BUSINESS REQUIREMENT DOCUMENT

(FUNCTIONAL REQUIREMENT SPECIFICATION)

Client:

Public Services Delivery Division,

Office of the Prime Minister

Prepared By: Digital Service Transformation Division,
Department of Digital Transformation,
GovTech

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1. Introduction

1.1 Purpose

The purpose of this Function Requirement Specification (FRS) document is to present a detailed description of the functional requirements for the Customer Relationship Management (CRM) system for the Public Services Delivery Division, Prime Minister's Office (PMO). It will explain the intended capabilities, appearance and interactions with the users in detail for software developers.

1.2 Definitions

Abbreviations and Acronyms	Meaning
CRM	Customer Relationship Management
PMO	Prime Minister's Office
FRS	Functional Requirement Specification
PSDD	Public Services Delivery Division

1.3 Application Details

Department Name:	Public Service Delivery Division
Agency Name:	Prime Minister's Office
System Name:	1199 CRM

2. Background

2.1 Background

The Public Services Delivery Division under the Prime Minister's Office (PMO) is responsible for spearheading all initiatives relating to public service delivery and carry out process streamlining in order to improve public service delivery and reduce the turn-around time of public services.

The 1199 Call Center serves as the crucial first point of contact for all citizens seeking assistance with G2C services. As the primary support channel, its efficiency directly impacts public satisfaction and the overall success of government service delivery. While the center has implemented a robust telephone system, its operational effectiveness can be significantly enhanced through the strategic deployment of a comprehensive Customer Relationship Management (CRM) system. A well-designed CRM will contribute to improved agent productivity, enhanced citizen service and a more responsive and effective service delivery model.

2.2 Scope of Assignment

The following are the scope of the assignment:

1. Development of a Customer Relationship Management
2. Migration of the data

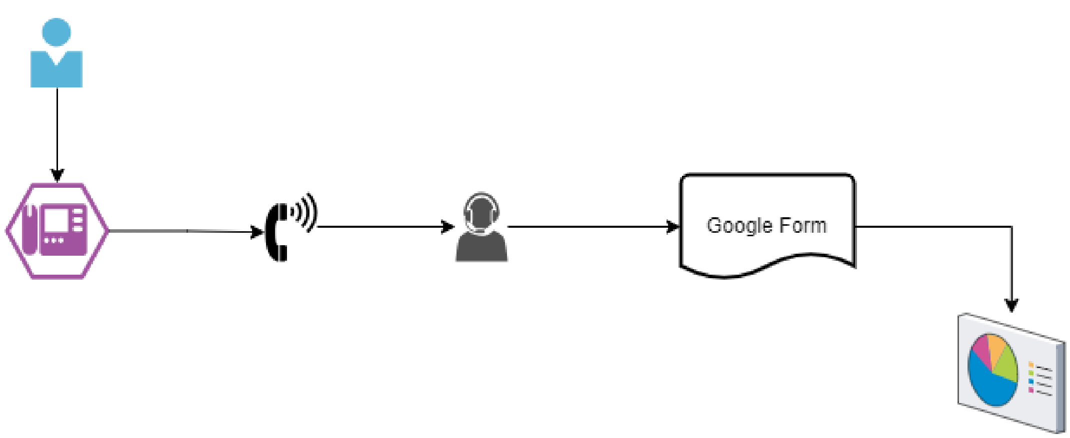
2.3 Objectives of Assignment

The objectives of the assignment are:

1. To bring about operational efficiency by improving the data collection and entry
2. Improve the coordination between agents and supervisor
3. A data driven decision making

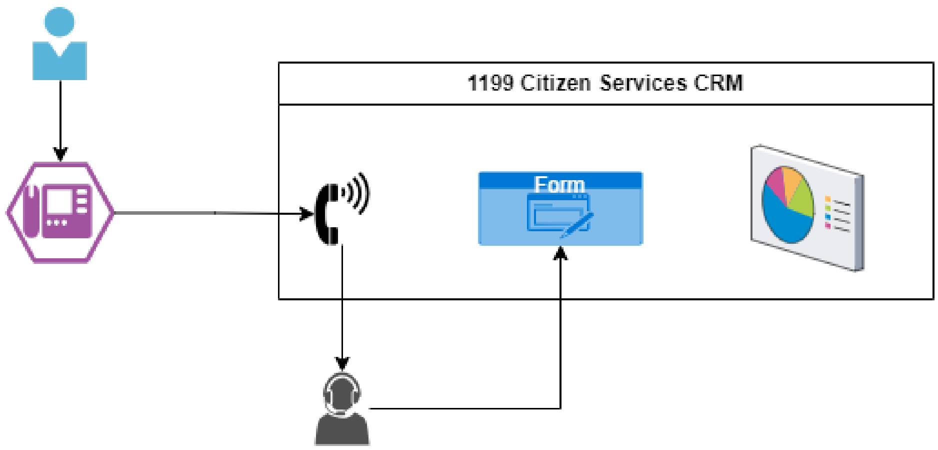
2.4 Current State

The current state of recording data is depicted in the figure below.



2.5 Desired Future State

A comprehensive web application system with a centralized database that will ensure data quality and information processing of data as well as improve data sharing among agents. This system will empower agents with real-time access to accurate data, information, FAQ etc. and enhance collaboration and optimize citizen interactions for improved service delivery and efficiency.



3. Functional Requirement Development

To achieve the objectives, a CRM will need to be developed with the following functional requirements.

3.1 User Authentication and Role Based Access Control

3.1.1 General Description

The module verifies a user's identity, ensuring that only authorized individuals can access the system. It also manages user permissions based on their assigned roles, ensuring individuals only access data and functionalities relevant to their responsibilities.

The following are the functional requirements:

1. Secure Login: The system must allow users to log in securely using the given credentials logged in the system or National Digital Identity (NDI)
2. User Management: The system must allow administrators to create, modify or delete users.
3. Role Management: The system must allow administrators to create, modify or delete roles.
4. Permission Management: The system must allow to assign or modify permissions for each role (e.g. create, read, update, delete). Additionally, the system must allow roles to be associated with one or more permissions.
5. Role Assignment: The system must allow the system administrator to assign users a role.

3.1.2 RBAC Matrix

The following table shows the role-based control matrix.

Role	**System (Modules)**	**Permission**	**Restricted Actions**
Supervisor/ Chief	Tasks	Can enter and assign tasks to agents	Can view and access all data
	Information	Can enter information	
	FAQ	Can enter FAQ	
Agent	Dashboard	View dashboard	
	Call Activities	Can enter call details View Call details Edit calls attended by agent Can escalate calls to other agents	Cannot edit other agent call details

	Email	Can view emails assigned to agent Reply email Can escalate / assign emails to other agents	Cannot view emails assigned to other agents
	Tasks	Can view tasks assigned Can escalate /assign assigned tasks to other agents	Cannot view emails assigned to other agents
	Information	Can view information	View only
	API	Can search status of application for G2C services	
ICS	Tasks	View tasks assigned to ICS	View only

3.2 Master Data Management

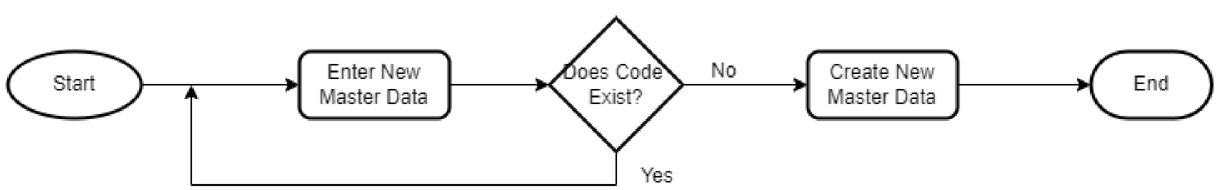
3.2.1 General Description

The master data management module ensures the accurate and centralized creation and usage of master data across a system. This allows for data consistency and accuracy for reporting and data dissemination.

The following are the functional requirements for the master data management:

1. The system must allow authorized with the correct privileges to create and update data records.
2. The system must allow for the deactivation or archiving of records without permanent deletion, ensuring historical data integrity and access to archived records.
3. The system must allow the definition of hierarchies within master data entities. (e.g. parent-child relationship between categories)
4. The system must not allow duplicate records within master data entities.
5. The system must validate data entries, provide error messages for invalid inputs and alert users of duplicate records.

3.2.2 Process Flow



Process Steps
1. The master data is created by an authorized user.

3.2.3 Input Form

Field Name	Input Type	Validation	Remark
Code	Text	Required; Unique to a given master data	
Name	Text	Required; Unique to a given master data	
Description	Textarea	Optional	

3.2.4 Business Logic

B. Rule	Business Requirement
Trigger	**Form Entry**: The master records form is initiated by an authorized user with the assigned privileges only.
Field Validation	1. **Mandatory Fields**: The system ensures that all mandatory fields are completed before allowing submission. 2. **Unique Code**: The system checks the uniqueness of the Code for a given master. 3. **Unique Name**: The system checks the uniqueness of the Name for a given master.
Error Handling and Traceability	1. **Missing Required Fields**: If required fields are not filled, display an error message and prevent form submission. 2. **Unique Code and Name**: a. If code exists, display error and prevent form submission. b. If combination of code and name is not unique, display an error and prevent form submission. 3. **Confirmation Message**: Display a confirmation message upon successful submission.

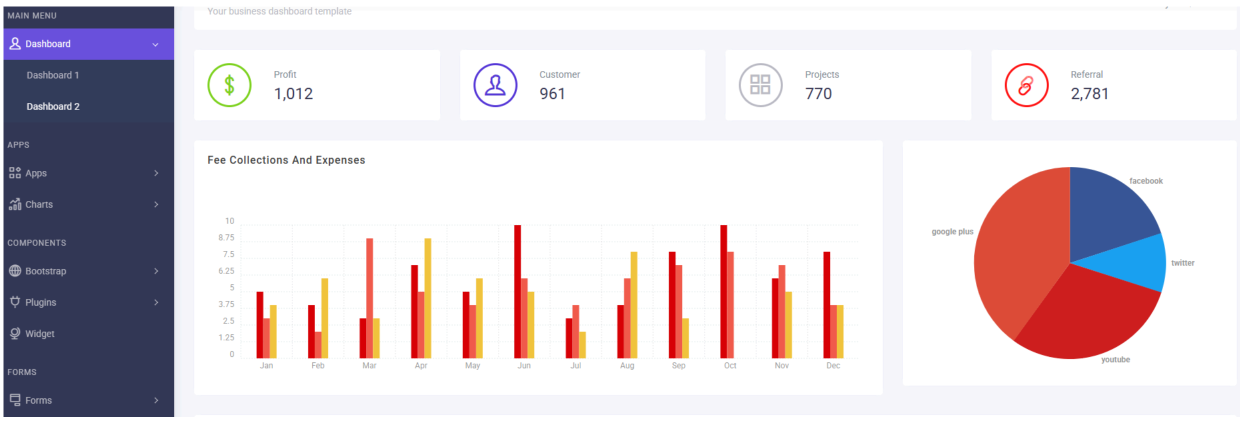
3.3 Dashboard

3.3.1 General Description

A dashboard can be useful in providing a summary of different data sets, presented in an easy to understand format using data visualization. The information and graphics of the dashboard shall be discussed during the time of implementation and some of the basic features and functionalities should include:

1. Provide call agents with dashboard featuring visual indicators for unresolved cases.
2. Notifications of tasks
3. The dashboard for supervisor/administrator should provide an overview and overall statistics.

A sample dashboard is shown below:



3.4 Call Monitoring

3.4.1 General Description

The current Avaya system lacks the critical call monitoring functionality, thereby limiting the ability of a supervisor to effectively monitor and evaluate an agent's performance. Without call monitoring, performance and service becomes subjective and unreliable, thereby hindering the ability to identify and rectify service issues.

Therefore, the Avaya system should include the feature of call monitoring.

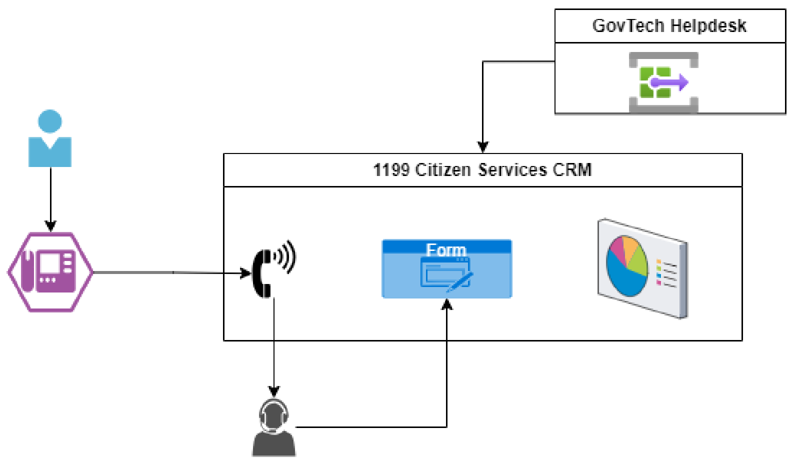
3.5 Call Activities

3.5.1 General Description

The call activities module will be integrated with the current business phone system, Avaya, offering the following key functionalities:

1. Customer Interaction Management: Able to search and view citizen history, including previous calls, issues and resolutions. This will provide the agent with a holistic view of each citizen interaction.
2. Call Logging and Recording: Automatically record calls and identify the agent who answers them. This ensures a reliable record of all citizen interactions, capturing agent and citizen consent where required.
3. Detailed Call Records: Maintain a comprehensive record of each call, capturing timestamps, call duration, caller phone numbers and call dispositions (e.g. query category, subcategories, resolution status like resolved, unresolved, transferred etc.) This data will provide valuable insights for analysis and improvement.

3.5.2 Process Flow



Process Steps for Recording Call Activities
Pre-condition: 1. The Avaya telephony system should be integrated to the CRM.
Call Activity: 1. An agent answers a phone call. 2. Record the call activity and the query of the citizen.
Functionality and Features: 1. The results of the search should show the last 10 call details or call from the last 7 days, whichever is more. 2. Include filters for agents to narrow down results by citizens, issue type and call status (e.g. resolved, unresolved, pending, escalated etc.)

3. If there are any unresolved calls, the CRM should display them in a list with details that will allow agents to call the citizen back. Additionally, there should be an assign button which will allow an agent to delegate or reassign the call to another agent/supervisor based on expertise or availability.
4. Once a call is assigned/delegated/reassigned, both the receiving agent and the original agents should be notified at every status, ensuring prompt follow-up and resolution.
5. Notifications and reminders when there are unresolved calls for certain duration (which will be determined by supervisor).

3.5.3 Input Form

The input form logic is divided into two types:

1. Record caller details and queries
2. Search caller records

Field Name	Input Type	Validation	Remark
Form 1: Caller Records			
Phone No:	Integer	Auto filled with caller number	From Avaya system
Time	Timestamp	Auto filled with caller time	From Avaya system
Gender	Dropdown	Required; Pull from masters	
Query Category	Dropdown	Required; Pull from masters	
Query Type	Dropdown	Required; Pull from masters	
Remarks	Text Area	Optional	
Status	Dropdown	Required; Pull from masters	
Form 2: Search Caller Records			
Phone No	Integer	Required	

3.5.4 Business Logic

Category	Description
Trigger	**Form Entry**: The master records form is initiated by an authorized user with the assigned privileges only.
Validation	1. **Mandatory Fields**: The system ensures that all mandatory fields are completed before allowing submission.

Error Handling and Traceability	1. **Missing Required Fields**: If required fields are not filled, display an error message and prevent form submission. 2. **Decimal and Integer Value:** Should be positive values. If negative values are entered (even if it is optional), display error message and prevent form submission.

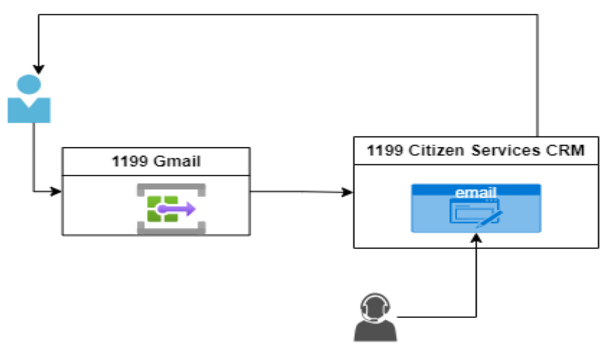
3.6 Email

3.6.1 General Description

To improve communication efficiency and ensure all citizen queries are addressed, the proposed CRM will have the official Gmail email integrated within the system. The division currently relies on Gmail group email functionality, where replies are cc'd to all members. This approach, however, has its limitations, including instances of unanswered emails. Therefore, the integration will enable agents to directly respond to citizen queries through the CRM, ensuring all communications are managed within a centralized system.

Such CRM-email integration will ensure that no emails are overlooked, providing real-time visibility into all ongoing correspondences.

3.6.2 Process Flow



Process Steps
Pre-condition: 1. The CRM should be integrated with Gmail.
Email Assignment and Reply: 1. An agent replies an email that is assigned via the CRM.

Functionality and Features: 1. The CRM should assign the email received in the official 1199 email in a round-robin fashion to agents. 2. Ensure all basic email functionalities such as read email, unread email etc. 3. The agents should be able to reply to the email via the CRM. 4. Records of the email should be captured by the CRM, thereby providing key metrics such as response time, unresolved issues etc. 5. If an agent is on leave, the email should not be assigned to the particular agent.

3.6.3 Business Logic

Category	Description
Logic	**Email Assignment**: The email should be assigned to agents in a round-robin manner. If the agent cannot answer the email, the agent should be able to re-assign the email to another agent/supervisor.

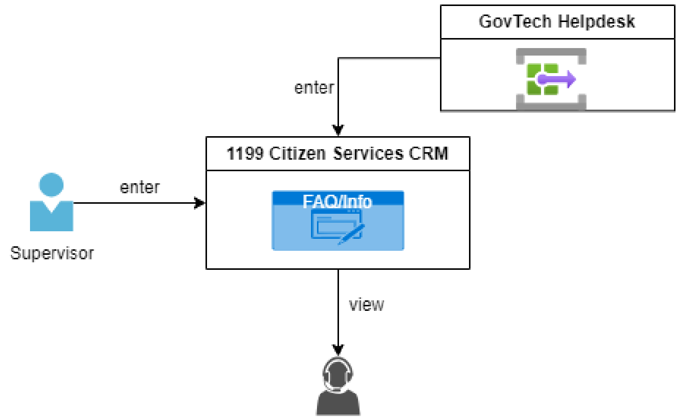
3.7 FAQ

3.7.1 General Description

To enhance internal communication and knowledge sharing among agents within the division, the proposed CRM will incorporate these key features:

1. FAQ: A central repository of frequently asked questions will be readily accessible to all agents. This will be dynamic, allowing for easy addition and editing of FAQs to ensure up-to-date information is always available.
2. Noticeboard: A noticeboard within the CRM will function as a virtual noticeboard. Supervisors can post important announcements, updates and relevant information. This feature can be integrated with other relevant systems, ensuring seamless information flow across the division.
3. Search functionality: The FAQ and noticeboard should have a robust search functionality, enabling agents to quickly find information.

3.7.2 Process Flow



Process Steps
Adding an FAQ: 1. An authorised user can add the FAQ questions and answers.
Functionality and Features: 1. The FAQ should have a search feature.

3.7.3 Input Form

Field Name	Input Type	Validation	Remark
Form 1: FAQ			
Question	Text area	Required;	
Answer	Text area	Required;	

3.7.4 Business Logic

Category	Description
Trigger	**Form Entry**: The form is initiated by an authorized user with the assigned privileges only.
Validation	1. **Mandatory Fields**: The system ensures that all mandatory fields are completed before allowing submission.
Error Handling and Traceability	1. **Missing Required Fields**: If required fields are not filled, display an error message and prevent form submission.

3.8 Information

3.8.1 General Description

To improve the call center services, the proposed CRM will have a noticeboard which will provide key information to the call agents. The noticeboard will have the following key features:

1. Noticeboard: A noticeboard within the CRM will function as a virtual noticeboard. Supervisors can post important announcements, updates and relevant information. This feature can be integrated with other relevant systems, ensuring seamless information flow across the division.
2. Integration with GovTech Helpdesk: The noticeboard will be integrated with the GovTech Helpdesk system via an API. The integration will be a two-way communication between the CRM and the helpdesk, with information of various government systems being pulled from the helpdesk and CRM informing the helpdesk of various issues being faced by the citizens.
3. Search functionality: The noticeboard should have a robust search functionality, enabling agents to quickly find information.

3.8.2 Process Flow

Process Steps
Predefined process: 1. All information will be communicated between the CRM and helpdesk via an API.
Adding an Information: 1. An authorised user can add the information.
Functionality and Features: 1. The information added by the supervisor/agent should be visible to all, or if assigned to agent, then to the specific agent via the noticeboard. 2. The noticeboard should display messages from the GovTech helpdesk. 3. There should also be a provision to be able to post in the CRM, which will then notify GovTech Helpdesk via an API. 4. The Information should have a search feature.

3.8.3 Input Form

Field Name	**Input Type**	**Validation**	**Remark**
Form 1: Information			

Information	Text area	Required;	

3.8.4 Business Logic

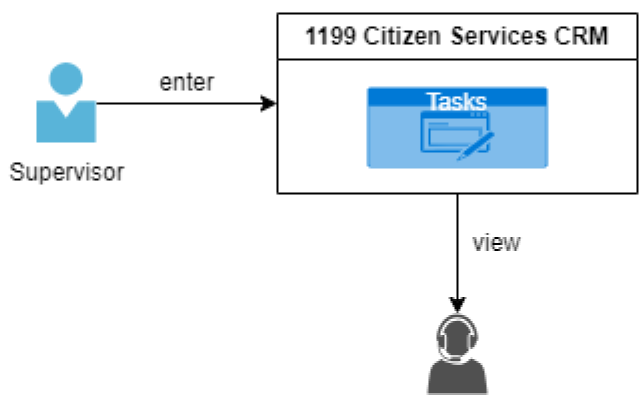
Category	Description
Trigger	**Form Entry**: The form is initiated by an authorized user with the assigned privileges only.
Validation	1. **Mandatory Fields**: The system ensures that all mandatory fields are completed before allowing submission.
Error Handling and Traceability	1. **Missing Required Fields**: If required fields are not filled, display an error message and prevent form submission.

3.9 Tasks

3.9.1 General Description

The task feature within the CRM aims to streamline task assignment to agents. By utilizing the CRM for task allocation, the details can be documented comprehensively, including task descriptions, deadlines, priority levels and any other relevant information. This eliminates the risk of miscommunication or forgotten instructions or task omissions due to the large volume of calls that the call center receives. Additionally, the CRM will offer task tracking to monitor progress and for reporting requirements.

3.9.2 Process Flow



Process Steps
Adding and Assigning a task: 1. An authorized user will add a task and assign it to an agent/supervisor.

Functionality and Features: 1. An assigned task should be displayed on the noticeboard of the agent. 2. An agent should be allowed to re-assign the task (to escalate etc.) to another agent/supervisor. 3. Timestamp on the different status of task execution for reporting purposes.

3.9.3 Input Form

Field Name	**Input Type**	**Validation**	**Remark**
Task	Text area	Required;	
Assign	Dropdown	Required; Pull from user list	

3.9.4 Business Logic

Category	**Description**
Trigger	**Form Entry**: The form is initiated by an authorized user with the assigned privileges only.
Validation	1. **Mandatory Fields**: The system ensures that all mandatory fields are completed before allowing submission.
Error Handling and Traceability	1. **Missing Required Fields**: If required fields are not filled, display an error message and prevent form submission.

3.10 Agent Attendance

3.10.1 General Description

The feature of the agent attendance is to allow the CRM to track agents that are on leave. This will allow the CRM to then exclude agents from being assigned tasks, emails, calls etc. for the days that they are on leave.

3.10.2 Process Flow

Process Steps
Adding leave information: 1. An authorised user/supervisor can marks the dates for which the agent will be on leave.
Functionality and Features: 1. When an agent is on leave, the emails, tasks, calls etc. will not be assigned to the agent on leave. This will ensure that there is no unanswered emails etc.

3.10.3 Input Form

Field Name	Input Type	Validation	Remark
From Date	Date	Required;	
To Date	Date	Required	
Agent	Dropdown	Required; pull from user list	

3.10.4 Business Logic

Category	Description
Trigger	**Form Entry**: The form is initiated by an authorized user with the assigned privileges only.
Validation	1. **Mandatory Fields**: The system ensures that all mandatory fields are completed before allowing submission.
Error Handling and Traceability	1. **Missing Required Fields**: If required fields are not filled, display an error message and prevent form submission.

3.11 G2C Application Tracking

3.11.1 General Description

The tracking feature within the CRM is designed to empower the agents by providing them with direct access to G2C application status within the CRM. Currently, agents must log in to the G2C application via the NDI to track applications, a process that is both time-consuming and disruptive to their workflow. By integrating G2C application status via an API into the CRM, agents can effectively assist callers with inquiries, thereby improving overall service delivery to citizens.

3.11.2 Process Flow

Process Steps
Pre-condition 1. APIs from various agencies is integrated with CRM.
Features and Functionality: 1. The search functionality should allow agent, via the CRM, to search various application (status etc.) of G2C services.

3.11.3 Input Form

Field Name	Input Type	Validation	Remark
Application No	Text	Required	

3.11.4 Business Logic

Category	Description
Trigger	**Form Entry**: The form is initiated by an authorized user with the assigned privileges only.
Validation	1. **Mandatory Fields**: The system ensures that all mandatory fields are completed before allowing submission.
Error Handling and Traceability	1. **Missing Required Fields**: If required fields are not filled, display an error message and prevent form submission.

3.12 Notification and Audit Trails

3.12.1 General Description

The module verifies a user's identity, ensuring that only authorized individuals can access the system. It also manages user permissions based on their assigned roles, ensuring individuals only access data and functionalities relevant to their responsibilities.

The following are the functional requirements:

1. Audit Trails: The audit trails should log all user activities. This will include but not limited to permission changes, log all authentication events, failed login attempts, unauthorized access attempts etc.
2. Notifications: The system should notify users of tasks, assignments etc. It should also notify administrators of suspicious activities etc.

3.13 Reports

3.13.1 General Description

The reports feature allows for the generation and analysis of reports and the information dissemination through various formats such as excel etc. While the following are the list of identified reports to be generated, this feature will allow the generation of custom reports based on user-defined parameters. A comprehensive list cannot be presented as the requirements of reports will evolve during the development phase.

1. Overview and Statistics

Parameters:

- Dzongkhag
- From Date
- To Date
- Query Category
- Sub Categories
- Agent
- Turnaround time
- Status

2. Report Generation

Parameters:

- Dzongkhag
- From Date
- To Date
- Query Category
- Subcategories
- Status

3. Agent Performance Reports

Parameters:

- Agent
- Response Time
- Resolution Rates
- Number of calls
- Status

4. Data Migration Scope

4.1 Objective

To ensure the minimal disruption of day-to-day business operations, it must be guaranteed that all relevant existing data is migrated into the new system, ensuring data integrity, consistency and accuracy.

4.2 Scope

The data migration process will include:

1. Data maintained currently, which will include spreadsheets and other records.

4.3 Migration Methodologies

1. Data extraction, transformation and loading (ELT) processes needed to be employed to transfer data efficiently.
2. Data accuracy and integrity must be retained after the migration.

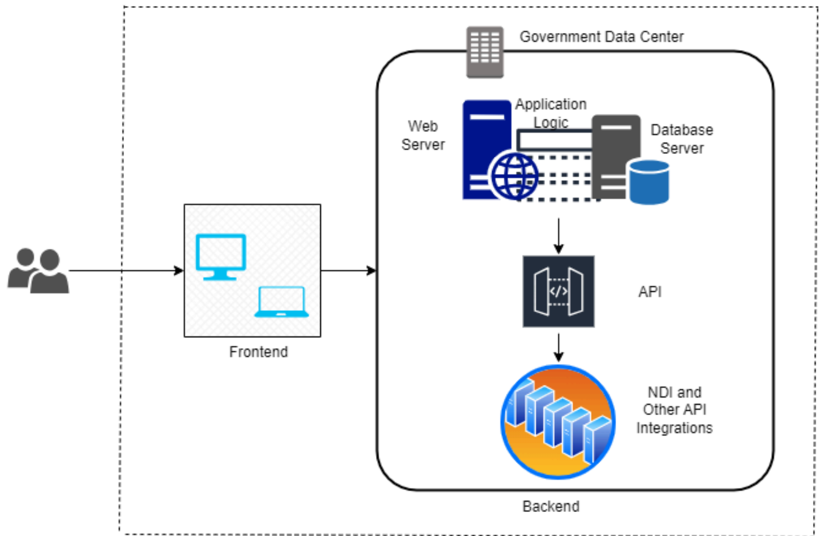
4.4 Validation and Testing

Thorough testing and validation are required to guarantee the completeness and accuracy of the migrated data. This process includes:

1. Reconciliation between data and new systems to ensure consistency.
2. Verification and sign-off by key stakeholders.

5. Proposed Solution Architecture

The proposed solution architecture for CRM is a web-based architecture as a client-server model and is depicted in the figure below.



Client Layer (Front-End)

The client layer represents the user interface (UI) of the application which is usually accessed through a web browser. It can be developed using various javascript and CSS frameworks.

Server Layer (Back-End)

The server layer handles the business logic and processes client requests, interacts with the database. It can be developed using any technology as prescribed by GovTech.

Data Layer

The data layer stores and manages all the data required by the application.

Infrastructure Layer

The application can be housed in the Government Data Center (GDC) where the application can have access to various other services such as load balancer, backup and recovery.

Integration Layer

API Gateway: It serves as an intermediary to route client requests to the appropriate service.

6. Time Schedule

Phase	Activity	Duration	Start Date	End Date
1. Planning	Project Kickoff			
	Requirements Finalization			
	High-Level Design			
	Project Plan Approval			
2. System Design	Detailed Design Documentation			
	Design Review and Approval			
3. Development	Setup Development Environment			
	Module Development			
	Integration with NDI			
	Email Server (SMTP) Integration			
	Unit Testing			
4. Testing	System Testing			
	User Acceptance Testing (UAT)			
	Bug Fixes			
5. Deployment	Production Deployment			
	Training			
	Documentation			
6. Post-Deployment	Project Closure			
	Post-Deployment Support			

7. Prototype

Attached as email.

8. Business Requirements Document (BRD) Sign-Off

Date: [Date]

Project Name: [Project Name]

Document Overview

Provide a brief summary of the BRD, including the purpose and key objectives of the project. This section should include any critical assumptions or constraints highlighted in the document.

Attached BRD

Stakeholder Review and Approval

Please review the Business Requirements Document and provide your approval by signing below. Your signature confirms that you agree with the documented requirements and authorize the project to proceed based on these specifications.

Stakeholder Name	Role	Signature	Date	Comments (if any)
[Name]	[Role]	[Signature]	[MM/DD/YYYY]	[Comments or feedback]
[Name]	[Role]	[Signature]	[MM/DD/YYYY]	[Comments or feedback]
[Name]	[Role]	[Signature]	[MM/DD/YYYY]	[Comments or feedback]

Additional Notes

- Any additional comments or considerations can be noted here.
- Include a section for addressing any unresolved issues or action items.

Notes:

[Additional notes or comments]

Final Approval

The undersigned hereby approve the Business Requirements Document and agree to proceed with the project as specified.

Name	Role	Signature	Date
[Name]	[Role]	[Signature]	[MM/DD/YYYY]
[Name]	[Role]	[Signature]	[MM/DD/YYYY]
[Name]	[Role]	[Signature]	[MM/DD/YYYY]

This format ensures that all relevant stakeholders have the opportunity to review and approve the document, making it clear that the project can proceed based on the agreed-upon requirements. Adjust the template to fit the specific needs and processes of your organization.