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Automated Invoice Processing System Along with Chatbot

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***Abstract*: In today's world a lot of invoice processing is done manually, to replace this existing process automation comes on the map. These invoices are generally received as paper invoices, email attachments or other electronic means. To update this manual data entry automation is required. Once the information within the invoices have been entered and coded to the correct accounts, these are further processed for payments, inventory, and other associated processes. The whole process of invoice processing involves multiple processing steps and needs to be error free before invoice payments are initiated. A need is felt where some of the processes are automated so as to reduce workloads, handle error free processing and reduce human intervention. RPA provides the necessary tools to develop a comprehensive solution.**

***Keywords*: Invoice processing, Automation, RPA.**

1. Introduction

Data is the heart of any Company Invoice data companies need the record to process or receive the payment on time. Through analyzing the invoice data, the company predicts its sales profits. The RPA gives system capability where it automatically improves its performance without being explicitly programmed. As the world is moving forward to using variants technologies, automation has improved its ways to make our work easier. Though the word automation was coined in the 1950s, very few people really understood what it meant. The process of automating business operations with the help of robots to reduce human intervention is said to be Robotic Process Automation (RPA). Robotics are entities which mimic human actions called Robots. A process is a sequence of steps which lead to meaningful activity. For example, the process of getting flight booking information or ordering food online through a restaurant website. Automation is any process which is done by a robot without human intervention. Technology has long enabled the automation of invoice processing from arrival to post. This means that at arrival of the invoice, the same accounts payable clerk will only need to scan the invoice into an automation software.

2. Literature Survey

Accounts Payable Invoice Processing. All Star Software Systems.

The four step approach to invoice processing

Step 1 – Controlling the Collection of Documents

Step 2 – Data Transformation.

Step 3 – Document Retrieval

Online Access and Remote Workers

Customer Service Implications

Decision Making

Step 4 – Business Process Automation. Built for Now and the Future. Accounts Payable in voice Processing. Work Package Table of Authorizations and Database Lookups Non-Purchase Order Invoices Purchase Order Invoices Post Data to ERP

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- Onsite maintenance (in case the matter can't be solved via Help Desk or Remote services)
- Quarterly onsite maintenance (fine tuning and cleanup regardless of if there are problems or not)

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End to End Accounts Payable Automation for Invoice Processing. rpi consultants

Accounts Payable (AP) Automation refers to the utilization of software and technology tools to exchange everyday manual tasks, activities, and decisions associated with invoice processing. This includes everything from extracting and validating header and item data from invoice images, pairing PO items together with your ERP, and assigning and routing invoices for approval.

Designing and implementing an efficient AP Automation solution typically includes the mixing of two or more software platforms that employment together. Most AP departments will have already implemented an Enterprise Resource Planning platform, like Infor Lawson, but AP Automation includes the addition of Intelligent Data Capture and/or Enterprise Content Management [2].

Process Automation for Accounts Payable. Oracle

To address a recurring challenge of decentralized and manual processes for entering 180,000 vendor invoices annually, Texas Industries (TXI) deployed an automatic A/P solution from Oracle to accelerate processing, reduce errors, cut invoice storage and routing costs, and increase visibility into payable liabilities. Previously, invoice entry was a time- and resource-intensive process that entailed significant personnel requirements. Now TXI has centralized the invoice processing system and routes documents electronically. TXI boosted efficiency by reducing the amount of hands required to the touch an invoice before it's paid. additionally, the corporate expanded visibility into its total spend to leverage better pricing, because it can more quickly pay invoices and cash in of vendor discounts. TXI's smart routing solution enables users to capture invoices electronically with Oracle Web Center Capture then uses Oracle Web Center Forms Recognition and therefore the Oracle Web Center Imaging workflow to send the invoices to Oracle Financials for approvals and processing. This solution has significantly lowered resource needs for payables processing and improved income and visibility into payables liabilities. for instance, tighter controls and consolidated purchasing have enabled the corporate to optimize its US$500 million annual spend—much of which is for raw materials and parts utilized in its manufacturing plants—by taking advantage of total-spend visibility to barter volume discounts with vendors [3].

3. Proposed System

The world is shifting from manual to automated systems. The objective of our project is to reduce the problems faced by the customer. Our idea is basically to overcome this problem by using RPA UIPATH. The existing method is done manually also there are some automated methods but that increases the cost, time and effort with its large number of codes. But to overcome this RPA rises. In our proposed system, the initial step is data scraping. It is a technique with structured data or unstructured data that can be extracted from the pdf, image file, MS word file, Excel sheet, webpage or any application which is saved to a database or spreadsheet or .CSV file. In our case we are dealing with pdf files and image files and store the data into a database. Here we are dealing with invoices which are in pdf or image files. These files are retrieved from email and stored in a particular folder with a date. After this process particular invoice data fields retrieve through uipath and inputed in an application where in the submit button clicked, the data extracted is stored in the database. This whole process is done through the robots of uipath where we use OCR to scan the pdf or image files. We design the user interface to perform other tasks. The website has other features which provide the information. The information is about getting full details of invoices till the current date with the click of a button. The segregating of invoices with its types. Analysis of sales on the basis of invoices. CHATBOT using dialog flow api with speech recognition is integrated with the website. Basically it answers the queries regarding invoices and also it maintains human interaction.

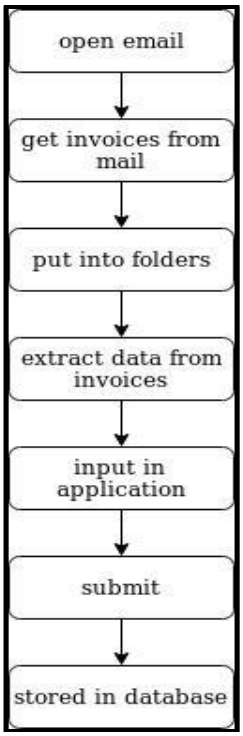

Fig. 1. Flowchart

In the entire project three flows are created. First, on the click of the button email opens up, the uipath directly login to the mail then through ocr property used pdf files or image files scanned and extracted data fields and that extracted data input to the application where on submit button data stored to

database. Second, displaying the invoices according to our needs through queries. Some analysis can be done by performing some queries such as segregation of invoices or sales analysis. Third, chatbot creation for easy interaction between humans and machines. Adding the chatbot to the website makes the user interface more robust and easy to use. Through this easy automation we update the manual process. This increases more interaction with users.

The figure shows our first flow or main flow of our project. This is the most comprehensible way to show the base of our project.

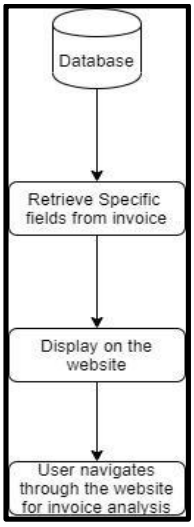

Fig. 2. Flow diagram

The proposed system will be easy to use and will contain simple operations as shown in the above figure.

4. Conclusion

The various benefits that RPA provides to the market has made the field of interest to many organizations worldwide. Most of the organizations are already implementing the RPA technology as it generates more accurate and consistent processes that are less prone to errors. The system uses RPA to extract the data with just a click of a button. This system of invoice processing handles complications created by existing systems and makes it more user-friendly. The proposed system is advantageous over the existing manual system.

5. Future Scope

The accuracy of the system can be improved. In this project pdf and image files are used. This can be upgraded by adding other file formats to the system. Invoice has standard format; the data extraction can be done in various formats from various sources. Through invoice information, data can be manipulated in various ways. Database integration is another way to upgrade current database scenarios. Where there is only one database for this system upgraded version will have to deal with two or more databases. Such as Inventory Management here inventory can be analyzed through arrival of invoices, how much particular item needed or to be given. These are discussed between vendors and customers.

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