



**Introduction to
Robotic Process Automation**

ONLINE PRODUCTS FINDER BOT

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Abstract

The Online Shopping Finder Products project employs UiPath workflows, including AmazonSequence.xaml and Main.xaml, to automate tasks related to online product discovery and management. The AmazonSequence.xaml handles core functionalities like product search, data extraction, and user navigation on shopping platforms. The Main.xaml serves as the primary workflow orchestrator, integrating and managing the sequences for seamless end-to-end automation. The project emphasizes modular design, ensuring tasks are distributed across reusable components. This structure enhances scalability, simplifies maintenance, and allows for easy customization of workflows. By automating repetitive tasks, the project significantly reduces manual effort, minimizes errors, and optimizes operations for online product discovery.

Need for the Proposed System

- Collection of products via input dialogs. * OTP-based Verification Users' email and phone numbers are verified via OTP to ensure data accuracy and security.
- Secure Data Storage: Product details and user data are securely stored in Excel files or databases for easy access and future updates. Book Secure Search Automation:
- Users input product names, and the system automatically searches across ecommerce platforms like Amazon, retrieving relevant results based on user preferences.
- The system sorts and filters product details such as price, ratings, and availability, providing users with optimized options for easy comparison.

Advantages of the Proposed System

*The system sorts and filters product details such as price, ratings, and availability, providing users with optimized options for easy comparison. Enhanced Data Security and Accessibility:

Product and user data is securely stored in organized formats, ensuring quick access and protection from unauthorized changes.

* Automated emails are sent to users with product details, updates, and links to the relevant product pages.. Benefits: The automation improves efficiency by reducing time spent on manual product searches.. It enhances accuracy by providing reliable, up-to-date product details with minimal human error. 11 Users enjoy a better experience with quick, seamless access to product information and notifications.

Literature Survey

1. Paper Title: "Enhancing Efficiency in Library Management Robotic Process Automation"

- **Advantages:**

- Automation reduces human effort in task like book inventory management.
- Enhances user experience by providing instant updates on book availability.

- **Disadvantages:**

- Challenges in handling unstructured or handwritten data.
- Requires periodic maintenance and updates to workflows.

2. Paper Title: "Scalability of RPA in Library Management System."

- **Advantages:**

1. Supports high-volume processes, such as managing thousands of book records.
2. Logs and tracks all operations for auditing and monitoring purposes.

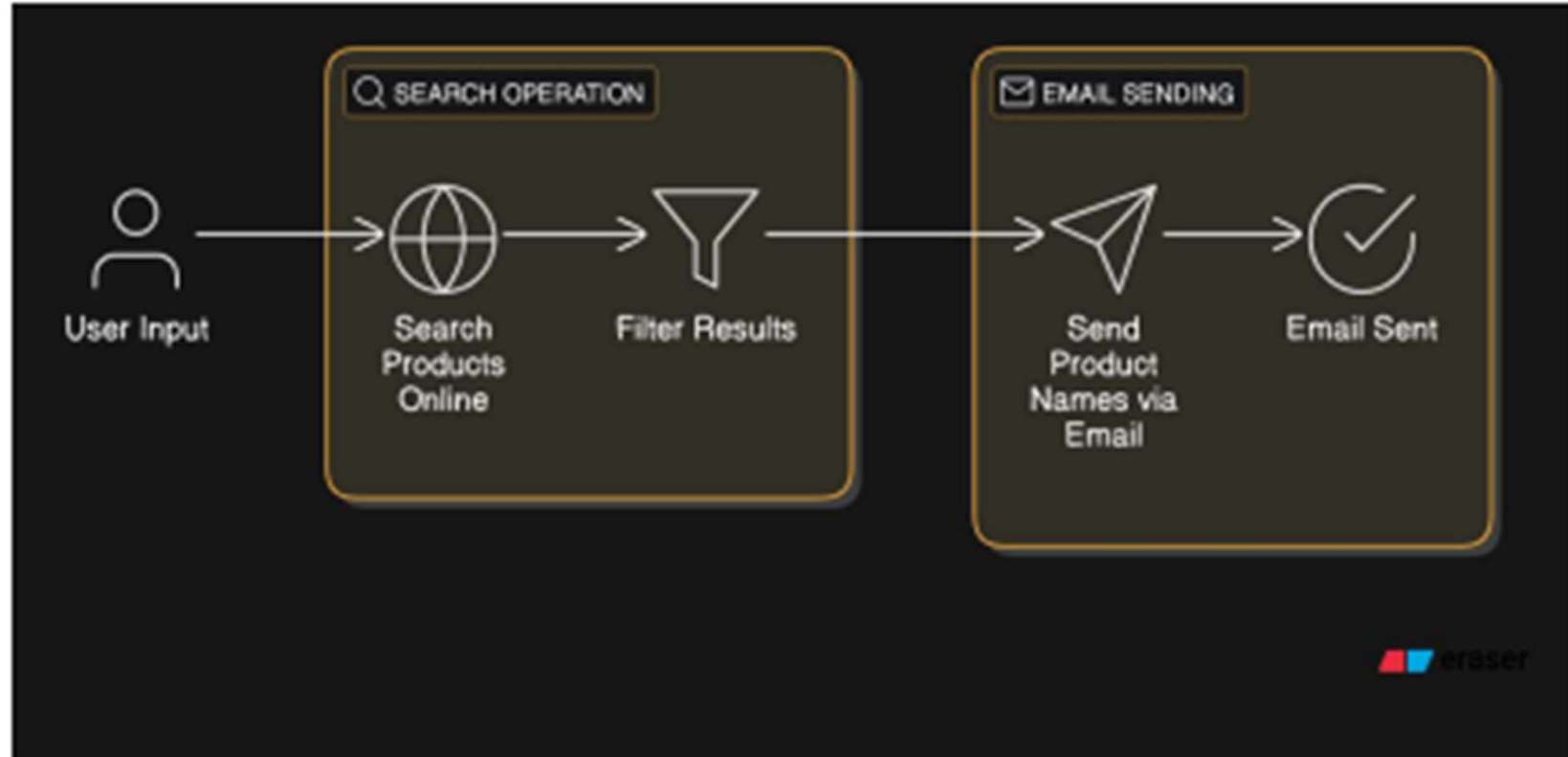
- **Disadvantages:**

1. Lack of flexibility in handling sudden changes in operational processes.
2. High reliance on IT specialists to manage and troubleshoot the system.

Main Objective

1. Automation in E-commerce: A literature review in this domain would examine existing approaches to automation in e-commerce, focusing on how automation tools like RPA (Robotic Process Automation)
2. Data Accuracy and Security: This part would focus on the importance of secure data handling, especially regarding personal user information and purchase histories.
3. User Experience and Accessibility: The review could focus on how automated systems improve user experience by providing faster responses to user queries and a more personalized shopping experience. Studies have shown that a seamless interaction.

Architecture



System Requirements

Hardware

Processor: Minimum of Intel Core i3 or higher version for faster processing.

RAM: Minimum of 4 GB or higher to handle ensure smooth execution.

Storage:Minimum: 20 GB free space for quicker application and data handling.

Network:Stable internet connection for cloud resources, email , and OTP verification.

Software

Operating System:Minimum: Windows 10 (64-bit) or higher.

RPA Software:UiPath Studio and UiPath Robot for workflow execution.

Database/Storage:Microsoft Excel (for small to medium datasets).

Web Browser:Google Chrome, Microsoft Edge, or Mozilla Firefox.

Table Design

Main Sequence

Sequence Entry point of the workflow that integrates all automation tasks.

AmazonSequence.xaml

Sequence Reference Referenced workflow handling product-specific tasks such as search and navigation.

Process Design

1. Robotic Process Automation (RPA) : RPA is used to automate repetitive tasks such as product searches, inventory updates, and user registration. By mimicking human actions.

2. OTP-based User Authentication : Using OTP (One-Time Password) ensures secure user registration by verifying identity through a time-sensitive code sent via email or SMS. This method enhances the security of user data while automating the registration process.

3. Data Automation and Excel Integration: Data automation involves using Excel files (e.g., ProductList.xlsx, UserData.xlsx) for seamless data management. Automation tools help retrieve product information, update user records, and ensure real-time accuracy in inventory managements

Testing

PROCESS TESTING

Online Shopping Details



220701074@rajalakshmi.edu.in

to me

3:17AM (2 minutes ago)



ProductName,ProductPrice,CustomerBrought,StarRating

"boAt Rockerz 430 w/ 40mm Drivers, Beast Mode w/ 40ms Latency, 40hrs Playback, ENx Tech, Voice Assistant, BTv5.4, Adaptive Fit & Easy Access Controls, Bluetooth Headphones(Black Sabre)", "1,298", 89, 4.3 out of 5 stars

"boAt Rockerz 450 Bluetooth On Ear Headphones with Mic, Upto 15 Hours Playback, 40MM Drivers, Padded Ear Cushions, Integrated Controls and Dual Modes(Luscious Black)", "1,499", "113,938", 4.1 out of 5 stars

"pTron Tangentbeat in-Ear Bluetooth Wireless Headphones with Mic, Punchy Bass, 10mm Drivers, Clear Calls, Dual Pairing, Fast Charging, Magnetic Buds, Voice Assist & IPX4 Wireless Neckband (Dark Blue)", 498, "73,951", 3.8 out of 5 stars

"ZEBRONICS Thunder Bluetooth 5.3 Wireless Headphones with 60H Backup, Gaming Mode, Dual Pairing, ENC, AUX, Micro SD, Voice Assistant, Comfortable Earcups, Call Function (Sea Green)", 699, "77,215", 3.8 out of 5 stars

"boAt Rockerz 430 w/ 40mm Drivers, Beast Mode w/ 40ms Latency, 40hrs Playback, ENx Tech, Voice Assistant, BTv5.4, Adaptive Fit & Easy Access Controls, Bluetooth Headphones(Bold Blue)", "1,299", 89, 4.3 out of 5 stars

"boAt Rockerz 255 Pro+ w/Upto 60 Hours Playback, ASAP Charge(10 Mins=20 Hours), Hearables App Support, Google Fast Pair, Dual Pairing & Bluetooth v5.2, IPX7, in Ear Neckband (Teal Green)", "1,299", "202,877", 4.0 out of 5 stars

"boAt Rockerz 450 Bluetooth On Ear Headphones with Mic, Upto 15 Hours Playback, 40MM Drivers, Padded Ear Cushions, Integrated Controls and Dual Modes(Hazel Beige)", "1,499", "113,938", 4.1 out of 5 stars

"Oneplus Bullets Z2 Bluetooth Wireless in Ear Earphones with Mic, Bombastic Bass - 12.4 mm Drivers, 10 Mins Charge - 20 Hrs Music, 30 Hrs Battery Life, IP55 Dust and Water Resistant (Magico Black)", "1,799", "179,153", 4.1 out of 5 stars

"pTron Tangentbeat in-Ear Bluetooth Wireless Headphones with Mic, Punchy Bass, 10mm Drivers, Clear Calls, Dual Pairing, Fast Charging, Magnetic Buds, Voice Assist. & IPX4 Wireless Neckband (Dark Green)", 498, "73,951", 3.8 out of 5 stars

"boAt Rockerz 255 Z Plus Bluetooth in-Ear Neckband w/AI-ENx™ Tech, Spatial Audio, 50HRS Playback, Magnetic Power Buds, Dual Pairing, Google Fast Pair, Hearables App, IPX4, BT v5.3, Beast Mode(Classic Black)", "1,197", "202,877", 4.0 out of 5 stars

"ZEBRONICS THUNDER Bluetooth 5.3 Wireless Headphones with 60H Backup, Gaming Mode, Dual Pairing, ENC, AUX, Micro SD, Voice assistant, Comfortable Earcups, Call Function(Black)", 699, "77,215", 3.8 out of 5 stars

"boAt Rockerz 245 V2 Pro Wireless in Ear Neckband with Up to 30 Hrs Playtime, Enx™ Tech, Asap™ Charge, Beast™ Mode, Dual Pairing, Magnetic Buds, USB Type-C Interface&Ipx5(Cool Blue)", 799, "1,952", 4.0 out of 5 stars

"ZEBRONICS Zeb Evolve Wireless Bluetooth in Ear Neckband Earphone, Rapid Charge, Dual Pairing, Magnetic earpiece, Voice Assistant with Mic (Blue)", 499, "12,073", 3.7 out of 5 stars

"ZEBRONICS Thunder Bluetooth 5.3 Wireless Headphones with 60H Backup, Gaming Mode, Dual Pairing, ENC, AUX, Micro SD, Voice Assistant, Comfortable Earcups, Call Function (Teal Green)", 699, "77,215", 3.8 out of 5 stars

"boAt Rockerz 550 Over Ear Bluetooth Headphones with Upto 20 Hours Playback, 50MM Drivers, Soft Padded Ear Cushions and Physical Noise Isolation(Black)", "1,799", "49,637", 4.1 out of 5 stars

"boAt Rockerz 255 Pro+ w/Upto 60 Hours Playback, ASAP Charge(10 Mins=20 Hours), Hearables App Support, Google Fast Pair, Dual Pairing & Bluetooth v5.2, IPX7, in Ear Neckband(Navy Blue)", "1,199", "202,877", 4.0 out of 5 stars

Conclusions

This project effectively gathers the necessary details from ecommerce buyers to facilitate easy product searches. By automating the search process, the system efficiently retrieves relevant product information and instantly sends the details to the user's email. This ensures a seamless experience for users, helping them make informed purchasing decisions quickly and conveniently. Furthermore, this system improves operational efficiency, minimizes errors, and enhances user satisfaction by streamlining the product search and notification processes. Ultimately, the integration of automation and real-time data handling provides a robust solution for modern e-commerce platforms.

Future Enhancement

- 1.Integration with Database to handle large volumes of data efficiently. This can improve data security, scalability, and performance.
- 2.Enhanced Error Handling to Customize error messages for specific exceptions and automatic retries for temporary failures.
- 3.Input data directly without editing Excel files and view results in a user-friendly format.
- 4.To Enable notifications or alerts to be sent via mobile apps for real-time updates on task completion or exceptions.
- 5.Validate user data Phone numbers, emails using external services.
- 6.AI-Powered Enhancements to integrate AI and Machine Learning capabilities for predictive analytics (e.g., predicting peak library usage or identifying popular books).
- 7.Enable voice input or output using UiPath's integration with tools like Google Assistant or Alexa for a hands-free user experience.

References

1. RPA and UiPath Documentation: - UiPath Official Documentation. Retrieved from [\[https://docs.uipath.com\]\(https://docs.uipath.com\)](https://docs.uipath.com)
2. UiPath Academy Courses. Retrieved from [\[https://academy.uipath.com\]\(https://academy.uipath.com\)](https://academy.uipath.com)
3. Excel Automation in UiPath: - Automating Excel Processes. Retrieved from [\[https://docs.uipath.com/activities/docs/excel.automation\]\(https://docs.uipath.com/activities/docs/excel-automation\)](https://docs.uipath.com/activities/docs/excel.automation)
4. UiPath Forum Discussions on Excel Automation. Retrieved from [\[https://forum.uipath.com\]\(https://forum.uipath.com\)](https://forum.uipath.com)

Queries

Demonstration

Thank You