

Efficient Travel Management System based on RPA

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Abstract— With the social development, tourism industry became a famous topic. Most of people chose travel as a relax way in their holidays. Thus, the tourist needs increased strongly. Generally, traditional travel websites presented general travel information, which are price of hotel, price of transport ticket or general introduction of travel plan. These kinds of information are not enough. Furthermore, the travel websites offered merely piece of travel information, users need to incorporate and generate a travel plan by themselves. Based on input query, the traditional systems are hard to produce a travel plan. Besides, more and more people are willing to choose creative and dis-invite travel plan, which is based on their interest and habits. Accordingly, it is necessary to study on query analysis deeply and comprehensively for researchers. Many travel packages are existing from different websites to almost all the places over the world. For frequent traveler's, receive the ticket availabilities through mail notifications based on their frequent booking locations. It will be helpful for them to plan their travel accordingly. Robotic Processing Automation (RPA) is an emerging form of business process automation technology based on the notion of software robot or artificial intelligence workers.

Keywords—RPA, UiPath, Travel Planning, Tourism, website

INTRODUCTION

Nowadays, people's consumption structure is improving steadily. The current scenario occurring across the globe in work environment increases stress day by day. People opt for tours to come out the stress at least once in a year. Survey says there is a considerable increase in people choosing tour for refreshment and rejuvenate oneself. Tourism is the strongest and largest industry in the global economy world, generating an estimated 11% of the global gross domestic product (GDP) and employing 200 million people and serving 700 million tourists worldwide—a figure which is expected to double by the year 2020[7]. Internet provides significant and enhanced information on tours and packages available over a particular period for tourists. Yet, tourists are unable to get the updated travel information on time when they are on travel.

This paper intends to explore a system to send the best packages through notification for frequent travellers. The essence of the problem lies in creating a Tour guide system in which user can use the system with augmented reality that can have features of more informative, interactive and user-specific experiences with improved information. This paper presents an automated proposed system enabling the tourist can to recognize or track the contents of an off-line tour booklet and reduce the drawback of interactive visualization and accurate navigation. It requires fixed point operation and low memory load of existing system.

LITERATURE SURVEY

The tourism sector is leading Fiji's Economy. There are limited technologies used in this sector [2]. Tourists also face problems in finding all the tools available in a single application as most of the services are not embedded in a centralized platform. This paper presents a tourism information system that gives a centralized tourist travel guide system for Fiji where a number of services are available. Tourism became a common topic while the level of tourist requirements increased dramatically [3]. Tourism is one of the most significant industries in many countries and its importance is rapidly growing in recent years. This application will also be used by travelling agencies to manage their customer trips, acquire information, etc., [4]. Most algorithms in the literature cannot get the optimal result when all the constraints are taken into account. The main objective of this project is to create a fast, effective and reliable[5]. Travel Portal application is based on the idea that travellers rely on other traveller reviews to plan their trips. Most traveller need to plan prior their travelling for energy saving and visiting maximum places of interest within the specific travel time[6]. Queries can be constructed template-based or in natural language and a relaxation query management strategy is developed.

PROPOSED SYSTEM

Tourism became a common topic while the level of tourist requirements increased dramatically. Generally traditional travel websites provided general information or price list of hotel, transport tickets, etc. These kinds of information cannot satisfy travellers any more. A challenge for travel websites is to present creative and special travel plans to users. In order to achieve this target, relying on software reuse and abstraction techniques, a new system, aiming to generate creative travel plans. The system can be divided into three part (Information Abstraction, Information Reuse, and Information Formulation) [1]. Based on [1], the objective of this work is to provide the best packages for travelers and to maximize the quality of service provided by the service provider, to increase availability, confidentiality and integrity of information and to provide user friendly environment for customers by developing a system which automates the processes and activities of a travel agency. Users can decide about places they are willing to visit and make bookings online for travel and accommodation. Fig 4 gives the overall proposed system.

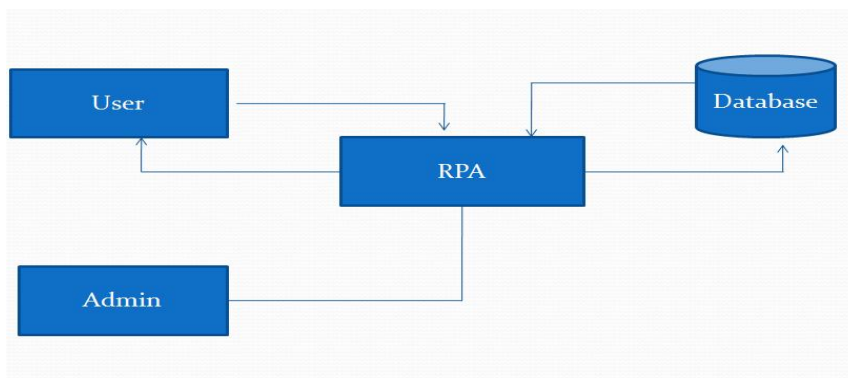


Fig.4. Proposed System Work Flow

The user can register their details in the website and the details are stored in the database. Admin maintains the database and creates new database for new users.

3.1 Execution of Proposed work - Data flow diagram level

The basic outline for the travel process of the proposed system is explained through the following figures. All the information are saved in the database in the excel sheet. The proposed travel management system using RPA will shortlist the frequent users according to their frequent booking locations and the notification are sent through the mail.

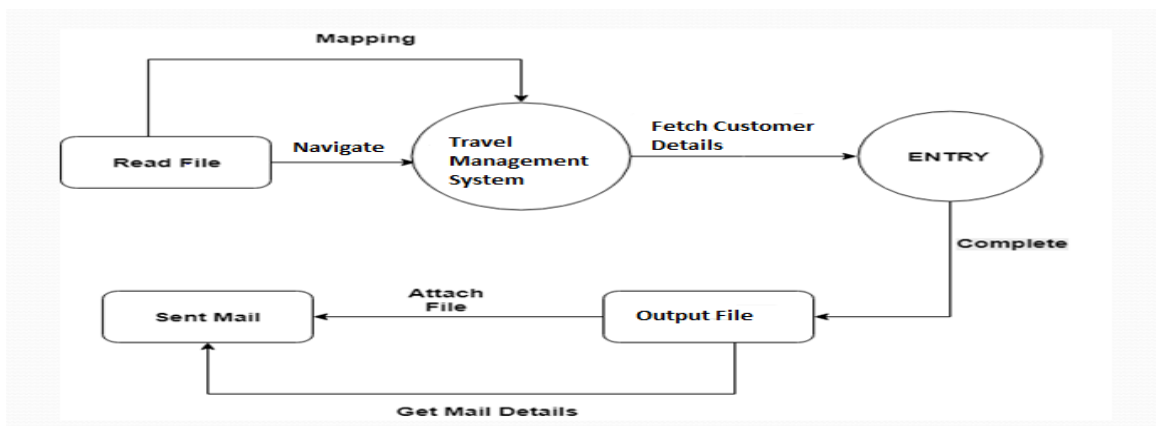


Fig.5. Data flow diagram level

I. OUTPUT AND RESULTS

This section explains the output in the form of screenshots in different levels starting from, registration of users, shortlist the frequent users based on the location, notify the users with the available offers for that particular period.

4.1 UiPath Studio Registration form

Fig. 6. shows the starting page for UiPath studio. This facilitates the user to register their mail id. After registration, the process will be activated.

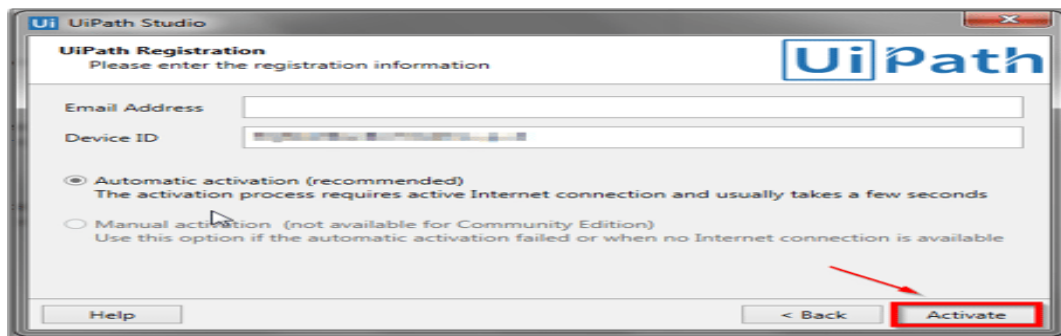


Fig.6. UiPath Registration form

4.2 UiPath Studio flow of the proposed work

Fig. 7. shows the flowchart of next level for the automation process carried in this proposed system. In RPA, excel sheet acts as an activity, since it is easy to use, accessible, and highly popular. Various data of the users are collected and stored in this excel sheet.

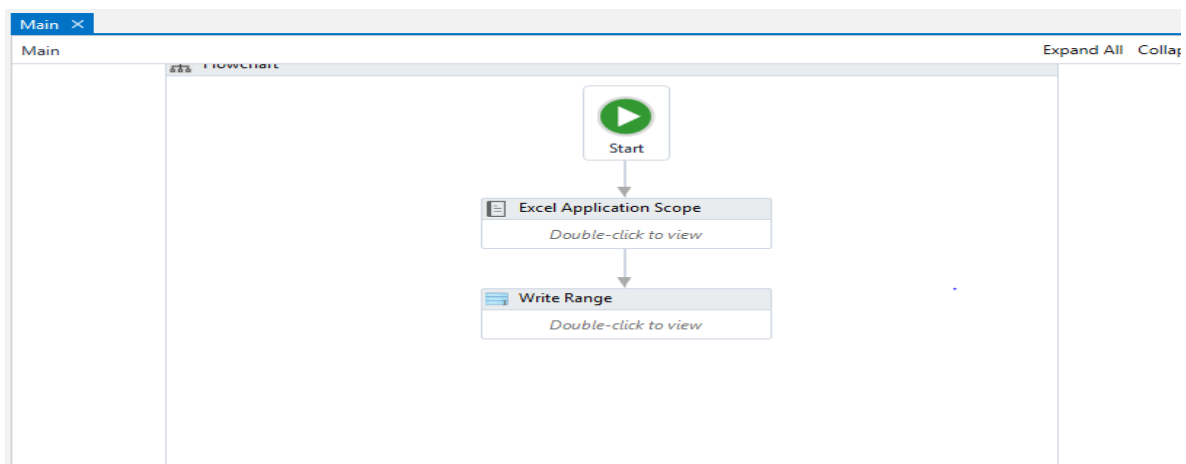


Fig. 7. UiPath flow of the proposed work

By clicking the **DataTable** button in the activity body opens the **Build Data Table** window, which enables you to customize the table to be created. Users' data is checked from the data base available in the process and executes an action once for each row in a specified datatable variable. User information is read from the database available in the excel range and stores it in a datatable variable. If the range of the user location is not specified, the whole spreadsheet is read again and again. If the range of the particular user is specified as a cell, the whole spreadsheet starting from that cell is read.

This is used only in the **excel application scope** activity. The **assign** activity is considered as an important activity in this proposed system, which enables the user to assign a value to a variable. Fig. 8. shows the loop function carried in this proposed system to identify the frequent users.

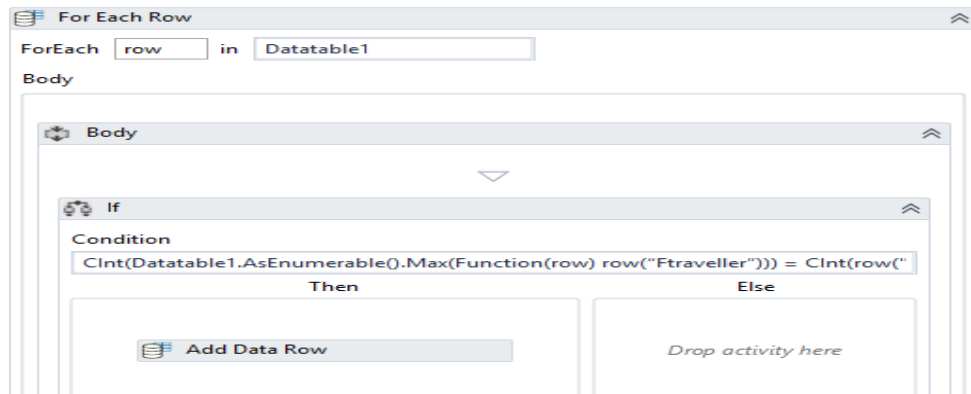


Fig. 8. UiPath loop function of the proposed work

4.3 Result - UiPath Studio Excel sheet execution of the proposed work

This section explains the result achieved in RPA in the form of screenshots. The proposed work shows the frequent user who travels/access a particular location. In order to maintain the database of frequent user to a particular location, excel is used, since it is simple, easy to access and highly popular. In this excel, the frequently travelled customers details are shown as output, which is shown in Fig. 9.

| Phone number | Name | Mail Id | Location |
|--------------|------------|----------------------|--------------------|
| 9846784601 | Manikandan | manikandan@gmail.com | Coimbatore-Madurai |
| 7865487661 | Siva | siva123@gmail.com | Coimbatore-Madurai |
| 9865432190 | Harini | harini23@gmail.com | bangalore-mysore |
| 7896342012 | Mithra | mithra56@gmail.com | Coimbatore-Madurai |
| 8765402145 | Ragul | ragul23@gmail.com | chennai-bangalore |
| 7865890453 | Naveen | naveen34@gmail.com | bangalore-mysore |
| 8976505643 | Gopi | gopi123@gmail.com | Coimbatore-Madurai |
| 7805640834 | Anandth | anandth34@gmail.com | Madurai-chennai |
| 8900675342 | Lokesh | lokesh456@gmail.com | Madurai-chennai |
| 9875609834 | Sam | samjohn@gmail.com | Coimbatore-Madurai |
| 8976504539 | Vivek | vivek89@gmail.com | chennai-bangalore |
| 9865319865 | Nithya | nithya1998@gmail.com | Coimbatore-Madurai |
| 7867501389 | Santhosh | santhosh98@gmail.com | Coimbatore-Madurai |
| 8675022035 | Manoj | manoj34@gmail.com | Coimbatore-Karur |
| 7502203303 | Suresh | suresh87@gmail.com | Madurai-chennai |
| 7650987565 | Karthik | karthik57@gmail.com | chennai-bangalore |

Fig. 9. UiPath Output – Excel sheet

In the excel sheet, RPA process writes the data from a datatable variable in a spreadsheet starting with the cell indicated in the **startingcell** field. If the starting cell is not specified, the data is written starting from the A1 cell based on the sheet number and user count. If the sheet does not exist, a new sheet is created with the value specified in the **sheetname** property for the already registered users. All cells within the specified range are overwritten and changes are instantaneously saved. Fig.10. explains the write range process carried in an excel sheet for a particular user.

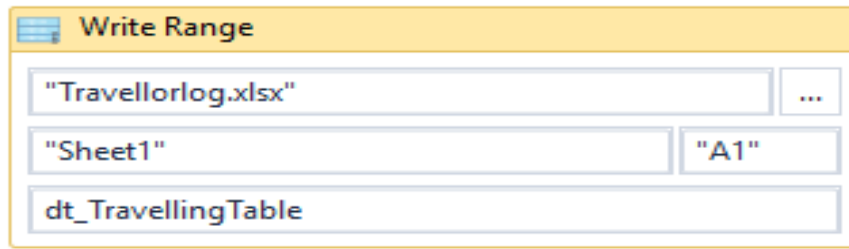


Fig. 10..UiPath write range process of a particular user

II. CONCLUSION AND FUTURE ENHANCEMENTS

In this paper, a new tour guide system utilizing the automated process of accessing tour packages through online registration in the real world situation by considering limitations of paper based guide systems is implemented. This system consists of users/tourist of a particular interest to visit a location is properly guided and offered tour packages. In this process the notifications are sent to the users/tourists who frequently travels in a particular travel agency. This process computerizes the different operations in travel agencies and is very flexible and secure. Admin can incorporate new features and manage the modules of the system as per the requirements. Being a web-based software, it can be accessed from anywhere with internet. Nevertheless, excel sheet is not always user-friendly and can at times prove to be very time-consuming and hard to integrate with other applications. Hence in future enhancement, the excel sheet data base collecting and maintenance could be replaced using cloud computing under offline condition too.

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