Documentation of use cases

Name	Request chat or audio support from Agent via chat
Objective	To provide customers with an option to request chat or audio support via chatbot
Pre-conditions	- Customers have selected tags for choosing a suitable agent. - Customers have chosen if they want chat or audio support
Post-conditions	Success: - Customer is redirected to the chat or audio page respectively Failure: - An error page is shown to the customer.
Actors	Primary: Customer
Trigger	Clicks button to initiate support.
Normal Flow	1. Customer clicks button to initiate support. 2. Algorithm matches customers to available agents based on the tags. 3. Customers are redirected to chat or audio page based on their previous choice.

Alternative Flow	1. Customer clicks button to initiate support.
	2. Algorithm is unable to match customers to free agents based on the tags.
	   a. All Agent are not free
	   b. No free Agent with tags that suit the customer
	3. An error page is shown to the customer.

Interacts with	None
Open issues	None

Name	Accept and redirect calls
Objective	To allow Agent to accept incoming calls from customers and redirect customers to another agent if necessary.

Pre-conditions	- There has to be an incoming call - Agent needs to be logged in

Post-conditions	Success:
	  - Agents are linked with customers and they proceed.
	
	Failure:
	  - Agent redirects call from customer to next available agent.

Actors	Primary: Agent Secondary: Customer
Trigger	Incoming call notification
Normal Flow	1. Agent receives an incoming call notification. 2. Agent is free and answers incoming call. 3. Agent is linked to customer and they are able to start conversing. 4. Agent and customer have finished conversation and agent/customer ends call.

Alternative Flow	1. Agent receives an incoming call notification.
	2. Agent is unable to answer incoming call.
	    a. He presses the "redirect" button.
	    b. Call notification rings past a certain duration.
	3. Agent redirects call the next agent sourced by the system.
	4. Call is redirected successfully to the next agent .

Interacts with	Request chat or audio support from Agent via chat , Login as Agent use case
Open issues	How long will the call notification last for before it goes to the alternative flow?

Name	Create new Agent to the system
Objective	Add new agents to the system
Pre-conditions	- Administrator must be able to log in as admin.
Post-conditions	Success: - Newly added agent will be able to log in as agent and able to accept calls from clients.
Actors	Primary: Administrator

Trigger	New agent available but not added to the system
Normal Flow	1. Admin to log in 2. Admin to navigate to "create new Agent" page, 3. Admin to key in agent's details (eg. name, position, skill sets etc) 4. Admin to click "Submit"
Alternative Flow	1. Admin unable to submit agent's details, use case concludes with an error. Error message will be shown (Eg. duplicate agent, invalid/insufficient details) 2. Backend server/database issues. Error message will be shown: The server is currently facing some issues, please try again later.
Interacts with	Login as Admin use case
Open issues	None

Name	View Agents in the system
Objective	View all current Agent in system
Pre-conditions	- Administrators must be able to log in as admin.
Post-conditions	Success: - Admin will be able to view the existing Agent and the details
Actors	Primary: Administrator
Trigger	Admin needs to find out certain details about the agent(s)
Normal Flow	1. Admin to log in 2. Admin to navigate to "Agent" page
Alternative Flow	1. Backend server/database issues. Error message will be shown: The server is currently facing some issues, please try again later.
Interacts with	Login as Admin use case
Open issues	None

Name	Update Agent in the system
Objective	Update Agent' details

Pre-conditions	- Administrators must be able to log in as admin.
	- Agent must exist in the system
Post-conditions	Success:
	- Agent's details will be updated
Actors	administrator
Trigger	Changes to Agent required from administrator
Normal Flow	1. Admin to log in
	2. Admin to navigate to "Agent" page,
	3. Admin to search for Agent whose details are to be updated.
	5. Admin to click the "update" button beside agent's name
	6. Admin to change the respective details of the agent.
	7. Admin to click "submit"
Alternative Flow	1. Admin unable to submit agent's details, use case concludes with an error. Error message will be shown (Eg. duplicate agent, invalid/insufficient details)
	2. Admin unable to find agent's name.
	a. Admin will have to add agent as new agent(Administrators able to create new Agent to the system)
	3. Backend server/database issues. Error message will be shown: The server is currently facing some issues, please try again later.
Interacts with	Login as Admin, view Agent use case
Open issues	None

Name	Delete agent from the system
Objective	Delete agents from the system
Pre-conditions	- Administrators must be able to log in as admin.
	- Agent must exist in the system
Post-conditions	Success:
	- Agent will not be able to log in as agent and able to accept calls from clients.
	- Agent's details should still be in system but marked as "unavailable".
Actors	Administrator

Trigger	New agent available but not added to the system
Normal Flow	1. Admin to log in 2. Admin to navigate to "Agent" page 3. Admin to search for agent to delete 4. Admin to click "delete" button beside agent's name
Alternative Flow	1. Admin unable to find agent's name. 2. Backend server/database issues. Error message will be shown: The server is currently facing some issues, please try again later.
Interacts with	Login as Admin, view Agent use case
Open issues	None

Name	Add skill tags to the Agents.
Objective	Group agents based on skill tags for algorithm to assign appropriate customers
Pre-conditions	- Admins are able to login and access their accounts. - Agents must exist in the system

Post-conditions	Success:
	  - All Agents are marked with specific skill tag.
	Failure:
	  - Agents are marked with incorrect skill tag.

Actors	Primary: Admin
Trigger	Agents are not marked with tag skills
Normal Flow	1. Admin has to login. 2. Admin view all Agents. 3. Admin search for Agents who have not been assigned any skill tag. 4. Admin assigns skill tag to the Agents.
Alternative Flow	1. Admin could not find any Agents. Then, the page will return an Error message: No Agents are found. 2. Backend server/database issues. Error message will be shown: The server is currently facing some issues, please try again later.
Interacts with	Login as Admin, View Agent use case
Open issues	None

Name	Update skill tags to the Agents.
Objective	Update the agents skill tags when necessary
Pre-conditions	- Admins are able to login and access their accounts. - Agents must exist in the system
Post-conditions	Success: - All Agents are marked with specific skill tag. Failure: - Agents are marked with incorrect skill tag.
Actors	Primary: Admin
Trigger	Agents are marked with tag skills
Normal Flow	1. Admin has to login. 2. Admin view all Agents. 3. Admin search for Agents whose skill tag needs to be changed. 4. Admin update the skill tag of the Agents.
Alternative Flow	1. Admin could not find any Agents. Then, the page will return an Error message: No Agents are found. 2. Backend server/database issues. Error message will be shown: The server is currently facing some issues, please try again later.
Interacts with	Login as Admin, View Agent use case
Open issues	None

Name	Login as Agent
Objective	To allow Agent to sign in
Pre-conditions	- Agent has an existing account. - Agent is able to retrieve their password if lost or forgotten.
Post-conditions	Success: - Agent logged in to their account. Failure: - Due to technical difficulties, Agent unable to login.
Actors	Agent
Trigger	None

Normal Flow	1. The system request the agent to enter his name or password 2. The system validates name and password and logs agent into the system
Alternative Flow	1. If the normal flow, fails due to invalid password or username, the system displays an error message 2. The agent can choose whether to start the normal flow again or cancel login or next step. 3. Agent requires a reset of password and contacts the administrator with email provided on the site
Interacts with	None
Open issues	None

Name	Login as Admin
Objective	To allow Admin to sign in
Pre-conditions	- Admin has an existing account. - Admin is able to retrieve their password if lost or forgotten.
Post-conditions	Success: - Admin logged in to their account. Failure: - Due to technical difficulties, Admin unable to login.
Actors	Admin
Trigger	None
Normal Flow	1. The system request the Admin to enter his name or password 2. The system validates name and password and logs Admin into the system
Alternative Flow	1. If the normal flow, fails due to invalid password or username, the system displays an error message 2. The Admin can choose whether to start the normal flow again or cancel login or next step. 3. Admin requires a reset of password. After a further validation check, a new random password will be sent to Admin email.
Interacts with	None
Open issues	None

Clarification of requirements

Summary:
We have decided to model for a telco company, and we have identified a few categories that we can work on. We have decided to design our routing engine as a filter system using matching tags that assigns customers to the appropriate agents. We will design a Web UI that shows a simulation of our routing engine.

Process, Constraints, Risks

Why not rapid prototyping:
Given our short timeframe, and our other commitments, we are unable to rapidly develop multiple prototypes at a constant rate. We will not be able to deliver something presentable by the end of the 12 weeks if we were to do rapid prototyping.

Why agile framework:
Agile works by breaking projects down into little bits of user functionality, prioritizing them, and then continuously delivering them in 2-4 week cycles called iterations or sprints. This process will ensure that products are constantly improved to meet the needs of our client.

Constraints:
Time: We have 12 weeks to complete the projects which is a very tight timeframe considering that we have other commitments and projects.
Skills: As a group, we do not have much experience in creating backend system and frontend web UI. Therefore, we require some time to be familiar with current full stack implementations and programming languages.
Costs: We may have to spend on specific software programs.

Risks:
Security: Leaking of customer's confidential information which compromise customers' account

Project timeline and distribution of workloads

	Phase 1 (Week 4 to 6)	Phase 2 (Week 6 to 8)	Phase 3 (Week 8 to 10)	Phase 4 (Week 10 to 12)
Gabriel Phang	Wireframe (Adobe XD)	Building of basic functionalities according to use cases	Implementation of UI elements	Testing
Mario	Rainbow API and SDK research	Building of basic functionalities according to use cases	Implementation of UI elements	Testing
Ryan	Research on SQL and Sequelize	Building of basic functionalities according to use cases	Implementation of UI elements	Testing
Shi Ying	Setting up of SQL schema	Building of basic functionalities according to use cases	Implementation of UI elements	Testing
Gabriel Koh	Rainbow API and SDK research	Building of basic functionalities according to use cases	Implementation of UI elements	Testing

Alcatel Lucent Contact Center Routing
C2-G12 Development Timeline