

Immigration, Refugees and Citizenship Canada (IRCC)

Smart Immigration Assessment and Matching System (SIAMS)

Use Case Scenario and Non-Functional Requirements

by
Romil Patel

Software Requirements Analysis

February 10th, 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. Use Case Scenario	3
2. Swimlane Diagram	5
3. Non-Functional Requirements	6

1. Use Case Scenario

Event Name (include initiating actor)	Input and Output	Use Case Summary
EVENT-009 Applicant receives PNP recommendations. ○ OBJECTIVE-007	Applicant and province data (in) Matched recommendations (out)	Recommend PNP to applicants based on labor needs.

Above is an example of business event from my scope and objectives report. Here, an applicant uses the PNP Matching functionality of the proposed SIAMS software to receive recommendations that match their profile.

Scenario#1 (Normal case):

Applicants submit their information and documents and SIAMS uses this data to generate PNP recommendations using the matching algorithm.

Steps:

1. Applicant creates an account on IRCC portal.
2. Applicant completes the profile by submitting information and documents.
3. The SIAMS system analyzes the applicant's profile, including education, work experience, and occupation.
4. The system compares the applicant's qualifications against provincial labor market shortages.
5. The system identifies a matching province where the applicant's occupation is in demand.
6. The system generates a PNP recommendation for the best-matching province.
7. The applicant receives a notification about the recommendation, including details on the province and next steps.
8. The applicant logs into SIAMS, reviews the PNP details, and accepts or declines the recommendation.
9. If accepted, the system redirects the applicant to the province's official immigration portal to proceed with the nomination process.

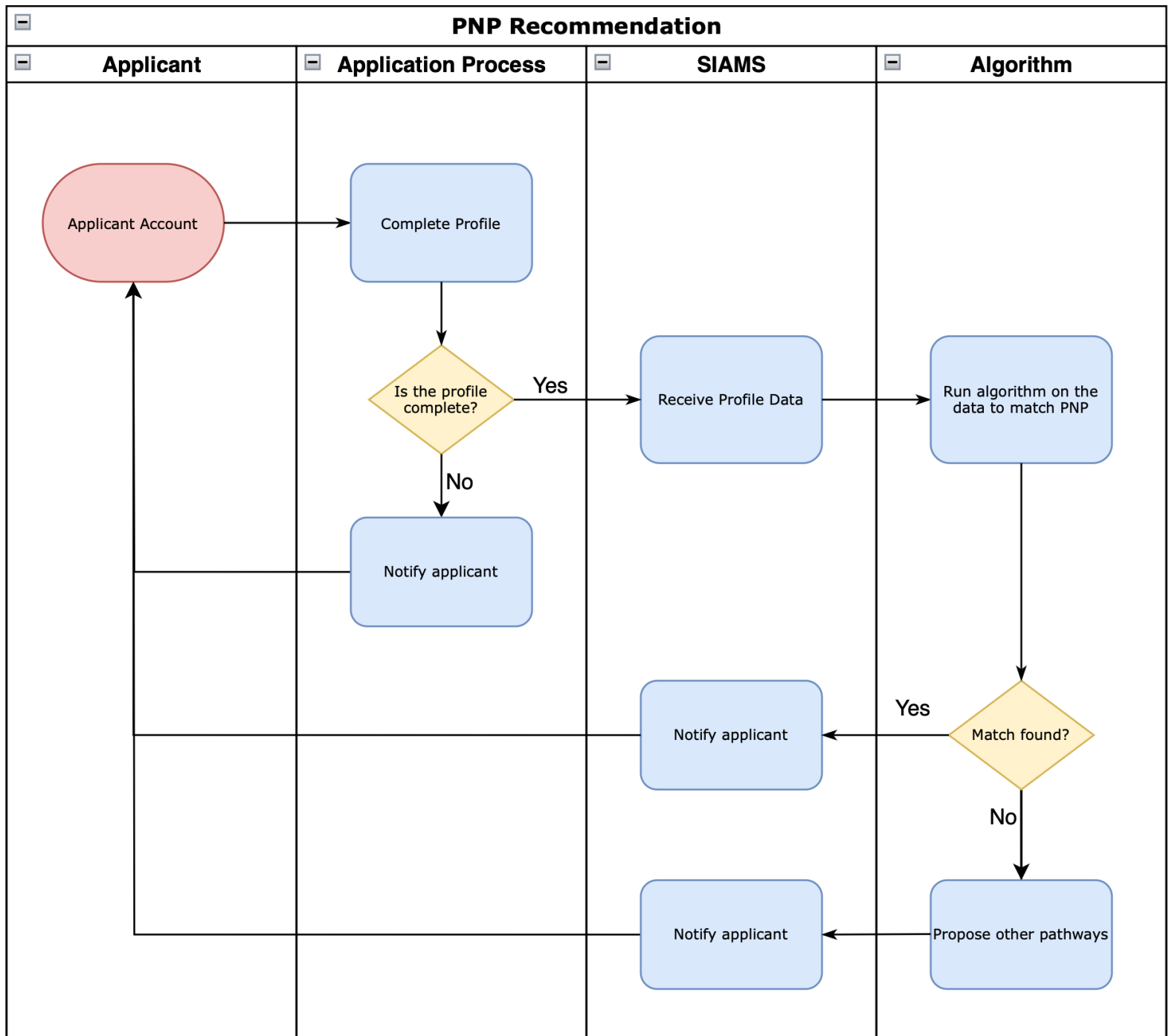
Scenario#2 (Exceptional case):

Applicants submit their information and documents and do not receive any matching PNP recommendations from SIAMS.

Steps:

1. Applicant creates an account on IRCC portal.
2. Applicant completes the profile by submitting information and documents.
3. The SIAMS system analyzes the applicant's profile, including education, work experience, and occupation.
4. The system compares the applicant's qualifications against provincial labor market shortages.
5. The system fails to find a suitable PNP match based on available criteria.
6. The applicant receives a notification stating that no PNP matches are available currently.
7. The system suggests alternative immigration pathways, such as:
 - Express Entry
 - Work Permit Programs
 - Other provincial streams with broader eligibility.
8. The applicant may modify their profile (e.g., add a different job offer, gain more work experience) and reattempt the matching process.

2. Swimlane Diagram



3. Non-Functional Requirements

NFR-001: Look and Feel Requirement

Requirement: The SIAMS user interface shall have a modern, responsive, and professional design, ensuring consistency across both desktop and mobile platforms.

Rationale: A visually appealing and well-structured interface improves user engagement, trust, and efficiency, making the immigration process easier for applicants and officers.

How / when to measure: Conduct usability testing with at least 85% positive feedback from applicants and officers 6 months post-implementation. Ensure a consistent UI design across different screens and devices.

Originates from business event(s): All

NFR-002: Usability and Humanity Requirement

Requirement: The system shall allow applicants to complete an immigration application in no more than 10 steps to reduce complexity.

Rationale: A streamlined process improves user satisfaction and reduces frustration, particularly for applicants unfamiliar with digital systems.

How / when to measure: Measure the average number of steps taken to complete an application and conduct user experience (UX) testing to ensure at least 90% of users can complete an application without assistance.

Originates from business event(s): EVENT-001 (Applicant submits profile), EVENT-002 (Applicant uploads documents), EVENT-004 (Applicant updates profile)

NFR-003: Performance Requirement

Requirement: SIAMS shall process application status updates and eligibility assessments within 2 seconds for each request.

Rationale: Fast system response times improve user experience and prevent frustration, especially when dealing with time-sensitive immigration applications.

How / when to measure: Use automated performance monitoring to log response times. Ensure that 95% of all processing is complete within the required time frame.

Originates from business event(s): EVENT-003 (Applicant checks status), EVENT-009 (Applicants receive PNP recommendations)

NFR-004: Operational Requirement

Requirement: SIAMS shall be available 99.9% of the time, with a downtime limit of no more than 5 minutes per month.

Rationale: Immigration applications are critical and time sensitive. High availability ensures continuous access for applicants and officers.

How / when to measure: Implement uptime monitoring tools to track system availability. and ensure downtime does not exceed 5 minutes per month in production.

Originates from business event(s): All

NFR-005: Maintenance and Support Requirement

Requirement: SIAMS shall support modular updates that allow new immigration policies and program types to be added without system downtime.

Rationale: Immigration policies frequently change, requiring system updates. A modular design allows updates without disrupting active users.

How / when to measure: Ensure system updates are deployed with zero downtime in production. Track the average deployment time, aiming for less than 30 minutes per update.

Originates from business event(s): EVENT-006 (Officer prioritizes applications), EVENT-009 (Applicants receive PNP recommendations)

NFR-006: Security Requirement

Requirement: All sensitive applicant data shall be encrypted using AES-256 encryption, and access shall be restricted using multi-factor authentication (MFA) for officers and representatives.

Rationale: Immigration data includes highly sensitive personal information. Encryption and MFA protect against unauthorized access and data breaches.

How / when to measure: Conduct quarterly security audits to ensure compliance with encryption standards. Verify that 100% of officers use MFA to access the system.

Originates from business event(s): EVENT-002 (Applicant uploads documents), EVENT-011 (Applicant provides additional information), EVENT-006 (Officer prioritizes applications), EVENT-008 (Officer generates report)

NFR-007: Cultural Requirement

Requirement: SIAMS shall support multiple languages, including English, French, and at least two additional languages based on common applicant demographics.

Rationale: Many applicants may not be fluent in English or French. Providing multilingual support ensures accessibility and fairness.

How / when to measure: Ensure that all system interfaces, notifications, and help documents are available in at least four languages. Track language preference statistics to add additional language support if needed.

Originates from business event(s): EVENT-001 (Applicant submits profile), EVENT-002 (Applicant uploads documents), EVENT-004 (Applicant updates profile), EVENT-003 (Applicant checks status), EVENT-009 (Applicants receive PNP recommendations)

NFR-008: Legal Requirement

Requirement: SIAMS must comply with Canadian privacy laws such as Privacy Act (R.S.C., 1985, c. P-21), Personal Information Protection and Electronic Documents Act (PIPEDA), Canada's Anti-Spam Legislation (CASL) and IRCC data protection policies, ensuring that applicant data is stored, processed, and shared securely.

Rationale: Compliance with federal privacy laws is mandatory to protect applicants' personal information from misuse or unauthorized access.

How / when to measure: Perform annual compliance audits to verify adherence to PIPEDA and IRCC regulations. Ensure that 100% of applicant data transactions meet legal and privacy requirements.

Originates from business event(s): All