Queuing and Robotic Process Automation-based Data Cleanup for the Strathmore University Medical Centre through Design Thinking

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Patient data is collected through Electronic health records and acts as communication tool between health providers and provision of quality care to the patients. At the Strathmore University Medical Centre (SUMC), they have implemented a hospital management system (HMS), which is used to capture patients' details and health records. The HMS also helps in streamlining the management operations in the following areas at the medical center: the reception, accounting, pharmacy and the lab. This project focuses on challenges affecting the reception process at SUMC and ways in which to solve the challenges and improve efficiency and quality of data collected. Some of the challenges faced is that the system contains duplicates of the same entity for example admission 645and 0645 is the same entity but recognized by the system as different. Also, the patient queuing system does not allow the patient to be queued under a specific department nor does it allow the patient to be transferred from one department to the other, to achieve this the receptionist needs to dequeue the patient first the queue them to the referred department. Another issue is that the doctor's availability and appointments booked are not synced together to offer a calendar interface view. Lastly, to updated wrongly queued data the receptionist is required to email the Academic Management Systems (AMS) administrator for changes to be made to patients belonging to the Strathmore fraternity. The aim of the project is to develop a queuing and robotic process automation-based data cleanup system that ensures the quality of data stored is up to standards, increases efficiency in the queuing module to reduce waiting time for the patients and increases the productivity and effectiveness of the receptionist by providing a calendar interface for the available slots to book interface and automate the process of sending emails to the AMS administrator that require updating. The Challenge-driven approach coupled with design thinking and an object-oriented approach will be taken to develop the additional modules. In conclusion, the project will benefit Strathmore clinic by increasing staff productivity and the quality care given to patients.