# **CUSTOMER CARE REGISTRY**

**TEAM ID: PNT2022TMID31808** 

**BATCH NO: B9 -3A5E** 

**TEAM MEMBERS:** 

1.KEERTHANA J

2.KISHORE R

3.RANJITH S

4.RADHA K

**FACULTY MENTOR: M VIGNESH** 

**INDUSTRY MENTOR: VASUDEHA HANUSH** 

#### INTRODUCTION

## 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. Developing a cloud application not only for solving customer complaints but also gives satisfaction to the customer to use the respective business product. This Application helps a customer to raise complaints for the issue they are facing in the products. The Customer needs to give the detailed description and the priority level of the issues that they are facing. After the complaint reviewed by the admin, then the agents assigned to the complaints raised by the customer. The respective customer of the complaints gets the email notification of the process. And additionally, they can able to see the status of the complaints.

## 1.2 Purpose

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. It is 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 as Customer. Customer Service may be provided by a Service Representatives Customer Service is normally an integral part of a company's customer value proposition. This Application mainly developed to help the customer in processing their complaints and issues. It is a process of examining customer tickets, which should be carried out in a systematic and orderly manner. This practice is primarily aimed at minimizing consumer dissatisfaction with the purchased products, increasing service satisfaction, and ensuring quality. It allows companies to respond to customer inquiries, provides support, and improves the handling of tickets at the appointed time.

#### 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. When the company pushes the wrong product or service to customer this can severely impact to company's profit, growth and brand reputation. The customer cannot track the status of the Queries that are posted by them. Some queries will be left Unanswered. To overcome this issues a good customer care should be provided to solve the customer's queries



## The steps required to use the app are as follows:

- 1. After you've run the app, allow it to access your device's location, as prompted.
- 2. You'll get an OTP; enter it and you are on.
- 3. Choose your gender from the options given.
- 4. Enter your full name, then age, and then profession, as asked.
- 5. You'll be asked about your foreign travel history in last 30 days

## 2.2 References

- [1] L. J. Buton et al., —The Effect of Nasa Liquid Organic Fertilizer Concentration and Planting Distance to Growth and Production of Beans, Int. J. Sci. Technol. Res., vol. 8, no. 9, 2019.
- [2] https://call2customers.com
- [3] M. C. B. Umanailo, M. Yulisvestra, K. K. Oki, W. Mulyasari, and R. Ridwan, —The Thought of Emile Durkheim in the Contestation of Development in Indonesia, Int. J. Sci. Technol. Res., vol. 8, no. 8, 2019
- [4] T. Karp and T. I. T. Helg⊘, —From Change Management to Change Leadership: Embracing Chaotic Change in Public Service Organizations, I. Chang. Manag., 2008.

# 2.3 Problem Statement Definition

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Problem	l am	I'm trying to	But	Because	Which makes me feel						
Statement (PS)	(Customer)										
PS-1	Can I get an all the related query - solution	Rectify the problem as much earlier	How can I find out the proper platform to solve out my Technical problem	I can't find out the next what can I Do.	Blanked - Mindset						
PS-2	Is there available 24x7?	For some of the user they like to prefer to ask the question at Nightime due to their working life	Is there get a proper response.	User need to get an answer ata period of time.	Urgy						
PS -3	They can give Technical statement?	User are mostly expecting the techincal word to know about the clear cut view.	Its not fit for all kind of user.	Some of them didn't understand the deliver message	Quiet Fishy						

#### IDEATION AND PROPOSED SOLUTION

## 3.1 Empathy Map Canvas

An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. Much like a user persona, an empathy map can represent a group of users, such as a customer segment.

#### **Process: How to Build an Empathy Map**

Go through the following steps to create a valid and useful empathy map:

#### 1. Define scope and goals

- **a. What user or persona will you map?** Will you map a persona or an individual user? Always start with a 1:1 mapping (1 user/persona per empathy map). This means that, if you have multiple personas, there should be an empathy map for each.
- **b. Define your primary purpose for empathy mapping.** Is it to align the team on your user? If so, be sure everyone is present during the empathy-mapping activity. Is it to analyse an interview transcript? If so, set a clear scope and timebox your effort to ensure you have time to map multiple user interviews.

#### 2. Gather materials

Your purpose should dictate the medium you use to create an empathy map. If you will be working with an entire team, have a large whiteboard, sticky notes, and markers readily available. (The outcome will look somewhat like the illustration above.) If empathy mapping alone, create a system that works for you. The easier to share out with the rest of the team, the better.

#### 3. Collect research

Gather the research you will be using to fuel your empathy map. Empathy mapping is a qualitative method, so you will need qualitative inputs: user interviews, field studies, diary studies, listening sessions, or qualitative surveys.

## 4. Individually generate sticky notes for each quadrant

Once you have research inputs, you can proceed to mapping as a team. In the beginning, everybody should read through the research individually. As each team member digests the data, they can fill out sticky notes that align to the four quadrants. Next, team members can add their notes to the map on the whiteboard.

#### 5. Converge to cluster and synthesize

In this step, the team moves through the stickies on the board collaboratively and clusters similar notes that belong to the same quadrant. Name your clusters with themes that represent each group (for example, "validation from others" or "research"). Repeat themes in each quadrant if necessary. The activity of clustering facilitates discussion and alignment — the goal being to arrive at a shared understanding of your user by all team members.

#### 6. Polish and plan

If you feel that you need more detail or you have unique needs, adapt the map by including additional quadrants (like Goals the example below) or by increasing specificity to existing quadrants. Depending on the purpose of your empathy map, polish and digitize the output accordingly. Be sure to include the user, any outstanding questions, the date and version number. Plan to circle back to the empathy map as more research is gathered or to guide UX decisions.

#### **Format**

Traditional empathy maps are split into 4 quadrants (*Says*, *Thinks*, *Does*, and *Feels*), with the user or persona in the middle. Empathy maps provide a glance into who a user is as a whole and are **not** chronological or sequential.

The *Says* quadrant contains what the user says out loud in an interview or some other usability study. Ideally, it contains verbatim and direct quotes from research.

- "I am allegiant to Delta because I never have a bad experience."
- "I want something reliable."
- "I don't understand what to do from here."

The *Thinks* quadrant captures what the user is thinking throughout the experience. Ask yourself (from the qualitative research gathered): what occupies the user's thoughts? What matters to the user? It is possible to have the same content in both *Says* and *Thinks*. However, pay special attention to what users think, but may not be willing to vocalize. Try to understand why they are reluctant to share — are they unsure, self-conscious, polite, or afraid to tell others something?

- "This is really annoying."
- "Am I dumb for not understanding this?"

The *Does* quadrant encloses the actions the user takes. From the research, what does the user physically do? How does the user go about doing it?

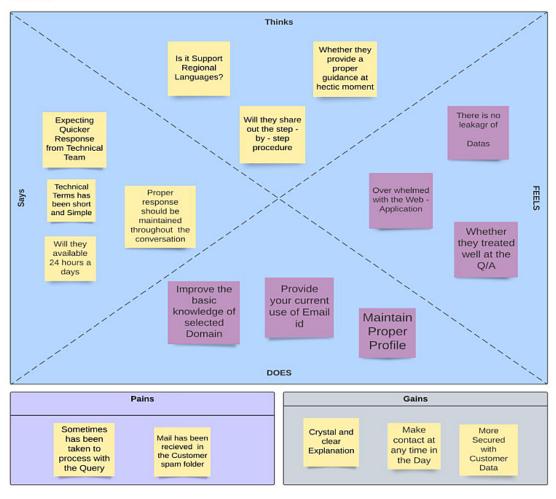
- Refreshes page several times.
- Shops around to compare prices.

The *Feels* quadrant is the user's emotional state, often represented as an adjective plus a short sentence for context. Ask yourself: what worries the user? What does the user get excited about? How does the user feel about the experience?

- Impatient: pages load too slowly
- Confused: too many contradictory prices
- Worried: they are doing something wrong



#### Customer care Registry



Our users are complex humans. It is natural (and extremely beneficial) to see juxtaposition between quadrants. You will also encounter inconsistencies — for example, seemingly positive actions but negative quotes or emotions coming from the same user. This is when empathy maps become treasure maps that can uncover nuggets of understanding about our user. It is our job as UX professionals to investigate the cause of the conflict and resolve it.

Some of these quadrants may seem ambiguous or overlapping — for example, it may be difficult to distinguish between *Thinks* and *Feels*. Do not focus too much on being precise: if an item may fit into multiple quadrants, just pick one. The 4 quadrants exist only to push our

knowledge about users and to ensure we don't leave out any important dimension.

(If you don't have anything to put into a certain quadrant, it's a strong signal that you need more user research before proceeding in the design process.

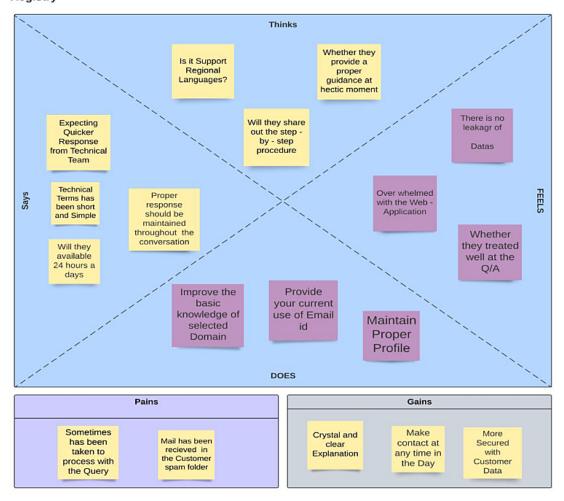
## 3.2 Ideation and BrainStorming

Ideation is often closely related to the practice of brainstorming, a specific technique that is utilized to generate new ideas. A principal difference between ideation and brainstorming is that ideation is commonly more thought of as being an individual pursuit, while brainstorming is almost always a group activity. Brainstorming is usually conducted by getting a group of people together to come up with either general new ideas or ideas for solving a specific problem or dealing with a specific situation.

Ideation is often the most exciting stage in a Design Thinking project because almost unrestrained free thinking can occur within the given field. In the Ideation stage, the aim is to generate a large number of ideas — ideas that potentially inspire newer, better ideas — which the team can then filter and narrow down into the best, most practical, or most innovative ones. There are many great methods that can help the design team during the Ideation sessions.



#### Customer care Registry



# **3.3 Proposed Solution**

proposed solution should relate the current situation to a desired result and describe the benefits that will accrue when the desired result is achieved. So, begin your proposed solution by briefly describing this desired result.

## **Problem Statement (Problem to be solved):**

This application is intended to provide information about containment zones in a particular region by alerting people, through continuous monitoring of an individual's location. Key

benefits of the application are monitoring people's activity and alerting them of their safety movements.

roject team snor in the following information in proposed solution templates

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	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.
2.	Idea / Solution description	Customer care and customer service together help create a positive customer experience, or the overall impression a person has when interacting with your company. Both are vital, but there are subtle differences in how they are implemented. High-quality customer care is proactive. The needs of customers throughout the buyer's journey are anticipated, making customers feel supported. That, in turn, helps create an emotional connection between the customer and the company.  "Address the issue within the company, Offer a solution and give options whenever possible"
3.	Novelty / Uniqueness	Personalized: Good customer service always starts with a human touch. Personalized interactions greatly improve customer service and let customers know that your company cares about them and their problems. Instead of thinking of service as a cost, consider it an opportunity to earn your customer's business all over again.  Convenient: Customers want to be able to get in touch with a customer service representative through whichever channel is the most convenient for them.

		Proactive: Customers want companies to be proactive in reaching out to them. If one of your products is backordered or your website is going to experience downtime, proactively reach out to your customers and explain the problem  * Patience * Emotional intelligence * Creativity and resourcefulness * Persuasion skills
4.	Social Impact / Customer Satisfaction	* Customer service employees can offer important insights about customer experiences  * Proactive customer service creates marketing opportunities  * Personalized customer service can improve your online conversion rate.
5.	Business Model (Revenue Model)	* Customer retention is cheaper than customer acquisition.     * Customers will pay more to companies with better customer service.     * Customer service grows customer lifetime value.
6.	Scalability of the Solution	* Improve our auto-replies.  * Redesign your contact points  * Give your team more authority

#### 3.4 Problem Solution Fit

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify Behavioral patterns and recognize what would work and why

#### **Purpose:**

Solve complex problems in a way that fits the state of your customers.

Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.

Sharpen your communication and marketing strategy with the right triggers and messaging. Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.

4.EMOTIONS:BEFORE/AFTER

i.e.lost,insecure>confident,incontrol-userimyourcommunicationstrategy&des

Thecustomercangethelpfromouragentsweare assigned and they feel very satisfied with ourservices.

EМ

thatis helpful for customer to solve their queries thattheyhaveraised.

8.2 OFFLINE

Whatkindofactions focustomers take of fline? Extract of fline channels from #7 and use them for customer development.

They can get better solutions for thequeriestheyraised.

## **REQUIREMENT ANALYSIS**

Requirements analysis, also called requirements engineering, is **the process of determining user expectations for a new or modified product**. These features, called requirements, must be quantifiable, relevant and detailed. In software engineering, such requirements are often called functional specifications.

Functional requirements may involve calculations, technical details, data manipulation and processing, and other specific functionality that define what a system is supposed to accomplish. Behavioral requirements describe all the cases where the system uses the functional requirements, these are captured in use cases.

FRNo.	FunctionalRequirement(Epic)	SubRequirement(Story/Sub-Task)
FR-1	UserRegistration	Registration through
		FormRegistration through
		GmailRegistrationthroughG
		oogle
FR-2	UserConfirmation	ConfirmationviaEmailConfirmationviaOTP
FR-3	UserLogin	LoginviaGoogleLoginwithEmailidandPassword
FR-4	AdminLogin	LoginviaGoogleLoginwithEmailidandPassword
FR-5	QueryForm	Description of the issues Contact information
FR-6	E-mail	Loginalertness
FR-7	Feedback	Customerfeedback

## Non-functional Requirements:

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

FRNo.	Non-FunctionalRequirement	Description
NFR-1	Usability	Toprovidethesolutiontotheproblem
NFR-2	Security	Trackofloginauthentication
NFR-3	Reliability	Trackingofdecadestatusthroughemail
NFR-4	Performance	Effectivedevelopmentofwebapplication
NFR-5	Availability	24/7service
NFR-6	Scalability	Agentsscalability asperthen umber of customers

## **PROJECT DESIGN**

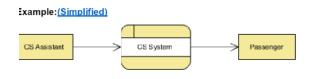
The thinking that occurs during Project Design, on the other hand, is less concerned with minutiae and more concerned with Project Management software can aid in the organisation of both the high-level strategy and the finer points of a project's design.

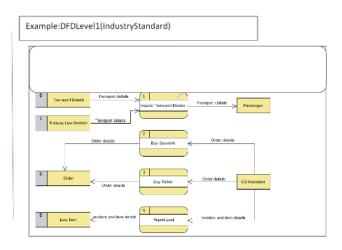
The following entities make up a general Project Design:

- A detailed description of the organisation or corporation that will be responsible for the project's development.
- A detailed overview of the project, its origins, and how it should be developed
- The project's objectives, milestones, goals, and outcomes are listed down.
- It covers every product, significant deliverables, evaluation and monitoring standards, and success criterion characteristics.
- Finally, it discusses the budget estimating criteria and principles.

## **5.1 Data Flow Diagram**

A data flow diagram (DFD) is a graphical or visual representation using a standardized set of symbols and notations to describe a business's operations through data movement. They are often elements of a formal methodology such as Structured Systems Analysis and Design Method (SSADM).



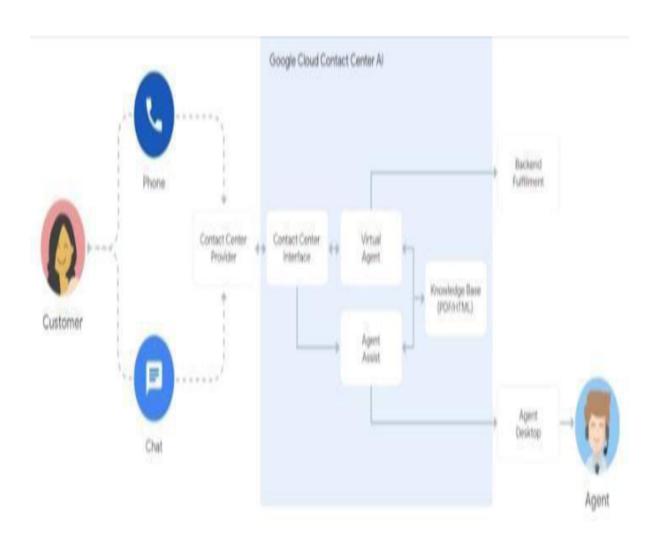


#### 5.2 SOLUTION AND TECHNOLOGY ARCHITECTURE

Technology architecture associate's application components from application architecture with technology components representing software and hardware components. Its components are generally acquired in the marketplace and can be assembled and configured to constitute the enterprise's technological infrastructure. Technology architecture provides a more concrete view of the way in which application components will be realized and deployed.

#### **GUIDELINES**:

- 1. Include all the processes (As an application logic / Technology Block)
- 2. Provide infrastructural demarcation (Local / Cloud)
- 3. Indicate external interfaces (third party API's etc.)
- 4. Indicate Data Storage components / services
- 5. Indicate interface to machine learning models (if applicable)



## **5.3 USER STORIES**

A user story is an informal, general explanation of a software feature written from the perspective of the end user or customer. The purpose of a user story is to articulate how a piece of work will deliver a particular value back to the customer.

# User stories for the product

## **UserStories**

Use the below template to list all the users to ries for the product.

UserType	FunctionalRequir ement(Epic)	UserStory Number	UserStory/Task	Acceptancecriteria	Priority	Release
Customer	UserRegistration	USN-1	Asauser, Icanregisterfortheapplicationby enteringmyemail,password,andconfirmingmy password.	Icanaccessmyaccount/da shboard	High	Sprint-1
Customer	User Confirmation	USN-2	Asauser, Iwillreceiveconfirmationemailoncel haveregisteredfortheapplication	Icanreceiveconfirmatione mail&clickconfirm	High	Sprint-1
Customer	User Login	USN-3	Asauser,Icanlog intotheapplicationbyentering email&password	Icanloginandaccessmyac count	High	Sprint-1
Administrator	AdminLogin	USN-4	Asanadmin,Icanlogintotheapplicationbyentering email& password	Icanloginandaccessmyac count and manages allthecustomersandagent s	High	Sprint-1
Customer	QueryForm	USN-5	Asauser, Icanraiseticketsthroughthe form	Icanraise tickets	High	Sprint-1
Agent	E-mailAlert	USN-6	Asauser,lcanviewthestatusofticketsfortheap plication	Icanseetheticketsstatus	High	Sprint-1
Customer	Feedback	USN-7	Asauser, Icangivethecustomerfeedbackfortheagentw hocommunicated	Icangivepositiveandne gativefeedback	Medium	Sprint-1

#### PROJECT PLANNING AND SCHEDULING

#### 6.1 SPRINT PLANNING AND ESTIMATION

Estimation is done by the entire team during Sprint Planning Meeting. The objective of the Estimation would be to consider the User Stories for the Sprint by Priority and by the Ability of the team to deliver during the Time Box of the Sprint Product Owner ensures that the prioritized User Stories are clear, can be subjected to estimation, and they are brought to the beginning of the Product Backlog As the Scrum Team in total is responsible for the delivery of the product increment, care would be taken to select the User Stories for the Sprint based on the size of the Product Increment and the effort required for the same The size of the Product Increment is estimated in terms of User Story Points. Once the size is determined, the effort is estimated by means of the past data, i.e., effort per User Story Point called Productivity.

## What is Sprint Planning?

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

## What is Sprint Estimation?

A sprint estimation shows how much effort a series of tasks require. It's based on assumptions, requirements, and dependencies of a project

#### • Sprint 1

#### Registration

I can register for the application by entering by email and password.

#### Login

I can log into the application by entering my email & password

## • Sprint 2

#### **Dashboard**

I can view the map with the containment zones.

#### Service

#### Admin

I need to update the containment zones.

## • Sprint 3

#### Admin

#### Service

I need to differentiate the containment zones based on the intensity of infection.

I need to provide precautionary measures when they travel. I need to provide information about the near-by hospitals.

# • Sprint 4

#### Admin

#### Service

I need to alert the user when they enter the containment zone through email or SMS.

I need to provide medical recommendations by collaborating with hospitals

#### **Data collection**

I need to store user details on the cloud
I need to collect details about covid-19 cases from verified sources.

## **6.2 Sprint Delivery Schedule**

Since sprints take place over a fixed period of time, it's critical to avoid wasting time during planning and development. And this is precisely where sprint scheduling enters the equation. While there may be multiple project heads collaborating on a sprint, it's ultimately important to have one owner who oversees all aspects of sprint planning. Likewise, there should be one single schedule to avoid confusion and keep projects running according to a set plan. Teams often run into trouble when they create more than one schedule. This can create conflict and derail projects midway through their cycles. To ensure things stay on track, one schedule makes sense.

#### **Estimated Time**

Each Sprint has taken sharp 6 days to complete the assigned task.

**Sprint 1** has taken the duration of 6 days. The initial day of the sprint 1 was started on 24/10/2022 to 29/10/2022 and the code has submitted on that day 29/10/2022 in the sprint 1 folder.

**Sprint 2** has taken the duration of 6 days. The initial day of the sprint 1 was started on 30/10/2022 to 05/11/2022 and the code has submitted on that day 05/11/2022 in the sprint 2 folder.

**Sprint 3** has taken the duration of 6 days. The initial day of the sprint 1 was started on 06/11/2022 to 11/11/2022 and the code has submitted on next day 12/11/2022 in the sprint 3 folder.

**Sprint 4** has taken the duration of 6 days. The initial day of the sprint 1 was started on 12/11/2022 to 17/11/2022 and the code has submitted on next day 18/11/2022 in the sprint 4 folder.

## **6.3 Reports From JIRA**

Jira reports help you stay on track of sprint goals, drill down into issues, manage workloads, identify bottlenecks, and ultimately work smarter.

And those are just the reports. There's also Jira Dashboard another Jira reporting option. These are a way of organizing your projects and tracking your achievements in a single view using dozens of built-in gadgets. Some of these gadgets consist of the same Jira reports from your boards so they're in one place, like the Created versus Resolved chart and Sprint Burndown. Read more about why JIRA reports are useful.

The important thing to remember, though, is that the true value of any report lies in the questions you're asking it. So first ask what it is you want to measure or find out, then find a report to match.

Your questions will be different at different times because they'll relate to your team's experiences in the moment. There's not much point picking one set of metrics and measuring them forever. You need to change what you measure as the work changes, or as new problems arise, so that you can drive the behaviours that will fix them. Perhaps, for instance, you're doing too much and need to get your work in progress (WIP) under control, in which case you'll want to focus on metrics that let you do that.

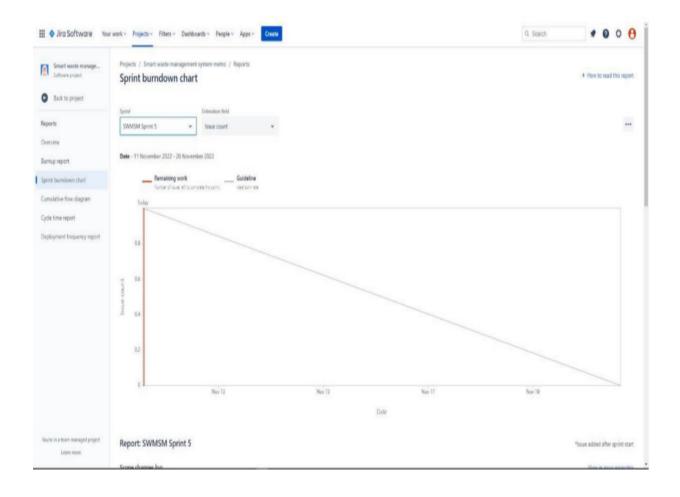
It's also worth pointing out that no one size fits all in reporting. Every team will have different needs and questions. That said, there are certainly some typical questions that most agile teams will be asking most of the time...

## Steps to Generating and Accessing Reports in Jira

Jira board reports are really easy to access. You can get to them in two ways, depending on how your Jira instance is hosted.

- Option 1: Click **Projects** in the navigation bar and select the relevant project. If the
  project is only associated with one board, you can then click **Reports**. If the project is
  associated with multiple boards, you can select from the dropdown before clicking **Reports**.
- Option 2 (Server or Data Center only): Click **Boards** in the navigation bar and select the board you want to look at. Then click **Reports**.

Remember that Jira reports are board-specific and since boards are driven by saved filters, any report you run is only going to include the issues that match that board's filter. Once you've opened the Reports navigation, you can choose a report from the left panel or from the reports displayed on the screen. On this screen, you'll see reports such as the Burndown Chart, Control Chart, Velocity Chart, Cumulative Flow Diagram, Sprint Report, and more.



						OCT							CT						NOV						NOV						VOV		
	15	16	17	18	19	20	21	22	23	24	25	26 2	7 28	29	30	31	1	2	3	4 3	(6)	7	8	9	10	11 3	2 13	14	15	16	17 18	32	20
Sprints																																	
CCR-1 Creating a SignUp/Login Page				,																													
CCR-2 Home Page of Customer Care Registry				-																													
CCR-3 Creating Admin Dashboard								ı																									
CCR-4 Creating Customer Dashboard																																	
CCR-5. Creating Agent Dashboard																																	
CCR-6 Creating Database for Customer and Agent																																	
CCR-7 Creating Chatbot For Application																																	
CCR-8 Adding Features to Chatbot																																	
CCR-9 Integrating Chatbot With Website																								ı									
CCR-10 Completing Chatbot																																	
CCR-11 Testing and Debugging the Application																																	
CCR-12 Containerize the Application using Docker																																	
CCR-13 Deploy the Application in IBM Cloud																																	

#### CODING AND SOLUTIONING

College graduates with prior programming expertise or technical degrees are recruited and transitioned into professional positions with Alabama firms and organisations through the highly competitive Coding Solutions job accelerator and talent refinement programme at no cost to the graduates. We provide a pool of varied, well-trained, techs-savvy individuals that wants to launch and advance their career in Alabama. The mission of veteran- and woman-owned Coding Solutions is to mobilise the next generation of IT talent and provide them the tools and resources they require to make your business successful. Innovative talent is necessary for innovative technologies. We wish to provide Coding Solutions prospects to assist you expand your Alabama team. Our applicants are swiftly hired at the top of the list by growing businesses for lucrative, long-term positions

## **7.1 Feature 1**

- 7 Main types of customer needs:
- Friendliness
- Empathy
- Fairness
- Control
- Alternatives
- Information

#### 7.2 Feature

- Complaint Tracking
- Email Alert •

24/7 Monitoring

#### **TESTING**

Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest. The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements Some prefer saying Software testing definition In simple terms, Software Testing means the Verification of Application Under Test (AUT). This Software Testing course introduce testing software to the audience and justifies the importance of software testing.

Testing is important because software bugs could be expensive or even dangerous. Software bugs can potentially cause monetary and human loss, and history is full of such examples.

- In April 2015, Bloomberg terminal in London crashed due to software glitch affected more than 300,000 traders on financial markets. It forced the government to postpone a 3bn pound debt sale.
- Nissan cars recalled over 1 million cars from the market due to software failure in the airbag sensory detectors. There has been reported two accidents due to this software failure.
- Starbucks was forced to close about 60 percent of stores in the U.S and Canada due to software failure in its POS system. At one point, the store served coffee for free as they were unable to process the transaction.
- Some of Amazon's third-party retailers saw their product price is reduced to 1p due to a software glitch. They were left with heavy losses.
- Vulnerability in Windows 10. This bug enables users to escape from security sandboxes through a flaw in the win32k system.
- In 2015 fighter plane F-35 fell victim to a software bug, making it unable to detect targets correctly.
- China Airlines Airbus A300 crashed due to a software bug on April 26, 1994, killing 264 innocents live
- In 1985, Canada's Therac-25 radiation therapy machine malfunctioned due to software bug and delivered lethal radiation doses to patients, leaving 3 people dead and critically injuring 3 others

#### 8.1 Test Cases

Test cases define how to test a system, software or an application. A test case is a singular set of actions or instructions for a tester to perform that validates a specific aspect of a product or application functionality. If the test fails, the result might be a software defect that the organization can triage A tester or QA professional typically writes test cases, which are run after the completion of a feature or the group of features that make up the release. Test cases also confirm whether the product meets its software requirements. A group of test cases is organized in a test suite, which tests a logical segment of the application, such as a specific feature.

## 8.2 User Acceptance Testing

User Acceptance Testing (UAT) is a type of testing performed by the end user or the client to verify/accept the software system before moving the software application to the production environment. UAT is done in the final phase of testing after functional, integration and system testing are done.

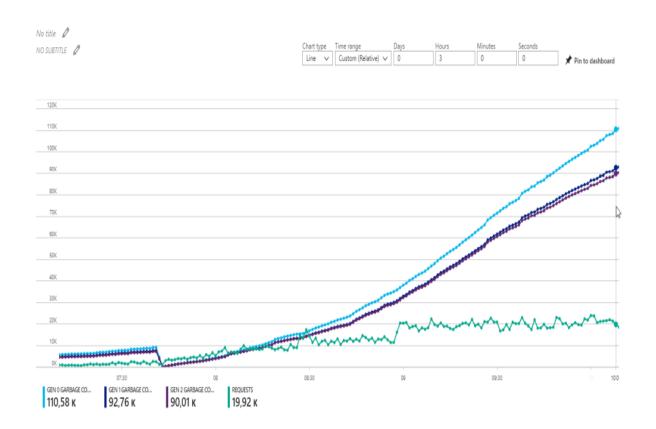
## **Need of User Acceptance Testing**

**Need of User Acceptance Testing** arises once software has undergone Unit, Integration and System testing because developers might have built software based on requirements document by their own understanding and further required changes during development may not be effectively communicated to them, so for testing whether the final product is accepted by client/end-user, user acceptance testing is needed.

- Developers code software based on requirements document which is their "own" understanding of the requirements and **may not actually be what the client needs from the software**.
- Requirements changes during the course of the project may not be communicated effectively to the developers

# CHAPTER – 9 RESULTS

## **9.1 Performance Metrics**



# Advantages

- • It retains the customer
- Gets you more references
- Increases profitability
- Gives you and your employees confidence
- Creates a holistic marketing scenario
- Competitive advantage
- Boost Customer Loyalty
- Enhance Brand Reputation
- Improve Products, Services, Procedures and Staff

# Disadvantages

Higher staff wages from hiring employees who are experts in customer service.

- Paying for staff training
- The extra services offered, such as refreshments
- Higher wage costs from the extra time staff take to provide post-sales service.
- It can be particularly difficult for small businesses to cope with these costs

## CHAPTER – 11

## **CONCLUSION**

In conclusion, customer care, involves the use of basic ethics and any company who wants to have success and grow, needs to remember, that in order to do so, it must begin with establishing a code of ethics in regards to how each employee is to handle the dealing with customers. Customers are at the heart of the company and its growth or decline. Customer care involves, the treatment, care, loyalty, trust the employee should extend to the consumer, as well in life.

## **CHAPTER – 12**

## **Future Scope**

Machine learning (ML), emerging customer service trends 2022 can help businesses in improving overall CX. Chat applications powered by AI are trending. Large companies, as well as startups, are leveraging this to reduce costs and improve service for customers. Predictive analytics has particularly proved to be very useful. Through this, quarries that will result in a call for assistance can be predicted easily. Implementing ML in customer service trends will give you a significant difference in business growth.

# CHAPTER – 13

Appendix

GitHub Link

github link

**Source Code** 

**Final Code Deliverable Link** 

**Demonstration Link** 

project video link