Chapter 5
Robotic Process Automation in the Medical Sector

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ABSTRACT

Robotic process automation (RPA) is a new technology that aims to automate repetitive and regular human processes. Numerous chronic patients have perished as a consequence of inappropriate drug delivery. While the hospital meals and drugs may provide enough amounts of energy and nutrition, many patients fail to take their medications on time, which worsens their condition. In this work a detailed discussion about the adoption of RPA in the medicine sector is discussed. The comparison of RPA and traditional IT-based automation has been made, and the benefits of RPA have been mentioned. The challenges faced while involving automation in the medical sector have been elaborated, and proper solutions have been suggested. Finally, an automated pill delivery system for patients that will notify the patient when it is time to take their medicine and provide the necessary number of pills has been proposed.

DOI: 10.4018/978-1-6684-7193-7.ch005

INTRODUCTION

An emerging automation technique called robotic process automation (RPA) is built on the idea of software robots or artificial intelligence (AI). RPA is the use of software with AI and ML capabilities to conduct repetitive, high-volume operations that traditionally needed a person to complete. RPA offers the capacity to automate complicated, rule-based tasks using software and services that enable transacting in any IT application, similar to how a person would. To put it another way, RPA software enables developers to create sophisticated automation tailored to a company's procedures. An RPA robot works by signing in, using apps, inputting data, doing complicated computations, and logging out, exactly as a person would. ML is a branch of AI that gives computers the capacity to autonomously learn from experience and advance without being explicitly programmed. The creation of computer programs that can access data and utilize it to learn for themselves is the main goal of machine learning. The goal of the current research study was to automate the software development process utilized in the software industry to execute financial initiatives. Using Net technologies, a financial application was created to OCR-read the necessary information from the bank check (Optical Card Reader). Then, without requiring any human participation, do sophisticated financial computations using ML and AI algorithms after verifying the data that was automatically uploaded to the software application screen (in the RPA way).

ROBOTIC PROCESS AUTOMATION IN THEORY AND APPLICATION

Organizations may automate processes across apps and systems using RPA (Robotic Process Automation), much as a person would. Transferring process execution from people to bots is the goal of RPA. There is no need for complicated system integration when using robotic process automation to communicate with the current IT infrastructure.

Workflow, infrastructure, and back-office procedures that need a lot of manual labor may be automated by RPA. These computer programs can communicate with internal applications, websites, user portals, etc. The software used for robotic process automation runs on the computer, laptop, or mobile device of the end user. It is a series of instructions that are carried out by bots in accordance with a set of established business rules (Enríquez et al., 2020).

Robotic process automation's primary objective is to replace the monotonous and repetitive clerical labor done by people with a virtual workforce. RPA automation