

RPA USING HEALTHCARE APPLICATION

MS.SUGANYA.M, BALAJI.S, DHINESH KUMAR.P, NAVEEN.S

*Computer Science and Engineering, Jeppiaar Institute of Technology, Sriperumbudur, Chennai
Assistant professor, Department of Computerscience Engineering, Sriperumbudur, Chennai, Tamilnadu*

Abstract -Developing an automation system for patient appointment scheduling,prescription suggestion and this project aims increasing the quality and efficiency of automation based appointment system inorder to reduce the waiting time of the patient

Keywords—RPA, appointment, healthcare, application

1.INTRODUCTION

Healthcare provides across the globe carryout multiple procedures and tasks such as billing, patients onboarding, delegating medical professionals, collecting patients reports and data.Traditionally,these tasks are managed or monitored manually or with the help of off-the-shelf software. The advent of Robotic process automation has transformed various industry sectors such as manufacturing, construction and telecommunication. Likewise, the introduction of RPA in healthcare will revolutionize the healthcare sector. Leverging RPA in healthcare will present a feasible solution for several concerns related to healthcare. RPA bots will automate rule based tasks in high volumes. Such bots can store and manipulate data, processes transactions, communicate with other digital systems, and trigger responses. RPA bots have the ability to generate accurate results and avoid errors

2. .LITERATURE REVIEW

Scheduling jobs to resources forsome duration. Scheduling problems Scheduling can be described as the process of assigning are ubiquitous,ranging from computer systems and networks, to production factories and patient appointments. Many of such problems are either solved by manual operation or using heuristics specifically designed. Patient appointment scheduling can be classified into three:

Single Batch Process: In this Appointment scheduling process, decisions are delayed until after receiving all appointment requests for a given period. This model is commonly used in surgery starting times, and allows scheduling with complete information, so that a perfect or near perfect solution can be found through discrete optimization or heuristic methods.

Unit Process Appointments: In this appointment scheduling model, the process are assumed to come one at a time and are scheduled at the time of the request arrival. found, but may be approximatedif the distribution of Through this process, a perfect solution will unlikely be appointment request types is learned.

Periodic Process are scheduled once the buffer is full. This allows a Appointment requests are kept in a buffer of fixed size better approximation to the optimal solution by considering optimal or near optimal solutions at each period.

Online appointment scheduling system is a system individuals to conveniently and securely book their appointments online. Compared to the usual queuing method, the web-based appointment system could significantly increase patient's satisfaction with registration and reduce total waiting time effectively

3. PATIENT APPOINTMENT SCHEDULING SYSTEM

Current business practices that leverage on event scheduling systems are inefficient.Traditional business practices, such as employing an office assistance to manually record event times often requires the customer to languish needlessly on the telephone while waiting to receive assistance and to repeat that process several times to establish just one appointment or a meeting. This manual process is subject to human errors that may introduce significant inefficiencies in typical business processes. Use of recent software scheduling tools reduce errors, yet they are still modelled after traditional processes. The manual registration process could lead to data redundancy and put additional workload medical personnel incharge .Furthermore, there is tendency to always register a user that already been registered in the past, finding their details become a huge task.

Appointment and Scheduling system is one of the benefits of Automation of Clinical services and operations in various medical facilities. Automated scheduling system allows the outpatient to register their detail online, book and reject appointment. The system will reduce the waiting time of the patient and also increase the efficiency of the Doctors

4. SYSTEM DESIGN

The main focus of system design is to supplement the system architecture, providing information and data useful and necessary for implementation of system elements. it defines the components, modules, interfaces, and data for a system to satisfy specified requirements. This section consists of the various modules ,interfaces and data required for the design of a Patient appointment and Scheduling system.

Use Case Diagram

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The purpose of a use case diagram in UML is to demonstrate the different ways that a user might interact with a system. it describe the functional roles of the different actors(users) of a system.

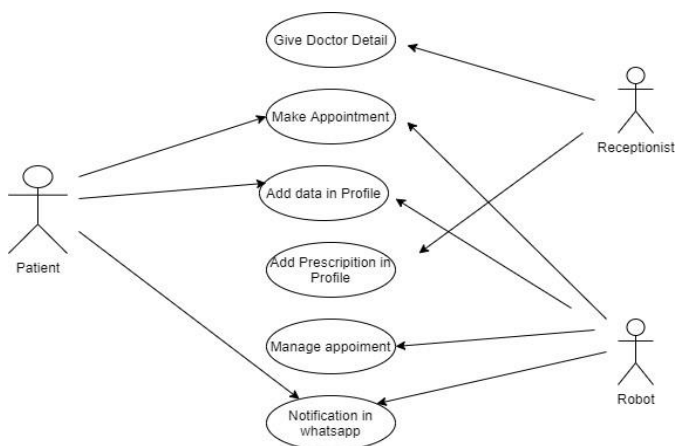
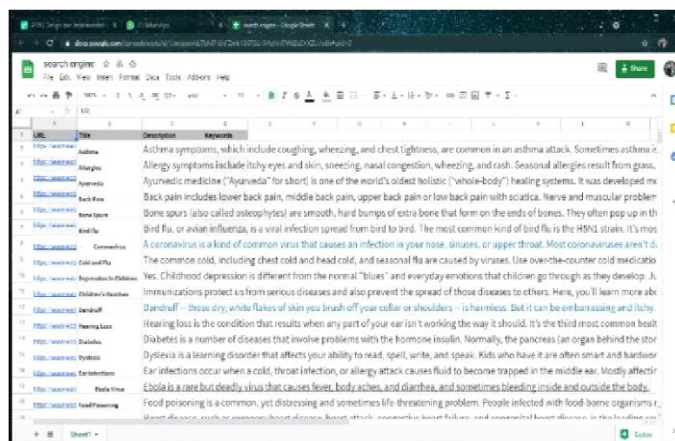
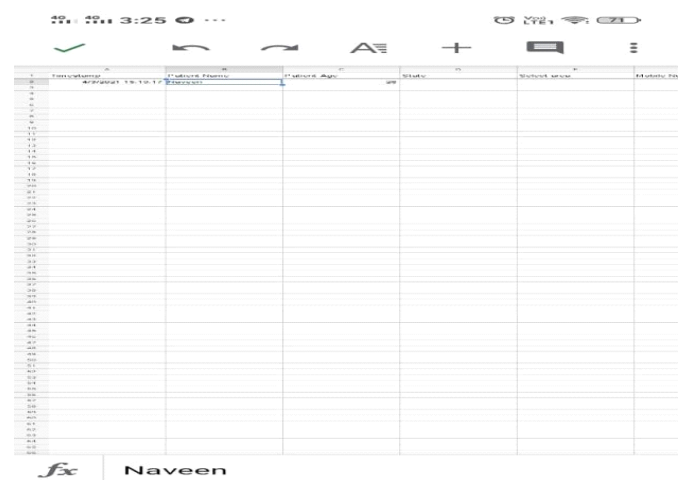
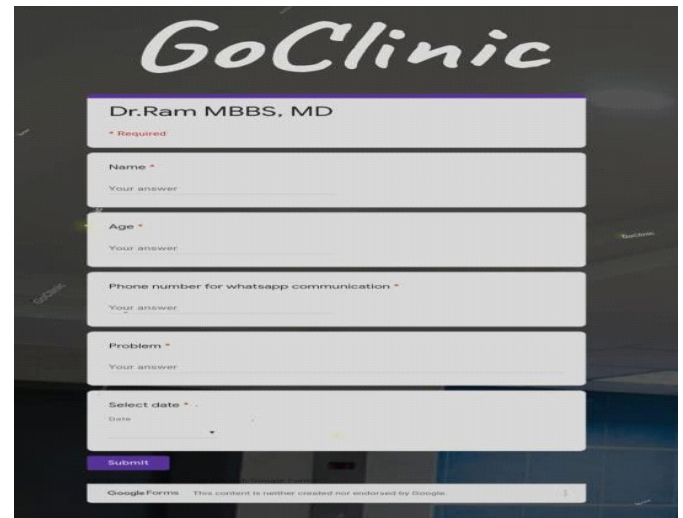


Fig: Usecase diagram for appointment scheduling



above module enables the general public to view the various diseases and their description uses and benefits and also the URL link provided, patients can check accordingly for further details.

The next module is an google form of an organization in which patients can register through that form and also can conform with date and time .



The above module is the spreadsheet where the bot saves the details of the registered patients automatically and manage appointment and send the notification through whatsapp regarding the details of the appointment.

CONCLUSION

An automated Appointment and scheduling software havebeen developed to address some of the challenges faced medial workers. The benefits of implementing this technology would touch everyone involved in the scheduling process, as administrators and staff can conduct their tasks more efficiently and accurately, while customers and clients have the ability to book their appointments and reservations quickly and more conveniently. The proposed system is aimed at simplifying the task of the patient and the doctor. It will reduce long

waiting time for patients and eradicate long queue. Patient also have freedom to fix their appointment and also book an appointment according to their preference. The system will deliver timely and convenient access to health services for all patients

REFERENCE

1. Tiago Salgado de Magalhães TaveiraGomes,2017,Reinforcement Learning for primary care appointment scheduling ,Faculdade de Engenharia da Universidade do Porto Mestrado de Engenharia da Informação
2. T. Cayirli and E. Veral, 2016 “Outpatient scheduling in health care: a review of literature,” Prod. Oper. Manag., vol. 12, no. 4, pp. 519–549, 3. D. Gupta and B. Denton, 2013“Appointment scheduling in health care: Challenges and opportunities,” IIE Trans., vol. 40, no. 9, pp. 800–819
3. Xiaojun Zhang,2012,Developing an online patient Appointment Scheduling system based on web services architecture, Chinese Academy of Sciences EET ALAPAMI 2017 Conference Proceedings
- S.SriGowthm, & K.P. Kaliyamurthie ,2015 ,Smart Appointment Reservation System, International Journal of Innovative Research in Science, Engineering and Technology, Vol. 4, Issue .
4. Xiaojun Zhang , Dr. Ping Yu , Dr. Jun Yan , Hongxiang Hu , and Dr. Niraj Goureia,2012,
5. Peng Zhao, IllhoiYoo, , Jaie Lavoie, Beau James Lavoie, and Eduardo Simoes, 2017,WebBased Medical Appointment Systems: A Systematic Review Vol 19, No 4 (2017): April
6. D van Brenk ,2016,Reducing Waiting Times In The Pre-Anaesthetic Clinic Of Vu University Medical Center, Master Thesis university of Twente

BIOGRAPHIES

	<p>MS.M.Suganya, was born in Coimbatore,Tamilnadu.She currently working as a professor in the department of computer science and engineering at jeppiaar institute of technology,kunnam,sunguvarchatram,sri prerumbudur.She supports and enables a team of young minds to soar their way into space on board ISRO's PSLV C-51 on February 28th 2021. Email: suganyam02@gmail.com</p>
	<p>S.Balaji, was born in Metturdam,Salem,Tamilnadu in 1999. He is curently pursuing bachelors of degree in computer science and engineering in jeppiaar institute of technology,sriperumbudur,chennai,india. Email: balaathar18@gmail.com</p>
	<p>P.Dhineshkumar, was born in Cuddalore ,Tamilnadu in 1999. He is curently pursuing bachelors of degree in computer science and engineering in jeppiaar institute of technology,sriperumbudur,chennai,india. Email: rdinesh592@gmail.com</p>
	<p>S.Naveen, was born in Vellore,Tamilnadu in 1999. He is curently pursuing bachelors of degree in computer science and engineering in jeppiaar institute of technology,sriperumbudur,chennai,india. Email: naveenraj5567@gmail.com</p>