

# Automation, IT and Robotics Innovation (AIR): Robotic Process Automation (RPA) on Medical Records Tracking System

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## Summary

The Medical Records Office (MRO) faced challenges with an expensive Medical Records Management System (MRMS) for tracking physical medical record folder locations. Seeking a cost-effective alternative, MRO collaborated with the Information Technology Office (ITO) to develop an innovative Robotic Process Automation (RPA) solution. Utilising Plumber, a free tool by Open Government Products, they created a streamlined tracking system that efficiently monitors the location and status of Medical Records Folders. This RPA implementation significantly simplified staff workflows without incurring additional costs. The result is a user-friendly, cost-effective system that not only meets MRO's folder tracking needs but also demonstrates the potential of RPA in optimising healthcare administration, saving annual recurring cost of \$100k associated with MRMS. This project showcases how innovative thinking and collaboration can lead to practical, efficient solutions in Singapore's public healthcare sector.

## Problem and Background

With challenges with MRO legacy Medical Records Management System (MRMS), used for tracking physical Medical Record Folders. The primary issues were:

- High operational costs: The MRMS incurred an annual operating cost of \$100,000, straining the hospital's budget.
- System complexity: The MRMS was overengineered for its core function of tracking folder locations.

To assess the cause and extent of the problem, we evaluated:

**Cost efficiency:** We reviewed existing technologies and products available to the hospital without additional cost.

**User needs:** We determined that MRO staff required a simpler process focused solely on tracking folder locations and status.

**Technology landscape:** We explored modern solutions, including Robotic Process Automation (RPA), for a more streamlined approach.

**Resource utilisation:** We identified potential collaborations with the Information Technology Office (ITO) and free tools like Plumber from Open Government Products (OGP).

Our analysis concluded that replacing the complex MRMS with a simpler, RPA-based tracking system would address the cost issue while providing an efficient, sustainable solution for the MRO's folder tracking needs.

## Solution

Our team developed a cost-effective Robotic Process Automation (RPA) solution using Plumber, a free tool from Open Government Products, to replace the expensive MRMS. This streamlined system focuses on tracking medical record folder locations and status, eliminating unnecessary complexities.

The solution was implemented through collaboration between the Medical Records Office (MRO) and Information Technology Office (ITO), with MRO staff trained to operate and maintain the system independently, reducing long-term IT support needs.

## Outcome

The implementation of the RPA-based Medical Records Tracking System using Plumber brought significant changes to our processes:

1. Transition from a costly MRMS to a streamlined, cost-effective RPA solution
2. Use of Plumber for innovative application in healthcare administration
3. Shift from vendor-dependent system to an in-house managed solution

### Resolution of Problems:

The changes effectively addressed our initial challenges:

1. **Cost Reduction:** Reduced annual costs from \$100,000 to a minimal amount
2. **Efficiency Improvement:** Reduced average record location time from 5 minutes to 2 minutes
3. **Self-Sustainability:** Empowered MRO staff to manage the system independently

### Benefits to Patient Care:

While the system primarily affects administrative processes, it indirectly benefits patient care:

1. Faster record retrieval enables quicker access to patient information for healthcare providers
2. Cost savings can be redirected to patient care initiatives
3. Improved staff efficiency allows more time for patient-centric tasks