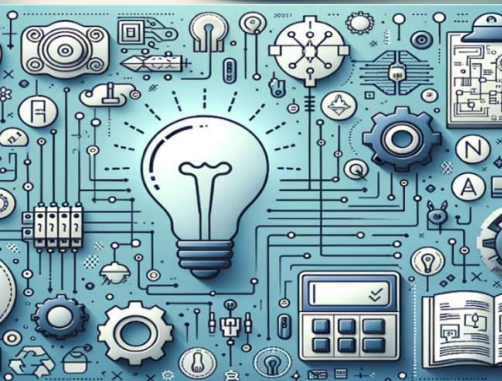


International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206

Volume 9, Issue 3, March 2026



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Automated Form Filling Bot Using UiPath Studio

S.Dhanya, Dr.D.Hari Prasad, Dr.S.Shylaja

Student, Department of Computer Applications, Sri Ramakrishna College of Arts and Science, Coimbatore,
Tamil Nadu, India

Associate Professor & Head, Department of Computer Applications, Sri Ramakrishna College of Arts and Science,
Coimbatore, Tamil Nadu, India

Assistant Professor, Department of Computer Applications, Sri Ramakrishna College of Arts and Science, Coimbatore,
Tamil Nadu, India

ABSTRACT: The **Automated Form Filling Bot** developed using UiPath Studio is designed to automate the repetitive and time-consuming task of filling online or desktop-based forms. Manual data entry often leads to errors, reduced productivity, and increased operational costs. This project aims to eliminate these issues by implementing Robotic Process Automation (RPA) to perform accurate and efficient form submission.

The bot extracts input data from structured sources such as Excel files or databases and automatically enters the required information into target forms. It performs field validation, handles exceptions, and ensures reliable submission of data without human intervention. The automation process improves speed, accuracy, and consistency while reducing manual workload.

The system is built with a user-friendly workflow in UiPath Studio, incorporating error handling mechanisms and logging features for monitoring performance. The bot can be scheduled to run at specific intervals, enabling continuous and unattended operation.

Overall, the Automated Form Filling Bot enhances operational efficiency, minimizes human errors, saves time, and demonstrates the practical implementation of RPA technology in real-world data entry processes.

KEYWORDS: Robotic Process Automation (RPA), UiPath Studio, Automated Form Filling, Data Entry Automation, Workflow Automation

I. INTRODUCTION

In today's digital world, organizations handle a large volume of data that must be entered into online and desktop-based forms. Manual form filling is a repetitive and time-consuming task that often leads to human errors, reduced productivity, and increased operational costs. To overcome these challenges, automation technologies such as Robotic Process Automation (RPA) are widely adopted.

This project focuses on developing an **Automated Form Filling Bot** using UiPath Studio, a leading RPA development platform. The bot is designed to automatically read input data from structured sources such as Excel files, databases, or CSV files and accurately enter the information into required forms. By automating the data entry process, the system minimizes errors, improves speed, and ensures consistency in operations.

The automation workflow includes data extraction, validation, form interaction, submission, and error handling. The bot can operate in attended or unattended mode and can be scheduled to run at specific intervals, ensuring continuous and efficient processing. Logging and reporting features are also integrated to monitor the performance and status of the automation.

The primary goal of this project is to demonstrate how RPA can streamline business processes by reducing manual intervention, saving time, and improving overall efficiency. This system can be implemented in various domains such as banking, healthcare, education, and corporate sectors where large-scale form processing is required.



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

By automating repetitive form filling tasks, the project improves efficiency, reduces manual effort, enhances accuracy, and saves time. The Automated Form Filling Bot demonstrates how RPA technology can streamline business processes and contribute to digital transformation in modern organizations

II. OBJECTIVES

The first objective of the Automated Form Filling Bot is to automate repetitive and rule-based form filling tasks using UiPath Studio. Many organizations spend significant time entering similar types of data into multiple forms daily. This project aims to replace manual effort with an automated workflow that performs data entry operations such as typing, selecting dropdown values, clicking buttons, and submitting forms efficiently. By doing so, it reduces workload and allows employees to focus on more important decision-making tasks.

The second objective is to improve operational efficiency and productivity. The bot is designed to process large volumes of data in a shorter time compared to manual entry. It can work continuously without fatigue, ensuring consistent performance throughout execution. By minimizing delays and reducing processing time, the system enhances overall business performance and helps organizations meet deadlines effectively.

Another key objective is to ensure high data accuracy and reliability. Human errors such as typing mistakes, skipped fields, or incorrect entries can affect business operations. The bot is programmed to follow predefined rules and validation checks before submitting any form. It verifies mandatory fields, ensures proper data formats (such as date, email, or numeric values), and handles exceptions systematically. This improves data quality and reduces the need for rework or corrections.

The project also aims to implement strong error handling and exception management. During automation, issues such as system downtime, internet connectivity problems, or unexpected pop-ups may occur. The bot is designed to detect such exceptions, log them, and either retry the process or notify the user. This ensures reliability and smooth execution of the automation workflow even in unpredictable situations

Additionally, the objective includes developing a scalable and flexible automation framework. The bot can be modified or extended to work with different applications, websites, or form structures with minimal changes. It supports both attended automation (user-assisted) and unattended automation (fully autonomous execution), making it suitable for small-scale as well as enterprise-level implementations.

Finally, the project aims to demonstrate the practical application of Robotic Process Automation (RPA) in real-world scenarios. By building this Automated Form Filling Bot, the system showcases how automation technology can reduce operational costs, enhance efficiency, support digital transformation, and provide a competitive advantage to organizations in today's fast-paced digital environment.

III. EXISTING SYSTEM

In the existing system, form filling activities are performed manually by employees without the use of automation tools like UiPath Studio. Data is typically collected from multiple sources such as Excel sheets, emails, paper documents, or internal software systems. Employees must manually open the required application or website, read the data, and enter it field by field into the form. This traditional approach depends entirely on human effort and attention.

The manual process is highly repetitive and consumes a significant amount of time, especially when handling bulk data. For example, in organizations that process hundreds or thousands of forms daily, employees must repeatedly perform similar actions such as typing names, addresses, contact details, selecting options from dropdown menus, and uploading files. This repetition can lead to fatigue, which directly impacts efficiency and speed.

Another major limitation of the existing system is the increased risk of human errors. Common mistakes include incorrect data entry, duplication of records, missing mandatory fields, wrong date formats, or incorrect selection of options. Such errors can result in rejected forms, compliance issues, or incorrect data storage. Detecting and correcting these mistakes requires additional verification processes, increasing operational workload and costs.



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

The existing system also lacks automation-based validation and intelligent error handling. If a system crash, internet issue, or unexpected pop-up occurs, the entire process must be restarted manually. There is no automatic retry mechanism or structured exception handling. Additionally, tracking completed submissions or maintaining logs requires separate manual documentation, which further increases effort.

Security and data management are also concerns in the manual system. Sensitive information may be exposed during manual handling, and there is no structured mechanism to ensure secure processing or restricted access. Moreover, manual systems cannot operate 24/7, limiting productivity to working hours only.

IV. METHODOLOGY

The methodology adopted for developing the Automated Form Filling Bot using UiPath Studio follows a systematic and structured development life cycle. The process begins with a detailed study of the existing manual system to understand how data is collected, processed, and entered into forms. During this phase, all functional requirements are gathered, including the type of forms involved, input data sources such as Excel files or databases, mandatory fields, validation rules, and expected outputs. This requirement analysis helps in clearly defining the scope and limitations of the automation project.

After gathering requirements, the next step involves process design and planning. In this stage, the complete workflow of the bot is designed using flowcharts and structured logic. Each step of the manual process is converted into an automated action sequence, such as opening the application, reading input data, entering values into respective fields, selecting options, validating data, and submitting the form. Decision points and possible exception scenarios are also identified and incorporated into the design. Proper planning at this stage ensures that the automation workflow remains organized, efficient, and scalable.

Once the design is finalized, the development phase begins in UiPath Studio. The automation is built using drag-and-drop activities provided by the platform. Activities such as reading Excel files, looping through records, interacting with user interface elements, and applying conditional logic are implemented carefully. The bot is developed in a modular structure to improve readability and maintainability. Variables and arguments are used to manage data flow within the workflow. Attention is given to timing issues, selectors, and synchronization to ensure accurate interaction with the target application or website.

Exception handling and validation mechanisms form an important part of the methodology. The bot includes structured error handling using Try-Catch blocks and conditional checks to manage unexpected situations such as missing data, invalid input formats, network failures, or system errors. Logging activities are integrated to record execution details, errors, and process completion status. This ensures transparency and easier debugging in case of issues.

V. RESULT AND DISCUSSION

The implementation of the Automated Form Filling Bot using UiPath Studio produced significant improvements in speed and efficiency compared to the existing manual system. The bot was able to process and submit forms in a much shorter time, handling multiple records continuously without interruption. Tasks that previously required several hours of manual effort were completed within minutes through automation. This demonstrates the effectiveness of Robotic Process Automation (RPA) in reducing operational time.

Another important result observed was improved data accuracy and consistency. Since the bot follows predefined rules and validation checks, errors such as incorrect typing, missing fields, or wrong data formats were significantly reduced. The automated workflow ensured that all mandatory fields were filled correctly before submission. This minimized form rejections and reduced the need for rework, thereby improving the overall reliability of the data entry process.

The project also showed strong performance in terms of error handling and system reliability. The implementation of exception handling mechanisms allowed the bot to detect and manage unexpected issues such as system delays or invalid inputs. Logging features provided clear records of successful submissions and failed attempts, which made monitoring and troubleshooting easier. This level of transparency was not available in the manual system and contributed to better process control.



International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

From a practical perspective, the discussion highlights that the automated system is scalable and adaptable. The bot can be modified to handle different types of forms with minimal changes in the workflow. It can operate in both attended and unattended modes, making it suitable for various organizational needs. Overall, the results confirm that automation improves productivity, reduces human dependency, and supports digital transformation initiatives.

VI. CONCLUSION

The Automated Form Filling Bot developed using UiPath Studio successfully demonstrates how Robotic Process Automation can replace repetitive manual data entry tasks with a faster, more accurate, and reliable automated solution. The bot efficiently reads structured data, fills required form fields, applies validation checks, and handles exceptions, significantly reducing human errors and processing time. By improving productivity, ensuring data consistency, and enabling continuous operation, the system proves to be a scalable and cost-effective approach for modern organizations seeking digital transformation and operational efficiency.

REFERENCE

1. UiPath Studio – Official Documentation. *UiPath Documentation Portal*. Available at: <https://docs.uipath.com>
2. UiPath (2023). *Introduction to Robotic Process Automation (RPA)*. Available at: <https://www.uipath.com>
3. Davenport, T. H., & Ronanki, R. (2018). *Artificial Intelligence for the Real World*. Harvard Business Review.
4. Aguirre, S., & Rodriguez, A. (2017). *Automation of a Business Process Using Robotic Process Automation (RPA): A Case Study*. IEEE International Conference on Engineering, Technology and Innovation.
5. Willcocks, L., Lacity, M., & Craig, A. (2015). *The IT Function and Robotic Process Automation*. The Outsourcing Unit Working Research Paper Series, London School of Economics.
6. Excel Automation Activities – UiPath Activities Guide. Available in UiPath Official Documentation.



INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com