

PROJECT REPORT

TEAM ID:PNT2022TMID53529

PROJECT TITLE:CUSTOMER CARE REGISTRY

TEAM MEMBERS:

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CHAPTER 1

1.INTRODUCTION

1.1 PROJECT OVERVIEW

Companies today are modernising customer care, using advanced methodologies to ensure a positive customer experience starting from the first interaction and throughout the buyer's journey. 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. Hence ,an application is needed for processing the complaints raised by the customers.

This Application solves this issue and aims to help customers 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 .This will help the customers to track each step of their issue and in turn promotes the company's customer support.

Customers will also be provided with a chatbot service that will work 24 X 7 which in turn will help customers solve a few minor issues without the intervention of an agent/admin and will be redirected to the admin/agent if the problem requires their intervention.

1.2 PURPOSE

The main purpose of this project are as follows

- To offer services for customers if they have any queries/issues.
- To let customers raise tickets with a detailed description of the issue.
- To assign an agent to the customer to solve the problem.
- To establish an end to end connection between the customer and the agent through a chat service.
- To help the customer to track each step of the issue.
- To help businesses/companies to have better customer support.

CHAPTER 2

2.LITERATURE SURVEY

2.1 EXISTING PROBLEM:

Companies today are modernizing customer care, using advanced methodologies to ensure a positive customer experience starting from the first interaction and throughout the buyer's journey. A 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. Hence, an application is needed for processing the complaints raised by the customers.

2.2 REFERENCES:

Title: Service Quality Management

Authors: S. Santhana Jeyalakshmi and Dr. S. Meenakumari

Year of Publication: 2016

Abstract: Service quality becomes a crucial issue for the education industry and the theory of service quality has evolved over a long period of time through testing and trials in the service sector. The demanding customers and increased sense of customer satisfaction led to the use of the new service parameters making education institutions to implement quality management as an effective aid. During the last few decades there is phenomenal change experienced in the education industry and the reason being is Service Quality. Knowing that both service quality and value is difficult to measure, education institutions heavily rely on student's quality perception and expectations. It could be achieved by asking students questions related to expectations and their perceptions of the service quality through carefully designed surveys. Various studies have been carried out to consolidate the dimensions of service quality and servqual has been accepted as a well constructed instrument to measure service quality. The empirical research in development of service quality theory suggests that improved service quality plays an important role in overall customer satisfaction. Study would focus on various studies on Service Quality conducted by earlier researchers in an array of industries. Thus, present study is unique in the sense that it is new to the Education industry. The paper explores the development of service quality theory and alternate scales of measuring service quality, its role in customer satisfaction and importance of servqual instruments. Key Words: Service Quality, Dimensions of service quality, Servqual, customer satisfaction.

Title: Towards a public Cloud Service Registry

Authors: Ahmed Mohammed Ghamry, Asma Musabah Alkalbani, Vu Tran, Yi-Chan Tsai, My Ly Hoang, and Farookh Khadeer Hussain\

Year of Publication: 2019

Abstract: Cloud services registry is a cloud services database which contains thousands of records of cloud consumers' reviews and cloud services, such as Platform as a Service (PaaS) and Infrastructure as a Service (IaaS). The data set is harvested from a web portal called www.serchen.com. Each record holds detail information about the service such as service name, service description, categories, key features, service provider link and review list. Each review contains reviewer name, review date and review content. This work is an extension of our previous work Blue Pages data set. The data set is valuable for future research in cloud service identification, discovery, comparison and selection.

Title: Literature Study on Satisfaction Factors of Customers in Construction Industry

Authors: Shruthi Sivaprakasam , R. Shanmuga Priyan , J. Jayashree

Year of Publication: 2017

Abstract: Customer satisfaction is decisive for the construction field and firms relying on customer relationships. Measuring customer satisfaction has several benefits such as improving communication between parties, evaluation of progress towards goals and enabling mutual agreement and monitoring results. This paper focuses on analyzing the satisfaction factors of customers including all aspects of products and services in the construction projects. In this study factors for customer satisfaction in the construction industry are taken from the past literature review. The literature reviews are summarized and various factors related to customer satisfaction in the construction industry based on literature review summary.

Title: Ideal help desk/service desk in e-government and service quality

Authors: Hatma Suryotrisongko, Meli Dyah Qoiru Mucharomah

Year of Publication: 2017

Abstract: Help desk and service desk are critical in this era regarding how much people need a place to ask to and consult to. People demand a transparent governance and help desk service desk is one way to fulfill that demand. But, there's ambiguity in what the ideal help desk is, because the condition in every country is different, they have their own characteristics. There are some countries that have made services for their citizens fully electronic-based, while some still retain the conventional help desk service. There are two kinds of e-government which we have known, developed countries and developing countries. And they have their own design of what help desk they should use, but some are not very effective and efficient as it was expected to be. This article discussed what is the ideal help desk/service desk in e-government and the service quality as the indicator to know whether that help desk has been used on its maximum advantages or not.

Title: Theory and practice of customer-related improvements:

Authors: Daniel Gyllenhammar,Erik Eriksson and Henrik Eriksson

Year of Publication: 2022

Abstract:Customers are vital to any organization and system, and must therefore be considered when seeking to improve. However, how to improve with regard to the customer, is not clear, and the knowledge is spread over several research fields, making it difficult for researchers and practitioners to comprehend. The purpose of this literature review is to show how customer-related improvements are described in the literature and how the research is performed. 666 articles were screened, resulting in 99 coded and analyzed articles. The study concludes that there is a lack of understanding when it comes to the process of how to improve and that both practitioners and academics should focus more on the system level. It is also seen that by involving the customer in the improvement process, the improvement is more likely to succeed. The article concludes that there is a need for future research which are conceptual, longitudinal, and are addressing actual improvements, not just potential. From the practitioners' point of view, the article is proposing an increased focus on customer-related improvements which address aspects concerning people, such as employee competence and work environment, and reward systems, rather than strategy and processes to improve the potential benefits.

Title: Literature review on Complaints

Author: Merlin Stone

Year of Publication: 2019

Abstract: Consultants working on commercial projects often fail to take account of the deep and broad academic literature on the topic on which they are working. Because of his position as a hybrid academic and consultant, the author is obliged to keep closely in touch with the different literatures for the areas in which he teaches - broadly marketing, customer relationship management, customer service and branding. As the number of management journals increases, so the supply of research-based articles increases, and it becomes harder for practitioners to stay in touch with it. The author has therefore identified that a critical role in his research projects for clients is to review the academic and other literature for clients. This particular literature review was part of a white paper project commissioned by a hi-tech client to help them understand how the management of problems affects the management of customer relationships. It excludes a section on social media, which was too client specific and therefore confidential to be published. Social media will be the subject of a later paper.

Title: The Role Of Customer Service Through Customer Relationship Management (CRM) To Increase Customer Loyalty And Good Image

Authors: Erna Hendrawati,Erna Hendrawati,Ni Made Nopita Wati

Year of Publication: 2019

Abstract: This research background is a number of problems faced by the company can make a bad company image and reduce levels of consumer loyalty. To avoid harming the image of the company then the company must focus on service to consumers. Service to consumers is very important in increasing the satisfaction of its customers, due to the company customers being the most important asset in which consumers provide and is significant in the development of the company's reputation. The formulation of the problem in this research shows the role of customer service through Customer Relationship Management (CRM) to improve customer loyalty and good image. This study aims to determine the role of customer service through Customer Relationship Management (CRM) to improve customer loyalty and good image at PT Sun Star Motor Blitar. This research method using this qualitative study, researchers used a paradigm Non Positivism / Naturalistic / Interpretative. Interpretative paradigm aims to understand the meaning of behavior, symbols, and phenomena by using sampling purposive sampling. Data Collection Techniques using interviews, documentation, observation. The results of this study show the role of customer service through Customer Relationship Management (CRM) to improve customer loyalty and good image in PT. identity is a major first step in the implementation of CRM. Many things need to be identified by the company. Acquire customer service categorizes consumers based on contributions made to the company as the number of consumer income, transactions regularly and duration become consumers. Therefore, the image of the company should be kept positive because it will have a positive impact also for the company.

Title: Theory and practice of customer-related improvements:

Authors: Daniel Gyllenhammar,Erik Eriksson and Henrik Eriksson

Year of Publication: 2022

Abstract: Customers are vital to any organization and system, and must therefore be considered when seeking to improve. However, how to improve with regard to the customer, is not clear, and the knowledge is spread over several research fields, making it difficult for researchers and practitioners to comprehend. The purpose of this literature review is to show how customer-related improvements are described in the literature and how the research is performed. 666 articles were screened, resulting in 99 coded and analyzed articles. The study concludes that there is a lack of understanding when it comes to the process of how to improve and that both practitioners and academics should focus more on the system level. It is also seen that by involving the customer in the improvement process, the improvement is more likely to succeed. The article concludes that there is a need for future research which are conceptual, longitudinal, and are addressing actual improvements, not just potential. From the practitioners' point of view, the article is proposing an increased focus on customer-related improvements which address aspects concerning people, such as employee competence and work environment, and reward systems, rather than strategy and processes to improve the potential benefits.

2.3 PROBLEM DEFINITION

A customer care Registry not only boosts customer satisfaction but also helps in improving customer loyalty. If a company neglects customer care, it can negatively impact the customer service experience. Hence, an Application needs to be developed to help the customer in processing their complaints where the customers will be able to raise a ticket with a detailed description of the issue. An Agent will be assigned to the Customer to solve the problem. The admin has the main responsibility to take care of the whole process. He will be able to track the work assigned to the agent. 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. The agent will quickly address the customer's issue and mitigate any effects of the negative experience. Therefore, this application adds up satisfied customers and brings in more customers to an organization.

CHAPTER 3

IDEATION AND PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS

https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/blob/main/Project%20Design%20%26%20Planning/Ideation%20Phase/Empathy_Map_Canvas.pdf

3.2 IDEATION AND BRAINSTORMING

<https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/blob/main/Project%20Design%20%26%20Planning/Ideation%20Phase/BRAINSTORM-NTP.pdf>

3.3 PROPOSED SOLUTION

S.NO	PARAMETER	DESCRIPTION
1.	Problem Statement (Problem to be solved)	Companies today are modernizing customer care, using advanced methodologies to ensure a positive customer experience starting from the first interaction and throughout the buyer's journey. A 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. Hence ,an application is needed for processing the complaints raised by the customers
2.	Idea / Solution description	A customer care Registry not only boosts customer satisfaction but also helps in improving customer loyalty. If a company neglects customer care, it can negatively impact the customer service experience. Hence, an application needs to be developed to help the customer in processing their complaints where the customers will be able to raise a ticket with a detailed description of the issue. An Agent will be assigned to the Customer to solve the problem. The admin has the

		<p>main responsibility to take care of the whole process. He will be able to track the work assigned to the agent. 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. The agent will quickly address the customer's issue and mitigate any effects of the negative experience. Therefore, this application adds up satisfied customers and brings in more customers to an organization.</p>
3.	Novelty / Uniqueness	<p>With an integrative approach, the project aims in establishing an end-to-end connection between the customer and the service agent through a chat service. These chatbots can transfer customers to service agents whenever human touch is required. This can help</p>

		<p>businesses speed up response times and also answer routine questions.</p>
4.	Social Impact / Customer Satisfaction	<p>Customer satisfaction is based on understanding, defining, assessing and managing customer needs so that their expectations are met. This project ensures that the policies, objectives and responsibilities of the project will satisfy the customer needs where customer service</p>

		agents spend less time on routine tasks and answering commonly asked questions.
5.	Business Model (Revenue Model)	This model helps in improving the efficiency and productivity of the organization as the use of chatbots can save up to 30% in customer support cost and can help businesses save on customer service costs by speeding up response times and answering up to 80% of routine questions.
6.	Scalability of the Solution	This project aims at solving all the complaints faced by the customers which sequentially ensures rapid business growth. It helps in enhancing the flexibility to deliver new features faster. It helps in maintaining long-term relationships with the customers which in turn helps in increasing the operational efficiency among the organization.

3.4 PROPOSED SOLUTION FIT

1.CUSTOMER SEGMENTS

Customer care registry is the support you offer the customers — both before and after they buy and use your products or services — that helps them have an easy, enjoyable experience with your brand. Hence, Customers differ from the product for which they are approaching customer service. For example, A toy company's customer care service will only be approached by parents of 0-7 yrs.

2.JOBS TO BE DONE

ROLE OF 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.

ROLE OF AGENT:

The role and primary job of an agent is to address the customer issues and resolve them in a timely, efficient and professional manner. He/She has to make note of the customer's suggestions on what can potentially improve their experience.

3.TRIGGERS

- 1.Customer contact Customer service when they either want a deeper understanding or additional information on your product.
- 2.When customers are dissatisfied with their product or service.
- 3.When consumers face minor technical or payment issues.
- 4.One of the most common reasons customers call service centers is to seek an exception to a rule or policy by speaking to real, live human beings.

4.EMOTIONS BEFORE/AFTER

EMOTIONS-BEFORE

Though the emotions of the customer varies from person to person,most of them have negative emotions that include agitation,anger,irritation,disgust and pain as they usually approach customer care due to an issue or dissatisfaction.

EMOTIONS-AFTER

Customers usually have positive emotions that include joy, satisfaction, belonging, security and happiness as the customer service would have or would have tried to meet the customers expectations and thereby improving customer satisfaction.

5.AVAILABLE SOLUTIONS

- 1.This application can let customers raise tickets with a detailed description of the issue.This will help the agent to understand the customer's problem clearly and in turn increase response time.
- 2.An end to end connection between the customer and the agent through a chat service.Chatbots can save up to 30% in customer support cost and can help businesses save on customer service costs by speeding up response times and answering up to 80% of routine questions.
- 3.An issue tracking tool to help the customer track each step of the issue.It can help unify,manage,analyze and contextualize customer requests.

6.CUSTOMER CONSTRAINTS

- Limited budget
- Need to reuse existing hardware
- Shared bandwidth with multiple apps
- Limited skillset for maintenance
- Low appetite for risk

7.BEHAVIOUR

The user first creates an account and subsequently login to the application. Now,they can register a complaint with a description of the problem they are facing. Each user will be assigned with an agent and the user will be able to view the status of their complaint.This will help the customers to track each step of their issue and in turn promotes the company's customer support.

8.CHANNELS OF BEHAVIOUR

ONLINE:

The customer has to create an account and subsequently login and register a complaint on the issue that they face.A chatbot will be enabled first to solve the issue and will be transferred to a human agent if needed.

OFFLINE:

NONE

9.PROBLEM ROOT CAUSE

Companies today are modernizing customer care, using advanced methodologies to ensure a positive customer experience starting from the first interaction and throughout the buyer's journey. 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. Hence ,an application is needed for processing the complaints raised by the customers

10.YOUR SOLUTION

A customer care Registry not only boosts customer satisfaction but also helps in improving customer loyalty. If a company neglects customer care, it can negatively impact the customer service experience. Hence, an application needs to be developed to help the customer in processing their complaints where the customers will be able to raise a ticket with a detailed description of the issue. An Agent will be assigned to the Customer to solve the problem. The admin has the main responsibility to take care of the whole process. He will be able to track the work assigned to the agent. 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. The agent will quickly address the customer's issue and mitigate any effects of the negative experience. An end to end connection between the customer and the agent through a chat service to speed up response times.

CHAPTER 4

4.1FUNCTIONAL REQUIREMENTS

FR No	Functional Requirement(Epic)	Sub Requirement(Story/ Sub-Task)
1	User Registration	Registration through Form Registration through Gmail Registration through Google
2	User Confirmation	Confirmation via Email Confirmation and 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	Description of the issues with Contact information
6	E-mail	Login alertness
7	Feedback	Customer feedback

4.2 NON-FUNCTIONAL REQUIREMENTS

FR No	Non-Functional Requirement	Description
1	Usability	To provide the solution to the problem
2	Security	Track of login authentication
3	Reliability	Tracking of decode 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

CHAPTER 6

6.1 Sprint Planning & Estimation

Product Backlog, Sprint Schedule, and Estimation

Sprint	User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Customer (Web User)	Registration	USN-1	As a customer, I can register for the application by entering my email, password, and confirming my password.	2	High	Supraja,Suppriya
Sprint-1		Login	USN-2	As a customer, I can login to the application by entering correct email and password	1	High	Lohith Kumar,Sneha
Sprint-1		Dashboard	USN-3	As a customer, I can see all the tickets raised by me and lot more	3	High	Suppriya
Sprint-2		Ticket creation	USN-4	As a customer, I can create a new ticket with the detailed description of my query	2	High	Supraja
Sprint-3		Address Column	USN-5	As a customer, I can have conversations with the assigned agent and get my queries clarified	3	High	Sneha,Suppriya
Sprint-4		Forgot password	USN-6	As a customer, I can reset my password by this option in case I forgot my old password	2	Medium	Lohith Kumar,Supraja

Sprint	User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-4		Ticket details	USN-7	As a customer, I can see the current status of my tickets	2	Medium	Supraja,Sneha
Sprint-3	Agent (Web user)	Login	USN-1	As an agent, I can login to the application by entering correct email and password	2	High	Suppriya
Sprint-3		Dashboard	USN-2	As an agent, I can see all the tickets assigned to me by the admin	3	High	Sneha
Sprint-3		Address Column	USN-3	As an agent, I get to have conversations with the customer and clear his/her queries	3	High	Lohith Kumar,Supraja
Sprint-4		Forgot password	USN-4	As an agent, I can reset my password by this option in case I forgot my old password	2	Medium	Sneha,Suppriya
Sprint-1	Admin (Web user)	Login	USN-1	As an admin, I can login to the application by entering correct email and password	1	High	Suppriya,Supraja
Sprint-1		Dashboard	USN-2	As an admin, I can see all the tickets raised in the entire system and lot more	3	High	Lohith Kumar
Sprint-2		Agent creation	USN-3	As an admin, I can create an agent for clarifying the customer's queries	2	High	Sneha
Sprint-2		Assigning agent	USN-4	As an admin, I can assign an agent for each ticket created by the customer	3	High	Supraja,Sneha
Sprint-4		Forgot password	USN-4	As an admin, I can reset my password by this option in case I forgot my old password	2	Medium	Suppriya ,Lohith Kumar

6.2 Sprint Delivery Schedule

Project Tracker, Velocity & Burndown Chart

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	10	6 Days	24 Oct 2022	29 Oct 2022	10	29 Oct 2022
Sprint-2	7	6 Days	31 Oct 2022	05 Nov 2022	7	05 Nov 2022
Sprint-3	11	6 Days	07 Nov 2022	12 Nov 2022	11	12 Nov 2022
Sprint-4	8	6 Days	14 Nov 2022	19 Nov 2022	8	19 Nov 2022

Velocity:

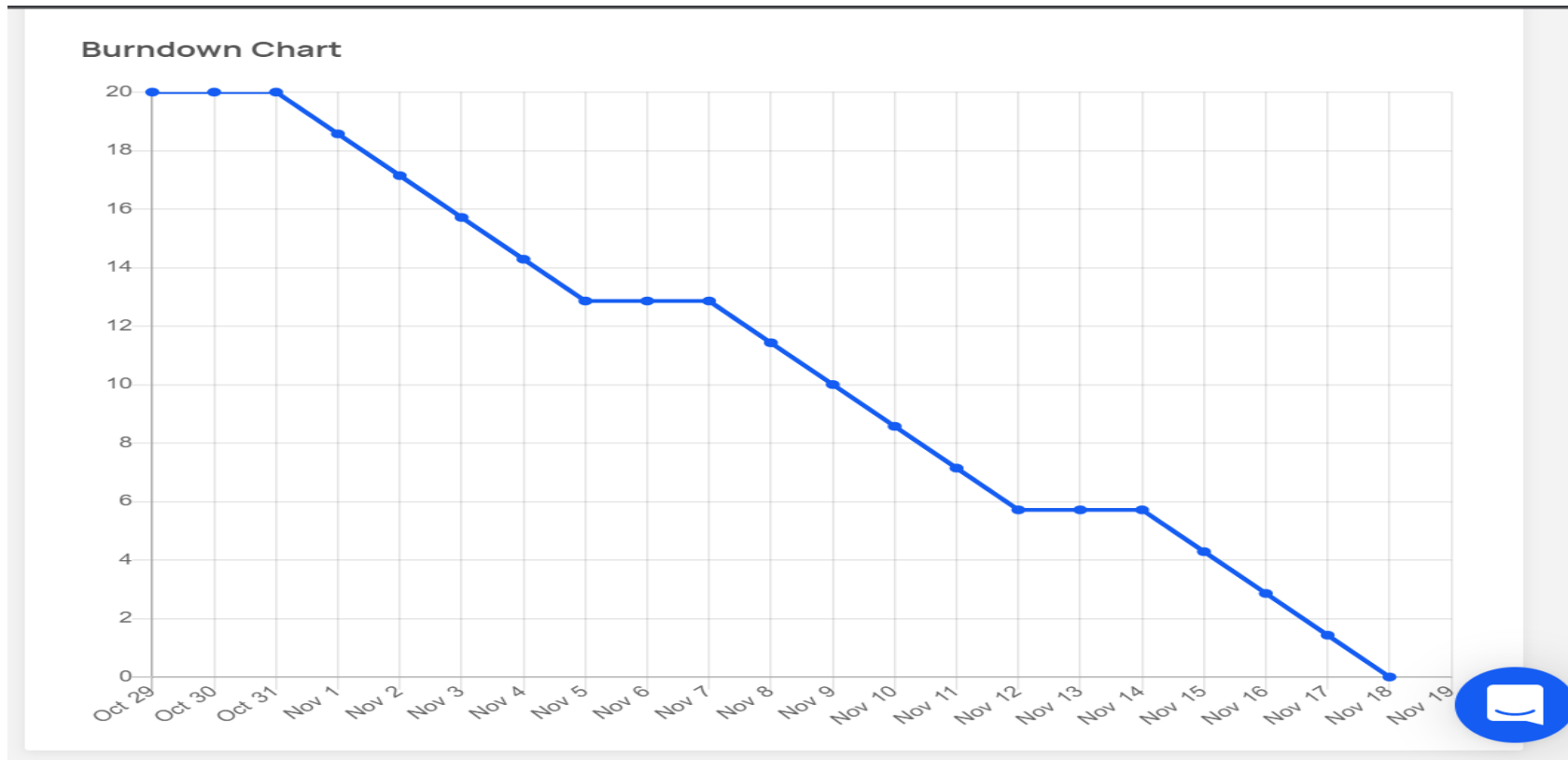
Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

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

6.3 Reports from JIRA

Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.



CHAPTER 7

7.1 Feature 1

CODE:

Admin Dashboard

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width,
initial-scale=1.0" />  <link
rel="stylesheet"

href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.
min.css"  integrity="sha384-
wvfXpqpZZVQGK6TAh5PVlGOfQNHSoD2xbE+QkPxCAFINEevoEH3Sl0sib
VcOQVnN"  crossorigin="anonymous"
/>
    <link rel="stylesheet" href="../static/styles.css" />
    <link href="static/icon.png" rel="icon">
    <link href="static/icon.png" rel="apple-touch-icon">

  <title>Customer Care Registry</title>
</head>
<body id="body">
  <div class="container">
    <nav class="navbar">
      <div class="nav_icon" onclick="toggleSidebar()">
        <i class="fa fa-bars" aria-hidden="true"></i>
      </div>
      <div class="navbar__left">
        <a class="active_link" href="/admindashboard">Admin
Dashboard</a>  <a href="/adminprofile">Profile</a>
        <a href="/viewCustomers">View Customers</a>
        <a href="/viewAgents">View Agents</a>
        <a href="/deleteCustomers">Delete Customers</a>
        <a href="/deleteAgents">Delete Agents</a>
        <a href="/viewTicketsAdmin">View Tickets</a>
        <a href="/assignTickets">Assign Agents</a>
```

```
</div>
<div class="navbar__right">
  <a href="#">
    <i class="fa fa-clock-o" aria-hidden="true"></i>
  </a>
  <a href="/adminprofile">
    
  </a>
</div>
</nav>
```

```
<main>
  <div class="main__container">
    <div class="main__title">
      
      <div class="main__greeting">
        <h1>Hello {{username}}</h1>
        <p>Welcome to your dashboard</p>
      </div>
    </div>
    <div class="main__cards">
      <div class="card">
        <i
          class="fa fa-arrow-up fa-2x text-lightblue"
          aria-hidden="true"
        ></i>
        <div class="card_inner">
          <p class="text-primary-p">Number of agents</p>
          <span class="font-bold text-title">{{msg1}}</span>
        </div>
      </div>
```

```
    <div class="card">
      <i class="fa fa-calendar fa-2x text-red"
        aria-hidden="true"></i>
      <div class="card_inner">
        <p class="text-primary-p">Number of customers</p>
        <span class="font-bold text-title">{{msg2}}</span>
      </div>
    </div>
```

```

<div class="card">
<i
class="fa fa-rupee fa-2x text-yellow"
aria-hidden="true"
></i>
<div class="card_inner">
<p class="text-primary-p">Number of tickets to be
assigned</p> <span class="font-bold
text-title">{{msg33}}</span> </div>
</div>
<div class="card">
<i
class="fa fa-bell fa-2x text-green"
aria-hidden="true"
></i>
<div class="card_inner">
<p class="text-primary-p">Number of tickets
resolved</p> <span class="font-bold
text-title">{{msg44}}</span> </div>
</div>
</div>
<div class="chartsnew">
<div class="charts__right">
<div class="charts_right_title">
<div>
<h1>Cool Facts</h1>
<p>Customer Care Registry</p>
</div>
<i class="fa fa-usd" aria-hidden="true"></i>
</div>

<div class="charts_right_cards">
<div class="card1">
<h1>Total number of tickets raised in our application</h1><br>
<h2>{{msg5}}</h2>
</div>

<div class="card2">
<h1>Total Alert Notifications sent</h1><br>

```

```
<h2>{{msg6}}</h2>
</div>
```

```
<div class="card3">
<h1>Customers registered with our Application</h1><br>
<h2>{{msg7}}</h2>
</div>
```

```
<div class="card4">
<h1>Total number of tickets resolved in our application</h1><br>
<h2>{{msg8}}</h2>
</div>
</div>
</div>
</div>
</div>
</main>
```

```
<div id="sidebar">
<div class="sidebar__title">
<div class="sidebar__img">
<h1>Customer Care Registry</h1>
</div>
<i
onclick="closeSidebar()"
class="fa fa-times"
id="sidebarIcon"
aria-hidden="true"
></i>
</div>
```

```
<div class="sidebar__menu">
<div class="sidebar__link active_menu_link">
<i class="fa fa-home"></i>
<a class="active_link" href="/admindashboard">Admin
Dashboard</a> </div>
<h2>Profile</h2>
<div class="sidebar__link">
<i class="fa fa-user" aria-hidden="true"></i>
<a href="/adminprofile">Profile Information</a>
```

```
</div>
<h2>Manage Agents/Customers</h2>
<div class="sidebar__link">
  <i class="fa fa-plus"></i>
  <a href="/viewCustomers">View Customers</a>
</div>
<div class="sidebar__link">
  <i class="fa fa-plus"></i>
  <a href="/viewAgents">View Agents</a>
</div>
<div class="sidebar__link">
  <i class="fa fa-plus"></i>
  <a href="/deleteCustomers">Delete Customers</a>
</div>
<div class="sidebar__link">
  <i class="fa fa-plus"></i>
  <a href="/deleteAgents">Delete Agents</a>
</div>
<div class="sidebar__link">
  <i class="fa fa-plus"></i>
  <a href="/viewTickets">View Tickets</a>
</div>
<h2>Assign Tickets</h2>
<div class="sidebar__link">
  <i class="fa fa-plus"></i>
  <a href="/assignTickets">Assign Tickets</a>
</div>

<div class="sidebar__logout">
  <i class="fa fa-power-off"></i>
  <a href="/adminlogout">Log out</a>
</div>
</div>
</div>
</div>
<script src="https://cdn.jsdelivr.net/npm/apexcharts"></script>
<script src="../static/script.js"></script>
</body>
</html>
```

DESCRIPTION:

View customer: All customers are registered in the application are viewed in View customer. Agent customer: All Agent are registered in the application are viewed in View Agent.

Delete Customer: Click on delete to delete the customer after selecting the customer it show red in color after deleting customer detail is deleted.

Delete Agent: Click on delete to delete the agent after selecting the agent it show red in color after deleting agent detail is deleted.

Agent Dashboard:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width,
initial-scale=1.0" />  <link
rel="stylesheet"

href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.
min.css" integrity="sha384-
          wvfXpqpZZVQGK6TAh5PVlGOfQNHSoD2xbE+QkPxCAFINEev
          oEH3Sl0si bVcOQVnN"
crossorigin="anonymous"
/>

<link rel="stylesheet" href="../static/styles.css" />
<link href="static/icon.png" rel="icon">
<link href="static/icon.png" rel="apple-touch-icon">

<title>Customer Care Registry</title>
</head>
<body id="body">
  <div class="container">
    <nav class="navbar">
      <div class="nav_icon" onclick="toggleSidebar()">
        <i class="fa fa-bars" aria-hidden="true"></i>
```

```
</div>
<div class="navbar__left">
  <a class="active_link" href="/agentdashboard">Agent
Dashboard</a>  <a href="/agentprofile">Profile</a>
  <a href="/viewTickets">View Tickets/Change
Status</a>  </div>
<div class="navbar__right">
  <a href="#">
    <i class="fa fa-clock-o" aria-hidden="true"></i>
  </a>
  <a href="/agentprofile">
      </a>
  </div>
</nav>
```

```
<main>
<div class="main__container">
  <div class="main__title">
    
    <div class="main__greeting">
      <h1>Hello {{username}}</h1>
      <p>Welcome to your dashboard</p>
    </div>
  </div>
  <div class="main__cards">
    <div class="card">
      <i
class="fa fa-arrow-up fa-2x text-lightblue"
aria-hidden="true"
></i>
      <div class="card_inner">
        <p class="text-primary-p">Number of tickets
assigned</p>  <span class="font-bold
text-title">{{msg11}}</span>  </div>
      </div>
```

```
<div class="card">
  <i class="fa fa-calendar fa-2x text-red"
aria-hidden="true"></i>  <div class="card_inner">
```

```
<p class="text-primary-p">Number of tickets
resolved</p> <span class="font-bold
text-title">{{msg22}}</span> </div>
</div>
```

```
<div class="card">
<i
class="fa fa-rupee fa-2x text-yellow"
aria-hidden="true"
></i>
<div class="card_inner">
<p class="text-primary-p">Number of tickets in
progress</p> <span class="font-bold
text-title">{{msg33}}</span> </div>
</div>
```

```
<div class="card">
<i
class="fa fa-bell fa-2x text-green"
aria-hidden="true"
></i>
<div class="card_inner">
<p class="text-primary-p">Number of notifications
sent</p> <span class="font-bold
text-title">{{msg44}}</span> </div>
</div>
</div>
<div class="chartsnew">
```

```
<div class="charts__right">
<div class="charts_right_title">
<div>
<h1>Cool Facts</h1>
<p>Customer Care Registry</p>
</div>
<i class="fa fa-usd" aria-hidden="true"></i>
</div>
```

```
<div class="charts_right_cards">
```



```
<div class="card1">
  <h1>Total number of tickets raised in our application</h1><br>
  <h2>{{msg5}}</h2>
</div>
```

```
<div class="card2">
  <h1>Total Alert Notifications sent</h1><br>
  <h2>{{msg6}}</h2>
</div>
```

```
<div class="card3">
  <h1>Customers registered with our Application</h1><br>
  <h2>{{msg7}}</h2>
</div>
```

```
<div class="card4">
  <h1>Total number of tickets resolved in our application</h1><br>
  <h2>{{msg8}}</h2>
</div>
</div>
</div>
</div>
</div>
</div>
</main>
```

```
<div id="sidebar">
  <div class="sidebar__title">
    <div class="sidebar__img">
      <h1>Customer Care Registry</h1>
    </div>
    <i
      onclick="closeSidebar()"
      class="fa fa-times"
      id="sidebarIcon"
      aria-hidden="true"
    ></i>
  </div>
  <div class="sidebar__menu">
    <div class="sidebar__link active_menu_link">
      <i class="fa fa-home"></i>
```

```

<a href="/agentdashboard">Agent Dashboard</a>
</div>
<h2>Profile</h2>
<div class="sidebar__link">
<i class="fa fa-user" aria-hidden="true"></i>
<a href="/agentprofile">Profile Information</a>
</div>
<h2>Manage tickets</h2>
<div class="sidebar__link">
<i class="fa fa-plus"></i>
<a href="/viewTickets">View Tickets/Change Status</a>
</div>
<div class="sidebar__logout">
<i class="fa fa-power-off"></i>
<a href="/agentlogout">Log out</a>
</div>
</div>
</div>
</div>
</div>
<script src="https://cdn.jsdelivr.net/npm/apexcharts"></script>
<script src="../static/script.js"></script>
</body>
</html>

```

DESCRIPTION:

View tickets:

The Agent is able to solve the task that is assigned to him/her by the admin and he/she will also be able to change the status of the ticket once he finishes the task.

User Dashboard

```

<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8" />
<meta name="viewport" content="width=device-width,
initial-scale=1.0" /> <link
rel="stylesheet"

```

```
href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.
min.css" integrity="sha384-
wvfXpqpZZVQGK6TAh5PVlGOfQNHSoD2xbE+QkPxCAFINEevoEH3Sl0sibV
cOQVnN"
crossorigin="anonymous"
/>
```

```
<link rel="stylesheet" href="../static/styles.css" />
<link href="static/icon.png" rel="icon">
<link href="static/icon.png" rel="apple-touch-icon">
```

```
<title>Customer Care Registry</title>
</head>
<body id="body">
<div class="container">
<nav class="navbar">
<div class="nav_icon" onclick="toggleSidebar()">
<i class="fa fa-bars" aria-hidden="true"></i>
</div>
<div class="navbar__left">
<a class="active_link" href="/userdashboard">User
Dashboard</a> <a href="/userprofile">Profile</a>
<a href="/raiseticket">Raise Tickets</a>
<a href="/viewAllTicketsUser">View all Tickets</a> <a
href="/viewAllTicketsInProgress">View all Tickets in
Progress</a> <a href="/viewAllTicketsResolved">View all
Tickets Resolved</a> </div>
<div class="navbar__right">
<a href="#">
<i class="fa fa-clock-o" aria-hidden="true"></i>
</a>
<a href="/userprofile">
 </a>
</div>
</nav>

<main>
```

```

<div class="main__container">
<div class="main__title">

<div class="main__greeting">
<h1>Hello {{username}}</h1>
<p>Welcome to your dashboard</p>
</div>
</div>
<div class="main__cards">
<div class="card">
<i
class="fa fa-arrow-up fa-2x text-lightblue"
aria-hidden="true"
></i>
<div class="card_inner">
<p class="text-primary-p">Total tickets raised</p>
<span class="font-bold text-title">{{msg11}}</span>
</div>
</div>

<div class="card">
<i class="fa fa-calendar fa-2x text-red"
aria-hidden="true"></i> <div class="card_inner">
<p class="text-primary-p">Tickets in progress</p>
<span class="font-bold text-title">{{msg22}}</span>
</div>
</div>

<div class="card">
<i
class="fa fa-rupee fa-2x text-yellow"
aria-hidden="true"
></i>
<div class="card_inner">
<p class="text-primary-p">Tickets resolved</p>
<span class="font-bold text-title">{{msg33}}</span>
</div>
</div>

<div class="card">

```

```
<i
class="fa fa-bell fa-2x text-green"
aria-hidden="true"
></i>
<div class="card_inner">
  <p class="text-primary-p">Number of Notifications sent to
you</p>  <span class="font-bold text-title">{{msg44}}</span>
</div>
</div>
</div>
<div class="chartsnew">

  <div class="charts__right">
    <div class="charts_right_title">
      <div>
        <h1>Cool Facts</h1>
        <p>Customer Care Registry</p>
      </div>
      <i class="fa fa-usd" aria-hidden="true"></i>
    </div>

    <div class="charts_right_cards">
      <div class="card1">
        <h1>Total number of tickets raised in our application</h1><br>
        <h2>{{msg5}}</h2>
      </div>

      <div class="card2">
        <h1>Total Alert Notifications sent</h1><br>
        <h2>{{msg6}}</h2>
      </div>

      <div class="card3">
        <h1>Users registered with our Application</h1><br>
        <h2>{{msg7}}</h2>
      </div>

      <div class="card4">
        <h1>Total number of tickets resolved in our application</h1><br>
        <h2>{{msg8}}</h2>
```

```
</div>
</div>
</div>
</div>
</div>
</main>
```

```
<div id="sidebar">
  <div class="sidebar__title">
    <div class="sidebar__img">
      <h1>Customer Care Registry</h1>
    </div>
    <i
      onclick="closeSidebar()"
      class="fa fa-times"
      id="sidebarIcon"
      aria-hidden="true"
    ></i>
  </div>
```

```
    <div class="sidebar__menu">
      <div class="sidebar__link active_menu_link">
        <i class="fa fa-home"></i>
        <a href="/userdashboard">User Dashboard</a>
      </div>
      <h2>Profile</h2>
      <div class="sidebar__link">
        <i class="fa fa-user" aria-hidden="true"></i>
        <a href="/userprofile">Profile Information</a>
      </div>
      <h2>Manage your tickets</h2>
      <div class="sidebar__link">
        <i class="fa fa-plus"></i>
        <a href="/raiseticket">Raise Tickets</a>
      </div>
      <div class="sidebar__link">
        <i class="fa fa-plus"></i>
        <a href="/viewAllTicketsUser">View all
Tickets</a> </div>
      <div class="sidebar__link">
```

```

<i class="fa fa-plus"></i>
<a href="/viewAllTicketsInProgress">View all Tickets in
Progress</a> </div>
<div class="sidebar__link">
<i class="fa fa-plus"></i>
<a href="/viewAllTicketsResolved">View all Tickets
Resolved</a> </div>
<div class="sidebar__logout">
<i class="fa fa-power-off"></i>
<a href="/userlogout">Log out</a>
</div>
</div>
</div>
</div>
</div>
<script
src="https://cdn.jsdelivr.net/npm/apexcharts"></script>
<script src="../static/script.js"></script>
</body>
</html>

```

DESCRIPTION:

Raise Ticket: Ticket are raised by typing the bill number and issue and submit.

View all Ticket: All ticket are raised in this application also able to change the status of the ticket.

View all Ticket in progress: User ticket process/status are seen and also have the proper explanation why the ticket are delayed

View all Ticket resolved: Resolved tickets will appear.

7.2Feature 2

IBM watson Assisstant

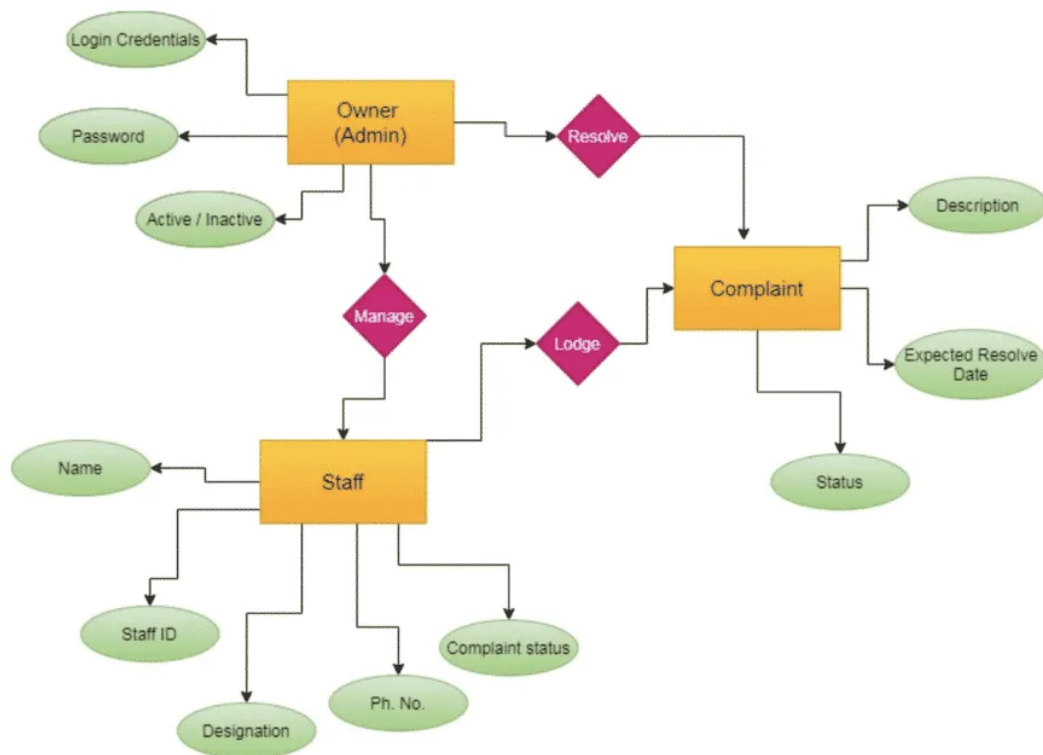
```
<script>
window.watsonAssistantChatOptions = {
  integrationID: "a60a1226-4bae-49ba-bce6-4229c842f3ae", // The ID of this
integration.  region: "au-syd", // The region your integration is hosted in.
  serviceInstanceID: "775b5b38-cdbc-4202-babe-5dc0c8aab04f", // The ID of
your service  instance.
  onLoad: function(instance) { instance.render(); }
};
setTimeout(function(){
const t=document.createElement('script');

t.src="https://web-chat.global.assistant.watson.appdomain.cloud/ver
sions/" + (window.watsonAssistantChatOptions.clientVersion ||
'latest') +
"/WatsonAssistantChatEntry.js";
document.head.appendChild(t);
});
</script>
```

DESCRIPTION:

It help us to clarify our queries chatting with IBM Watson assistant. It understand question from the user and find or search for the best answers and complete the user's intended action through conversational AL.

7.3 DATABASE SCHEMA



CHAPTER 8

8.1 Test Cases

Sprint 1:

<https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/tree/main/Project%20Development%20Phase/Sprint%2001/User%20Acceptance%20Testing>

Sprint 2:

<https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/tree/main/Project%20Development%20Phase/Sprint%2002/User%20Acceptance>

Sprint 3:

<https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/tree/main/Project%20Development%20Phase/Sprint%2003/User%20Acceptance%20Testing>

Sprint 4:

<https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/tree/main/Project%20Development%20Phase/Sprint%2004/User%20Acceptance%20Testing>

8.2 User Acceptance Testing

SPRINT1:

Defect Analysis

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	3	1	2	17
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	14	2	4	20	40
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	13	12	25	78

Test Case Analysis

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	10	0	0	10
Client Application	50	0	0	3
Security	1	0	0	1
Outsource Shipping	3	0	0	3
Exception Reporting	8	0	0	8
Final Report Output	4	0	0	4
Version Control	2	0	0	2

SPRINT 2

Defect Analysis

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	3	3	20
Duplicate	1	1	3	0	5
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	0	0	0	0
Totals	24	10	12	25	72

Test case Analysis

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	40	0	0	40
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	5	0	0	5
Final Report Output	4	0	0	4
Version Control	2	0	0	2

SPRINT 3

Defect Analysis

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	3	3	20
Duplicate	1	1	3	0	5
External	2	3	0	1	6
Fixed	13	2	4	20	39
Not Reproduced	0	0	1	0	1
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	26	10	12	25	73

Test case Analysis

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	40	0	0	40
Security	2	0	0	2
Outsource Shipping	4	0	0	4
Exception Reporting	5	0	0	5
Final Report Output	6	0	0	6
Version Control	2	0	0	2

SPRINT 4

Defect Analysis

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	3	3	20
Duplicate	1	1	3	0	5
External	2	3	0	1	6
Fixed	15	2	4	20	41
Not Reproduced	0	0	0	0	0
Skipped	0	0	0	0	0
Won't Fix	0	0	0	0	0
Totals	26	10	12	25	74

Test Case Analysis

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	38	0	0	38
Security	2	0	0	2
Outsource Shipping	4	0	0	4
Exception Reporting	5	0	0	5
Final Report Output	7	0	0	7
Version Control	2	0	0	2

9.RESULTS

9.1 PERFORMANCE METRICS

1.SPRINT GOAL SUCCESS:

A sprint is a short-time -boxed period a team works to complete a set amount of work. Getting your sprints right will help your team ship better softwares with fewer headaches. This project is divided into 4 sprints and each sprint has a list of test cases that has to be passed. Each sprint has a goal that has to be completed before a stipulated deadline. We have to define the number of story points completed for each sprint and how frequently the objectives of the business are met.

2.TEAM VELOCITY

Velocity measures how many user stories were completed by the team, on average, in previous sprints. It assists in estimating how much work the team is able to accomplish in future sprints.

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	10	6 Days	24 Oct 2022	29 Oct 2022	10	29 Oct 2022
Sprint-2	7	6 Days	31 Oct 2022	05 Nov 2022	7	05 Nov 2022
Sprint-3	11	6 Days	07 Nov 2022	12 Nov 2022	11	12 Nov 2022
Sprint-4	8	6 Days	14 Nov 2022	19 Nov 2022	8	19 Nov 2022

3. ESCAPED DEFECTS AND DEFECT DENSITY

Escaped defects is a crucial metric that shows how many bugs were experienced by users in production. Ideally, a scrum team should fully test stories and completely avoid escaped defects. In reality, this rarely happens, but the trend of escaped defects is a good signal of product quality.

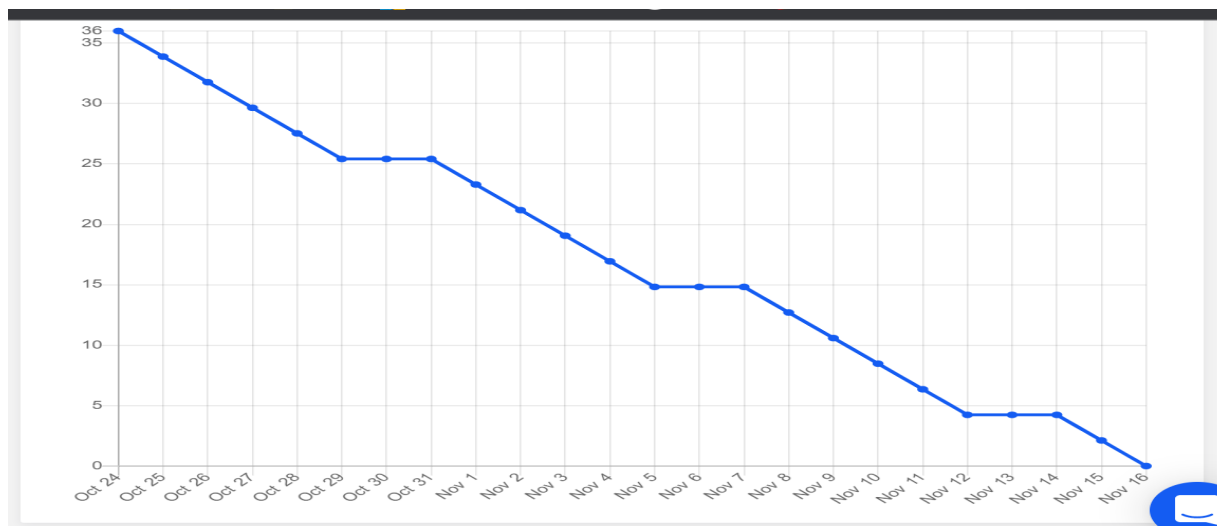
Defect density is also worth watching—it measures the number of defects per software size, for example per lines of code (LOC). While this metric can easily be skewed, it is valuable in fast-moving projects to check if growth in defects is “normal” given the growth of the underlying codebase.

EXAMPLE:

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	3	1	2	17
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	14	2	4	20	40
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	13	12	25	78

4.SPRINT BURNDOWN

The sprint burndown chart is the classic representation of progress within a sprint. It shows the number of hours remaining to complete the stories planned for the current sprint, for each day during the sprint. The sprint burndown shows, at a glance, whether the team is on schedule to complete the sprint scope or not.



10.ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

1.EASILY TRACK AND VIEW SUPPORT TICKETS:

It's important to choose a ticketing system that provides an easy-to-use search functionality to track and view past support tickets and emails – allowing you to quickly access real-time customer information. The ability to easily track support tickets significantly reduces the time your customer support team spends searching for previous customer interactions. Furthermore, using support software allows your customer service to store every interaction in one place – thus giving you easy access to every customer request, and making it easier to answer their questions immediately.

2.ROUTING ENQUIRIES TO THE RIGHT SPECIALIST:

When a customer service admin receives a request they do not know how to deal with, their first step is to find out who to direct the request to. So, here the admin will have the access to route the enquiries to the right specialised agent, so that the right agent can solve the query raised and thereby avoiding or mitigating customer satisfaction.

3.PROVIDE SUPPORT 24/7:

When a customer complains or sends you an email, their biggest concern is whether or not they'll get a reply. Companies that are prompt with their responses and are available for customers round-the-clock are the ones with the most loyal customers. Customer support software allows you to be there for your customers even beyond working hours with the help of automation. Chatbots are integrated with the application that can work 24/7 and answer to customers queries anytime.

4.EASIER COMMUNICATION WITH CUSTOMERS:

Customer support software is an ideal solution for communicating canned responses and frequently answering customer inquiries to customers. Firstly, this reduces response times to customer queries which – according to research – is the most important attribute of the customer experience, since the answers to those queries are stored within the software. Secondly, it aids newer customer support agents to learn about product and sales issues sooner.

DISADVANTAGES:

1.RESPONSE TIMES ARE TOO LONG

Customers today expect communication with service departments to be instant. In fact, they want immediate resolution of their concerns too. This is, indisputably, the first in the long list of the common problem with customer service that needs to be addressed by businesses.

2.WHEN YOU CANNOT OFFER A SOLUTION TO CUSTOMER

There will be times when you may not have an instant solution for the customer. Telling that to the customer can be slightly tricky, especially if you notice that the customer is already annoyed. But dealing with an angry customer is part of the job description, and there is really no way of escaping it. When customers have to chat or call the service department multiple times, it can be a hassle for them.

3.THE SUCCESS OF A TECHNOLOGY DEPENDS ON ITS DESIGN

As with every machine, good customer service software depends largely on the design. If your chatbots don't understand questions, cause redundant conversation and similar, it will chase your customers away. And once they leave your website frustrated they could create bad publicity.

4.CONSTANT TESTING REQUIRED

Perfecting the automated customer service is not an easy task, and it is definitely not something you can evaluate on your own. It is a matter of constant testing and collecting feedback in order to improve.

4.WHEN CUSTOMER SERVICE IS NOT ASSIGNED TO CUSTOMER JOURNEY

This brings us to the last problem with customer service, where businesses are not paying adequate attention to getting their customer service workflow in line with the customer's lifecycle. Bad customer experience at any point in the customer journey can absolutely ruin the relationship between the client and the business. Just having a good team in place is not enough. The service team should be aligned with the needs and desires of the customers throughout their lifecycle.

CHAPTER 11

11.CONCLUSION

Complaints and compliments are a valuable source of information that organisation can use to improve program delivery and service. This application, Customer Care Registry, involves the use of python flask and IBM Db2 database along with the IBM Watson assistant to build a software that deals in solving the issues/tickets raised by the customers.

The admin acts as the head of the customer support and provides administrative support to the customer service agents present in the organisation and ensures correctly prioritised allocation of tasks to the respective agents while the agent is responsible for solving the task allocated by the admin to the agent.

Firstly, the user can register themselves in the application and then login in to the application. Secondly, the user has an option for raising tickets along with the screenshot of the error found (if applicable). The user will be able to check the status of the ticket raised once it has been progressed. The admin will have the power to allocate tasks to various agents depending upon their area of domain.

This application is not only an effective complaint management system but also a useful source of information and feedback for improving services. In today's competitive environment, a good Complaint Management System is one of the crucial requirements for successful businesses when managing customers' needs and protecting their brand. This type of application also reduces recurring complaints. Hence, this is a very handy and efficient tool for connectivity between the user, admin and the agents for solving a query/ticket raised by a user.

CHAPTER 12

12.FUTURE SCOPE

Mobile apps have become one of the important parts of our life that connects us with people living in different places just by sitting at home. They allow us to handle information instantly and in real-time. It is not necessary to charge a laptop, everything can be consulted from the cell phone. It is an excellent communication channel between organisations and their users or clients. As a future work, the software developed can be converted to a mobile application so that the users can handle everything from their mobile phone by just installing one application in their mobile phone. Separate mobile applications can be developed for the admin, agent and user and respective accounts can be created and handled effectively.

The software can also use different tools to collect feedback and communicate with customers over various social media and online channels. The organisation can handle complaints better with a variety of metrics like customer satisfaction score, service level agreement etc..

Community forums, an online meeting space, can also be created that supports customers to self-resolve queries without having to contact a customer service team. It is also a great way for a company to build meaningful bonds with their customers.

Knowledge base can be created to show your customers that you care and also reduce support ticket volume. It allows your customers to access the right information to solve their problem and queries. It allows your customers to solve your problem and get answers to basic questions without the need to contact your support team. It works very well because they reduce the effort your team puts into answering/solving those frequent queries.

Analyse customer interactions by using the customer journey and service design maps to assess where to improve the experience. The customer satisfaction collected can be used as the key performance indicator to provide a look into how well the customer service agents work.

The customer service team must make sure that they innovate based on the changing needs of the customer to meet customer expectations or as the product or the service evolves.

CHAPTER 13

13.APPENDIX

SOURCE CODE:

<https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/tree/main/Final%20Deliverables/Customer%20Care%20Registry>

PROJECT DEMO LINK:

<https://github.com/IBM-EPBL/IBM-Project-26027-1659980155/tree/main/Final%20Deliverables/PROJECT%20DEMO%20LINK>