

Immigration, Refugees and Citizenship Canada (IRCC)

Smart Immigration Assessment and Matching System (SIAMS)

Scope and Objectives Report

by

Romil Patel

Software Requirements Analysis

January 9th, 2025

DISCLAIMER: This report is not affiliated in any way with IRCC, nor does it intend to provide an accurate view of how IRCC conducts their business activities. This is a mock document based on unfounded assumptions and “best guesses” made by the author. The author has no inside knowledge of how IRCC’s software or business practices work. The objective is to simulate how requirements analysis might have been documented during the development of an information system similar to IRCC’s.

Table of Contents

1.	Introduction.....	3
2.	Project Background	3
3.	Stakeholders.....	4
	Organizational Chart	4
	System Owner	4
	Potential End Users	5
4.	System Objectives	6
5.	Known Constraints that Limit the Software Design	8
6.	Preliminary System Scope	9
	Informal Description of Functionality	9
	Business Events	10
	Context Diagram	12
	Functionality to be Excluded	13
7.	Terminology and Acronyms	14

1. Introduction

This document is the first requirements deliverable produced for the Smart Immigration Assessment and Matching System (SIAMS) project. The purpose of this document is to capture the project team's consensus on:

- The factors that led to the development of SIAMS
- The primary stakeholders who will be impacted by SIAMS development
- The system objectives, which define the fundamental business-level improvements IRCC wants to experience once SIAMS is deployed
- Any known constraints that may limit the design of SIAMS
- The preliminary system scope
- Definitions for terms and acronyms relevant to the SIAMS project

2. Project Background

Immigration, Refugees and Citizenship Canada (IRCC) is a federal organization that plays a central role in managing Canada's immigration policies, supporting the entry and integration of immigrants and refugees, and processing citizenship, permanent residency, and other passport applications. With continuous changes to immigration policies to manage population growth, economic demands, and service efficiency, IRCC is continuously in need of ways to enhance its systems.

SIAMS aims to improve applicant experiences by providing personalized feedback and suggestions to increase their eligibility and suitability for immigration pathways. For IRCC officers, it offers an AI-powered system to prioritize candidates based on economic and labor market needs, making the selection process more strategic. This dual-purpose system aligns with Canada's goals of economic growth and targeted immigration, ensuring that both applicants and the IRCC benefit from an efficient, transparent, and data-driven approach.

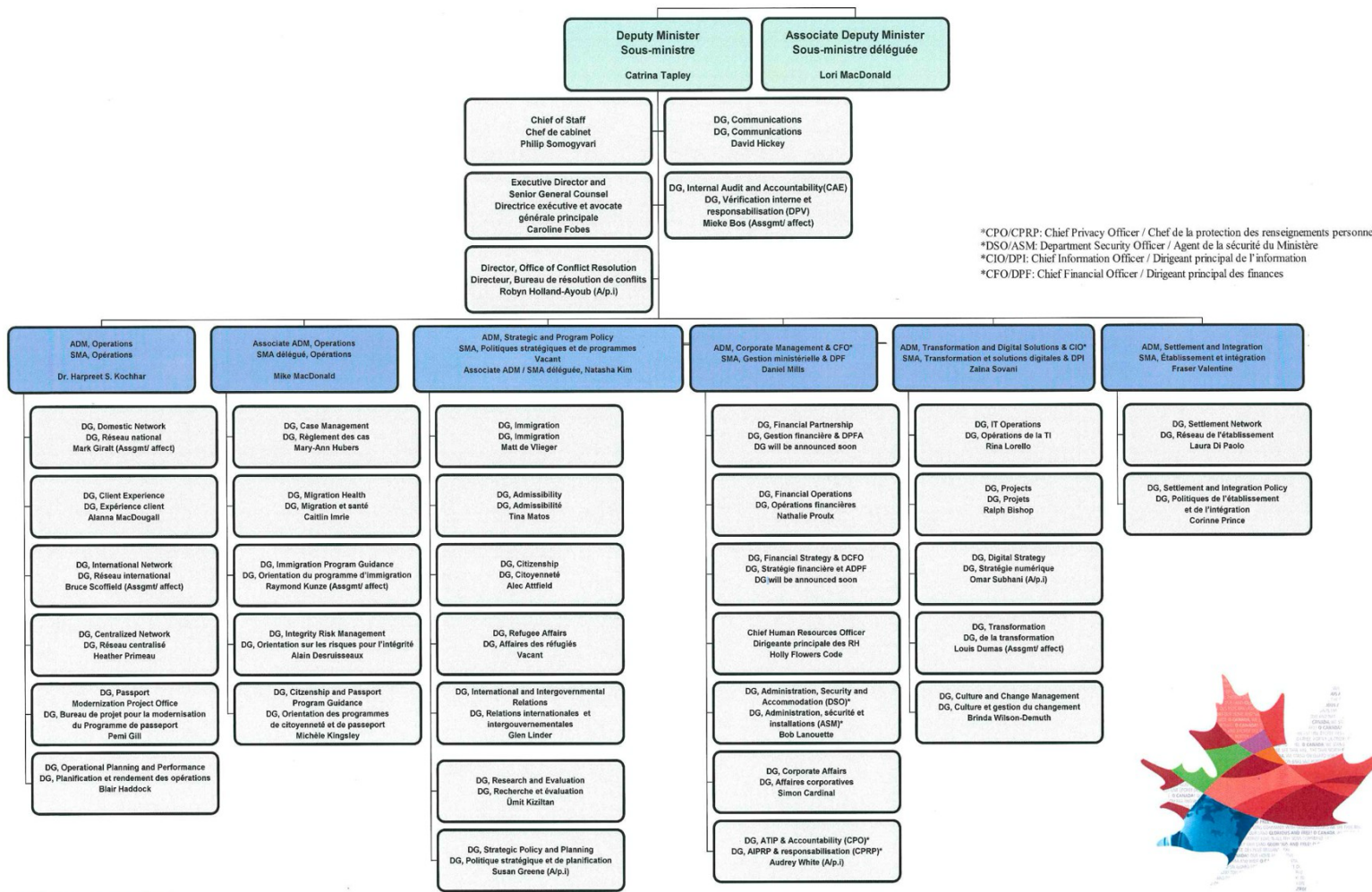
3. Stakeholders

Organizational Chart

Source:

<https://www.canada.ca/content/dam/ircc/documents/pdf/english/corporate/transparency/transition/dm2019/organizational-chart.pdf>

IRCC Organizational Chart / Organigramme



System Owner

Given the dual-focus nature of SIAMS, ownership will be shared between the **ADM, Strategic and Program Policy** and the **ADM, Transformation and Digital Solutions & CIO**. The **Associate ADM, Operations** will serve as the primary owner, focusing on ensuring the system meets operational needs, enhances efficiency, and aligns with the workflows of IRCC officers and applicants.

Meanwhile, the **ADM, Transformation and Digital Solutions & CIO** will support the project by overseeing its development, technical integrity, ensuring compliance with digital transformation goals, and integrating cutting-edge technologies like AI. This dual ownership structure ensures that SIAMS is both operationally effective and technically robust. This decision would help promote overall usability with long-term scalability.

Potential End Users

- **IRCC Officers:** These officers are responsible for processing, assessing, and approving immigration applications. They bring extensive knowledge of immigration policies, regulations, and procedures. They will provide insights into operational bottlenecks and user interface design to ensure the system supports their workflow efficiently.
- **Immigration Applicants:** Individuals applying for immigration, permanent residency, or work permits in Canada. This group has diverse skill sets and backgrounds. Randomly selected applicants can help provide feedback on usability and effectiveness of real-time feedback and eligibility assessments.
- **Provincial Representatives:** These stakeholders use the system to access the overall applicant data for regional economic and labor market analysis. They help refine applicant-PNP matching algorithms and ensure regional priorities are integrated into the system.
- **Technical Support Teams:** Teams responsible for maintaining the system's functionality and resolving technical issues. They ensure system reliability, scalability, and compliance with technical standards.

Additional Potential End Users

- **Employers and Industry Representatives:** Employers in high-demand sectors could access SIAMS to identify potential candidates for job vacancies under specific immigration streams (e.g., employer-driven programs). They can help provide insights into job market requirements to improve applicant-employer matching (Future functionality, not to be included in initial development of SIAMS).
- **Federal and International Organizations:** Other federal agencies (e.g., Statistics Canada) or international organizations (e.g., United Nations migration agencies) may use aggregated data from SIAMS for research and reporting purposes. They can help by providing feedback on data integration and reporting functionalities (Future functionality, not to be included in initial development of SIAMS).

4. System Objectives

The following are the system objectives for SIAMS

OBJECTIVE-001

Requirement: Provide applicants with real-time eligibility assessments

Who benefits and how: Applicants receive immediate feedback on their eligibility status and actionable recommendations to improve their profiles.

How / when to measure: Assess user engagement metrics and feedback within three months of deployment.

Origin: Derived from applicant feedback surveys and operational analysis.

OBJECTIVE-002

Requirement: Analyze applicants' economic impact potential using scoring algorithms.

Who benefits and how: IRCC officers can prioritize high-potential candidates, reducing decision-making time and aligning with Canada's economic goals.

How / when to measure: Evaluate processing efficiency and alignment with labor market needs six months post-deployment.

Origin: Based on labor market analysis and officer consultations.

OBJECTIVE-003

Requirement: Automate document verification and provide actionable feedback for rejected submissions.

Who benefits and how: Applicants can rectify issues faster, while IRCC officers save time through automated checks.

How / when to measure: Analyze reductions in document rejection rates and processing times within three months.

Origin: IRCC workflow reviews.

OBJECTIVE-004

Requirement: Facilitate automated matching of applicants to provincial needs.

Who benefits and how: Matches applicants with provinces experiencing labor shortages in their fields, supporting economic growth and increasing their approval chances.

How / when to measure: Assess provincial satisfaction and alignment with economic needs six months after system implementation.

Origin: Provincial stakeholder workshops and strategic labor market goals.

OBJECTIVE-005

Requirement: Improve transparency by providing applicants with application status updates in real time.

Who benefits and how: Applicants experience reduced anxiety and greater trust in the immigration process, while IRCC officers spend less time addressing status inquiries.

How / when to measure: Monitor reduction in status inquiry volumes and applicant satisfaction ratings.

Origin: Applicant feedback and IRCC service goals.

OBJECTIVE-006

Requirement: Integrate fraud detection mechanisms to ensure document authenticity.

Who benefits and how: Ensures fairness and integrity in the immigration process while reducing the risk of fraudulent applications.

How / when to measure: Analyze detection rates and reductions in fraudulent submissions six months post-implementation.

Origin: Compliance and security reviews.

Longer-Term Objectives

OBJECTIVE-007

Requirement: Enable comprehensive reporting and analytics for stakeholders.

Who benefits and how: Policy analysts and IRCC gain insights into immigration trends and system performance to guide decision-making.

How / when to measure: Evaluate reporting usage statistics and stakeholder feedback three months post-deployment.

Origin: Identified during requirements analysis workshops.

OBJECTIVE-008

Requirement: Ensure system scalability to accommodate growing application volumes.

Who benefits and how: Supports IRCC's long-term operational needs and improves user experience during peak periods.

How / when to measure: Test system performance under simulated high-volume scenarios during implementation.

Origin: Technical feasibility studies and IRCC growth.

5. Known Constraints that Limit the Software Design

Constraints are factors that limit how the software can be designed.

CONSTRAINT-001

Requirement: Comply with Canadian data privacy laws.

Rationale: Legal obligations for user data protection.

How / when to measure: Confirm compliance during periodic audits.

Origin: Canadian federal regulations.

CONSTRAINT-002

Requirement: Align with existing IRCC IT infrastructure and budgets.

Rationale: Integration and budgetary considerations.

How / when to measure: Validate through compatibility testing and conducting monthly or quarterly budget reviews during project execution.

Origin: IRCC IT department requirements.

6. Preliminary System Scope

System scope defines what functionality is to be included in SIAMS.

This section defines SIAMS SYSTEM in the following ways:

- An informal description of the current vision for SIAMS functionality.
- A list of business events and associated use cases, which help to clarify scope by identifying data flowing in and out of the boundary of the system scope.
- A context diagram, which provides a visual representation of data flowing in and out of the boundary of the system scope.
- A list of capabilities that are to be excluded from SIAMS, which can help lessen potential ambiguity in how system scope might be interpreted.

Informal Description of Functionality

SIAMS will provide real-time eligibility assessments, enabling applicants to receive immediate feedback on their profiles and actionable recommendations for improvement. The system leverages AI to prioritize applications based on economic impact scores, streamlining the review process for IRCC officers and ensuring alignment with Canada's labor market needs. Automated document verification will reduce processing errors and offer clear feedback to applicants, making resubmissions more efficient. Additionally, SIAMS will incorporate a matching algorithm that aligns applicants with provinces and territories experiencing labor shortages, fostering regional economic growth. The platform will also provide real-time updates on application status, comprehensive reporting tools for policy analysis, and built-in fraud detection to ensure system integrity and fairness.

Business Events

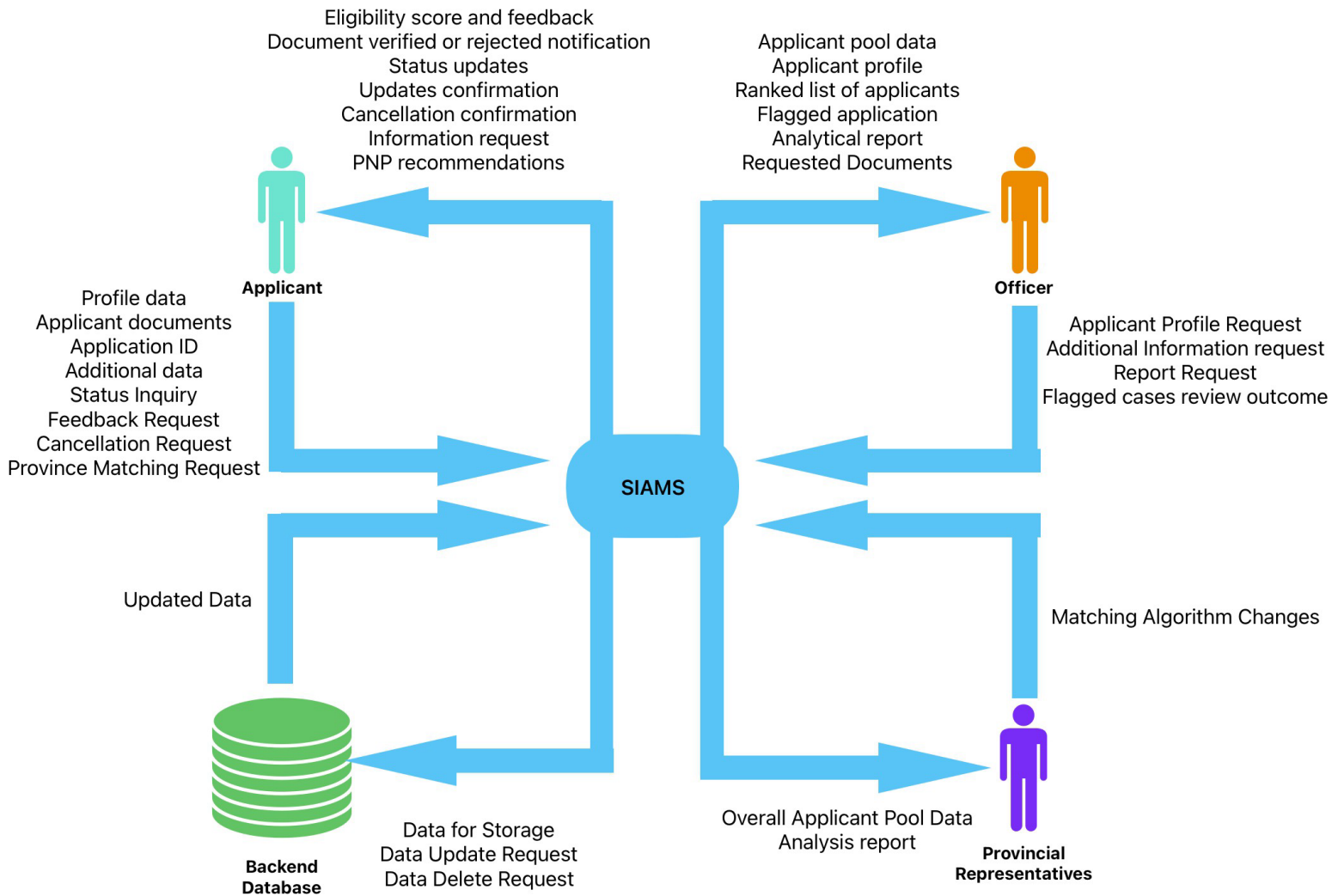
A **business event** is an action that initiates some part of the work IRCC performs while supporting the applicants, IRCC officers and Provincial Representatives. The response to each event is called a **business use case**, representing a discrete functional **partition** of the work. Later, this partitioning will enable us to focus on one business use case at a time when determining more detailed requirements. The **inputs and outputs** clarify the **scope** of the work (in other words, what's in versus what's out).

Event Name (include initiating actor) ○ Supports Objective(s)	Input and Output	Use Case Summary
EVENT-001 Applicant submits profile ○ OBJECTIVE-001	Profile data (in) Eligibility score and feedback (out)	Analyze profile and provide recommendations.
EVENT-002 Applicant uploads documents ○ OBJECTIVE-003	Applicant documents (in) Verified or rejected notification (out)	Validate documents automatically and provide feedback.
EVENT-003 Applicant checks status ○ OBJECTIVE-005	Application ID (in) Status updates (out)	Provide real-time application status to the applicant.
EVENT-004 Applicant updates profile ○ OBJECTIVE-001	New information (in) Updates confirmation (out)	Update applicant data and reanalyze eligibility.
EVENT-005 Applicant cancels application ○ OBJECTIVE-005	Application ID (in) Cancellation confirmation (out)	Withdraw the application and update system records.
EVENT-006 Officer prioritizes applications ○ OBJECTIVE-002	Application pool data (in) Ranked list of applicants (out)	Generate AI-driven priority list for review.
EVENT-007 Officer reviews flagged cases ○ OBJECTIVE-006	Flagged application (in) Review outcome (out)	Investigate flagged applications for fraud or issues.

Event Name (include initiating actor) Supports Objective(s)	Input and Output	Use Case Summary
EVENT-008 Officer generates report ○ OBJECTIVE-007	Report request data (in) Analytical report (out)	Provide insights on immigration trends and system performance.
EVENT-009 Applicants receive PNP recommendations ○ OBJECTIVE-004	Applicant and province data (in) Matched recommendations (out)	Recommend PNP to applicants based on labor needs.
EVENT-010 Officer requests additional information ○ OBJECTIVE-003	Applicant profile (in) Information request sent (out)	Request missing data or additional documents from applicants.
EVENT-011 Applicant provides additional information ○ OBJECTIVE-003	Additional data (in) Acknowledgment of receipt (out)	Submit additional requested details to IRCC.

Context Diagram

The following context diagram provides a visual summary of the “inputs and outputs” identified for the business events on the preceding pages. These inputs and outputs clarify the scope of the functionality to be included in SIAMS.



Functionality to be Excluded

The following are examples of business functions that are not within the scope of SIAMS:

- Automatic final decision-making using AI on an applicant's profile.
- Integration with non-immigration related systems.
- Management of internal IRCC resources.
- Marketing and promotional activities.
- Handling legal disputes.
- Live chats or AI tools to interact with the end-users.
- Detailed assistance to applicants beyond feedback.

7. Terminology and Acronyms

NOTE: The information in this section will be updated throughout the project as new terminology arises.

IRCC: Immigration, Refugees and Citizenship Canada.

SIAMS: Smart Immigration Assessment and Matching System.

Applicant: A person who submits a profile or application to Immigration, Refugees, and Citizenship Canada (IRCC) for immigration, work permits, study permits, or permanent residency.

Provincial Representatives: Officials or authorized personnel from Canadian provinces and territories who engage with the immigration system to address regional labor market needs.

PNP: Provincial Nominee Program.

AI: Artificial Intelligence.