

Price Change Notification Bot

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Abstract

The Price Change Notification Bot is a Robotic Process Automation (RPA) Project. The Bot is significantly designed and developed to check the price rebuild (drop/rise) of the various products available on e-Commerce sites like Flip kart, Amazon, Shop clues, Snap deal etc. The customer can append the desired products of their wish to either the Cart or Wish-List anticipating for the price descends. The bot indeed functions on monitoring the price whenever the product is put on the Cart/Wish-List. Once the price escalates, the bot sends the notification to the customer with a Message note along with a Voice Message. Similarly when there is a price descent, the bot notifies the customer with a voice message and an automated email invitation to purchase the product attached with the purchase link. This enables the Customer to purchase the product at the right time of price drop.

Keywords -- Price, Customer, Bot, Notification, Automation, Product

I. Introduction

Robotic process automation (RPA) is the bring into play of software with artificial intelligence (AI) and machine learning potential to handle high-volume, errands that previously required humans to perform. These tasks can be comprised of queries, calculations and maintenance of records and transactions. RPA is backend processor to perform the tasks without human interference. RPA technology is referred to as a software robot or a Bot which mimic a human action.

UI path is one of the extensively used robotic process automation tools and it was founded by the **Romanian entrepreneur in the year 2015** to grant software which can eradicate the monotonous time consuming back end works. It translates the boring tasks into automated ones with the help of sole tools. It enables your processes to be more effectual and consistent.

UiPath Studio is a complete software mechanism that allows you to automate your back end recurring tasks. It converts tiresome tasks into complete UI automation, thus, making your work ease and quicker. UiPath is a Robotic Process Automation tool which is used for Windows desktop automation. It is used to automate repetitive/redundant tasks and eliminates human intervention. The tool is simple to use and has a drag and drop functionality of activities.

The basics three main components

UiPath Studio – a tool that authorizes you to design automation processes in a graphical manner, throughout diagrams. UiPath Studio has an ample variety of characteristics which can easily incorporate with any language and stimulate ease of use, competence, and scalability.

UiPath Robot - implements the processes built in Studio, as a human would. The Robot will commence executing the business activities with perfect precision. All robots required are a perfectly predefined rule and set of accurate data.

UiPath Orchestrator - a Web/Server-based application that enables you to organize, schedule, supervise and handle Robots and processes. It acts as a mid platform in managing the overall performance of the automation.

The Orchestrator runs on a server to hook up all robots to this server and passes instructions on different events such as whether to attend, unattended, or be idle for a particular event. Browser-based orchestration enables management of hundreds of robots through a single click.

Types of UI path projects:

There are two types of standalone projects that are available in the UiPath and they are process and library.

Process:

A process forms an association between an environment and a package. A package is a predefined pack of services developed using the Jacada Integration and Automation (JIA) application. Every time a package is inserted into an environment, it automatically gets distributed to all the robot machines that are associated to the environment.

The process page will allow you to manage formerly created associations, to organize an uploaded package to robot environment, and keeps all your processes advanced. It facilitates us in easily distributing the packages on the robot machines and creates a faster process from the jobs page.

Library:

A library is a package which contains various reusable components. Libraries are saved in the form of files and can be installed when they are necessary to handle the excess workflows using the package manager. In Orchester, this is termed as a consolidate place to store all the libraries, namely the library page. From this destination, the libraries are accessible by the people who have permission or accessibility to it.

A process library is defined as a sequence of endeavour with a well-defined business function, which make them suitable for reusability and sharing. On the Libraries page, you have an option to view and delete the libraries that had been used on the UIPath Studio, and also the files that were uploaded manually.

Types of Supported workflows in UiPath:

In UiPath, the Automation is interconnected with multiple aspects and it enables you to automate the rule-based process. To achieve effective automation, each work should be assigned to a specific thing and can be performed effectively. Each activity in UiPath has to undergo small activities like reading a file, clicking a button, writing a log panel, etc.

Essential workflow in UiPath.

- **Sequences:** It best suits for the linear process in moving from one stage to another without causing any disturbance to the workflow.
- **Flowcharts:** It is designed to suit the organizations whose automation requires some logical ability. It clears all the problems in a diversified manner through multiple branching operations.
- **State machines:** It is well designed to suit the desires of the organizations which have enormous workflows and a large number of transactions. State machine uses an infinite number of states in their execution which are triggered by a condition (transition) or task.
- **Global exception handler:** It is appropriate for identifying the workflow performance while encountering an execution error.

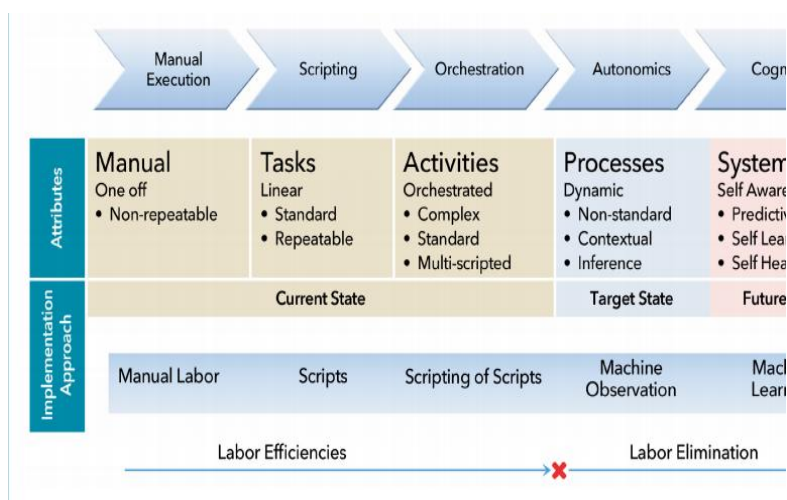


Fig 1: Workflow of UiPath

II. Problem Statement

In the Existing System, we tend to add the product into the cart for future price drop which may be affordable to the customer. But the buyer is not updated concerning the Price decline. Manually the customer has to visit the e-commerce site to check for the price drop every single time. This is the existing facet carried out in the current online shopping websites. The customer is not assured of when there will be a drop in the price and may miss the opportunity to buy on that period. No notification is being proffered from the e-commerce site on the price change.

III. Proposed Systems

To overcome the difficulty we face in the existing system, the RPA robot has been structured fixing all the issues. The proposed system consists of 4 panels: Data-Scraping the product on the Cart/Wish-List¹, Monitoring the price change², Notification and voice message³, E-mail automation⁴. Initially the Data scraping of the products added to the cart are done. The bot scrapes the product name and price which automatically gets drafted into an Excel-Sheet. Now the bot monitors on the price change. Once it encounters a hike or drop from the original price as of the product added to the cart, it sends a notification message along with a voice-message to make the customer aware. In case of price drop, it sends an email invitation to purchase the product with that product-purchase link.

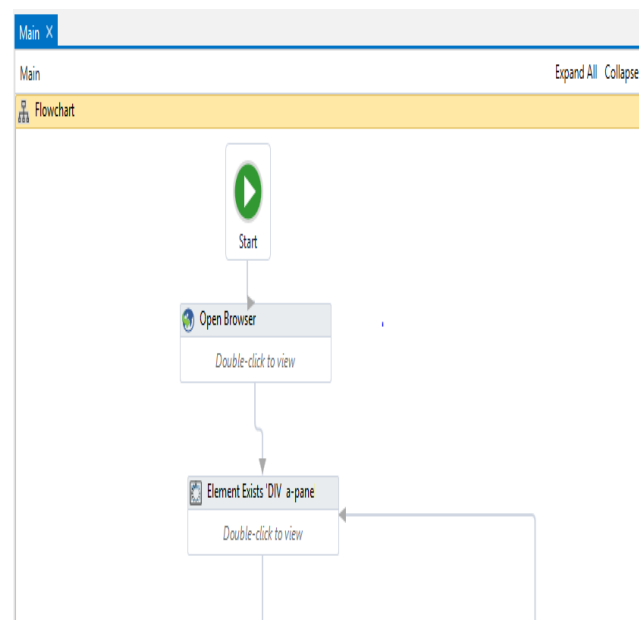


Fig 2: Workflow of Price Change Bot

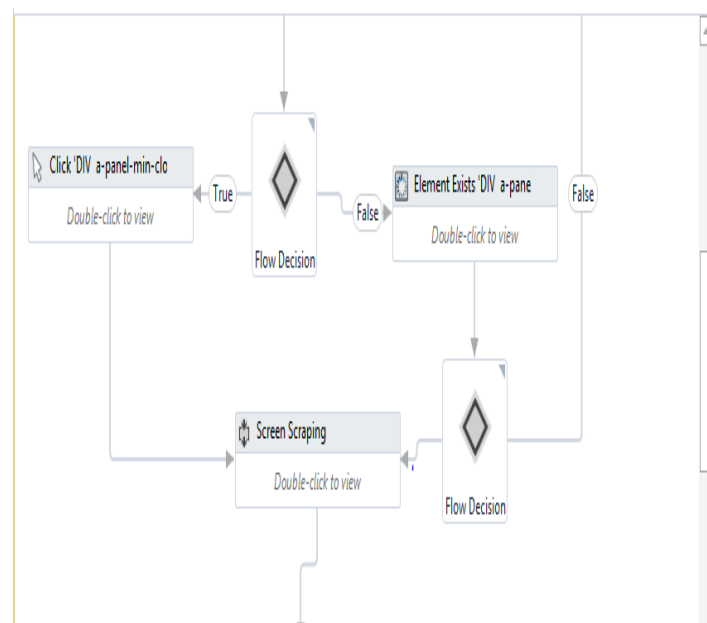


Fig 3: Scraping Workflow

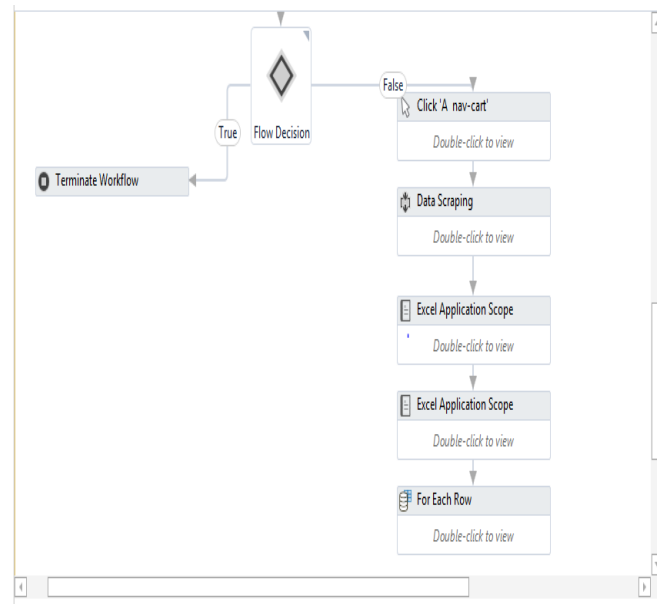


Fig 4: Terminating Workflow

IV. Conclusion

As the automation reaching every nook and corner of today's world, it has become indispensable vital role for the organizations in choosing the exact tool that best suits their organizational needs. UiPath is having a wide variety of features that are required for the effective implementation of automation in an organization. RPA is being second-hand in various areas which include remote applications, scraping techniques, data handling techniques, etc. UiPath eliminates the difficulties in moving the manual processes to automation with its unique features.

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