PROJECT REPORT

TITLE	**CUSTOMER CARE REGISTRY**
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CUSTOMER CARE REGISTRY

ABSTRACT

The main idea is to implement an online system for managing the internet customers and complaint system for customers for raising complaints on the issues related to ISP provider and provide best customer care service for users using this application. There are many Internetsecurity providers in a country that will provide internetservices for users on differentpackages. Basically ISP works on three connections, Dial Up using telephone service,Broad band and wireless connections. Admin manages the whole system by performing task such as adding/viewing/editing/deleting employee details. System allows admin to add customer details and predict the internet plans based on their business type, region or age. Internet plan expiry dates of each customer will be displayed to admin if the plan is expiring in 5 days. All the complaint details will be displayed to the admin as well as employee to enter the complaint resolution. Employee can login using valid id and password which is provided by the admin. After login, employee can view all the unsolved complaints received from the customers. After resolving the complaint, employeecan update the provided resolution and close the complaint. Once the complaint is closed, an email will be sent to customer will resolution details. After receiving the mail, customer can view the resolution and can post the feedback to this application. Admin can view the report of complaint resolutionprovided by the employee.

1. INTRODUCTION

a. PROJECT OVERVIEW

Internet is gaining more importance day after day in all life aspects, especially in business and marketing due to the amazing increasein internet users around the world with an estimate of 2.4 billion users in 2012, when comparing this number to the number of internet users in 2000, a growth of 566% can be noticed. This is making internet the fastest media of all time in both growth rate and number of users (internet world stats, 2012). Based on a comprehensive study in 2011, the number of advertisements circulated over the net was more than 3.5 million daily. Internet became one of the most efficient ways to conduct business. In developed and well-developed countries, internet proved to be of much help for local enterprises where it provides great potential for such enterprises to compete worldwide. The main idea is to implementan online system for managingthe internet customersand complaint system for customers for raising complaints on the issues related to ISP provider and provide best customer care service for users using this application. There are manyInternet security providers in a country that will provide internet servicesfor users on different packages.Basically ISP works on three connections, Dial Up using telephoneservice, Broad band and wireless connections.

b. PURPOSE

The main idea is to implement an online system for managing the internet customers and complaint system for customers for raising complaints on the issues related to ISP provider and provide best customer care service for users using this application. By adding more entries to the data base store, the application can respond to more number of queries from the customers. The importance is given on giving correctreply to the input queries.

2. LITERATURE REVIEW

a. EXISTING PROBLEM

i. **TITLE:** Design of InternetProvider E-CRM System on CV. Ahyein Pratama MandiriAir Joman

AUTHOR: Irfan Hakim Nasution1

Currently conducts its business activities by waiting for customers to come to the office or customers providing information about places, privileges and products to other potential customers. Inadequate reporting of customer complaints makes it difficult to know the level of customer satisfaction, causing the opportunity to get potential customers to the maximum not to be fulfilled. Dissemination of information that is not neat makes it difficult for customers to know the latest information, thus influencing customers to switch to other providers. Therefore CV. Ahyein Pratama Mandiri requires CRM (Customer Relationship Management) which is applied to the information system, where this system can facilitate CV. Ahyein Pratama Mandiri in managing services for customer satisfaction. In carrying out this research, the researcher uses a qualitative research method which is a method that discusses the problem by describing, interpreting and writing down a situation or event that will be analyzed and then draw a general conclusion from the problems discussed. As a result, the application of CRM on CV. Ahyein Pratama Mandiri can make it easier for companies to provide information to consumers, provide convenience in ordering products that can be done anytime and anywhere, and increase customer loyalty. Customer relationship management (CRM) is a special type of management that addresses theories for managing the relationship betweena business and its customersand for improving customer relationships to achieve growth. Healthy business development . CRMs are designed to improve profits, sales, and customer satisfaction by helping businesses of all kinds accurately identify their customers, attract more customers, and maintain customer loyalty. A business strategy that includes customized software and services. CRM is a sales, marketing and servicestrategy that uses information technology through a customer-centric corporate philosophy and culture to make business processesmore efficient . Information is data processed in a form that is significant to the recipient and has real value that can be perceived in making decisions now or in the future.

ii. **TITLE:** The impact of the magnitude of service failure and complaint handlingon satisfaction and brand credibility in the banking industry

AUTHOR: Ghazal Shams1 · Mohsin Abdur Rehman

The present research aims to investigate the efects of service failure and complaint handling on customersatisfaction with complainthandling which consequently impacts overall satisfaction and brand credibility. To examine the objectives of the present research, the authors deployed a sample of 384 respondents in Persian banks within Iran. Structural equation modeling has been used to analyze the data. The fndings suggest that the magnitude of service failure negatively efects customer satisfaction with complaint handling. Complaint handling positively afects customer satisfaction with complaint handling. In addition, the results suggest that customer satisfaction with complaint handling positively infuences brand credibility and overall satisfaction. Finally,overall satisfaction positively impactsbrand credibility. The results revealed that if the complaint handling occurs instantly at the right time, it would have been a positive infuence on customer satisfaction and ultimately develop brand credibility. Therefore, banks can adopt customer relationship management systems and processes which enable quick responses to customer complaints. Bank managers could fnd the results of the present study useful and benefcial in developing complaint handling eforts and expanding appropriate service recovery and brand credibility strategies. stakeholders involved in the service process. Service recovery follows service failure and helps business to recover the damaged service experience. An efective service recovery strategy transforms the existing service processes to avoid the recurrence of a service failure Service sector adopts more technological advancements to tailor customersdynamic expectations However,business service processes are facing numerouschallenges to sustainingbrand value

iii. **TITLE:** Exploring the influenceof the human factor on customer satisfaction incall centres

AUTHOR: Dorina Chicua,∗, Maria del Mar Pàmies

The aim of this study is to explore the human or employee-related factors that shape customersatisfaction in the context of call centres. The literature review draws from a range of disperse disciplines including Service Quality, Human Resource Management and Marketing. The empirical study explores the different variables identified to obtain a nuanced analysis of the employee-related paths that lead to customer satisfaction in call centres. The study employs data from 109 call centresand utilises PLS for our exploratory purposes.Call centre managers should note that investing in HR practices will pay off in terms of improving the elusive phenomenon of customer satisfaction within call centres. The call centre industry is a peculiar serviceindustry, in as much asit is almost entirely based on a voice-to-voice encounter between the employee and the customer, on opposite ends of the telephone line. In general, customers are less satisfied with the service they receive from call centres than from the more traditional brick n' mortar, or face to face service encounters In call centres, employees (call centre operators) are the main connection between the organization and the customer. Employees are often required to undertake many different tasks at the same time. They are expected to display ambidextrous behaviour, being able to accomplish managerialrequirements such as: maintaining service quality, including attentiveness, perceptiveness, responsiveness and assurance, satisfy customers, solve problems attend a large number of calls in a short time while ensuring first call resolution.

vi. **TITLE:** Analyzing and Implementing a System For Reporting, FollowUp andResolving of Complaints

AUTHOR: Angham AL Abbas,Khadeeja Alzayer

In every aspect of life either it is personal or professional we use internet. It makes life easier, and overcomes unsatisfactory and unacceptable services or issues on various fields. We can use online complaint management system which is considered as an essential part of quality services. Complaints and compliments are valuable sources of information that organizations can use it to improve program delivery and service. “A web system for reporting, follow-up and resolving of complaints” is a web application analyzed and developed for managing various complaints in any place such as universities, hospitals shopping centers, damaged roads, unwanted load Sheddingor sewerage proble….etc. This work aims to make complaints easier to be reported, coordinated, monitored, tracked and resolved, and to provide governments with effective tool to keep records of complaint data, to use them for identifying problem areas and to improve services. Today's development cycles for web- applications such as Portals and Marketplaces are short, and getting shorter with continuous improvements and enhancements as new requirements and features become apparent. Therefore, developing “Web Services” using the “Service-Oriented Architecture” paradigm is a widely accepted concept. On the other side, most of user’s complaints are apparent when a system has inappropriate communication between the organizations, their employees and customers (Citizens). Poor communication can result in poor services or products being provided by the organization or Government. Whilst concentrating on the topic of complaint handling,organizations can achievean efficient successfactor by increasing their user satisfaction and their loyalty. Therefore each organization needs to develop its internal and external communication towardsits staff and customers to achieve success.Although appropriate communication can reduce user dissatisfaction; it cannot eliminatecomplaint

v. **TITLE:** Leveraging unstructured call log data for customerchurn prediction

AUTHOR: Nhi N.Y. Vo a , Shaowu Liu b ,Xitong L

Customer retention is important in the financial services industry. Machine learning has beenincorporated into customer data analytics to predict client churn risks. Despite its success, existing approaches primarily use only structured data, e.g., demographics and account history.Data mining with unstructured data, e.g., customer interaction, can reveal more insights, which has not been adequately leveraged. In this research, we propose a customer churn prediction model utilizing the unstructured data, which is the spoken contents in phone communication. We collected a large-scale call center dataset with two million calls from more than two hundred thousand customers and conducted extensive experiments. The results show that our model can accurately predict the client churn risks and generate meaningful insights using interpretable machine learning with personality traits and customer segments. We discuss how these insights can help managers develop retention strategies customized for different customer segments. Customer relationship management (CRM) has always been a core business functionfor any company. Among the components of CRM, increasing customer engagement and loyalty is one of the most challenging tasks. Although customer acquisition and retention are both important, prior research has showed that acquiring a newcustomer is typically five times more expensive than retaining an existing customer. Because of the high cost of customer acquisition, established businesses focus more on customer retention instead of acquisition. In customer retention, predicting customer churn risk is an important task. Each single percentage increase in customer churn prediction accuracy could potentially lead to a substantial revenue saving. This is particularly true for the financial services sector in which each customer may contribute to a considerable amount of profits, while customer engagementand loyalty are relatively low.

b. **REFERENCES**

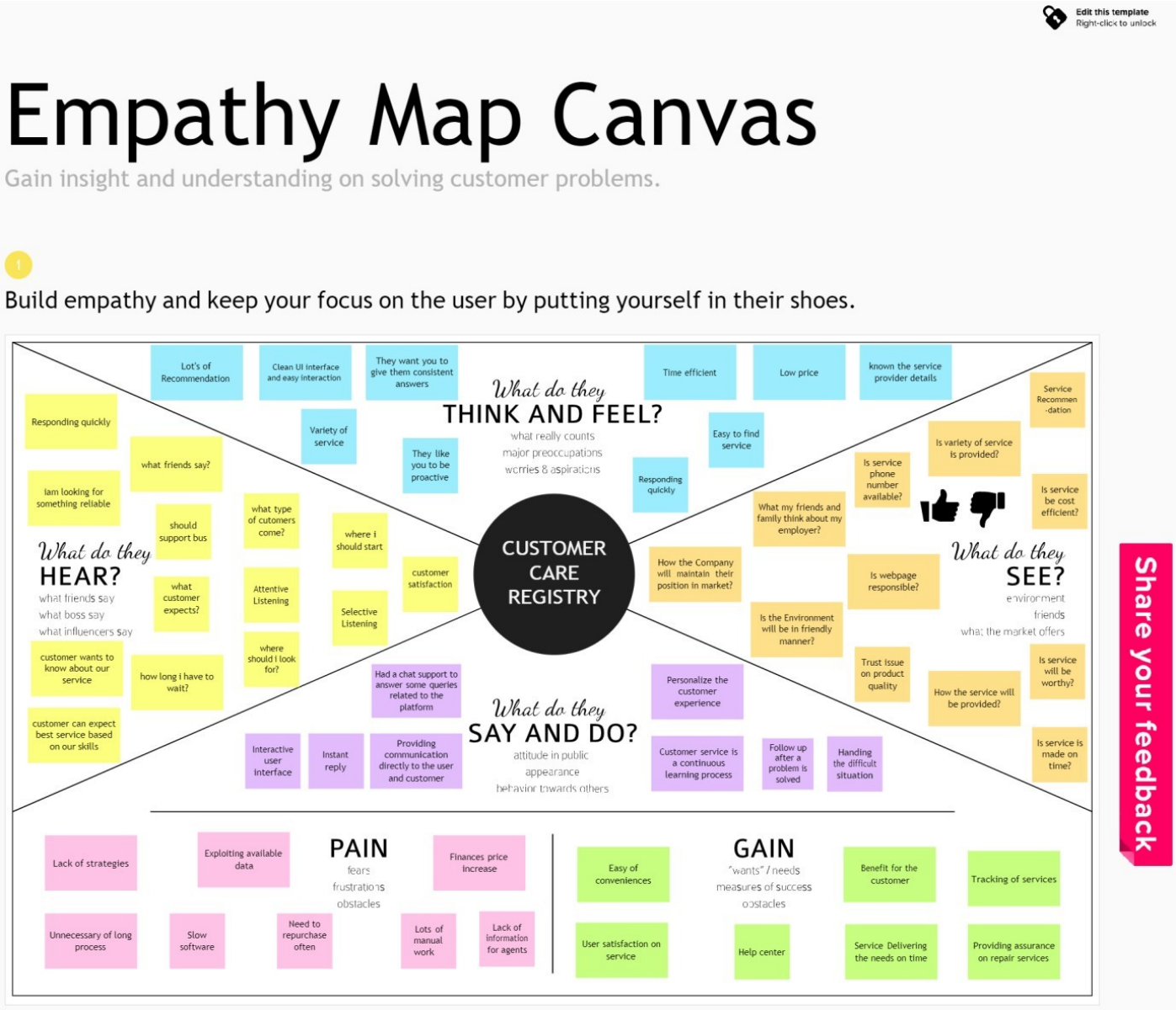
1. Irfan Hakim Nasution1, Design of Internet Provider E-CRM System on CV. AhyeinPratama Mandiri Air Joman, 2022.
2. Ghazal Shams1 · Mohsin Abdur Rehman,The impact of the magnitude of service failure and complaint handling on satisfaction and brand credibility in the bankingindustry, 2020.
3. Dorina Chicua,∗, Maria del Mar Pàmies,Exploring the influence of the human factoron customer satisfaction in call centres,2018.
4. Angham AL Abbas, Khadeeja Alzayer, Analyzing and Implementing a System For Reporting, Follow Up and Resolvingof Complaints, 2019.
5. Nhi N.Y. Voa , Shaowu Liu b , Xitong L,Leveraging unstructured call log data for customer churn prediction, 2020.

c. **PROBLEM STATEMENT DEFINITION**

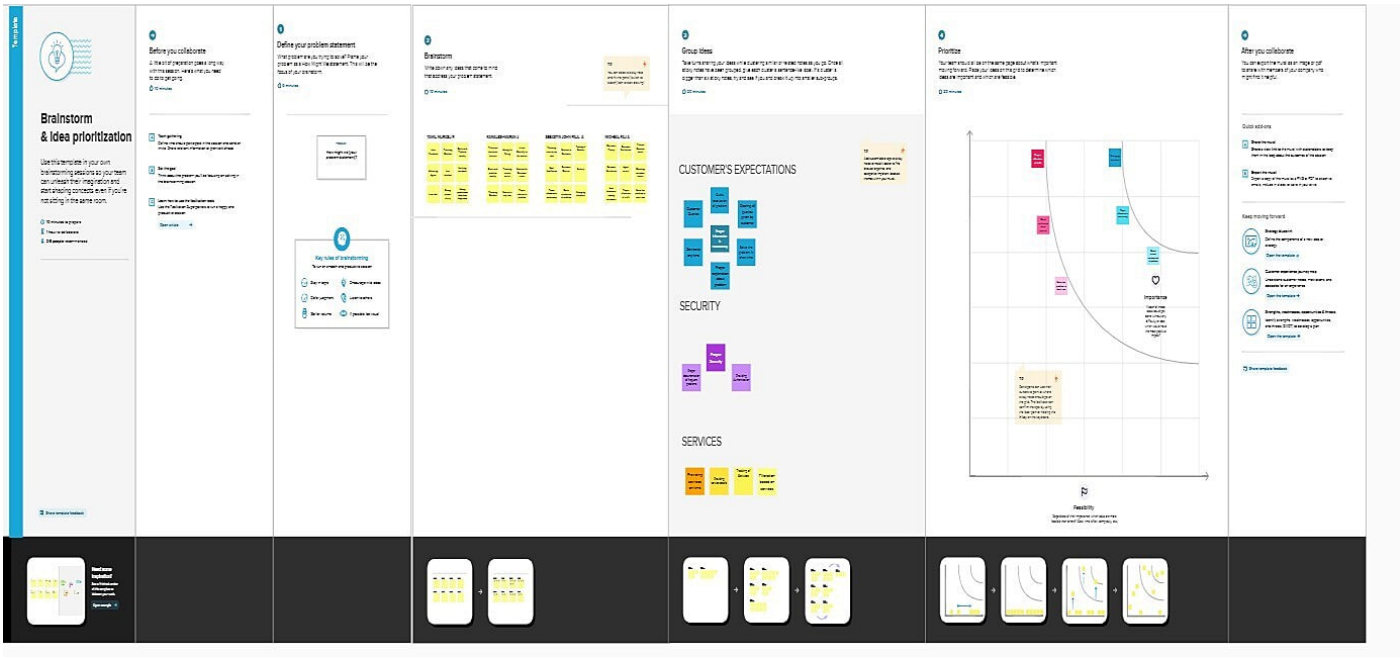
Call center management is the way in which organizations manage the daily operations of call center, including forecasting, scheduling, employee training, reporting and all customer interactions. Call center management can be modernized with workforce optimization (WFO) solutions. A call center management system refers to a software solution that helps improve customer interactions, service levels, and user experience. Simply put, it’s a modern way of managing the day-to-day call center operations-training, forecasting, reporting, scheduling, and many others. Callers should be able to leave messages in cases where all agents are preoccupied and no one can take the call**.** A call center functions through operators, known as agents or sometimes customerrepresentatives, and computerized telephony (CTI).

3. IDEATION & PROPOSED SOLUTION

a. EMPATHY MAP CANVAS



b. **IDEATION & BRAINSTORMING**



c. PROPOSED SOLUTION

This proposed system provides an online way of solving the problems faced by the public by saving time and eradicate corruption, and The ability of providing many of the reports on the system, and add to Facilitate the process of submitting a complaint. In this project we can design web application to analyze the complaints and to provide automatic forwarding system of user's complaints. User is easily known about status of complaints. If the action can't be taken properly means, send to higher authorities. The proposed system is supposed to handle as more number of customers as possible in any particular time. The mail service is also provided to have a communication between the admin and the users. The user queries should be periodically referred and the solution should be provided quickly.

d. **PROBLEM SOLUTION FIT**

The existing system is handled manually. The system has a formatted call centre management for customers in paper work like files and document format. The customers are waiting a call to taken by the call centre employee pick their calls. So any urgent work we didn't get any important responsefrom the call centre.So the proposed system the manager will look after it and then he will take care about the customer's problems. After that the manager will enquire and allocate the problem to the specified person in that department. The person will enquire the problem and then rectifies it.

4 REQUIREMENTANALYSIS

a. **FUNCTIONAL REQUIREMENT**

Admin

- Login
- Add Employees
- Add Customers
- View Details
    1. Employees
    2. Customers
    3. Feed Back

Employee

- Login
- View Complaints
- Send Notification (Through Email)
- View Feed Back

Customer

- Login
- Post Complaint
- View Notification
- Feed Back

MODULE DESCRIPTION

Admin

- Login

  In this module, the admin can login in the system using his/her username and password.

- Add Employees

  In this module,the admin can add the employee information like employee name, id,phonenumber, mail id, location etc.

- Add Customers

  In this module, the admin can add the customer information like customer name, id,phone number, mail id, location etc.

- View Details

  In this module,the admin can view the employee details,customer details and feedback details.

Employee

- Login

  In this module,the employee can login in the system using his/herusername andpassword.

- View Complaints

  In this module, the employee can view the customer complaintusing this application.

- Send Notification (Through Email)

  The employee can sent the notification to the user through the email for update statusof the complaint using this system.

- View Feed Back

  In this module, the employee can view the user feedback.

Customer

- Login

  In this module,the customer can login in the systemusing his/her usernameandpassword.

- Post Complaint

  In this module, the customer can post the internet service related complaint to thissystem.

- View Notification

  If the employeecan update the status of the complaint,the user can get the automaticnotification.

- Feed Back

  In this module, the user can post the feedback of productsor service.

b. **NON FUNCTIONAL REQUIREMENTS**

Non - Functional Requirements

Usability

The system shall allow the users to access the system with pc using web application. The system uses a web application as an interface. The system is user friendly which makes the system easy

Availability

The system is available 100% for the user and is used 24 hrs a day and 365 days a year. Thesystem shall be operational 24 hours a day and 7 days a week.

Scalability

Scalability is the measure of a system's ability to increase or decrease in performance and costin response to changes in application and system processing demands.

Security

A security requirement is a statement of needed security functionality that ensures one ofmany different securityproperties of software is being satisfied.

Performance

The information is refreshed depending upon whether some updates have occurred or not in the application. The system shall respond to the memberin not less than two seconds from the time of the request submittal. The system shall be allowed to take more time when doing large processing jobs. Responses to view information shall take no longerthan 5 seconds to appearon the screen.

Reliability

The system has to be 100% reliabledue to the importance of data and the damagesthat canbe caused by incorrect or incomplete data. The system will run 7 days a week. 24 hours a day.

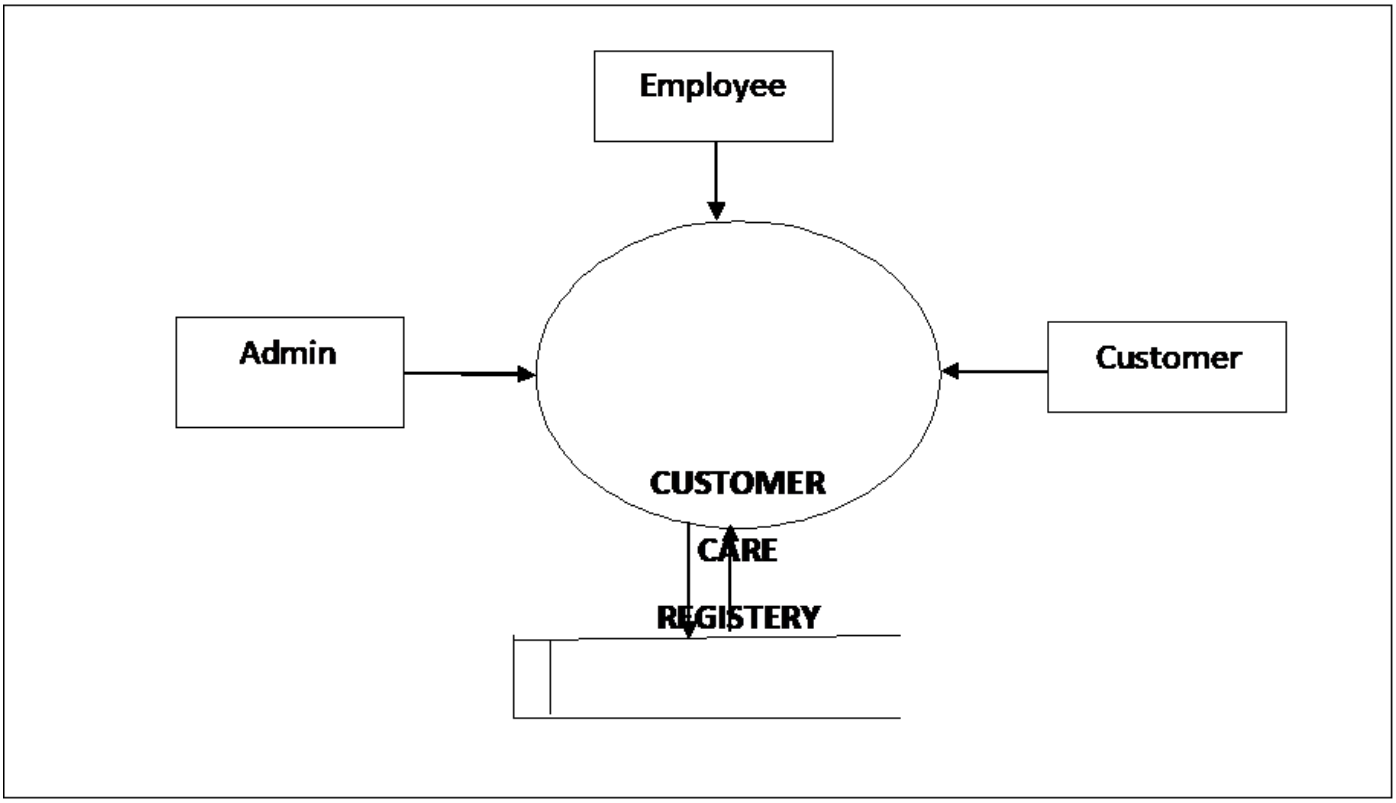
5 PROJECT DESIGN

a. DATA FLOW DIAGRAMS

A data-flow diagram is a visual representation of how data moves through a system or a process (usually an information system). The DFD additionally gives details about each entity's inputs and outputs as well as the process itself. A data-flow diagram lacks control flow, loops, and decision-making processes. Using a flowchart, certain operations depending on the data may be depicted.

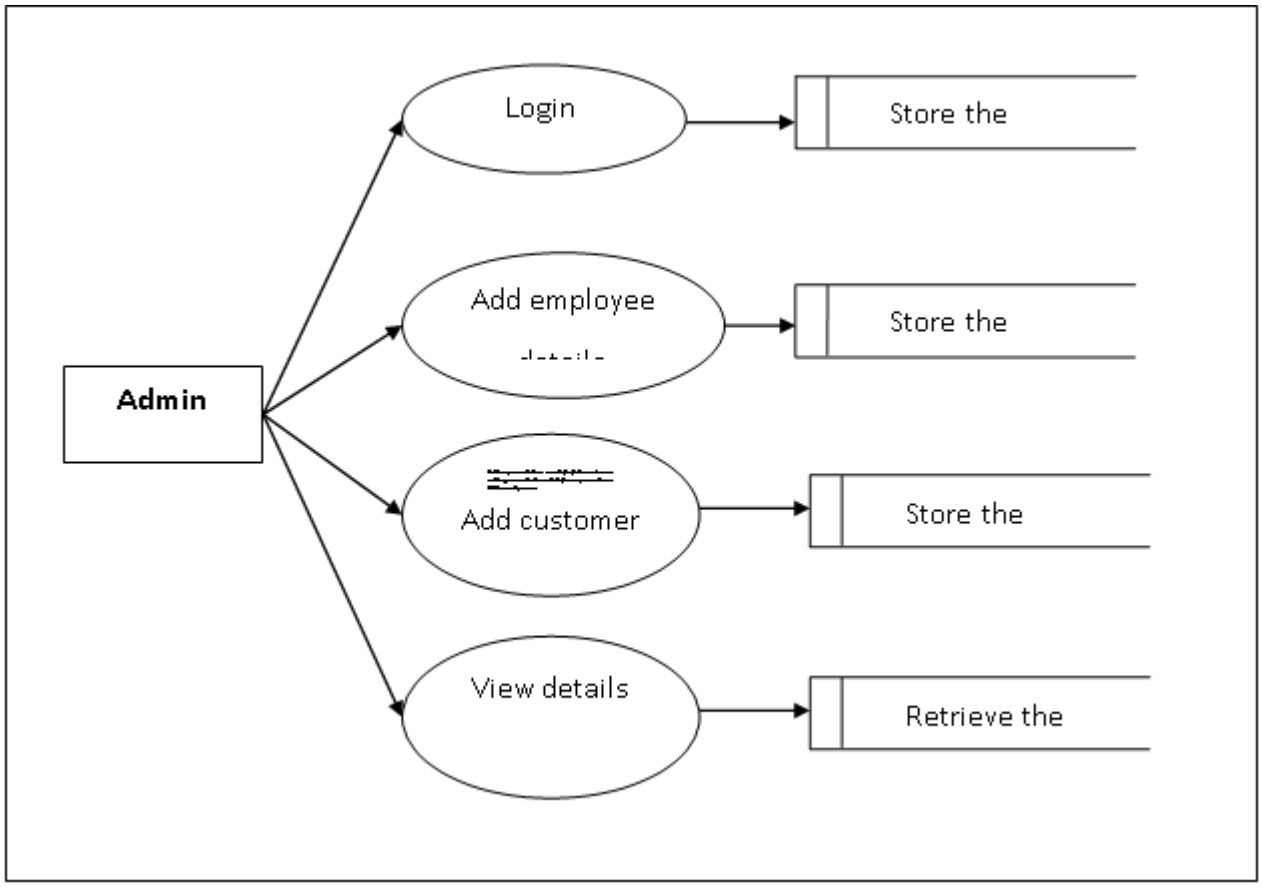
LEVEL 0

It is also known as a context diagram. It's designed to be an abstraction view, showing the system as a single process with its relationship to external entities. It represents the entire system as a singlebubble with input and output data indicated by incoming/outgoing arrows.



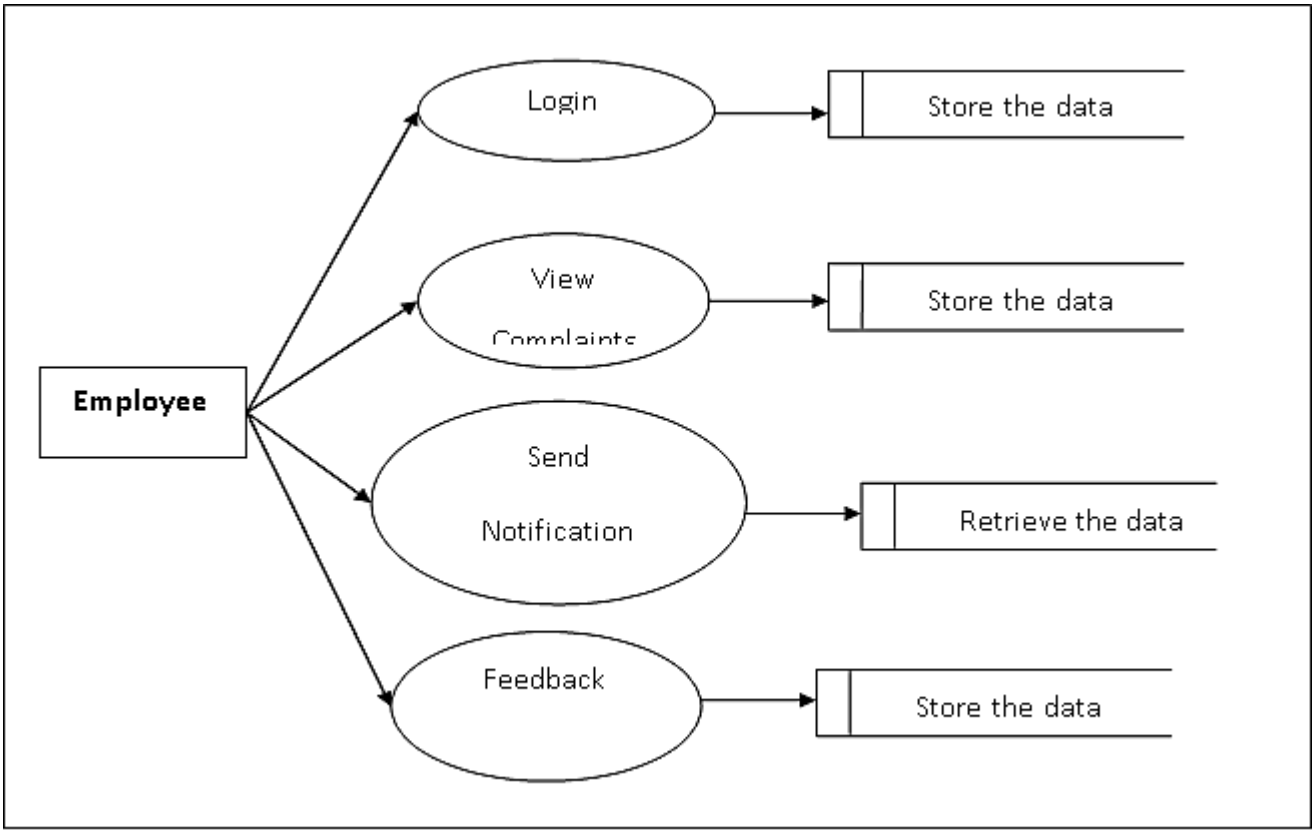
LEVEL 1

In 1-level DFD, the context diagram is decomposed into multiple bubbles/processes. In this level, we highlight the main functions of the system and breakdown the high-level process of 0-level DFD into sub processes.



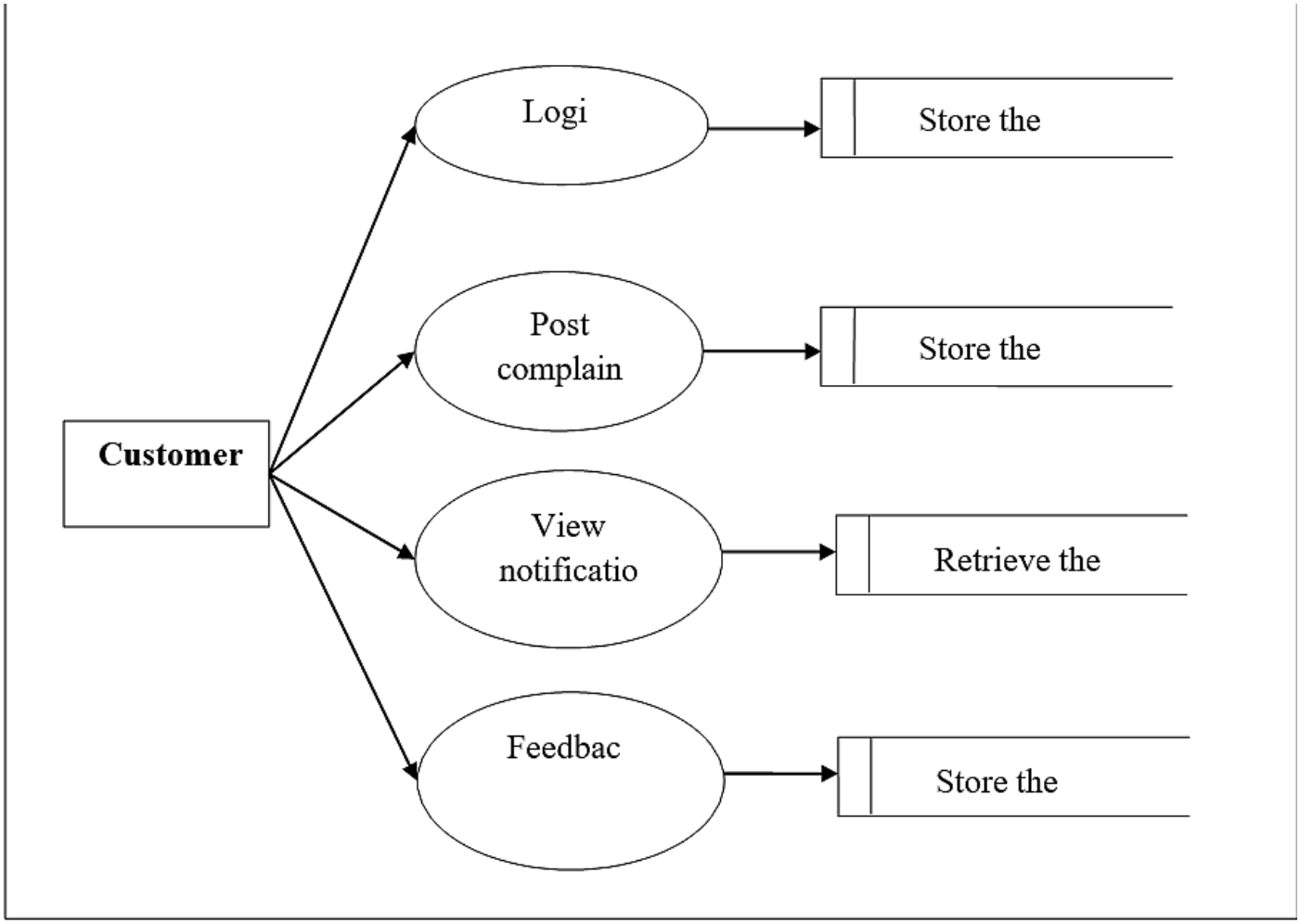
LEVEL 2

2-level DFD goes one step deeper into parts of 1-level DFD. It can be used to plan or recordthe specific/necessary detail about the system'sfunctioning.

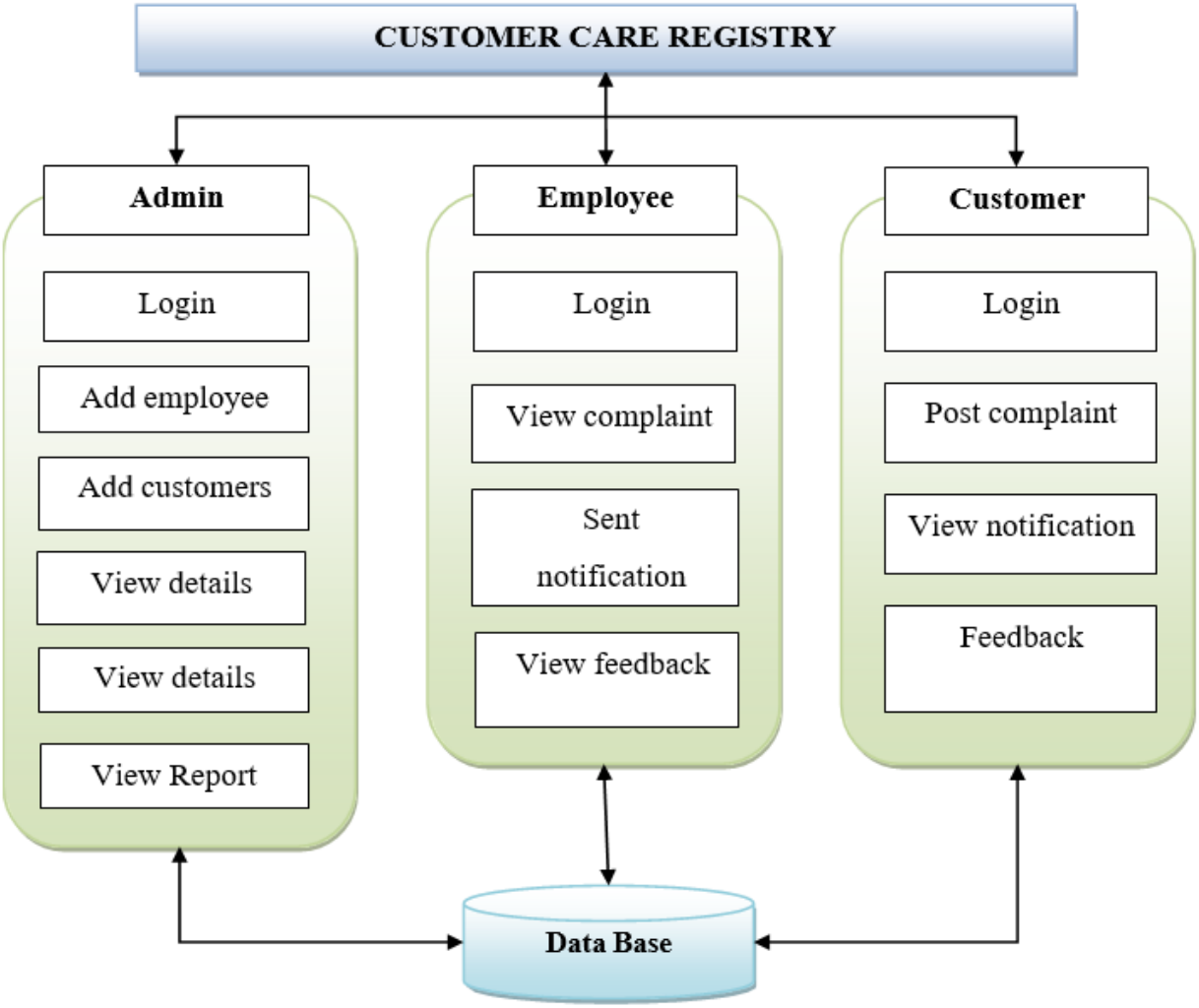


LEVEL 3

A data flow diagram (DFD) is a graphical representation of the flow of data through an information system. A DFD shows the flow of data from data sources and data stores to processes, and from processes to data stores and data sinks. DFDs are used for modelling and analyzing the flow of data in data processing systems, and are usually accompanied by a data dictionary, an entity-relationship model, and a number of process descriptions.



b. **SOLUTION & TECHNICAL ARCHITECTURE**



c. **USER STORIES**

User Type	FunctionalRequirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Client User)	Registration	USN-1	As a User, I will register for the applicationby entering my email, password, and confirming my password.	I willbe redirected to Email Verification	High	Sprint-1
Customer(AutomatedUser)	Registration	USN-2	As a User, I will Validate the Customer Credentials once after theEmailVerification.	I will receive confirmation Message from Administrator	High	Sprint-2
Customer(AutomatedUser)	Registration	USN-3	As a User, I will issue the Customer withLogin Id and Password through Object Creation from the Customer Credentials.	I can register & accessthe dashboard with Facebook Login	Medium	Sprint-1
Customer(Client User)	Login	USN-4	As a User,I willLogin into thePortal usingLogin CredentialsProvided.	I will be Redirectedto thePortal Dashboard Page	Medium	Sprint-2
Customer (MobileUser)	Dashboard	USN-5	As a User,I willbook for a ticket fromavailable sections alongthe Application and Submitthe Ticket to the Portal	I will be Issued with aTicket Applied Message from thePortal.	High	Sprint-3
Customer (Admin User)	Validation	USN-6	As a User,I willissue with a Suitable Agent to the Customer and provide a Bot Connectivity withthe Agent.	I willsend a mail about the agentissued to the application.	High	Sprint-2
Customer(AutomatedUser)	Bot Connected	USN-7	As a User,I will connect the Bot to the Customer andprovide with repeated Statusof the Query to the Customer	I willReceive Messagefrom the Responsive Server Bot.	Low	Sprint-4

Customer(Agent User)	Agent	USN-8	As a User,I will satisfy all the queries to theCustomer forall the repetitive responses from the Customers.	I willcommunicate with aQueryfrom the Server Bot.	Medium	Sprint-3
Customer (Server User)	Feedback	USN-9	As a User,Iwill fill up the Feedback form provided to improve or serviceprovidedfrom the Application.	I will accept theFeeback and issue with a message for queries	High	Sprint-4
Customer(Application User)	Log out	USN-10	As a User,I will Log out of the Applicationwhen my Queries are over or else will begin again from the Beginning.	I will Estimate the User Response and React to end the Process.	Low	Sprint-1

6. PROJECT PLANNING& SCHEDULING

a. SPRINT PLANNING &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 theapplication byentering my email, password, and confirming my password.	2	High	Deepika, Dharani
Sprint -1		Login	USN-2	As a customer, I can login to the application by entering correct email and password	1	High	Deepika
Sprint -1		Dashboard	USN-3	As a customer, I can see all the tickets raised by meand lotmore	3	High	Gayathri
Sprint -2		Ticket creation	USN-4	As a customer, I can createa newticket with the detailed description of my query	2	High	Dhanalakshmi
Sprint -3		Address Column	USN-5	As a customer, I can have conversations with the assigned agent and getmy queries clarified	3	High	Deepika, Gayathri
Sprint -4		Forgot password	USN-6	As a customer, I can resetmy passwordby this option in case I forgot my old password	2	Medium	Gayathri, Dharani

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	Deepika, Dharani
Sprint-3	Agent (Webuser)	Login	USN-1	As an agent, I can login to the application by entering correct email and password	2	High	Dhanalakshmi
Sprint-3		Dashboard	USN-2	As an agent,I can see all the tickets assigned to me bythe admin	3	High	Gayathri
Sprint-3		Address Column	USN-3	As an agent, I get to have conversations with the customer and clear his/herqueries	3	High	Gayathri, Dharani
Sprint-4		Forgot password	USN-4	As an agent,I can resetmy password by this option incase I forgotmy old password	2a	Medium	Deepika, Dhanalakshmi
Sprint-1	Admin (Webuser)	Login	USN-1	As an admin,I can loginto the applicationby entering correct email and password	1	High	Dharani, Gayathri

Sprint-1		Dashboard	USN-2	As an admin, I can see all the ticketsraised in the entire system and lot more	3	High	Gayathri, Deepika
Sprint-2		Agent creation	USN-3	As an admin, I can create an agent for clarifying the customer's queries	2	High	Dharani, Deepika
Sprint-2		Assigning agent	USN-4	As an admin,I can assign an agent for each ticket created by the customer	3	High	Dhanalakshmi, Dharani
Sprint-4		Forgot password	USN-4	As an admin,I can resetmy password by thisoption incase I forgotmy old password	2	Medium	Dharani,Gayathri

b. **SPRINT DELIVERY SCHEDULE**

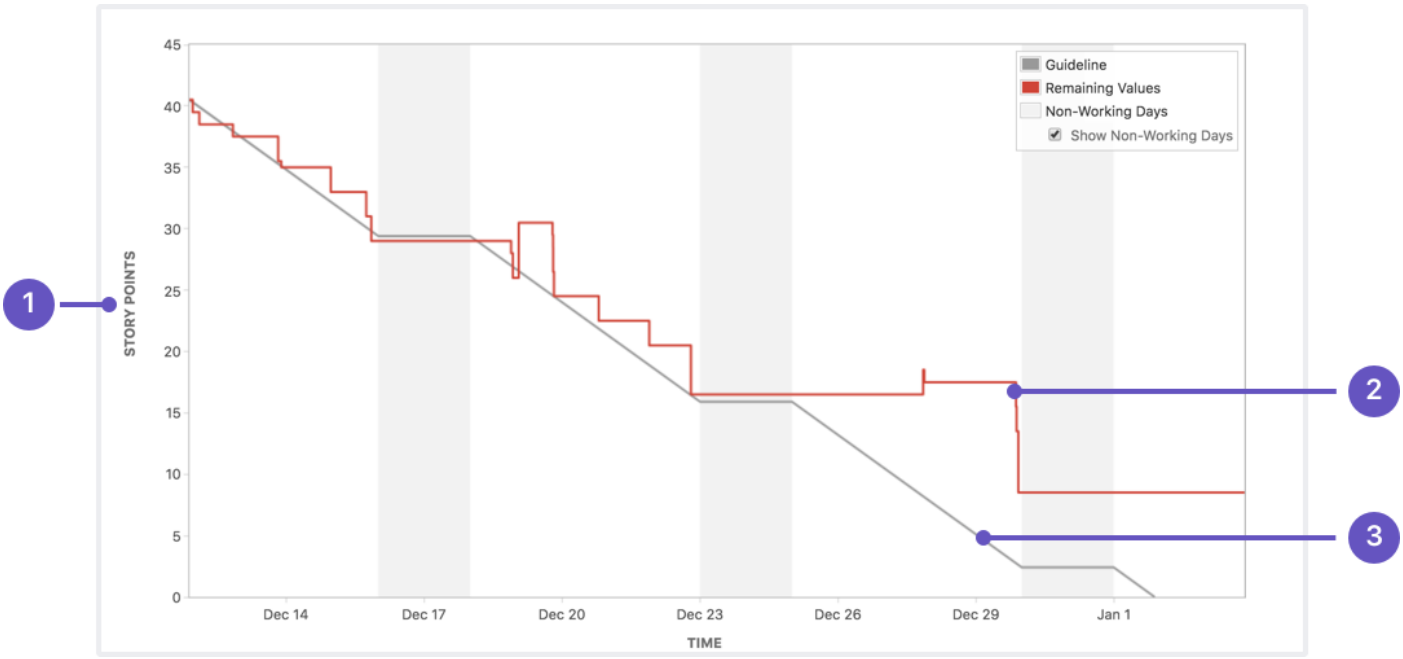
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint EndDate (Planned)	Story Points Completed (ason Planned End Date)	Sprint ReleasDate (Actual)
Sprint-1	10	6 Days	24 Oct 2022	29 Oct 2022	10	29 Oct 2022
Sprint-2	7	6 Days	31 Oct 2022	05 Nov 2022	7	05 Nov 2022
Sprint-3	11	6 Days	07 Nov 2022	12 Nov 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 averagevelocity (AV) per iteration unit (story pointsper day)

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

c. **REPORTS FROM JIRA**



7 CODING &SOLUTIONING

a. FEATURE 1

7 Main types of customerneeds

- User-friendly
- Empathy
- Fairness
- Control
- Alternatives
- Information

b. FEATURE 2

- Complaint Tracking
- EmailAlert
- 24/7 Monitoring

c. DATABASE SCHEMA

```
CREATE TABLE regtb (
  Name varchar(250) NOT NULL, Gender
  varchar(250) NOT NULL, Age
  varchar(250) NOT NULL, Email
  varchar(250) NOT NULL, Phone
  varchar(250) NOT NULL, Address
  varchar(250) NOT NULL, UserName
  varchar(250) NOT NULL,Password
  varchar(250) NOT NULL
)




CREATE TABLE agenttb (
  Name varchar(250) NOT NULL,
```

```
  Gender varchar(250) NOT NULL, Age
  varchar(250) NOT NULL, Email
  varchar(250) NOT NULL, Phone
  varchar(250) NOT NULL, Address
  varchar(250) NOT NULL,AgentId
  varchar(250) NOT NULL

)



CREATE TABLE booktb (
  ComplaintId varchar(250) NOT NULL,
  UserName varchar(250) NOT NULL,
  Compliant varchar(250) NOT NULL,
  AgentName varchar(250) NOT NULL,
  ACTIONINFO varchar(250) NOT NULL
)
```

8 TESTING

a. TEST CASES

A test case has components that describe input, action and an expected response, in order to determine if a featureof an application is workingcorrectly. A test case is a set of instructions on “HOW” to validate a particular test objective/target, which when followed will tell us if the expectedbehavior of the system is satisfied or not.

Characteristics of a good test case:

i. Accurate: Exacts the purpose.

ii. Economical: No unnecessary steps or words.

iii. Traceable: Capableof being traced to requirements.

iv. Repeatable: Can be used to performthe test over and over.

v. Reusable: Can be reused ifnecessary.

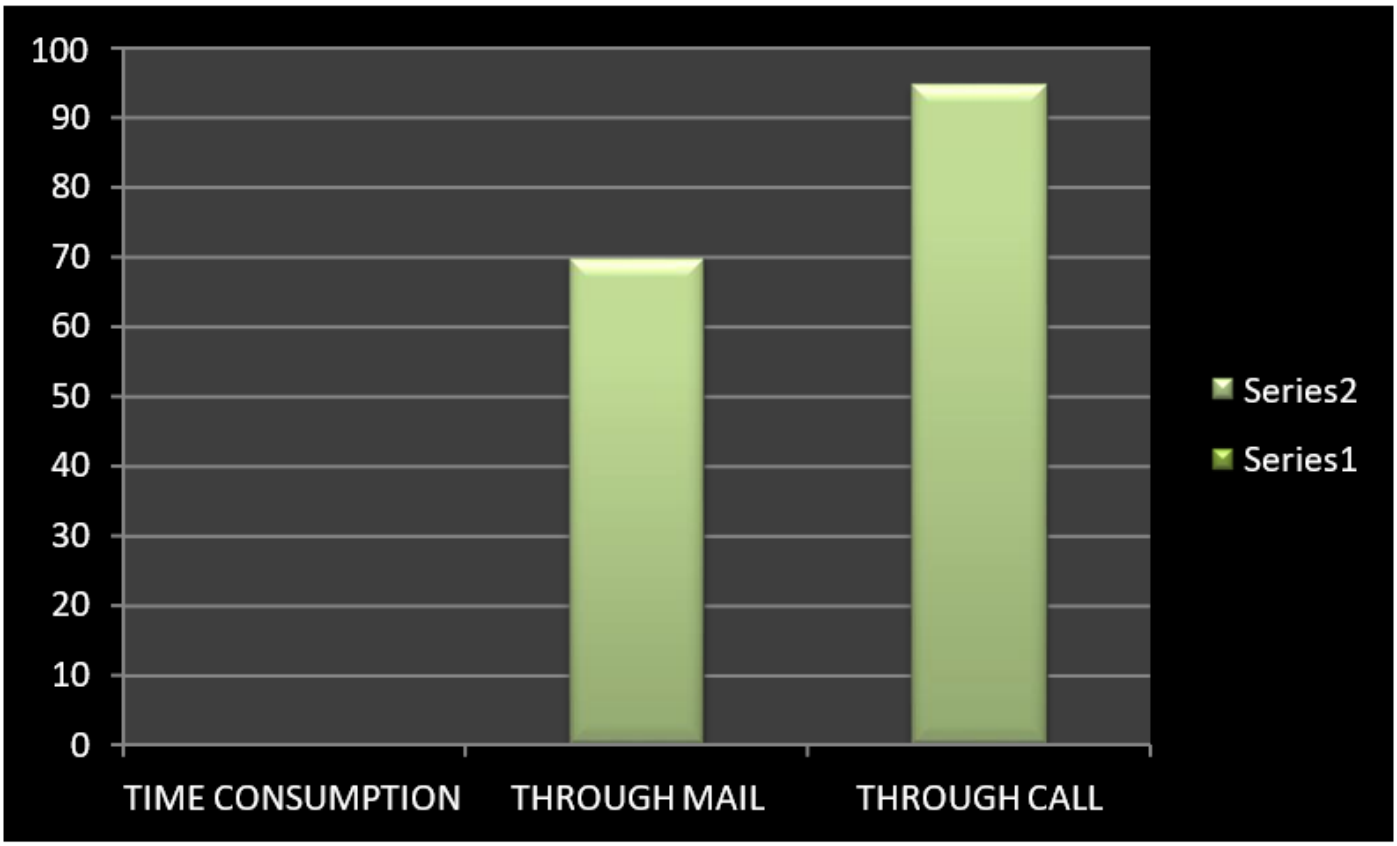
S.NO	Scenario	Input	Excepted output	Actual output
1	Admin Login Form	User name and password	Login	Login success.
2	Employee Login Form	User name and password	Login	Login success.
3	User Registration Form	User basic details	Registeredsuccessfully	User basic detailsare stored in the database.
4	User Login Form	User name and password	Login	Login success.

b. **USER ACCEPTANCE TESTING**

This is a type of testing done by users, customers, or other authorised entities to determine application/software needs and business processes. Acceptance testing is the most important phase of testing as this decides whether the client approves the application/software or not. It may involve functionality, usability, performance, and U.I of the application. It is also known as user acceptance testing (UAT), operational acceptance testing (OAT), and end-usertesting.

9 RESULTS

a. **PERFORMANCE METRICS**



10 ADVANTAGES & DISADVANTAGES

ADVANTAGES

- System is easy to understand and user friendly.
- The system is purely based on prediction which predicts an internet plan for thecustomer.
- Admin can easily view employee reportbased on the resolution providedon thecomplaint.
- Handle large number of contextual information.
- User friendly and time consumingprocess.
- Using this project,the user can know about status of complaintthrough website.
- Keep track of daily information exchange at the server by the administrator.
- Increase in processing and transfer speeds of information over thenetwork

DISADVANTAGES

- Requires an activeinternet connection.
- System may provide inaccurateresults if the data enteredincorrectly.
- Difficult to provide properintimation system
- Current systemis manual process
- Cannot alwaystaking a call
- Tower problem during call conversation

11 CONCLUSION

Application software has been computed successfully and was also tested successfully by taking “test cases”. It is user friendly, and has required option, which can be utilized by the user to perform the desired operations. Application meets the information requirements specified to a great extent. The system has been designed keeping in view the present and future requirements in mind and made very flexible. The goals that are achieved by the softwareare Instant access,improved productivity, Optimumutilization of resources, Efficient management of records, Simplifications of the operations, Less processing time and getting required information, User friendly, Portable and flexible for further enhancement. The system has the benefits of easy access because it is be developed as a platformindependent web application, so the admin can maintain a proper contact with their users, which may be access anywhere. All communications between the police and administrator has done through the online, so this communication cost also is reduced.

12 FUTURE SCOPE

In future we can develop this project in android application with extra features like customer complaint system and collect the feedbackform from the customer about thesystem.

13 APPENDIX

SOURCE CODE

```
                from flask import Flask, render_template, flash,
            request, session,send_filefrom flask import render_template,
            redirect,url_for, request
import ibm_db
import pandas
import ibm_db_dbi
            from sqlalchemy import create_engine


            engine = create_engine('sqlite://',
                        echo = False)


            dsn_hostname = "b70af05b-76e4-4bca-a1f5-
            23dbb4c6a74e.c1ogj3sd0tgtu0lqde00.databases.appd
            omain.cloud" dsn_uid = "crc83247"
            dsn_pwd = "eHGBftxhodLDnNpM"


            dsn_driver = "{IBM DB2
            ODBC DRIVER}"
            dsn_database = "BLUDB"
            dsn_port
            =
            "32716"
            dsn_prot
            ocol =
            "TCPIP"
            dsn_secu
            rity =
            "SSL"
            dsn = (
               "DRIVER={0};"
```

```
    "DATABASE={1};"
    "HOSTNAME={2};"
    "PORT={3};"
    "PROTOCOL={4};"
    "UID={5};"
    "PWD={6};"
    "SECURITY={7};").format(dsn_driver, dsn_database, dsn_hostname,
dsn_port,dsn_protocol, dsn_uid, dsn_pwd,dsn_security)

dsn = (
    "DRIVER={0};"
    "DATABASE={1};"
    "HOSTNAME={2};"
    "PORT={3};"
    "PROTOCOL={4};"
    "UID={5};"
    "PWD={6};"
    "SECURITY={7};").format(dsn_driver, dsn_database, dsn_hostname,
dsn_port,dsn_protocol, dsn_uid, dsn_pwd,dsn_security)

try:
    conn = ibm_db.connect(dsn, "", "")
    print ("Connected to database: ", dsn_database, "as user: ",
dsn_uid, "on host: ",dsn_hostname)
except:
    print ("Unable to connect: ",ibm_db.conn_errormsg() )



app =
Flask(_
name_
```

```
)app.conf
ig['DEB
UG']
app.config['SECRET_KEY'] = '7d441f27d441f27567d441f2b6176a'


   @app.route("/")
def homepage():
   return render_template('index.html')

@app.route("/
AdminLogin
")def
AdminLogin(
):

   return render_template('AdminLogin.html')


@app.route("/
UserLogin")
def
UserLogin():
   return render_template('UserLogin.html')




@app.route
("/NewUser
")def
NewUser():
   return render_template('NewUser.html')
```

```
@app.route("/Ne
wComplaint")
def
NewComplaint(
):
    user = session['uname']
    return render_template('NewComplaint.html',uname=user)


@app.route
("/NewAge
nt")def
NewAgent(
):



    conn =
    ibm_db.connect(dsn, "",
    "") pd_conn=
    ibm_db_dbi.Connection(c
    onn)
    selectQuery = "SELECT * FROM agenttb
    where " dataframe =
    pandas.read_sql(selectQuery, pd_conn)
    dataframe.to_sql('booktb1', con=engine,
    if_exists='append')
    data = engine.execute("SELECT * FROM

    booktb1").fetchall()

    returnrender_template('NewAgent.html',data=dat

    a)
```

```
@app.route("/
AdminHome
")def
AdminHome(
):
    conn =
    ibm_db.connect(dsn, "",
    "") pd_conn=
    ibm_db_dbi.Connection(c
    onn)

    selectQuery = "SELECT * from regtb "
    dataframe =
    pandas.read_sql(selectQuery,
    pd_conn)dataframe.to_sql('Employe
    e_Data',
    con=engine, if_exists='append')

    # run a sql query
    data = engine.execute("SELECT * FROM
    Employee_Data").fetchall()
    returnrender_template('AdminHome.html',data=data)


@app.route("/UserHome")
def UserHome():
     user =
 session['una
      me']

    conn =
```

```
    ibm_db.connect(dsn, "",
    "") pd_conn=
    ibm_db_dbi.Connection(c
    onn)
    selectQuery = "SELECT * FROM regtb whereUserName=
    '" + user + "' "dataframe = pandas.read_sql(selectQuery,
    pd_conn) dataframe.to_sql('booktb1', con=engine,
    if_exists='append')
    data = engine.execute("SELECT * FROM
    booktb1").fetchall()
    returnrender_template('UserHome.html',data=dat
    a)



@app.route("/Us
erComplaint")
def
UserComplaint(
):
    user = session['uname']



    conn =
    ibm_db.connect(dsn, "",
    "") pd_conn=
    ibm_db_dbi.Connection(c
    onn)
    selectQuery = "SELECT * FROM booktb where  UserName=
    '"+ user + "' "dataframe = pandas.read_sql(selectQuery,
    pd_conn) dataframe.to_sql('booktb1', con=engine,
    if_exists='append')
    data = engine.execute("SELECT * FROM booktb1").fetchall()
```

```
    return

render_template('UserComplaint.html',data

=data)

@app.route("/AdminComplaintInfo")

      def
AdminComp
 laintInfo():

    conn =
    ibm_db.connect(dsn, "",
    "") pd_conn=
    ibm_db_dbi.Connection(c
    onn)
    selectQuery = "SELECT * FROM
    booktb " dataframe =
    pandas.read_sql(selectQuery,
    pd_conn)
    dataframe.to_sql('booktb1', con=engine,
    if_exists='append') data =
    engine.execute("SELECT * FROM
    booktb1").fetchall()
    return render_template('AdminComplaintInfo.html',data=data)

@app.route("/adminlogin",
methods=['GET', 'POST'])def
adminlogin():
    error = None
    if request.method == 'POST':
      if request.form['uname'] == 'admin' or request.form['password'] == 'admin':
```

```
            conn =
            ibm_db.connect(dsn, "",
            "") pd_conn=
            ibm_db_dbi.Connection(c
            onn)


            selectQuery = "SELECT * from regtb "
            dataframe = pandas.read_sql(selectQuery, pd_conn)


            dataframe.to_sql('Empl
                        oyee_Data',
                        con=engine,
                        if_exists='ap
                        pend')


            # run a sql query
            data = engine.execute("SELECT * FROM
            Employee_Data").fetchall()
            returnrender_template('AdminHome.html' , data=data)


        else:
         return render_template('index.html', error=error)


@app.route("/userlogin",
methods=['GET', 'POST'])def
userlogin():


    if request.method ==
        'POST': username =
        request.form['uname
        '] password=
```

```
        request.form['passwo
        rd']
        session['uname'] = request.form['uname']
        conn =
        ibm_db.connect(dsn, "",
        "") pd_conn=
        ibm_db_dbi.Connection(c
        onn)

        selectQuery = "SELECT * from regtb where UserName='" + username +
'" andpassword='" + password + "'"
        dataframe = pandas.read_sql(selectQuery, pd_conn)

        if dataframe.empty:
            data1 = 'Username or Password is wrong'
        return render_template('goback.html', data=data1)

            else:
            print("Login")
            selectQuery = "SELECT * from regtb where UserName='" + username
+ '" andpassword='" + password + "'"
            dataframe = pandas.read_sql(selectQuery, pd_conn)

            dataframe.to_sql('Emp
                        loyee_Data
                        ',
                        con=engin
                        e,
                        if_exists='a
                        ppend')

            # run a sql query
            data = engine.execute("SELECT * FROM Employee_Data").fetchall()
```

```
            return render_template('UserHome.html', data=data)

@app.route("/newuser", methods=['GET', 'POST'])

def newuser():
    if request.method == 'POST':

        name1 =
        request.form['na
        me'] gender1 =
        request.form['gen
        der']Age =
        request.form['age
        ']
        email =
        request.form['em
        ail'] pnumber =
        request.form['pho
        ne']
        address = request.form['address']

        uname =
        request.form['u
        name']password
        =
        request.form['ps
        w']

        conn = ibm_db.connect(dsn, "", "")
    return render_template('UserLogin.html')
```

```
        insertQuery = "INSERT INTO regtb VALUES ('" + name1 + "','" +
gender1 + "','" + Age + "','" + email + "','" + pnumber + "','" + address + "','" +
uname + "','" + password + "')"
        insert_table =
        ibm_db.exec_immediate(conn,
        insertQuery)print(insert_table)


    return render_template('UserLogin.html')



@app.route("/newage",
methods=['GET', 'POST'])def
newage():
    if request.method == 'POST':

        name1 =
        request.form['na
        me'] gender1 =
        request.form['gen
        der']Age =
        request.form['age
        ']
        email =
        request.form['em
        ail'] pnumber =
        request.form['pho
        ne']address=
        request.form['add
        ress']

        uname = request.form['uname']
```

```
        conn =
        ibm_db.connect(dsn, "",
        "") pd_conn=
        ibm_db_dbi.Connection(c
        onn)
        insertQuery = "INSERT INTO agenttb VALUES('" + name1 + "','" +
gender1 + "','" +Age + "','" + email + "','" + pnumber + "','" + address + "','" +
uname + "')"
        insert_table =
        ibm_db.exec_immediate(conn,
        insertQuery)print(insert_table)


        selectQuery = "SELECT * FROM
        agenttb " dataframe =
        pandas.read_sql(selectQuery,
        pd_conn)
        dataframe.to_sql('booktb1', con=engine,
        if_exists='append') data =
        engine.execute("SELECT * FROM
        booktb1").fetchall()


    return render_template('NewAgent.html',data=data)


@app.route("/newcom",
methods=['GET', 'POST'])def
newcom():
    if request.method == 'POST':


        name =
        request.form[
        'name']com =
        request.form[
```

'com'] uname
=
session['una
me']

conn =
ibm_db.connect(dsn, "",
"") pd_conn=
ibm_db_dbi.Connection(c
onn)

selectQuery = "SELECT * FROM
booktb" dataframe=
pandas.read_sql(selectQuery,
pd_conn)
dataframe.to_sql('booktb', con=engine,
if_exists='append') data2 =
engine.execute("SELECT * FROM
booktb").fetchall()count = 0
for
i
t
e
m
i
n

d
a
t
a
2
:

```
c
o
u
n
t

+
=

1


Bookingid = "COMID00" + str(count)

insertQuery = "INSERT INTO booktb VALUES('" + Bookingid + "','" +
uname + "','" +com + "','")"
insert_table =
ibm_db.exec_immediate(conn,
insertQuery)print(insert_table)



selectQuery = "SELECT * FROM booktbwhere  UserName= '"+ uname
+ "' "dataframe = pandas.read_sql(selectQuery, pd_conn)

dataframe.to_sql('booktb1', con=engine,
if_exists='append') data =
engine.execute("SELECT * FROM
booktb1").fetchall()
returnrender_template('UserComplaint.html',
data=data)

@app.route("/AgentAssign",
methods=['GET'])def
```

```
AgentAssign():
    cid =
    request.arg
    s.get('id')
    session['cid
    '] = cid


    conn =
    ibm_db.connect(dsn, "",
    "") pd_conn=
    ibm_db_dbi.Connection(c
    onn)


    selectQuery = "SELECT * FROM
    agenttb " dataframe =
    pandas.read_sql(selectQuery,
    pd_conn)


    dataframe.to_sql('booktb1', con=engine,
    if_exists='append') data =
    engine.execute("SELECT * FROM
    booktb1").fetchall()


    return render_template('AgentAssign.html',data=data)


@app.route("/Action", methods=['GET'])

def Action():
    cid =
    request.arg
    s.get('id')
    session['cid
    '] = cid
```

```
    return render_template('Action.html')


@app.route("/ass",
methods=['GET', 'POST'])def
ass():

    agid = request.form['agid']

    cid = session['cid']

    uname = session['uname']

    conn =
    ibm_db.connect(dsn, "",
    "") pd_conn=
    ibm_db_dbi.Connection(c
    onn)

    selectQuery1 = "SELECT *  FROM  regtb where  UserName='"
    + uname + "'"dataframe = pandas.read_sql(selectQuery1,
    pd_conn)

    dataframe.to_sql('regtb', con=engine,
    if_exists='append') data1 =
    engine.execute("SELECT * FROM
    regtb").fetchall()

    for
        ite
        m1
        in
```

dat

a1:

M

obi

le

=

ite

m1

[5]

E

ma

il=

ite

m1

[4]

sendmsg(Email,"Assign Agentid"+agid)

insertQuery = "update booktb set AgentName='"+ agid +"' where ComplaintId='"+ cid +"'

"

insert_table =

ibm_db.exec_immediate(conn,

insertQuery)alert = 'Agent Assign Send

Notication'

return render_template('goback.html', data=alert)

@app.route("/acc",

methods=['GET', 'POST'])def

acc():

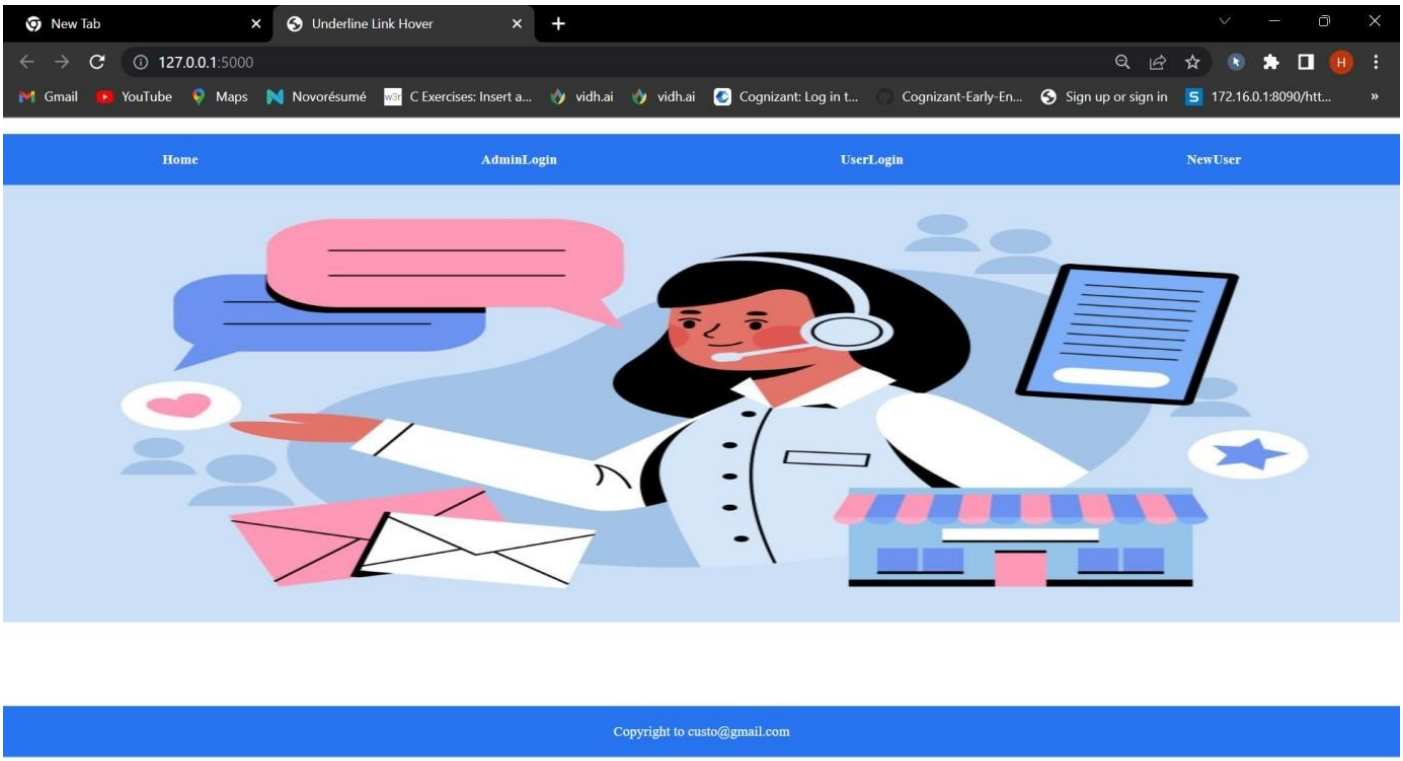
```
com =

request.for

m['com']cid

=

session['cid

']

uname = session['uname']

conn =
ibm_db.connect(dsn, "",
"") pd_conn=
ibm_db_dbi.Connection(c
onn)

selectQuery1 = "SELECT *  FROM  regtb where  UserName='"
+ uname + "'"dataframe = pandas.read_sql(selectQuery1,
pd_conn)

dataframe.to_sql('regtb', con=engine,
if_exists='append') data1 =
engine.execute("SELECT * FROM
regtb").fetchall()

for
item1
   in
data1: Mobile =
item1[5]Email=
item1[4]
```

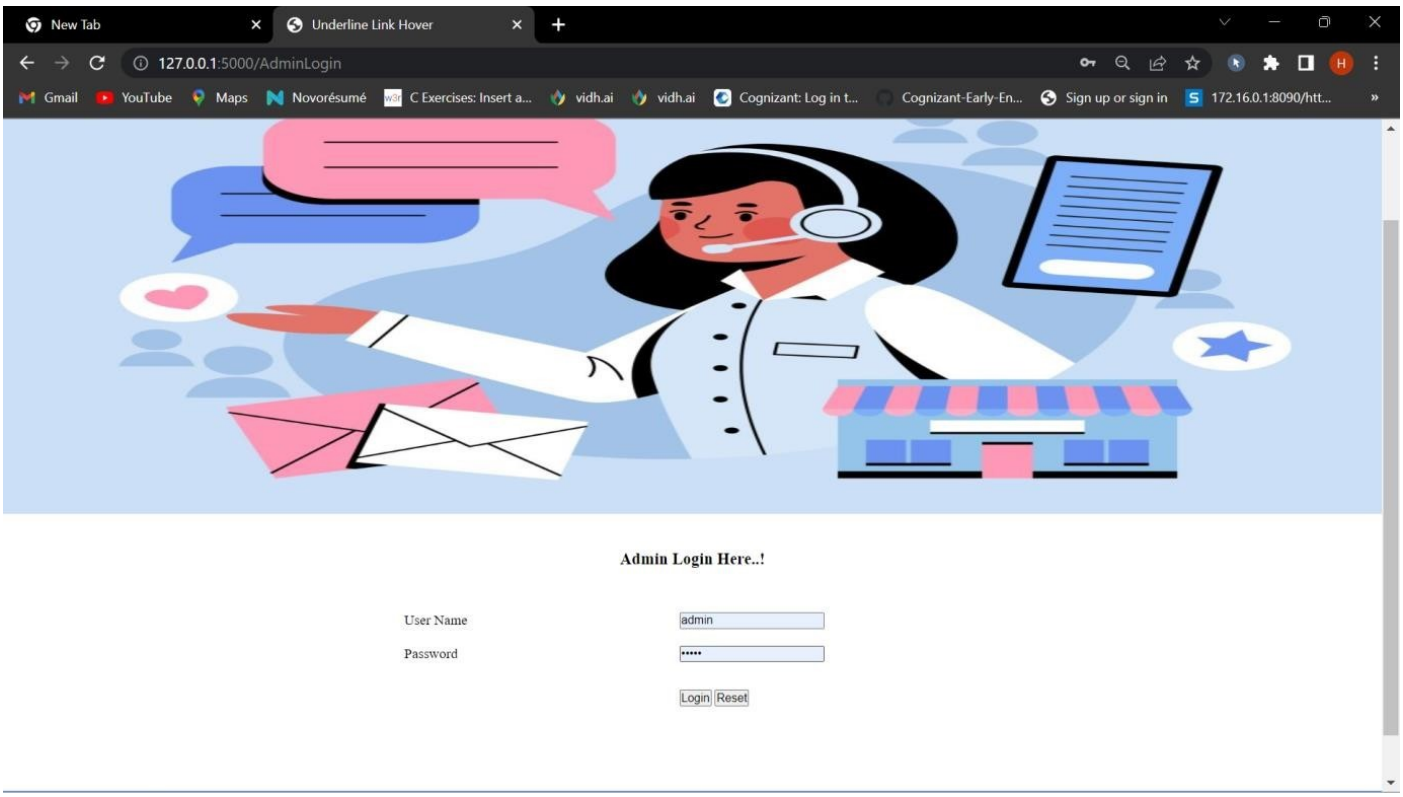
```
        sendmsg(Email,"Action Information "+com)


        insertQuery = "update booktb set ACTIONINFO='"+ com +"' where
                                    ComplaintId='"+ cid
+"'
 "
  insert_table = ibm_db.exec_immediate(conn,
                        insertQuery)


    alert = 'ActionInfo Saved Send

    Notication' return

    render_template('goback.html',

    data=alert)



def
    sendmsg(Ma
    ilid,message
    ):import
    smtplib
    from email.mime.multipart import
    MIMEMultipartfrom
    email.mime.text import MIMEText
    from email.mime.base
    importMIMEBasefrom
    email import encoders

    fromaddr =
    "sampletest685@gmail.c
    om"toaddr= Mailid
```

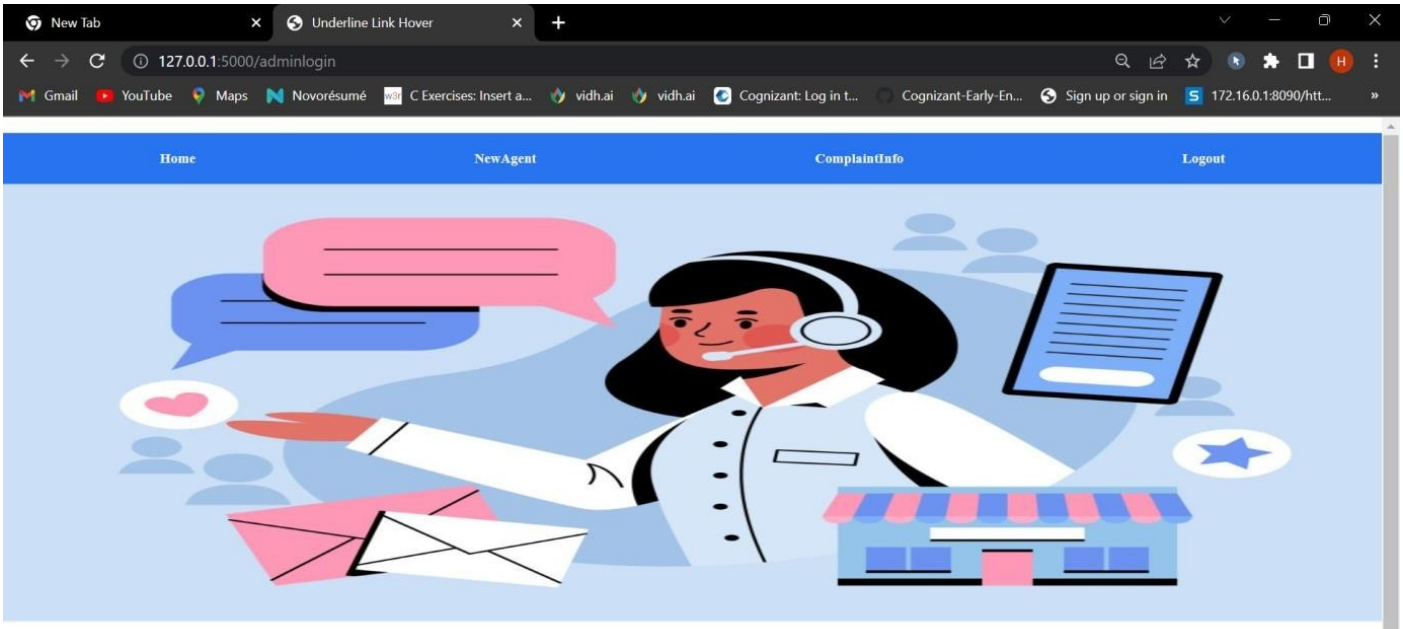
```
# instance of
MIMEMultip
artmsg
=MIMEMulti
part()

# storing the
senders email
addressmsg['From']
= fromaddr

# storing the
receivers
emailaddress
msg['To'] = toaddr

# storing
the subject
msg['Subje
ct'] =
"Alert"

# string to store the
bodyof the mailbody
= message

# attach the body with
the msg instance
msg.attach(MIMEText(
body, 'plain'))

# createsSMTP session
s = smtplib.SMTP('smtp.gmail.com', 587)
```

```
    # start
    TLS for
    security
    s.starttls
    ()


    # Authentication
    s.login(fromaddr, "hneucvnontsuwgpj")


    # Converts the Multipart
    msg into a stringtext =
    msg.as_string()


    # sending the mail
    s.sendmail(fromad
    dr, toaddr,text)


    #
    terminati
    ng the
    session
    s.quit()


if__name_== '_main_':
    app.run(debug=True,
    use_reloader=True)
```

SCREENSHOTS

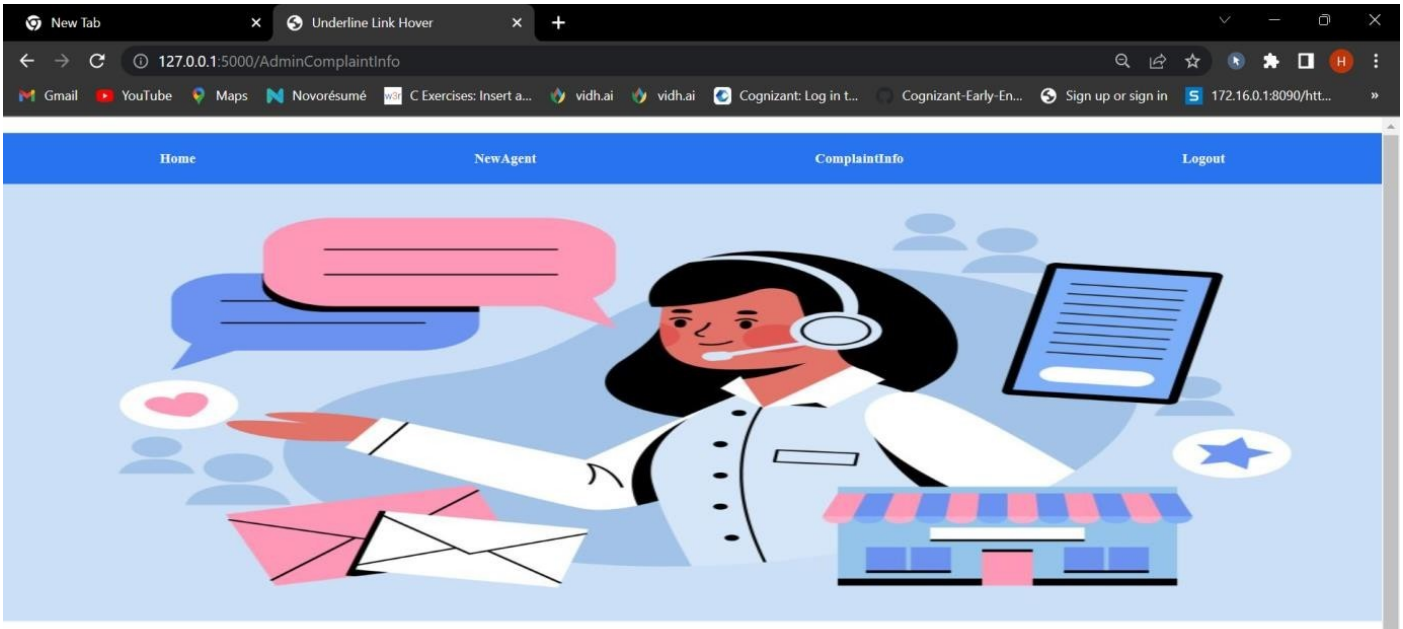






User Login Here..!

Name	Gender	Age	EmailId	Phone	UserName
san	male	20	sangeeth5535@gmail.com	9486365535	san
Haji ali meeran M	male	20	hajiaslan111apnt@gmail.com	9360689161	abc
hai	male	20	hajiaslan111apnt@gmail.com	9361954870	abc



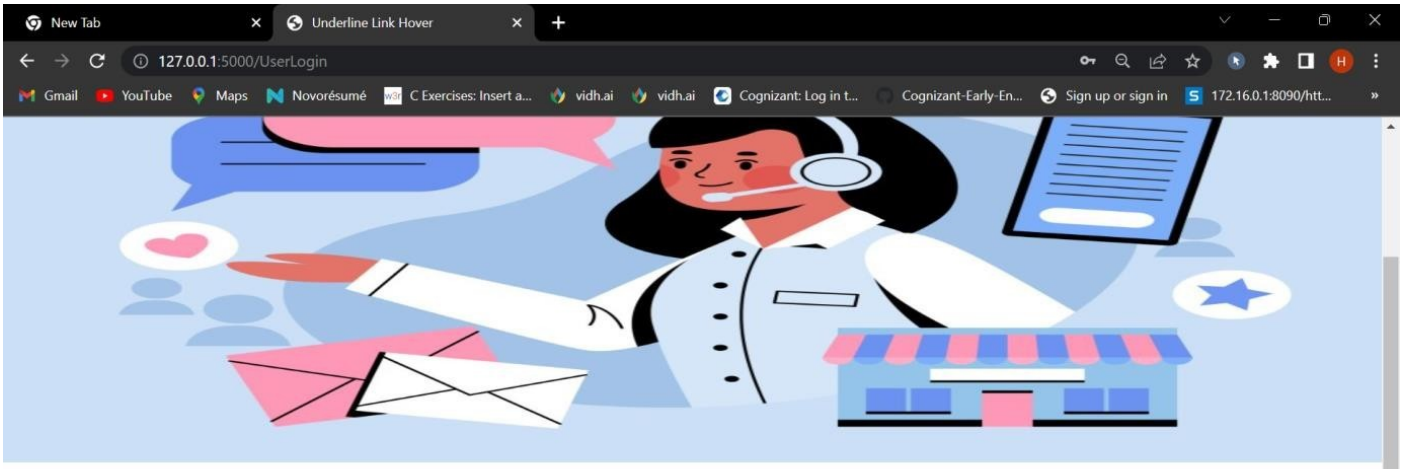
Complaint Action Information!

ComplaintId	UserName	Info	AgentName	ActionInfo	Assign	Action
COMID000	san	problem	AGEIT345	safd	AgentAssign	Action
COMID001	abc	hi	AGEIT345	solved	AgentAssign	Action
COMID002	abc	hi	123	solved	AgentAssign	Action

New User Registration

Name	
Gender	○ Male ○ Female
Age	
Email Id	
Phone Number	
Address	
User Name	admin
Passwrod	•••••

Submit Reset

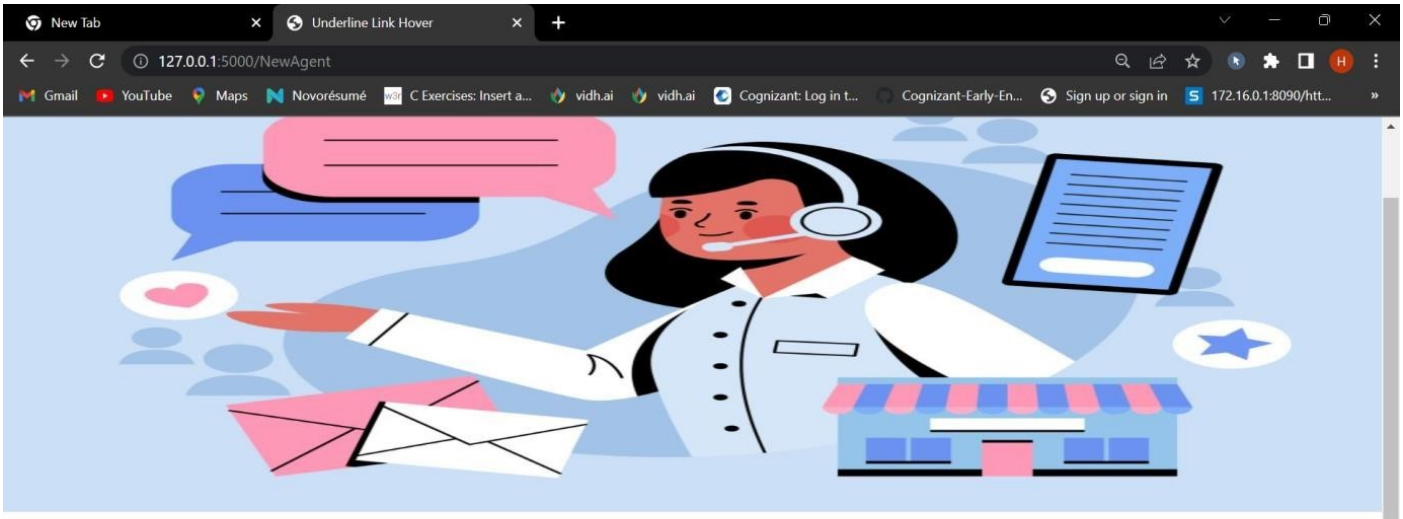


User Login Here..!

User Name	abc
Password	••••

Login Reset

Copyright to custo@gmail.com



New Agent Registration

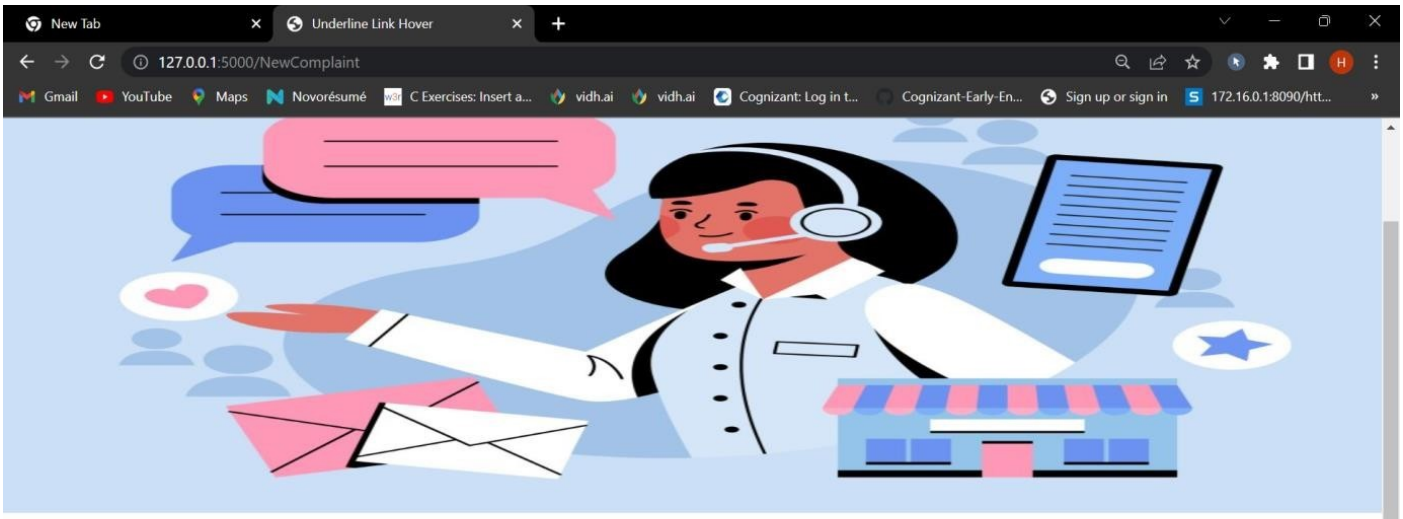
Name

Gender ○ Male ○ Female

Age

Email Id

Phone Number

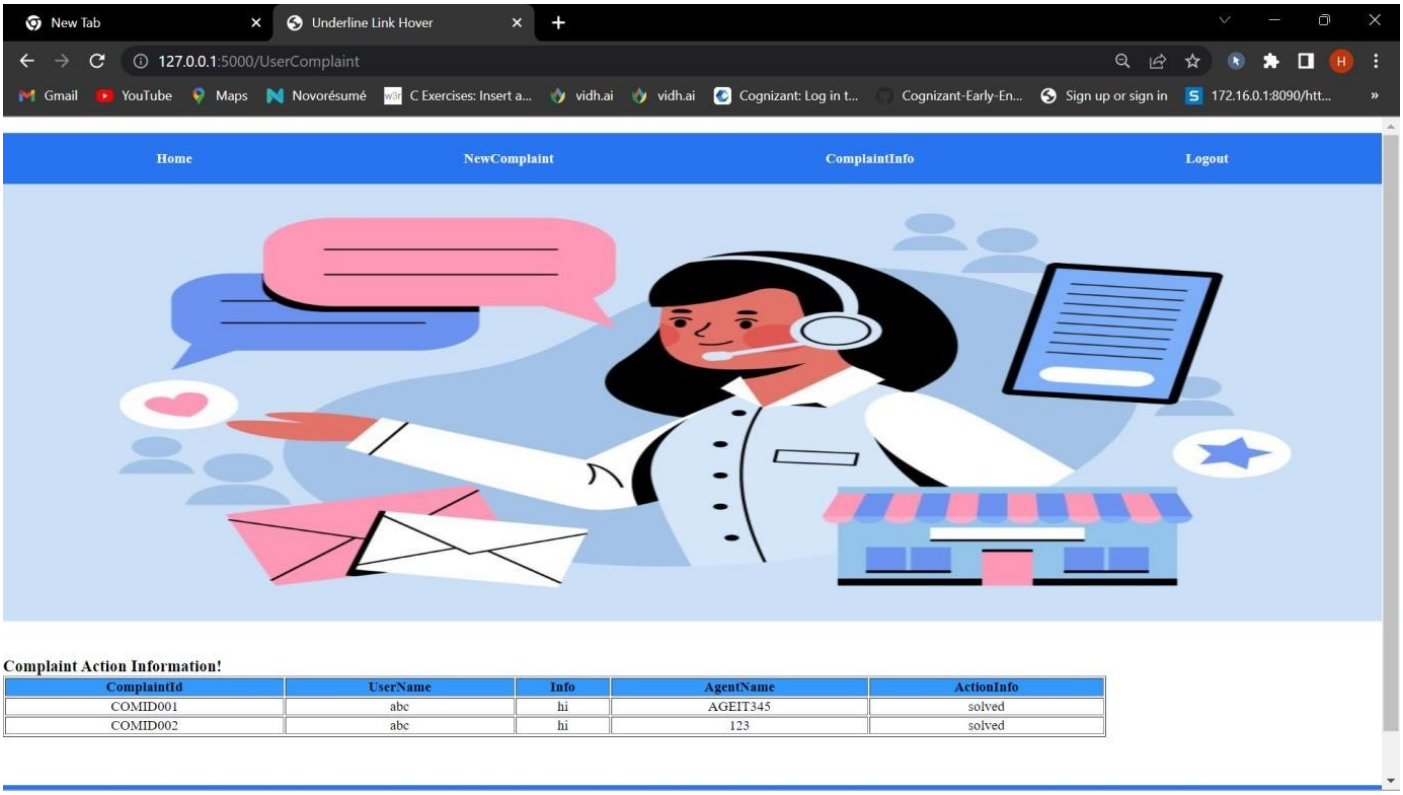


New Complaint Info

UserName abc

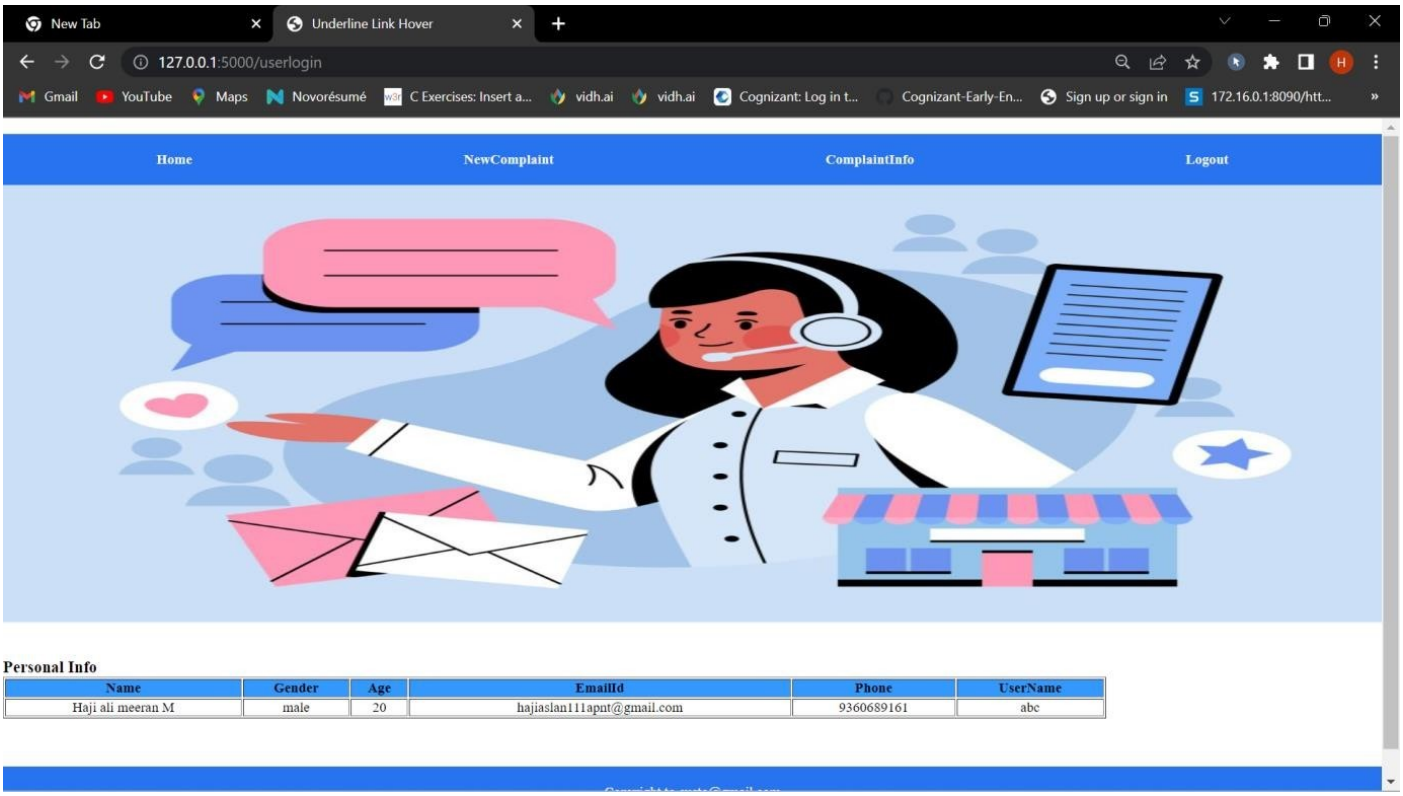
Complaint Info

Submit Reset



Complaint Action Information!

ComplaintId	UserName	Info	AgentName	ActionInfo
COMID001	abc	hi	AGEIT345	solved
COMID002	abc	hi	123	solved



Personal Info

Name	Gender	Age	EmailId	Phone	UserName
Haji ali meeran M	male	20	hajiaslan111apnt@gmail.com	9360689161	abc

GITHUB & PROJECT DEMO LINK

GITHUB LINK : https://github.com/IBM-EPBL/IBM-Project-19223-1659694489

VIDEO DEMO LINK : https://drive.google.com/file/d/1NXdKtzcDJ9lanSkHZ-21f6hZKfQ6Y7we/view?usp=drivesdk