A framework for Automated E-Message alert of Covid status using Robotic Process Automation

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ABSTRACT

Artificial intelligence (AI)/digital employees, or metaphorical software robots (bots), are the foundation of the business process automation technology known as robotic process automation (RPA). The term "software robotics" has been used sometimes (not to be confused with robot software). Using internal application programming interfaces (APIs) or specialized scripting languages, a software developer creates a set of steps to automate a job and interface to the back-end system in conventional workflow automation technologies. RPA systems, on the other hand, create the action list by seeing the user carry out the job in the graphical user interface (GUI) of the programme, and then carry out the automation by repeating those actions directly in the GUI. In products that may not normally have APIs for this purpose, this can lessen the barrier to the usage of automation. Nowadays, monitoring every day covid status is not possible for an individual. So, the plan is to send an updated covid status through email automatically to the end users by using Robotic Process Automation (RPA). The main goal of this paper is to send corona information to the end users who are in need of covid details. For this, the end user wants to provide their email id and country name which they want to know about. The rest of the RPA process will be done by the bot using data scraping. Then email automation will be done to send email automatically. It is easy to check the required particular data from the cluster of data. It is easy to read and understand for all end users.

1. INTRODUCTION

The COVID-19 outbreak completely caught everyone off guard. Governments and businesses rapidly adopted policies to safeguard both the public's health and the economics of the nations. Many businesses were forced to shut down their manufacturing and offices. The majority of white-collar workers were forced to begin working from home, and internet communication technologies became essential elements of their daily lives. Governments and businesses were adjusting to the new normal as software robots—digital employees that were disease-resistant—became increasingly visible. Robot Process Automation (RPA) brought highly effective and quick-learned software robots into our daily life. These software bots are capable of performing a variety of tasks around-the-clock, supporting human workers and offering assistance to clients.

Workflows are streamlined through robotic process automation, which helps businesses become more profitable, adaptable, and responsive. By reducing menial duties from their workdays, it also boosts employee satisfaction, engagement, and productivity. RPA is quick and non-intrusive to adopt, accelerating the digital transformation process. It's also perfect for automating processes involving antiquated systems that don't have database access, virtual desktop infrastructures (VDI), or application programming interfaces (APIs). In a wide range of businesses and processes today, RPA is generating new efficiencies and releasing employees from monotonous tasks. RPA has been used in a variety of sectors, including finance, compliance, legal, customer service, operations, and IT, by businesses in a variety of industries, including healthcare, manufacturing, the public sector, retail, and a great deal more. That is merely the beginning. Because RPA has such a wide range of applications, it has become so popular.

Any high-volume, business-rules-driven, repeatable process is a strong candidate for automation, and cognitive activities that need more advanced AI capabilities are becoming a suitable match as well. Technology that can do far more than just assist with the automation of a particular process is required in order to establish and maintain an enterprise-wide RPA programme. You need a platform that can assist you in building and managing a new enterprise-wide capability and enabling your transformation into a fully automated enterprise TM. Your RPA solution must assist you throughout the whole process, from spotting excellent automation possibilities everywhere to constructing high-performing robots rapidly to overseeing hundreds of automated operations.

RPA technology has been implemented by many healthcare organizations, but not all of them. Providers that are prepared to enter the realm of automation will make large investments over the course of the next several years. In the next few years, service providers that take too long to adopt the most fundamental automation components may find themselves slipping behind both financially and operationally. The effects of COVID-19 have increased the pressure on financial margins and squeezed cash flow.

The use of RPA is already expanding, with more sophisticated providers moving beyond standard RCM processes and into areas like clinical analytics, supply chain management, and human resources. In every relevant area of the healthcare industry, providers are particularly interested in implementing these technological solutions.

Email has become the main method of communication for businesses around the world. It is critical to so many parts of the organization, but sifting through the inbox takes up valuable time. Many organizations look to automation for specific parts of their email operations in order to serve customers more efficiently and allow humans to focus on the messages only they can handle. Email Automation using RPA functionality features an intuitive drag-and-drop interface that lets IT and business users quickly and easily automate email actions without writing a line of code. Scope of the project is that this project is mainly built on an idea to give clear information about the covid data to all its end users. An interesting feature of this project is anyone who uses this application can view and understand the data easily.

2. LITERATURE SURVEY

In the previous work, the model will scrap the data from a website into a spreadsheet or local file saved on your computer. You will not get the particular data that is required for your use.

In previous work, using web scraping to search information, combine and present it in a better way according to user preferences [1]. Analyses ten case studies of businesses implementing RPA and provides a series of lessons learned from experience. [2]. Robotic Process Automation technology and the use of robots in corporate operations are becoming standards in businesses all around the world. [3]. These patterns are expected to be reinforced by the present COVID-19 pandemic, necessitating a governmental response. [4]. Reduces the need for additional time and resources to create new technologies and related algorithms, assisting front-line healthcare professionals in the fight against the COVID-19 epidemic. [5]. To test the advantages and outcomes of using RPA to a service business process with front- and back-office activities, contact a BPO provider. [6]. To recognize the theoretical stances used to conceptualize ISDM [7]. 614 people over the age of 18 participated in a cross-sectional questionnaire survey [8]. The case study discussed examines the motivations behind non-commercial healthcare process automation and its effects on emergency response operations. [9]. Utilize supervised machine learning methods to create a model using 85 chest X-rays that are freely available for research. [10].

3. PROPOSED METHODOLOGY

In this proposed system, through RPA **we** scrap the data from the website and send the updated covid status through email automatically to the end users. There are three major benefits they are time Efficient, Complete Automation and Data Accuracy. The following are the software requirements are Operating system: Windows 8/10/11, Software program: RPA, Simulation tool: UI Path

The data is being extracted from a webpage which will be updated in a regular span of time. The dataset consists of 228 rows and 15 columns. Each row and column represent a different country and its covid details. The application's home page is displayed below

Fig 1. E-Message alert system

Figure 1 shows the alert system of e-message. After clicking the button that says "**CLICK HERE**" the bot launches and displays a pop-up box asking to choose a district or country. There is a drop-down box which will be visible then from the drop-down box users can select any district of the state Tamil nadu. After choosing a district
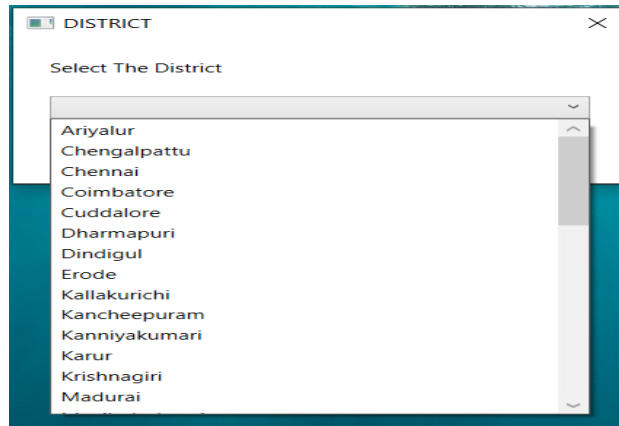
Fig. 2. Selecting the district

Then the bot directs us to a web page where the cluster of data related to covid 19 is available. Figure 2 represents the districts details.

Fig. 3. Sample Dataset Collection

A minute later, after gathering the necessary data by data scraping, the bot displays a message box with all relevant information about that particular district which has been selected by the user. Figure 3 shows the dataset details.
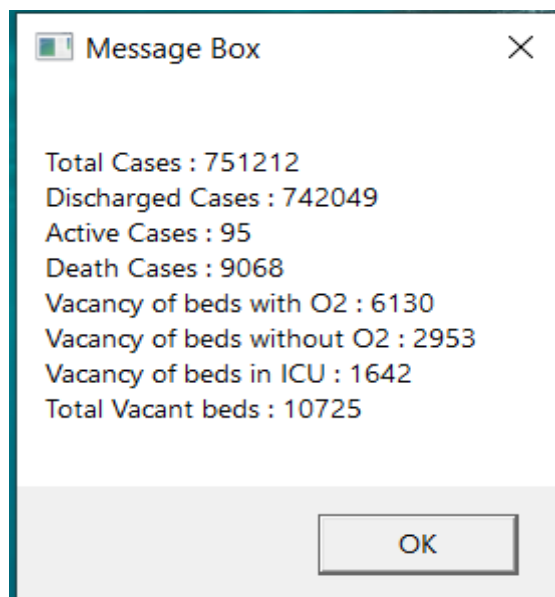
Fig 4. E-Message Alert using RPA

The Figure 4 shows the final dialog box containing structured information about the selected district. After clicking ok, it will automatically send those data that has been shown in the message box to all the mail IDs that are programmed before.

4. RESULTS AND DISCUSSIONS

Fig 5. Automated email

No restrictions apply when providing a mail ID. The database can be modified, and the daily process can be made automatic. It helps us save time and effort. Figure 5 shows the automatic mail conversation.
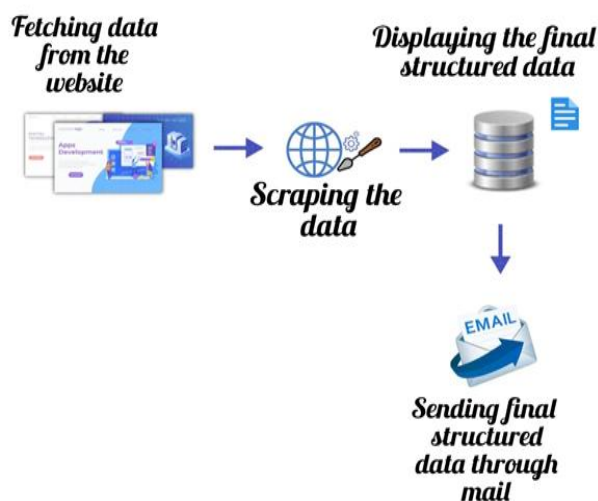

Fig 6. Framework for sending automatic mail

The Figure 6 shows a clear view on our proposed system in which the first work is to scrap the required data from the cluster of data then it displays the required data then it sends an automatic mail to all mail IDs that have been programmed. The state Tamil nadu contains thirty-seven districts so all those districts will be listed in that drop down box and with that there will also be two major common places where people will gather in huge numbers which are airport surroundings and railway station surroundings.

5. CONCLUSION

A new variation of the coronavirus known as COVID-19 has become incredibly widespread as of the end of 2019. In this study, we offer a method to automatically screen patients for this novel type of pulmonary disease in order to immediately identify the patient's details. In this paper, the corona info

center will provide details about the total number of cases, total deaths and total recovery is sent through mail.

6. FUTURE ENHANCEMENT

Through this application the end user can get access to all covid data fastly and easily. In future this can be planned and developed in a way that gives user details about the number of beds in each hospital and the amount of oxygen cylinders available at present in each hospital of a district.

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