

Robotic Process Automation Automating Upload of Radiology Orders to PACS

SphereGen Case Study

A common challenge in the Healthcare system is the efficient integration of Patient medical orders across siloed systems, to facilitate a Patient's medical procedure.

Learn how SphereGen helped a Connecticut hospital implement Robotic Process Automation (RPA) to automate a highly manual process of transferring Radiology orders from one system to another.



OVERVIEW

Two of the top goals in improving the Healthcare system today are reducing the burden on workers and increasing Patient satisfaction. Unfortunately, system and data silos prevent the accomplishment of both those goals. A significant burden falls on healthcare workers to manually integrate data between systems.

Highly skilled workers, such as nurses, must rekey data into multiple systems to ensure the medical staff is viewing current data before evaluating a patient. This manual process results in diverting a nurse's time from the patient to focusing on paperwork instead. This use case highlights how RPA was used to resolve this time drain to improve workflow processes.

Challenge

When processing orders for Radiology scans, the workflow for a Connecticut hospital was taking upwards of 10 minutes to transfer an order from their EHR system to a Synapse PACS server. When a patient arrived for a scan, the Radiology order was printed from the EHR system, scanned to a pdf file and then loaded to the Synapse PACS server. The process took about 10 minutes, which means that the patient was spending excessive time in the waiting room before their procedure. Managing about 150 orders per day required multiple front desk office staffers to spend hours each day processing orders.

Solution

SphereGen created an automation which electronically transfers radiology orders between systems. The automation begins when the patient checks in for their appointment. Patient orders are copied from the EHR to a designated file drive. A bot continuously reads this drive, picks up the order and properly formats it to load to the Synapse PACS server. This process is completed in 15-25 seconds.

RESULTS

With the RPA automation in place, manual efforts are no longer required to transfer Radiology orders to the Synapse PACS system.

*Enhanced
Productivity*



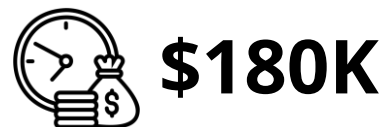
Automation saves multiple FTEs 15-20 hours/week

*Patient Check in Time
Reduced*



Patient check in wait time was reduced by 10 min increasing patient satisfaction

Cost Savings/Year



Money saved from ability to shift FTE to other priorities

THE DETAILS

Our client experienced a considerable time overhead in setting up radiology orders on their Synapse PACS system. The manual effort and time required to load these orders took up to 10 minutes per order and involved printing, scanning and reloading the scanned orders. This time lag affected the overall patient experience and burdened the front desk with unnecessary paperwork. Automating the task resolved both these issues.

APPROACH

The manual approach to ready the order for Synapse included printing the order from their EHR system and scanning the printout to create a pdf . Staff then loaded the PDF to Synapse. The Front Desk staff had to submit each order feed to Synapse manually.

Setup Patient for integration to Synapse

The RPA automation modified the patient registration process to create an entry to a queue after completion of the registration. This entry contains all necessary patient identification data.

An unattended bot continually reads this queue and picks up new patient records. The identification data is used to retrieve any corresponding orders. The orders are then appropriately formatted to the data layout required by Synapse.

Loading Patient Orders to Synapse

Once the order information is in the correct format, the unattended bot uploads all required data to Synapse for each patient.

Reduced Processing Time

The manual process of loading patient radiology orders into Synapse took about 10 minutes. At 150 transactions per day, this task required 25 hours/day, resulting in multiple staff members spending most of their day processing paperwork.

Now the unattended bot runs automatically, triggered by patient registration. The bot can transfer the radiology order in 15-25 seconds, improving the processing time by over 95%.

CONCLUSION

By automating the transfer of radiology orders from their EHR system to Synapse, our client was able to recognize vast improvements in 3 areas:

- **Productivity time** – Multiple front desk staffers gained 20 or more hours a week to focus on other outstanding tasks.
- **Cost Savings** – the time estimated to accomplish this task manually cost roughly \$180,000/year. This was a large cost savings for the department.
- **Patient Satisfaction** – With the automation, front desk staffers reduced patient check in time by at least 10 minutes.

The healthcare client used this automation to integrate data transfer to the Synapse system; however, the automation design can be used for any solution which requires moving data from one system to another. If you have similar needs for data integration, we are happy to answer any questions you may have regarding potential opportunities for automation.

SphereGen is a technology company that specializes in developing innovative solutions in Healthcare to improve patient experiences and outcomes. Our customer-centric approach focuses on finding the right solution to meet the need at hand, using technologies like Robotic Process Automation (RPA) to improve workflow and productivity. In support of general Healthcare requirements, we also offer custom software services in Application Modernization/Support and Extended Reality.