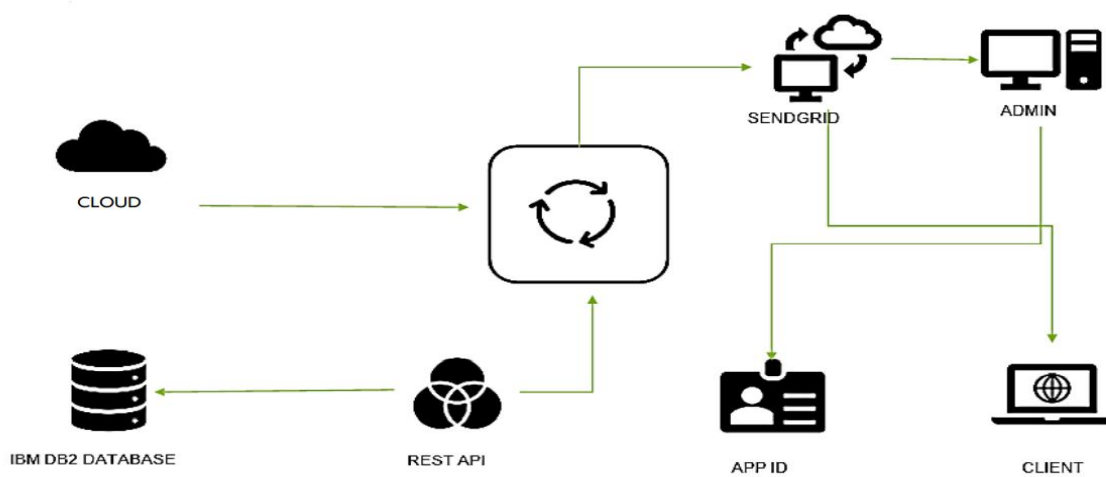


Fig 5.2: Solution and Technical Architecture

## 5.3 USER STORIES

1 User Interface - How user interacts with application e.g. WebUI, Mobile App, Chatbot etc. - HTML, CSS, JavaScript/AngularJs /React Js etc.

2 Application Logic-1 - Logic for a process in the application - Python

3 Application Logic-2 - Logic for a process in the application - IBM WatsonSTT service

4 Application Logic-3 - Logic for a process in the application IBM Watson Assistant Database - Data Type, Configurations - MySQL etc.

5 Cloud Database - Database Service on Cloud - IBM DB2,IBM Cloud etc.

6 File Storage - File storage requirements - IBM Block Storage or Other Storage Service or Local Filesystem

## 6. PROJECT PLANNING & SCHEDULING

### 6.1 SPRINT PLANNING & ESTIMATION

SPRINT	FUNCTIONAL REQUIREMENT (EPIC)	USER STORY NUMBER	USER STORY/TASK	STORY POINTS	PRIORITY	TEAM MEMBERS
Sprint-1	User Panel	USN-1	The user website to display the service available in the customer service	20	High	<ul style="list-style-type: none"><li>• SHARMA S</li><li>• SHAFFERIYASUDHEEN R</li><li>• GORLA PENCHALA NARASIMHA</li><li>• SRI VENKATESH K</li></ul>
Sprint-2	Admin panel	USN-2	To job of admin to regularly check the database and track all the things in the database	20	High	<ul style="list-style-type: none"><li>• SHARMA S</li><li>• SHAFFERIYASUDHEEN R</li><li>• GORLA PENCHALA NARASIMHA</li></ul>
Sprint-3	Chat Bot	USN-3	The customer can easily talk with the chatbot to know to the service and telecommunications	20	High	<ul style="list-style-type: none"><li>• SHARMA S</li><li>• SHAFFERIYASUDHEEN R</li></ul>
Sprint-4	final delivery	USN-4	Container of applications using docker Kubernetes and deployment the application. Create the documentation and final submit the application	20	High	<ul style="list-style-type: none"><li>• SHARMA S</li><li>• SHAFFERIYASUDHEEN R</li><li>• GORLA PENCHALA NARASIMHA</li></ul>

Fig 6.1: Sprint Planning & Estimation

### 6.2 SPRINT DELIVERY SCHEDULE

SPRINT	TOTAL STORY POINTS	DURATION	SPRINT START DATE	SPRINT END DATE (PLANNED)	STORY POINTS COMPLETED (AS ON PLANNED END DATE)	SPRINT RELEASE DATE (ACTUAL)
Sprint-1	20	6 Days	22 Oct 2022	27 Oct 2022		29 Oct 2022
Sprint-2	20	6 Days	1 Nov 2022	06 Nov 2022		05 Nov 2022
Sprint-3	20	6 Days	10 Nov 2022	14 Nov 2022		12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	12 Nov 2022		19 Nov 2022

Fig 6.2: Sprint Delivery Schedule

## **7. CODING & SOLUTIONING**

### **7.1 FEATURE 1**

#### **Search Engine:**

It is a tool used to provide the search option to the job seekers like based on the functional area and location. If the job seekers select any location it shows list of all available jobs on that place.

### **7.2 FEATURE 2**

#### **Job Calendar:**

If the user selects any date in the job calendar then it displays list of jobs available on that particular date in the same page. This feature completely developed by implementing Ajax features

## 8. TESTING

### 8.1 TEST CASES

Test Case ID	Feature Type	Component	Test Scenario	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments	TC for Automation(Y/N)	BUG ID	Executed By
Login Page TC O 01	Functional	Home Page	Verify user is able to see the Login/Signup popup when user clicked on My account button	1. Enter URL, and click go 2. Scroll down 3. Verify login/Signup popup displayed or not	<a href="http://109.51.204.215">http://109.51.204.215:30106/</a>	Login/Signup popup should display	Working as expected	PASS	Successful			1. R. SHAFFERYASUDEEN 2. S. SHARMA
Login Page TC O 02	UI	Home Page	Verify the UI elements in Login/Signup popup	1. Enter URL, and click go 2. Click on Signup button for User 3. Verify login/Signup popup with below UI elements a. email text box b. password text box c. Login button d. New customer? Create account link e. Last password? Recovery password link	<a href="http://109.51.204.215:30106/">http://109.51.204.215:30106/</a>	Application should show below UI elements: a. email text box b. password text box c. Login button with orange color d. New customer? Create account link e. Last password? Recovery password link	Working as expected	PASS	Successful			1. GORLA PENCHALA NARASIMHA 2. K. SRI VENKATESH
Login Page TC C 03	Functional	Home page	Verify user is able to log into application with Valid credentials	1. Enter URL( <a href="http://shopowner.com">http://shopowner.com</a> ) and click go 2. Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter valid password in password text box 5. Click on login button	ID: 5342 password: Testing123	User should navigate to user account homepage	Working as expected	PASS	Successful			1. GORLA PENCHALA NARASIMHA 2. K. SRI VENKATESH

Login Page TC O04	Functional	Login page	Verify user is able to log into application with Invalid credentials	1. Enter URL( <a href="http://109.51.204.215:30106/">http://109.51.204.215:30106/</a> ) and click go 2. Click on My Account dropdown button 3. Enter Invalid ID in ID text box 4. Enter valid password in password text box 5. Click on login button	ID: 5342 password: Testing123	Application should show "Incorrect email or password" validation message.	Working as expected	PASS	Successful			1. S. SHARMA
Login Page TC O05	Functional	Login page	Verify user is able to log into application with Invalid credentials	1. Enter URL( <a href="http://109.51.204.215:30106/">http://109.51.204.215:30106/</a> ) and click go 2. Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	ID: 5342 password: Testing123678686786878676	Application should show "Incorrect email or password" validation message.	Working as expected	PASS	Successful			1. R. SHAFFERYASUDEEN
Login Page TC O06	Functional	Login page	Verify user is able to log into application with Invalid credentials	1. Enter URL( <a href="http://109.51.204.215:30106/">http://109.51.204.215:30106/</a> ) and click go 2. Click on My Account dropdown button 3. Enter Invalid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	ID: 5342 password: Testing123	Application should show "Incorrect email or password" validation message.	Working as expected	PASS	Successful			1. GORLA PENCHALA NARASIMHA

## 8.2 USER ACCEPTANCE TESTING

Test Case ID	Feature Type	Component	Test Scenario	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments	TC for Automation(Y/N)	BUG ID	Executed By
Login Page TC O O1	Functional	Home Page	Verify user is able to see the Login Signup popup when user clicked on My account button	1. Enter URL and click go 2. Scroll down 3. Verify login Signup popup displayed or not	<a href="http://169.51.204.215:30100/">http://169.51.204.215:30100/</a>	Login Signup popup should display	Working as expected	PASS	Successful	Y		1. R. SHAFERITYASUDHEEN 2. S. SHARMA
Login Page TC O O2	UI	Home Page	Verify the UI elements in Login Signup popup	1. Enter URL and click go 2. Click on Signup button for User 3. Verify login Signup popup with below UI elements: a. id text box b. password text box c. Login button d. New customer? Create account link e. Last password? Recovery password link	<a href="http://169.51.204.215:30100/">http://169.51.204.215:30100/</a>	Application should show below UI elements: a. email text box b. password text box c. Login button with orange colour d. New customer? Create account link e. Last password? Recovery password link	Working as expected	PASS	Successful	Y		1. GORLA PENCHALA NARASIMHA 2. K. SRU VENKATESH
Login Page TC O O3	Functional	Home page	Verify user is able to log into application with Valid credentials	1. Enter URL( <a href="http://sharpsur.co.in/">http://sharpsur.co.in/</a> ) and click go 2. Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter valid password in password text box 5. Click on login button	ID:5342 password: Testing123	User should navigate to user account homepage	Working as expected	PASS	Successful			1. GORLA PENCHALA NARASIMHA 2. K. SRU VENKATESH

Login Page TC O07	Functional	Login page	Verify User is able to log into application with Valid Credentials	1. Enter URL( <a href="http://169.51.204.215:30100/">http://169.51.204.215:30100/</a> ) and click go 2. Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	ID: 5434 password: Testing123	Application should show correct email or password validation message.	Working as expected	PASS	Successful			1. K. SRU VENKATESH
Login Page TC O08	Functional	Login page for ADMIN	Verify User is able to log into application with Valid Credentials	1. Enter URL( <a href="http://169.51.204.215:30100/">http://169.51.204.215:30100/</a> ) and click go 2. Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter valid password in password text box 5. Click on login button	ID: 1111 password: 5678	Application should show correct email or password validation message.	Working as expected	PASS	Successful			1. S. SHARMA
Login Page TC O09	UI	ADMIN PAGE	Verify all the Customer database is visible	1. Enter URL( <a href="http://169.51.204.215:30100/">http://169.51.204.215:30100/</a> ) and click go 2. Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	<a href="http://169.51.204.215:30100/">http://169.51.204.215:30100/</a>	Customer database is visible	Working as expected	PASS	Successful			1. GORLA PENCHALA NARASIMHA

## **9. CONCLUSION**

This project is designed to solve the customer queries and achieve customer satisfaction. It is a web-enabled project. With this project the details about the product will be given to the customers in detail within a short span of time. Queries regarding the product or the services will also be clarified. It provides more knowledge about the various technologies.



## **10. FUTURE SCOPE**

1. Replying from the customer questions at a time.
2. It is a turning point of the marketing.
3. It will make the great revolution.

## 11. APPENDIX

### **GitHub Repository Link:**

<https://github.com/IBM-EPBL/IBM-Project-21578-1659785117>