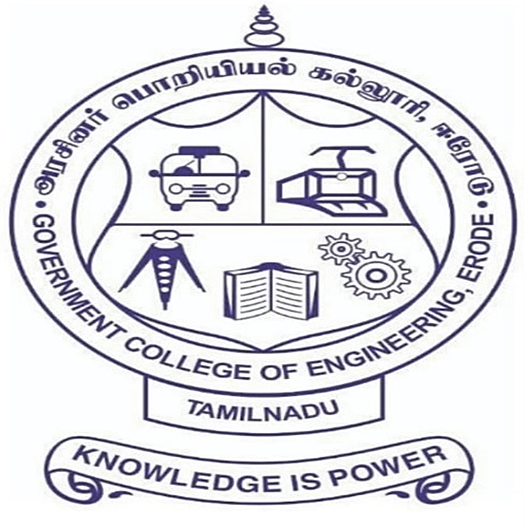
**ERVIGovernment College OF Engineering(FormalyIRTT)**

**ERODE-638316**



**Bonifide certificate**

Certificate that this project titled **"ESTIMATE THE CROP YIELD USING DATA**

**ANALYTICS"**is the bonafide work of

# UDAYASANKAR A (731119106036) HARISH G (731119106010)

**ARUNPANDIYAN R (731119106002)**  **ROHITH VAITHEESHWARN S (731119106901)** who carried out the project work under my supervision.

# SIGNATURE OF HOD SIGNATURE OF SPOC

Dr.R.VALARMATHI,M.E.,Ph.D., Dr.G.GOWRISON, M.E.,Ph.D.,

HEAD OF THE DEPARTMENT ASSISTANT PROFESSOR(SR)

DEPARTMENT OF ECE, DEPARTMENT OF ECE,

GOVERNMENT COLLEGE OF GOVERNMENT COLLEGE OF

ENGINEERING, ERODE – 638316 ENGINEERING,ERODE - 638316

**SIGNATURE OF FACULTY MENTOR** **SIGNATURE OF FACULTY EVALUAOR**

Dr.R,SENTHIL KUMAR.,Ph.D., S.K.FAIROZE BANU,ME,PHD.,

ASSISTANT PROFESSOR(SR) ASSISTANT PROFESSOR(SR)

DEPARTMENT OF ECE, DEPARTMENT OF IT,

GOVERNMENT COLLEGE OF GOVERNMENT ENGINEERING,

**Customer Care Registry**

## 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

6.3 Reports from JIRA

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

7.1 Feature 1

7.2 Feature 2

7.3 Database Schema (if Applicable)

## 8. TESTING

8.1 Test Cases

8.2 User Acceptance Testing

1. **RESULTS**

9.1 Performance Metrics

## 10. ADVANTAGES & DISADVANTAGES 11. CONCLUSION

**12. FUTURE SCOPE**  **13. APPENDIX** source Code,GitHub &Project Demo Link

### INTRODUCTION OF CUSTOMER CARE REGISTRTY

Companies today are mondernizing customer care,using advanced AI to ensure a positive customer experience strating from the first interaction and through the buyer's jouney.cutomer care is more than just providing great service.It's a proactive approach to providing information,tools,and each point they interact with a brand.

### 1.1 PROJECT Overview

This Application has been developed to help the customer in processing their complaints. The customers can raise the ticket with a detailed description of the issue. An Agent will be assigned to the Customer to solve the problem. Whenever the agent is assigned to a customer they will be notified with an email alert. Customers can view the status of the ticket till the service is provided.

**Admin** : The main role and responsibility of the admin are to take care of the whole process. Starting from Admin login followed by the agent creation and assigning the customer's complaints. Finally, He will be able to track the work assigned to the agent and a notification will be sent to the customer.

**User**: They can register for an account. After the login, they can create the complaint with a description of the problem they are facing. Each user will be assigned with an agent. They can view the status of their complaint.

### 1.2 purpose

Customer care is more than just providing great customer service. It’s a proactive approach to providing information, tools, and services to customers at each point they interact with a brand.

Companies benefit from investing in customer care for multiple reasons: Customers get the insights they need to make an informed purchase. Customer satisfaction can increase and customer loyalty can improve.

Customer service agents spend less time on routine tasks and answering commonly asked questions, enabling agents to do more meaningful tasks.

Using AI to optimize customer care can increase the bottom line and provide a positive return on investment.

Customer service is reactive. Here, the focus is on helping customers solve problems or answer questions before purchase, either in a self-serve fashion or via the customer support team

## 2. LITERATURE SURVEY

### 2.1 Existing problem

This software has been developed for a cellular company Concerning all the details given by company. By this software anyone can handle customer complaint details without any difficulty. To maintain customer complaint details and to generate the complaint report to the clients they have to maintain the following information in various files:

1. In the first they record the client’s personnel information, such as client code, client name, address, etc. this details are entered in this file when the new client comes into the organization.

1. Then second is used to record the product details of each individual product, this file, this file contain the detail like the product code and all other details concerning about products.

1. They records the complaints of the customers, which we received from the customers. Each complaint is assigned a separate a CCR No. I.e. Customer Complaint Number. This file records the detailed description of the complaint.

### 2.2 References

Theory and practice of customer related improvements'' Daniel Gyllenham maretal '' 2022, 92%.It is proposed that future research should address howand when to involve the customer in improvements, and by this aid practitioners. Here, researchers can apply an action research approach to facilitate the enrichment acknowledgement, as those studies utilising action research .

Improving customer Service in Healthcare''Muhamma d Ansharietal'' 2021 89%.The use of ICT in healthcare organizations has grown in the same pattern it is the growing within the larger industry landscape.

The use of web technology, database management systems and network infrastructure are part of ICT initiative that willinfluence of healthcare practice and administration.

Customer Experience modelling from customer experience to services they use design ''Jorge Teixeira,Lia Patrı cioetal'' 2019 90% This multimedia service provided a rich foundation for understanding the complexity of the customer experience and the systematic nature of CEM. New applications to other service contexts would enable further developmentsand refinements of the approach.

### 2.3 PROBLEM STATEMENT

Customer care is a way of dealing with customers when they interact with your brand, products, or services to keep them happy and satisfied. Customer care goes beyond customer service and support because it focuses on building emotional connections between brands and customers.

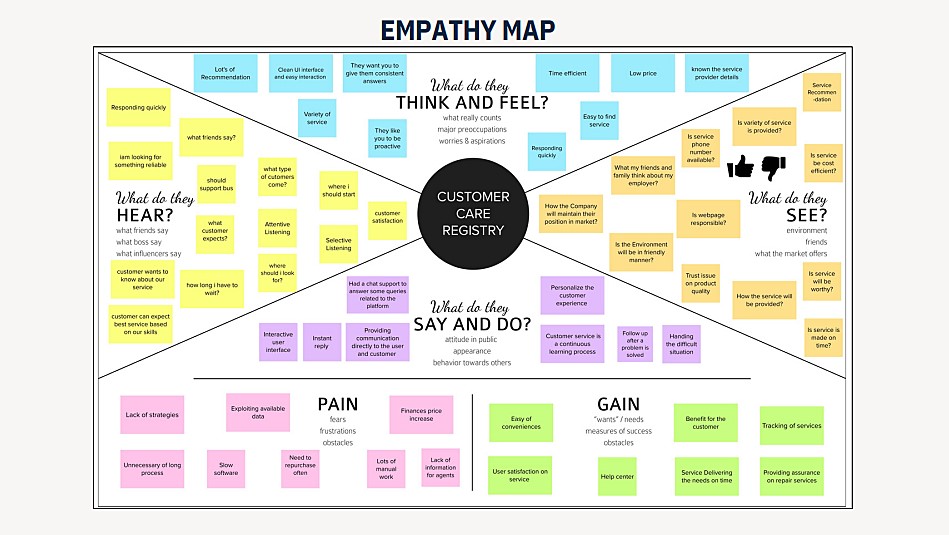
This Application has been developed to help the customer in processing their complaints. The customers can raise the ticket with a detailed description of the issue. An Agent will be assigned to the Customer to solve the problem. Whenever the agent is assigned to the customer, they will be notified with an email alert. Customers can view the status of the ticket till the service is provided.

Customer can register for an account. After the login, they can create a complaint with a description of the problem they are facing. Each user will be assigned an agent. They can view the status of their complaint.

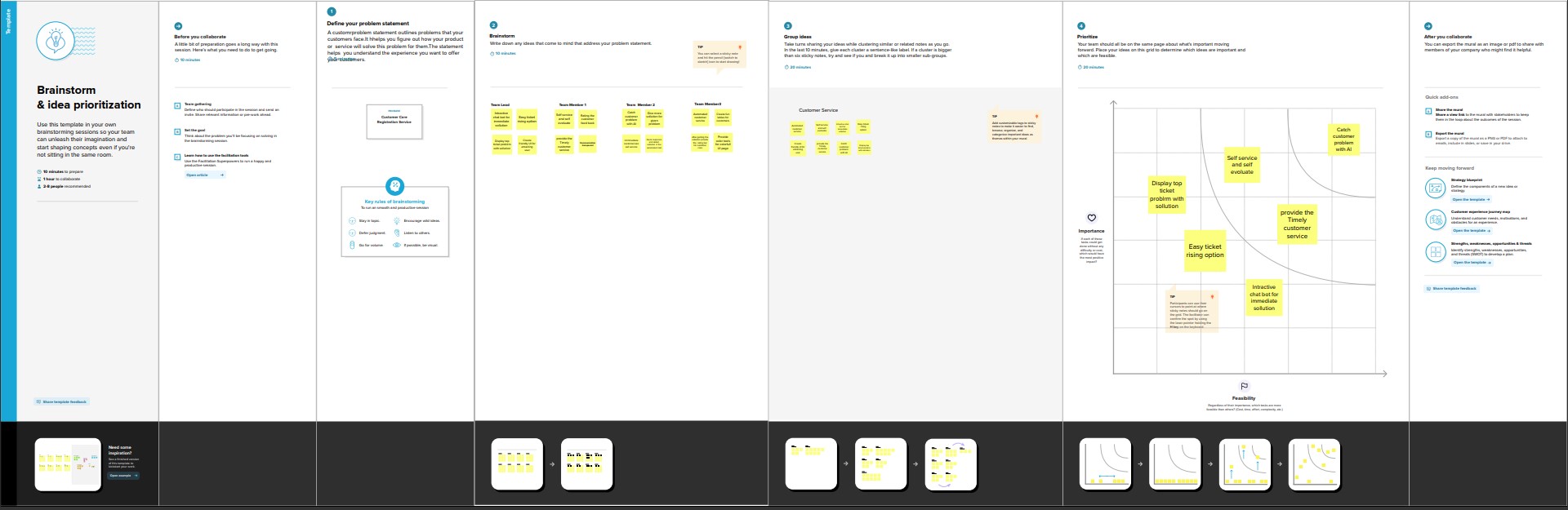
The main roles and responsibilities of the admin is to take care of the whole process. Starting from Admin login followed by the agent creation and assigning the customers complaints. Finally, he will be able to track the work assigned to the agent and notification will be sent to the customer.

The main use of this project is to help the customer in processing their complaints. The customers can raise the ticket of their issues and the problem will be solved by the organization. **3 IDEATION AND PROPOSED SOLUTION**

### 3.1 EMPATHY MAP CANVAS



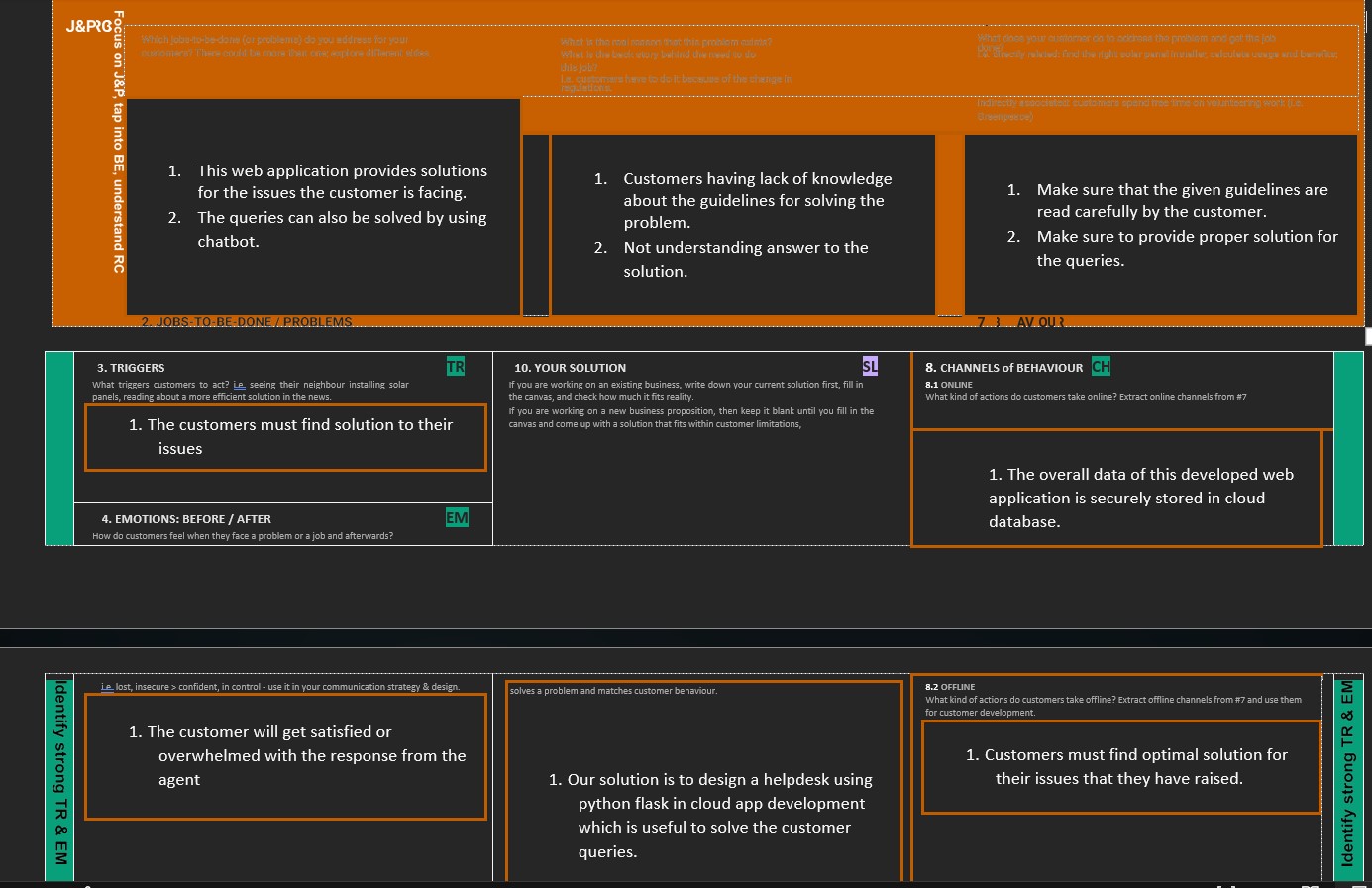
### 3.2 IDEATION AND BRAINSTROM



### 3.3 PROPOSED SOLUTION

|  |  |  |
| --- | --- | --- |
| **S.No.** | **Parameter** | **Descrip on** |
| 1. | Problem Statement (Problem to be solved) | Problem phase describes that the customer care is more than just providing great customer service. It’s a proac ve approach to providing informa on, tools, and services to customers at each point they interact with a brand. For organiza ons, and for product and design teams, there can be a number of reasons why a product could fail. But not taking the me to consider a customer’s condi ons and their current situa on could poten ally harm your product’s future. By working with a problem statement you can make sure you are defining a customer’s experience and a emp ng to transform your product for the be er. So the problem statement mainly defines to solve customer issues using Cloud Applica on Development. |
| 2. | Idea / Solu on descrip on | Solu on phase describes the web applica on that has been developed to help the customer in processing their complaints. The customers can raise the cket with a detailed descrip on of the issue. An Agent will be assigned to the Customer to solve the problem. Whenever the agent is assigned to a customer they will be no fied with an email alert. Customers can view the status of the cket ll the service is provided. |
| 3. | Novelty / Uniqueness | Customer care registry provides instant reply and the assigned work can be tracked at any me and provides tutorial for website. |
| 4. | Social Impact / Customer Sa sfac on | Customer care registry provides direct communica on between admin and user and  provides variety of services. |
| 5. | Business Model (Revenue Model) | Customer care registry can be linked with industrial organiza ons to provide customer care support. |
| 6. | Scalability of the Solu on | Customer care registry provides an environment which has both me and cost efficient. |

### 3.4 Proposed solution Fit



## 4 REQUIREMENT ANALYSIS

**4.1 Func onal Requirements:**

Following are the func onal requirements of the proposed solu on.

|  |  |  |
| --- | --- | --- |
| **FR No** | **Func onal Requirement (Epic)** | **Sub Requirement (Story/ Sub-Task)** |
| 1 | User Registra on | Registra on through Form  Registra on through Gmail  Registra on through Google |
| 2 | User Confirma on | Confirma on via Email Confirma on 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 Form | Descrip on of the issues Contact informa on |
| 6 | E-mail | Login alertness |
| 7 | Feedback | Customer feedback |

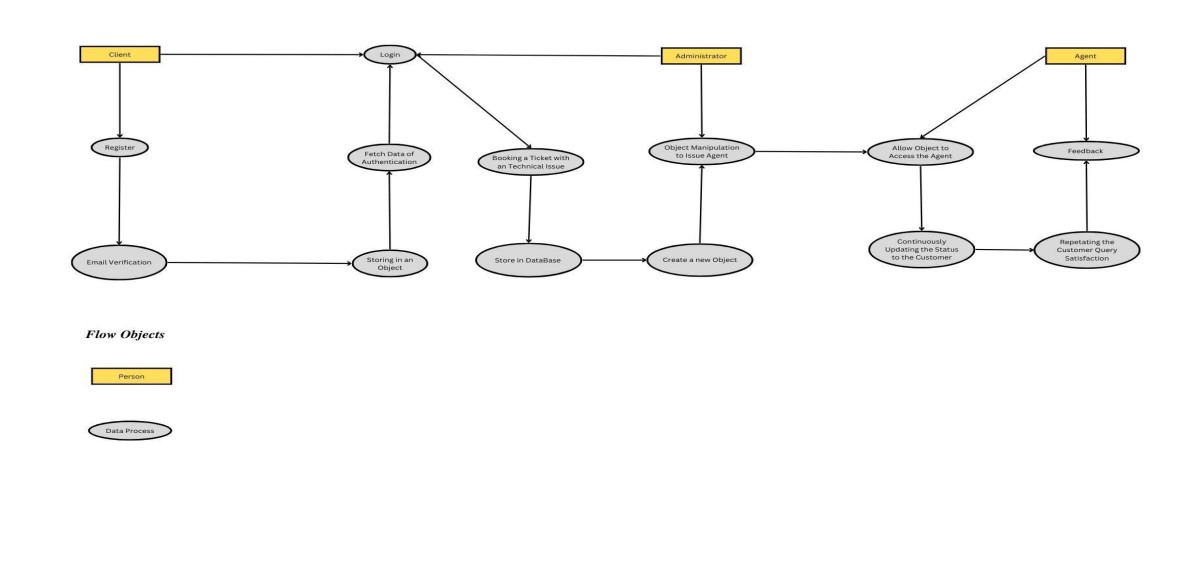
**4.2Non-func onal Requirements:**

Following are the non-func onal requirements of the proposed solu on.

|  |  |  |
| --- | --- | --- |
| **FR No** | **Non-Func onal Requirement** | **Descrip on** |
| 1 | Usability | To provide the solu on to the problem |
| 2 | Security | Track of login authen ca on |
| 3 | Reliability | Tracking of decade status through email |
| 4 | Performance | Effec ve development of web applica on |
| 5 | Availability | 24/7 service |
| 6 | Scalability | Agents scalability as per the number of customers |

**5.Project Design**

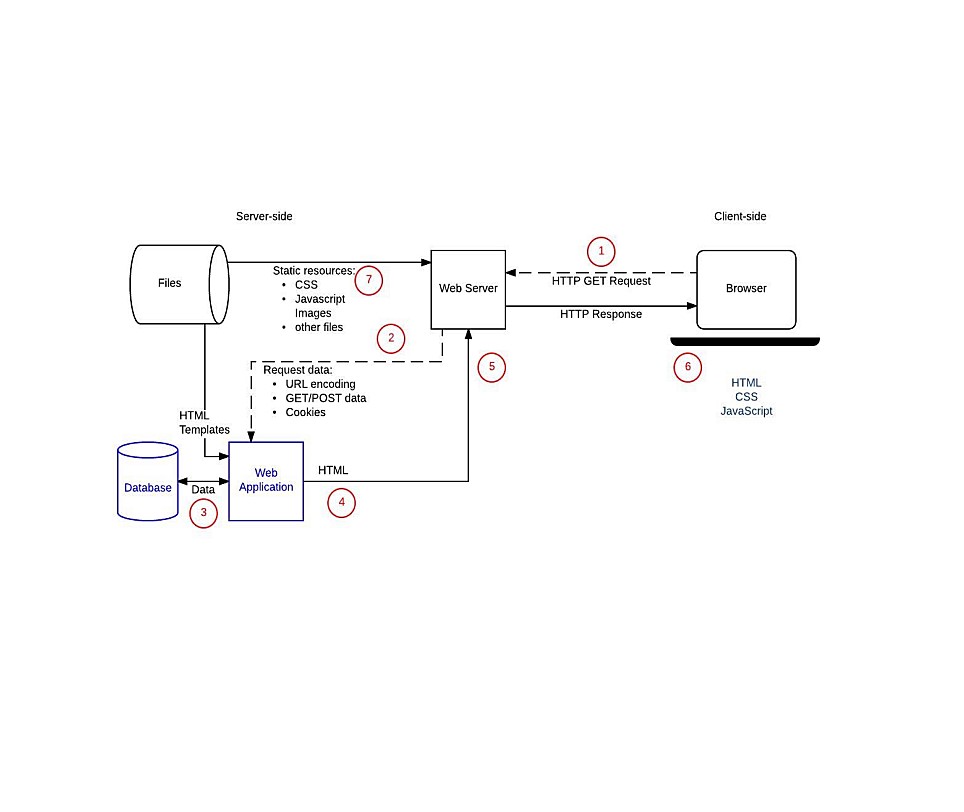
### 5.1 Data Flow Diagram

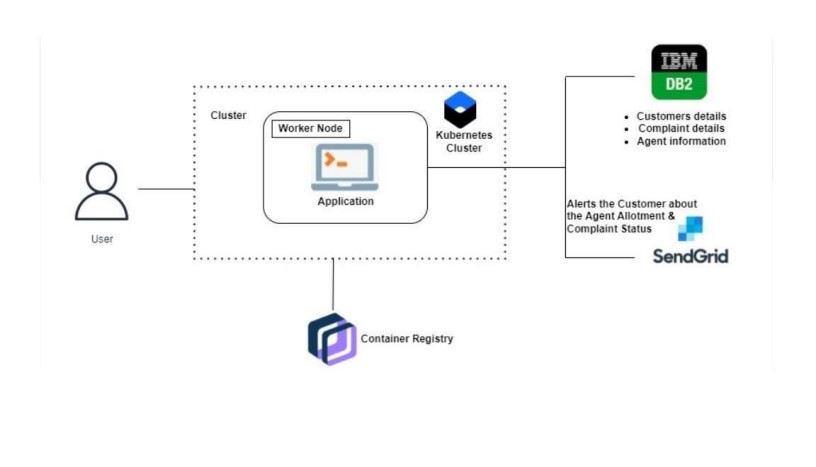


## 5.1 Solution and Technical Architecture

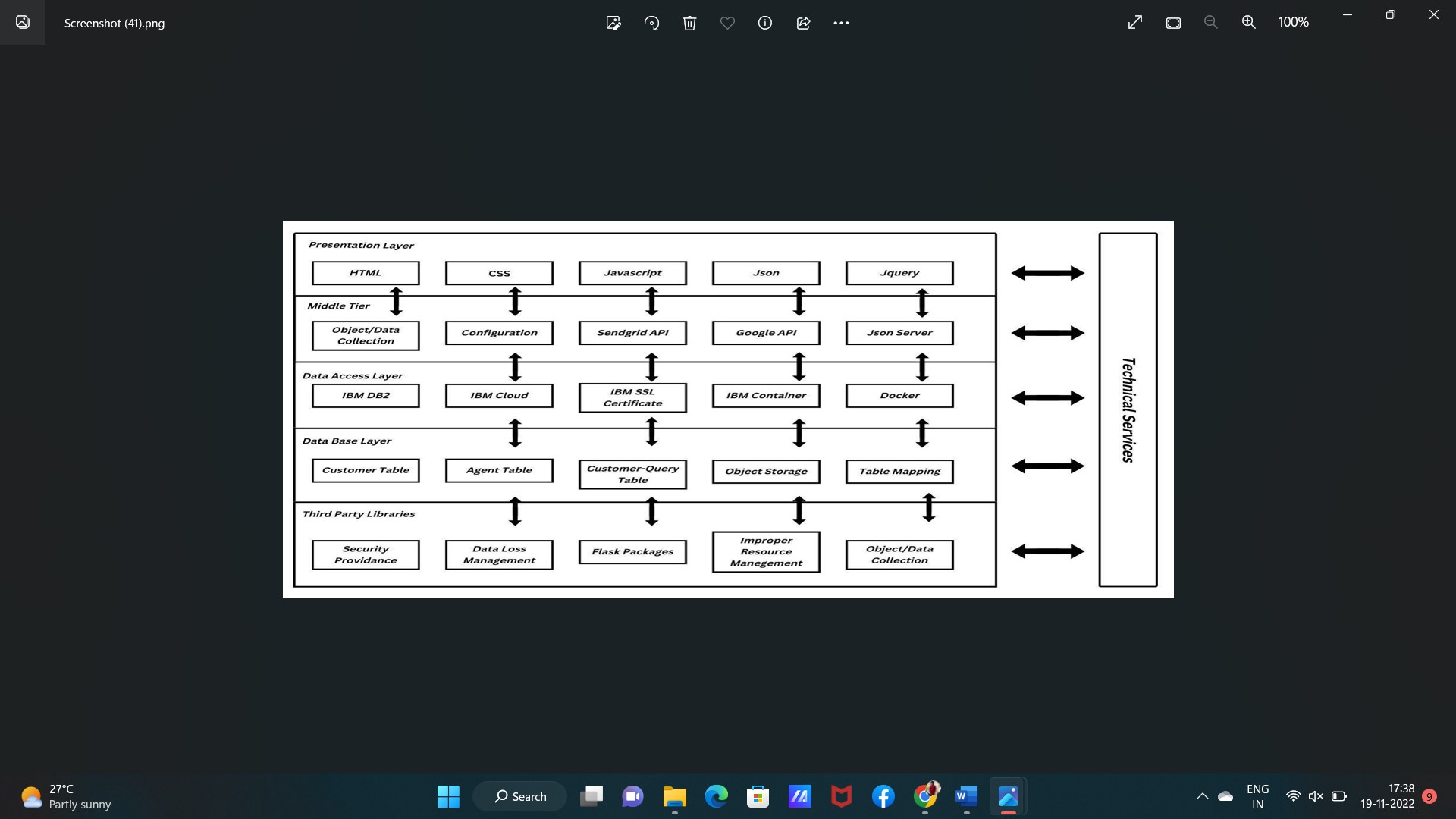
Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

* Find the best tech solution to solve existing business problems.
* Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
* Define features, development phases, and solution requirements.
* Provide specifications according to which the solution is defined, managed, and delivered.





### Technical Architecture



## 5.3 User stories

|  |
| --- |
| **User Story / Task** |
| As a User, I will register for the application by entering my email, password, and confirming my password. |
| As a User, I will Validate the Customer Credentials once after the Email Verification. |
| As a User, I will issue the Customer with Login Id and Password through Object Creation from the Customer Credentials. |
| As a User, I will Login into the Portal using Login Credentials Provided. |
| As a User, I will book for a ticket from available sections along the Application and Submit the Ticket to the Portal |
| As a User, I will issue with a Suitable Agent  to the Customer and provide a Bot Connectivity with the Agent. |
| As a User, I will connect the Bot to the Customer and provide with repeated Status of the Query to the Customer |
| As a User, I will satisfy all the queries to the Customer for all the repetitive responses from the Customers. |
| As a User, I will fill up the Feedback form provided to improve or service provided from the Application. |
| As a User, I will Log out of the Application when my Queries are over or else will begin again from the Beginning. |

# 6 PROJECT PLANNING AND SCHEDULING

## 6.1 Sprint Planning and Estimation

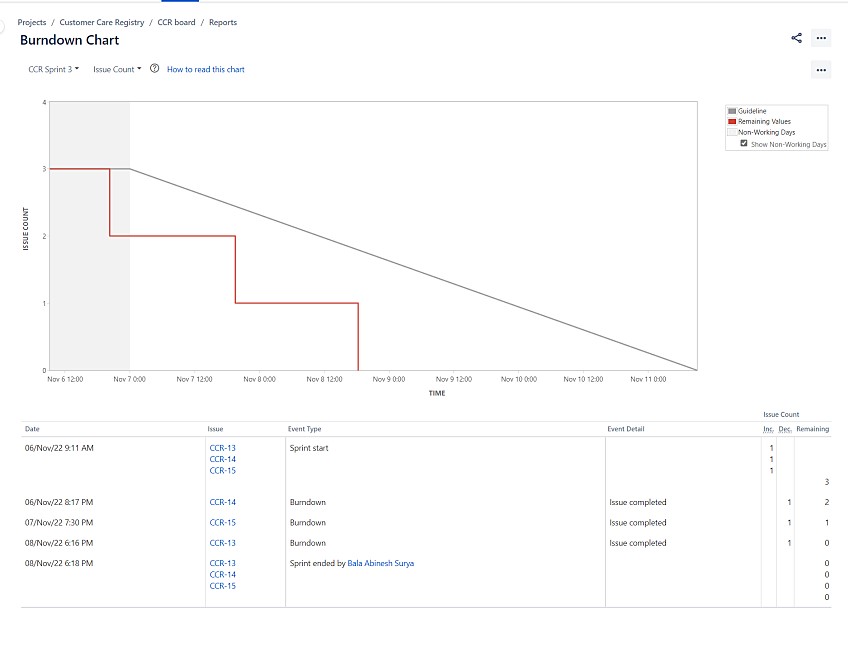
Develop a user interface for cutomer Agent and Admin.We have to create a login interface and register interface which has to be updated to cloud using **IBM DB2**

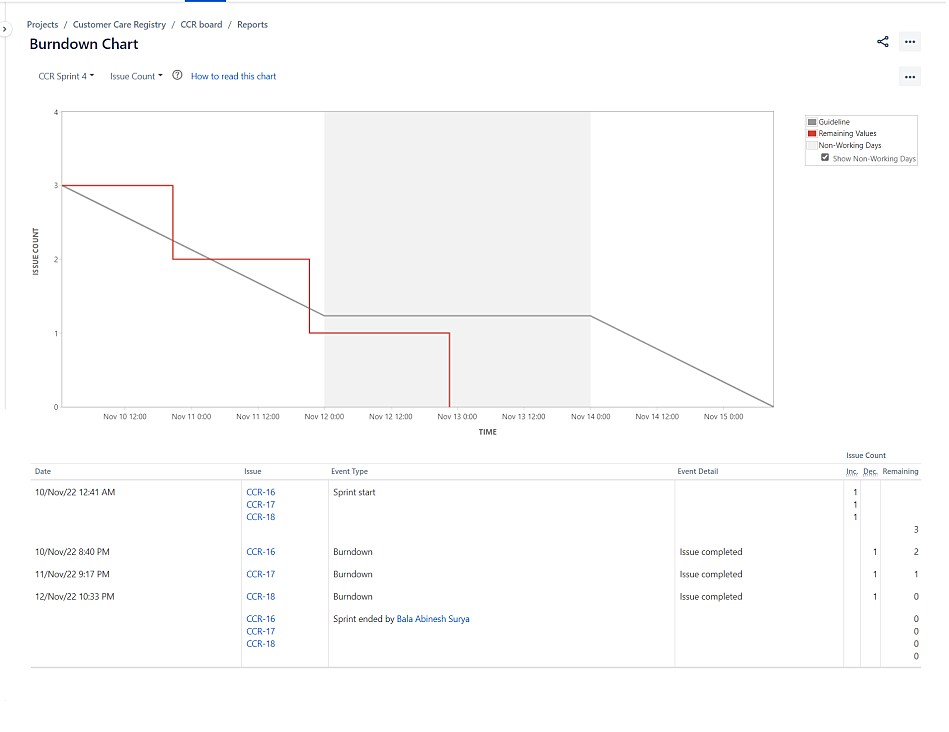
## 6.2 Sprint delivery schedule

Develop a user interface for Customer Agent and Admin.In excess we have to create a Dashboard page for individual profile which has to be redile accessble with multiple customers and agents then we have to create a ticket generation page for the cutomtomers to raise a complaints finally sengrid integration has to be done with the users.

And the the Admin dashboard the customer ticket available.After the admin create a agent for the ticket of customer complinet.And then the agent give the solution for the customer problems.The customer dashboard the solution is there fofr the problems

## 6.3 Reports from JIRA





**7.CODING AND SOLUTIONING(Explian the feature added in the Project Along within Code )**

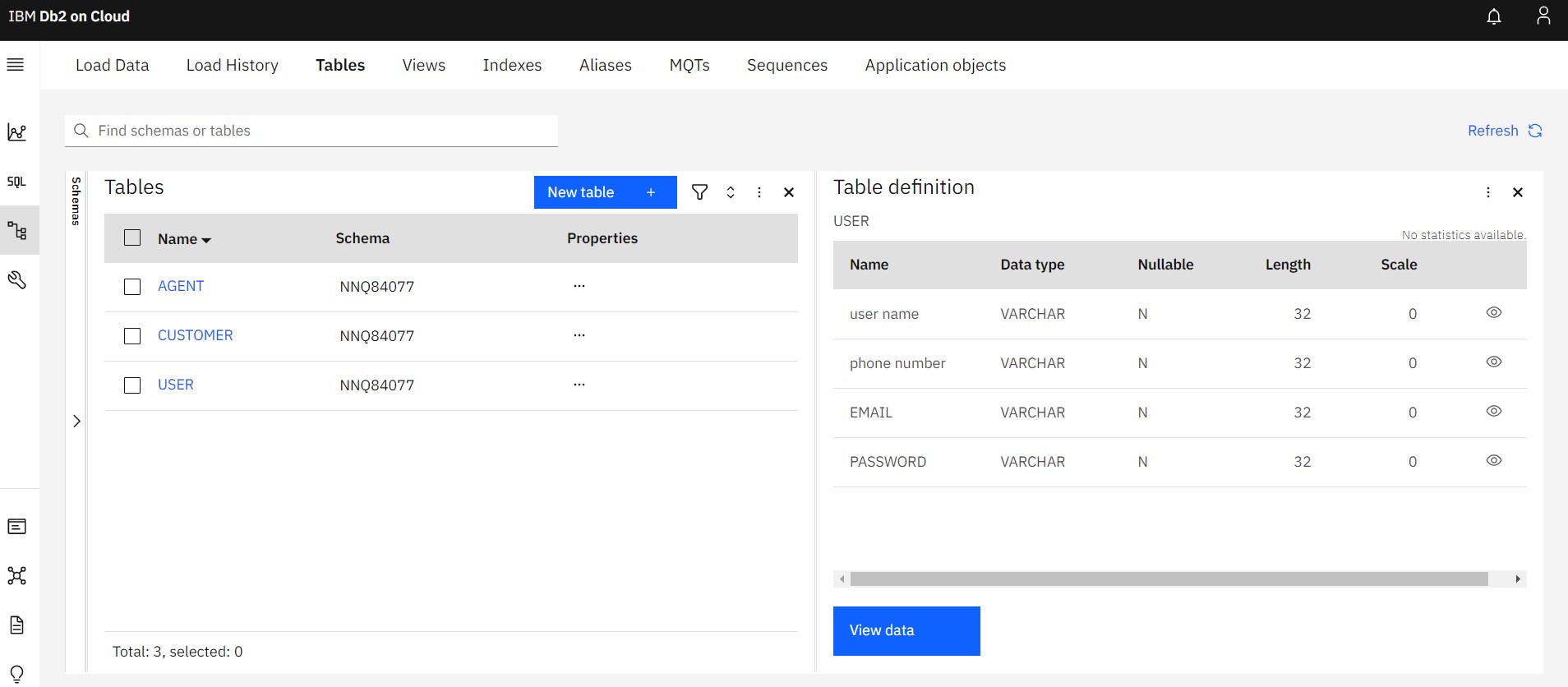
## 7.1 Feature 1

We have added the serndgrind integration with boosted performance which can be readily performed the replky mailes with the uers as one as possible.

## 7.2 Feature 2

We have aadded the tables which has been extracted from the IBM DB2 and the tables are forcely fitted with docker and it can Accessble with customers own time.

## 7.3 DATABASE SCHEMA (IF APPLICABLE)



# 8.TESTING

## 8.1 Test Cases

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test case ID** | **Test case**  **Description** | **Test Data** | **Actual**  **Results** | **Pass/Fail** |
| **1** | Customer changing  the existing password  using invalid data | Password =  123456  New Password =  123456789  Confirm Password  = 123456789 | As expected | Pass |
| **2** | Customer changing  the existing password  using invalid data | Password =  123456  New Password =  123456789  Confirm Password  = 123456789 | As expected | Pass |
| **3** | Customer changing  the existing password  using invalid data | Password =  123456  New Password =  123456789  Confirm Password  = 123456789 | As expected | Pass |

## 8.2 User Acceptance Testing

**1.Purpose of Document**

The purpose of this document is to briefly explain the test coverage and open issues of the **Customer**

**Care Registry** project at the time of the release to User Acceptance Testing

**2. Defect Analysis**

This report show the number of resolved or resolved or closed bugs at each severity level,and how they were resolved

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Section** | **Total Cases** | **Not Tested** | **Fail** | **Pass** |
| Client Application | 72 | 0 | 0 | 72 |
| Security | 7 | 0 | 0 | 7 |
| Exception Reporting | 5 | 0 | 0 | 5 |
| Final Report Output | 4 | 0 | 0 | 4 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Resolution** | **Severity 1** | **Severity 2** | **Severity 3** | **Severity 4** | **Subtotal** |
| By Design | 5 | 0 | 0 | 2 | 7 |
| External | 0 | 2 | 0 | 0 | 2 |
| Fixed | 12 | 11 | 35 | 45 | 103 |
| Not Reproduced | 0 | 5 | 0 | 0 | 5 |
| Skipped | 0 | 0 | 0 | 0 | 0 |
| Totals | 17 | 18 | 35 | 47 | 117 |

### 9 RESULTS

A Good customer Experiance will create value for a customer.creating customer value better benifits versus price increse loyality,markets share,price,reduces errors and increase efficiency.

#### 9.1 PERFORMANCE METRICES

Operational metrics measure the performance of your customer service representatives. You'll find out exactly how many queries they receive, how many are resolved, and so on.

Organizational metrics probe into the customer's mind. What do they think about your product? How happy are they using it? While the customer service team does have a role in influencing these metrics, in essence, here's where your entire organization can pitch in. After all, no matter which department they work in, superior customer experience should be an organization-wide goal.

#### 10 Advantage and disadvantage

Be available to customers even when your team is offline

Schedule meetings with customer service or sales teams

* Automatically share links to relevant self- help articles, videos, etc.

* Improve your chatbot function over time by adding more questions and answers Dia adv

Cons of Chatbot Customer Service:

Chatbots can offer only limited responses to customers

* Robotic responses can frustrate customers and force them to speak with an agent

* Al-powered chatbots can be expensive for your business

* Chatbot conversations often lack empathy and personalization

#### 11 CONCLUTION

In conclusion, customer care, involves the use of basic ethics and any company whowants to have success and grow, needs to remember, that in order to do so, it must begin withestablishing a code of ethics in regards to how each employee is to handle the dealing withcustomers. Customers are at the heart of the company and its growth or decline

#### 12 FUTURE SCOPE

**Self-service, community-based service, and predictive support · 2. Personalization · 3.**

**Human-to-human connection · 4. Rising**

### 13.APPENDIX

|  |
| --- |
| **1 {% extends 'admin dashboard.html' %}**  **2**   1. **{% block title %}** 2. **All tickets** 3. **{% endblock %}**   **6**   1. **{% block right %}** 2. **<div class="profile-div">** 3. **<h1>Unassigned Tickets</h1>** **10** 4. **<div class="new-t-div">** 5. **{% if tickets\_to\_show %}** 6. **<p>{{ msg }}</p>** 7. **<table class="agents-table">** 8. **<tr>** 9. **<th class="agentstable-heading">TICKET ID</th>** 10. **<th class="agentstable-heading">DATE</th>** 11. **<th class="agentstable-heading">CUSTOMER</th>** 12. **<th class="agentstable-heading">QUERY</th>** |

|  |
| --- |
| 1. **<th class="agentstable-heading">ASSIGN</th>** 2. **</tr>** 3. **{% for ticket in tickets %}** 4. **<tr>** 5. **<td class="agentstable-element">{{ ticket[0][0:5] }}</td>** 6. **<td class="agentstable-element">{{ ticket[1] }}</td>** 7. **<td class="agentstable-element">{{ ticket[2] }}</td>** 8. **<td class="agentstable-element">** 9. **<button onclick="showTicket('{{ ticket[3] }}')" class="view-query">View</button>** 10. **</td>** 11. **<td class="agentstable-element">** 12. **<select class="agent-select" id="for-customer" onclick="agentSelected()" >** 13. **<option class="agent-option" selected value="Choose">Choose</option>** 14. **{% for agent in agents %}** 15. **<option class="agent-option" value="{{ agent[1] }} {{ ticket[0] }}">{{ agent[0]** |

|  |
| --- |
| **}}</option>**   1. **{% endfor %}** 2. **</select>** 3. **</td>** 4. **</tr>** 5. **{% endfor %}** 6. **</table>** 7. **{% else %}** 8. **<p>{{ msg }}</p>** 9. **{% endif %}** 10. **</div>** 11. **</div>**   **46**   1. **<script>** 2. **function showTicket(ticket){** 3. **alert(ticket)** 4. **}**   **51**   1. **function agentSelected(){** 2. **var x = document.getElementById('for-customer').value;**   **54**   1. **if (x != "Choose"){** 2. **var decision = confirm("Are you sure you want to assign this agent?")** **57** 3. **if(decision){** 4. **const temp = x.split(" ")** **60**   **61 url = '/admin/update/' +** |
| **temp[0] + '/' + temp[1]**  **62**  **63 fetch(url, {** **64**   1. **}).then((\_res) => {** 2. **window.location.href = "/admin/tickets"** 3. **})** 4. **}** 5. **}** **70 }**   **71 </script>**  **72{% endblock %}** |

**1 {% extends 'base.html' %}**

**2**

1. **{% block main %}**
2. **<div class="dashboard-div">**
3. **<nav>**
4. **<div class="dash-nav">**
5. **<div>**
6. **<div class="dash-img-text">**
7. **<img src="../static/images/cart logo white-modified.png" class="img-in-nav" alt="logo"/>**
8. **<h3>Customer Care Registry</h3>**
9. **</div>**
10. **</div>**
11. **<div>**
12. **<div class="online-div" onclick="showSettings()">**
13. **<img src="../static/images/cust**

|  |
| --- |
| **profile.png" class="img-in-nav" alt="logo"/>**   1. **</div>** 2. **</div>** 3. **</div>** 4. **</nav>**   **20**   1. **<div class="dash-body">** 2. **<div class="dash-left">** 3. **{% block left %}** 4. **{% endblock %}** 5. **</div>** 6. **<div class="dash-right">** 7. **{% block right %}** 8. **{% endblock %}** 9. **</div>** 10. **</div>**   **31**   1. **<div class="settings-menu" id="settings-menu" style="visibility: hidden;">** 2. **<div>** 3. **<p>Want to Logout?</p>** 4. **<a href="{{ url\_for('blue\_print.logout') }}">** 5. **<button class="logout-btn" type="button">Logout</button>** 6. **</a>** 7. **</div>** 8. **</div>** 9. **</div>**   **41**   1. **<script>** 2. **function showSettings(){** 3. **var settings = document.getElementById("settingsmenu");**   **45**   1. **settings.style.visibility = settings.style.visibility == "hidden" ? "visible" : "hidden";** 2. **}** |

**48 </script>**

**49{% endblock %}**

1 {% extends 'base.html' %}

2

1. {% block title %}
2. Login
3. {% endblock %}

6

1. {% block main %}
2. <section class="login-section">
3. <div class="login-div">
4. <div class="login-header">
5. <img src="{{ url\_for('static', filename='images/cart logo white.png') }}" class="loginimg" alt="logo" />
6. <h2>Sign in</h2>
7. <p>Use your Registry Account</p>
8. </div>
9. <div class="login-remind">
10. <form action="{{ url\_for('blue\_print.login') }}" method="POST" class="loginform">
11. <label>Email</label>
12. <input type="email" required value="{{ email }}" name="email" placeholder="Enter your email"/> 19
13. <label>Password</label>
14. <input type="password" required value="{{ password }}" name="password" id="password-input" placeholder="Enter your email"/>

22

1. <div class="show-pass-div">
2. <input type="checkbox" onclick="showPassword()" style="height: 20px;"/>

|  |
| --- |
| 1. <p>Show Password</p> 2. </div>   27   1. <div class="role-div"> 2. <p>Role : </p> 3. <div> 4. <div> 5. <input type="radio" style="height: 20px;" value="Customer" checked name="rolecheck"/> 6. <p>Customer</p> 7. </div> 8. <div> 9. <input type="radio" style="height: 20px;" value="Agent" name="role-check"/> 10. <p>Agent</p> 11. </div> 12. </div> 13. </div>   41  42 <button class="submit-btn" type="submit">Login</button>  43   1. <div> 2. <a href="#" class="links">Forgot Password?</a> <br> 3. <div> 4. <a href="{{ url\_for('blue\_print.register') }}" class="links">Don't have an account yet? Register</a> 5. </div> 6. </div> 7. </form> 8. </div> 9. </div> 53 </section> |

54{% endblock %}

GITHUB LINK :

<https://github.com/IBM-EPBL/IBM-Project-898-1658329453>

Youtube Link: