

CUSTOMER CARE REGISTRY

PROJECT REPORT

Domain: Cloud Application Development

Submitted by

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1. INTRODUCTION

Customer care is the assistance that provides interaction between the customer and agent. Providing excellent customer service is only one aspect of customer care. At every point that a customer interacts with an agent, it takes a proactive approach to offering them resources, tools and services.

1.1 PROJECT OVERVIEW

The project design is completely focused on providing a better experience for the customers and agents. It makes them to have clear feedback and new feature of rectifying issues which occur by illegal access through calls and messages. These are implemented using software like Flask, Docker, SendGrid and IBM Watson.

1.2 PURPOSE

The purpose of project is to make good agent customer relations stronger. This helps agents to have clear feedback of customers. And customer can resolve the problem of illegal access of data.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM

After a survey of a number of papers, it can be stated that customer care registry has number of facilities for customers but only by rectifying their queries. They can't provide any solution to illegal access of data from the customer. Similarly, the use of both call service and message service is not provided.

2.2 REFERENCES

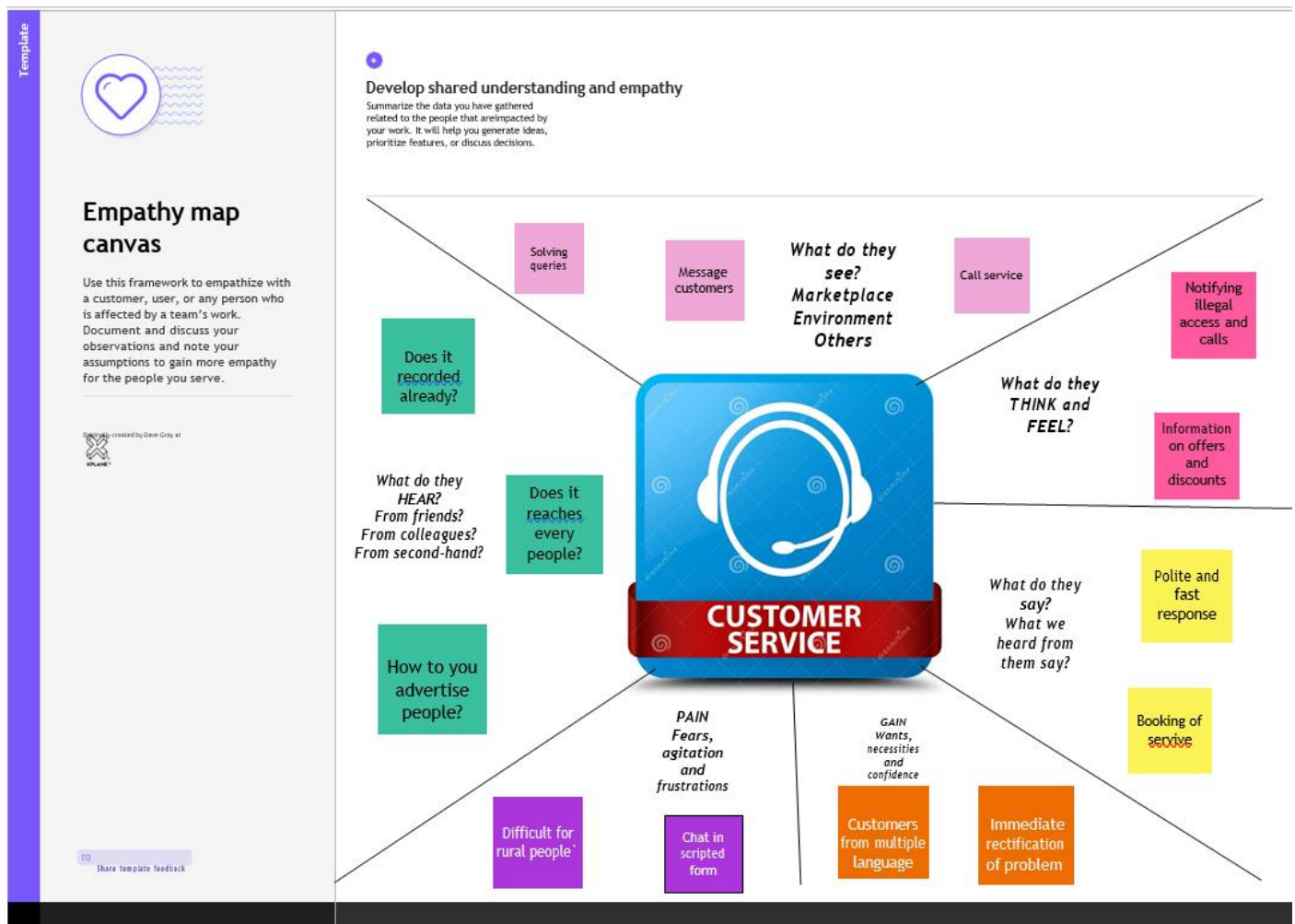
TITLE AND AUTHOR(S)	TECHNIQUE (S)	FINDINGS	PROS & CONS
Product Quality And Service Quality Yusuf Indra Wibowo Management Program, Open University, Indonesia.	PT. PLN	There are many other factors that affect Customer Satisfaction and also increase the levels of complaints, apart from Customer Satisfaction and Complaint Levels Of all types.,	P: Prices, Promotions and Digital Services. C: Supports theoretical studies.
Development of an Expert System-Oriented Service Support Help Desk Management System Abrar Hasin Kamal, Mohammad Obaidullah Tusher, Shadman Fahim Ahmad, Nusrat Jahan Farin & Nafees Mansoor	Expert system automation(AI model)	The functionalities of a service center that could not be achieved by humans only. The proposed system also incorporates AI to a part of it making it semi-AI driven	They interaction of AI-based system through user compliance and feedback.

2.3 PROBLEM STATEMENT DEFINITION

- Customer support associates were not attentiveness.
- Customer support associate doesn't pay attention on client necessity.
- Customer support associates are impolite to clients.
- Customer expedition close out.
- Customer support associates are not providing proper solutions to clients.
- Client's prolonged stand on hold.
- Incorrect or wrong service and product pushed to the customer.
- Unattainable of commodities.
- Customer support associates doesn't lead over guarantee and word of honour.
- Abundance of client's intermedial.
- Customer service is not straightened.

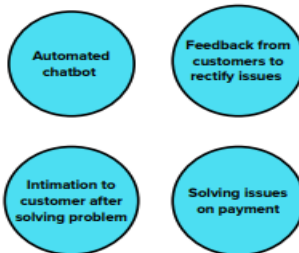
3.IDEATION AND PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS

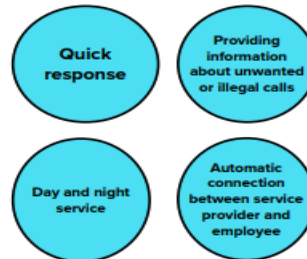


3.2 IDEATION AND BRAINSTORMING

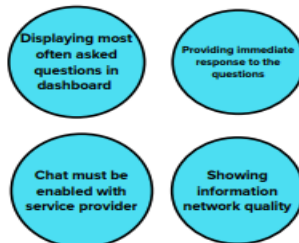
Mangayarkarasi S



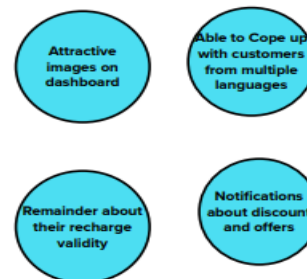
Arunadevi S



kaviya M



Maruthambigai V





Importance

If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

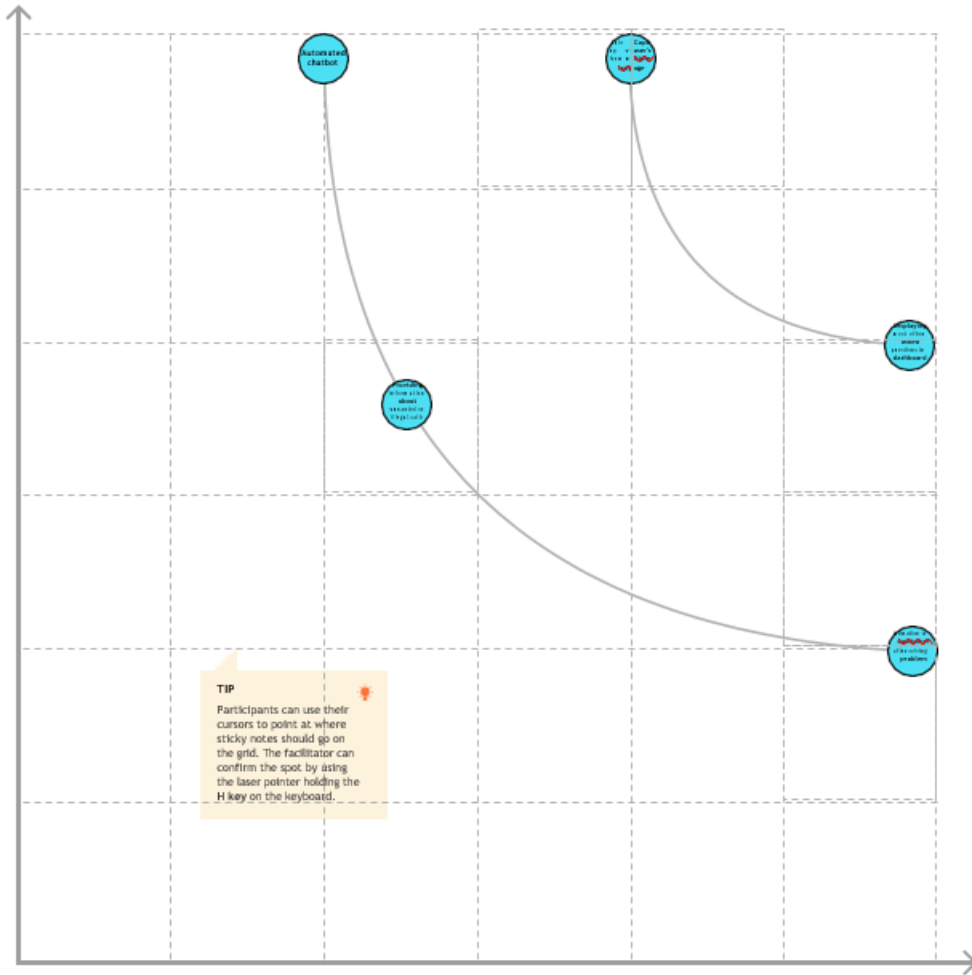
TIP

Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the H key on the keyboard.



Feasibility

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



3.3 PROPOSED SOLUTION

Sl.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	People start using mobile phones often in order to gets update particularly all over the world. Not only for updating them and also for online shopping, bank transactions, etc. Though they using everything on mobile phones, they face many problems like delay during online transactions, lack of follow up, poor product or service etc. They need to solve their problems by informing customer care. To overcome the problems using edge computing, a customer care registry has been used.
2.	Idea / Solution description	An automatic helpdesk will be available in order to help the customers. It have the feature of Multilanguage support, which is a digital tool businesses use to automate help desk tasks, including ticket routing, escalation, alerts, and scripted responses. It will suggest the customers most related works and also if needed it will connect the call with the employee, anytime.
3.	Novelty / Uniqueness	This solution has the uniqueness that we can chat in multiple languages and also they can translate the corresponded text to their mother tongue. Not only educated people alone needed information about updates. In additional to that we providing this helpdesk with the feature of translation also. By using this, problem gets solved.
4.	Social Impact / Customer Satisfaction	Customer Care Registry can be useful for people who had queries of the products. It also has the feature of translating it to their own mother tongue. It will be done using edge computing
5.	Business Model (Revenue Model)	Any additional applications for this registry need not to be installed. Using internet alone this registry can be accessed and used. The privacy of the user have also been protected in this registry. So without any fear, one can use this registry safely.
6.	Scalability of the Solution	Customer care registry encourages more conversations. It will cover the additional time zones. Additional to that it have live support if also needed the customer can able to call to the user which simply represents phone call support also provided.

3.4 PROBLEM SOLUTION FIT

1.Sementation of customers:

The glossary provides the data architecture that make you to segment your users based on commonalities in their lifestyle and behaviours.

2.Constraints to customer:

- The customer care maintains good conservation by replying to the questions from customers.
- The customers are supported by website, chatbots or customer agents.

3.Solution available:

- Providing information about illegal calls.
- Notification on validity of their recharge.
- Use language that user can understand.

4.Problems:

To resolve customer problem immediately and to provide intimation during illegal activities.

5.Source:

In order to meet the customer expectations companies are providing high pressure to improve their relationship with customer.

6.Behaviour:

Behaviour dependent CSP customer provide two-value proposition for a communications service provider: correlating Net Promoter Score (NPS) by feedback from customer and understanding customer requirements.

7.Triggers:

They tend to meet the customer in a particular geographical locality. This provides indication about the customer.

9.Solution:

The machine learning based customer care respond at faster rate and gather much information about their needs. They can be able to identify illegal access of the data. They provide multichannel interaction.

10.Channels available:

The omnichannel method has been adopted with enhanced digital channel and communication channel.

By which, multiple channels can interact such as email, social media, call enter and webchats.

8Feelings

The popularity to customer care can be achieved through social media which provides effective interaction. The emotion of the customer should be detected and analyzed automatically.

4.REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENT

FR No	Functional Requirement(Epic)	Sub Requirement(Story/ Sub-Task)
1	User Registration	Registration throughGoogle Registration through Form Registration through Gmail
2	User Confirmation	Confirmation via OTP Confirmation viaEmail
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 Contact information
6	E-mail	Login alertness
7	Feedback	Customer feedback

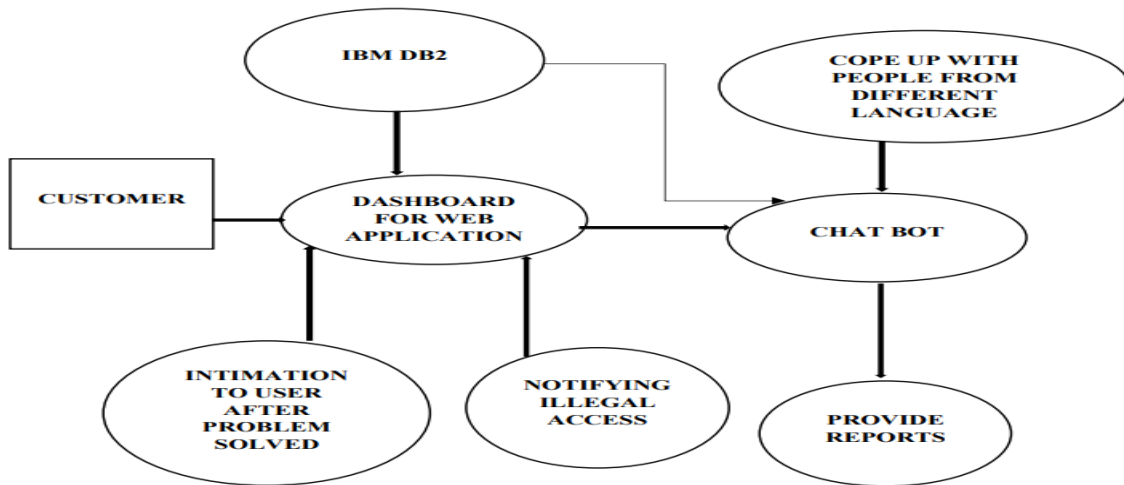
4.2 NON-FUNCTIONAL REQUIREMENTS

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 decade status through email
4	Performance	Effective development of web application
5	Availability	24/7 service
6	Scalability	Agents scalability as per the number of customers

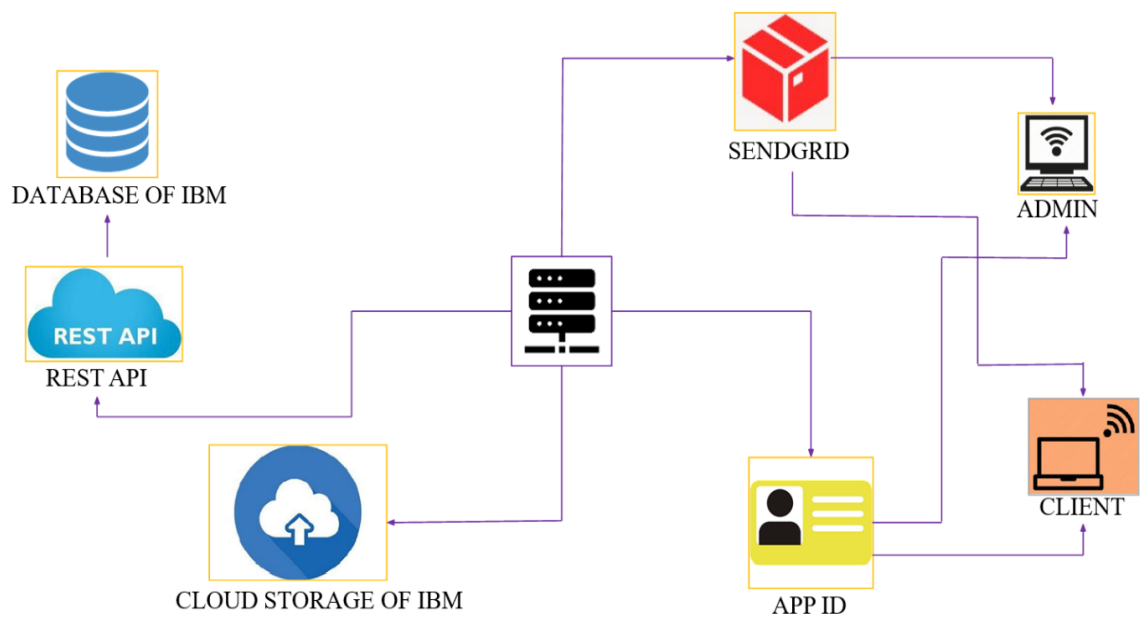
S.NO	COMPONENT	DESCRIPTION	TECHNOLOGY
1	User Interface	Through chat bots, mobile apps, or web user interfaces the user provides the interaction.	JavaScript, HTML, CSS, AngularJS, ReactJS, etc.
2	Application Logic-1	The application process is justified behind.	Python
3	Application Logic-2	The application process is justified behind.	Watson STT from IBM
4	Application Logic-3	The application process is justified behind	Watson Assistant by IBM
5	Database	Types of data, configurations, etc.	MySQL etc.,
6	Cloud Database	Service for cloud databases	IBM DB2, IBM Cloud, etc.
7	File Storage	File storage requirements	IBM Block Storage, alternative methods of storing data, or the domestic file system
8	Infrastructure (Server / Cloud)	Cloud Server / Application Deployment on Local System with Local Server Configuration ⁵	local, Kubernetes, cloud-based, etc.

5.PROJECT DESIGN

5.1 DATA FLOW DIAGRAMS



5.2 SOLUTION & TECHNICAL ARCHITECTURE



5.3 USER STORIES

User Type	Functional Requirement	User Stories Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Users)	Enrollment	USN-1	The clients or the users can enroll using authenticate the code given to the message or mail.	Using the instrument panel the clients can access their account.	High	Sprint-1
	Login	USN-2	Using the code in mail the clients can login the account.	Panel is given to access the account.	High	Sprint-2
	Panel	USN-3	Clients can view their suggestions and order.	Panel furnish information to the clients.	Low	Sprint-3
	Order Formation	USN-4	Clients can locate orders with complete explanation.	Clients will interrogate.	Medium	Sprint-2
	Address column	USN-5	Clients will get a clear view by their interrogations with staffs.	Questions are explained by associates.	High	Sprint-3
	Forgot Password	USN-6	Using this alternative the clients can reset their password when they were forgotten.	Account will not erased when using this option.	Medium	Sprint-4
	Order Details	USN-7	Status of clients order were view ed by them.	Used for forever compassion.	Medium	Sprint-1

Customer Interaction System	Login	USN-1	Users can login using code or password.	Panel is given to access the account.	High	Sprint-2
	Panel	USN-2	Clients can view their orders using the panel.	Panel furnish information to the customers.	Low	Sprint-3
	Address Column	USN-3	Clients will get a clear view by their interrogations with staffs	queries are detailed by customer care associates.	High	Sprint-3
	Forgot Password	USN-4	Using this alternative the clients can reset their password when they were forgotten the password.	Creating multiple account for forgetting password will be decreased.	Medium	Sprint-1
	Order Details	USN-4	Status of clients order were view ed by them.	Used for forever compassion.	Medium	Sprint-2

6.PROJECT PLANNING AND SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	User Panel	USN-1	The user can access the services by logging into the website.	20	High	Mangayarkarasi.S Kaviya.M Maruthambigai.V Arunadevi.S
Sprint-2	Admin panel	USN-2	Look up the database's availability and tracking the content that administrator is providing to customers.	20	High	Kaviya.M Maruthambigai.V Arunadevi.S
Sprint-3	Chat Bot	USN-3	Discussion about the services by users are done with chatbot and recommendations are received based on the information they have provided.	20	High	Mangayarkarasi.S Kaviya.M Maruthambigai.V Arunadevi.S
Sprint-4	final delivery	USN-4	Kubernetes for Docker deployment of the application and application containers. Make the documentation and submit the application finally.	20	High	Mangayarkarasi.S Kaviya.M Maruthambigai.V

PROJECT TRACKER:

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	5 Nov 2022	01 Nov 2022		12 Nov 2022
Sprint-2	20	6 Days	9 Nov 2022	07 Nov 2022		15 Nov 2022
Sprint-3	20	6 Days	17 Nov 2022	13 Nov 2022		21 Nov 2022
Sprint-4	20	6 Days	23 Nov 2022	19 Nov 2022		28 Nov 2022

Velocity Estimation:

If sprint duration is 10 days and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day).

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

7.CONCLUSION

Customer Care Registry is an important factor which makes agents to improve the quality and helps to get good customer agent relation. Hence it should be useful to all people from various places. Even the people have any issues in illegal access of data they can rectify the problem. Similarly, both call and message service needed to get clear about their doubts. Hence it needs these two features to work efficiently and in order to attract more customers to use our registry.

8.APPENDIX

GitHub Repo link:

<https://github.com/IBM-EPBL/IBM-Project-17380-1659660534>