



Introduction to
Robotic Process Automation

Train Tracking Bot

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Abstract

- An efficient train tracking bot is designed to streamline and enhance the monitoring of railway systems. Leveraging advanced algorithms and real-time data analytics, the bot provides instant updates on train locations, departure and arrival times, and potential delays. Through seamless integration with existing infrastructure, it optimizes resource allocation, improves operational efficiency, and ultimately ensures a smoother and more reliable rail transport experience.

Need for the Proposed System

- The proposed train tracking bot system is essential to enhance the efficiency and safety of railway operations by providing real-time monitoring and management of train movements. By leveraging advanced technologies such as machine learning and data analytics, the system can offer precise and up-to-date information on train schedules, locations, and potential delays, enabling prompt responses to any potential issues. Additionally, it can improve communication between railway staff, passengers, and relevant stakeholders, ensuring a streamlined and reliable travel experience while minimizing the risks associated with train travel.

Advantages of the Proposed System

- The proposed train tracking bot system is essential to enhance the efficiency and safety of railway operations by providing real-time monitoring and management of train movements. By leveraging advanced technologies such as machine learning and data analytics, the system can offer precise and up-to-date information on train schedules, locations, and potential delays, enabling prompt responses to any potential issues. Additionally, it can improve communication between railway staff, passengers, and relevant stakeholders, ensuring a streamlined and reliable travel experience while minimizing the risks associated with train travel.

Literature Survey

- https://www.researchgate.net/publication/289877729_Streaming_availability_and_library_circulation_An_exploratory_study

Advantages

- User Experience Improvement
- Resource Allocation
- Meeting Evolving User Needs

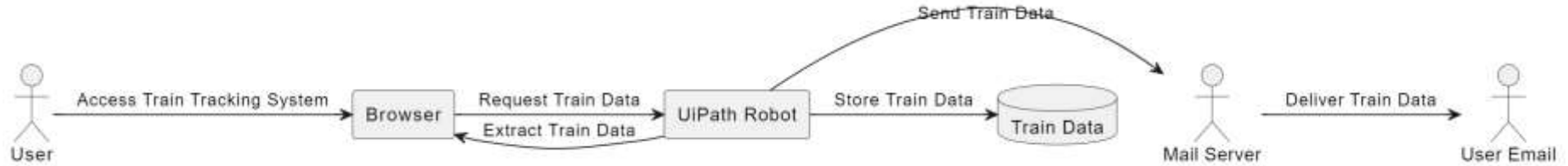
Disadvantages

- Generalizability
- Limited Streaming Service Coverage

Main Objective

- The main objective of presenting "Train Tracking Bot Using UiPath" is to showcase how UiPath, as an RPA tool, revolutionizes train tracking systems by automating processes that traditionally require manual intervention. This presentation aims to highlight the seamless integration of UiPath into train tracking workflows, emphasizing its ability to enhance accuracy, optimize efficiency, and reduce operational costs. By demonstrating specific use cases, illustrating the bot's workflow, and discussing its tangible benefits, the objective is to underscore how UiPath empowers transportation systems to achieve greater reliability, precision, and scalability in monitoring and managing train movements.

Architecture



System Requirements

Hardware Requirements:

Processor: A multi-core processor to handle concurrent requests efficiently.

Memory (RAM): At least 8 GB of RAM to ensure smooth performance, especially when dealing with large datasets or multiple streaming platforms.

Storage: SSD storage is recommended for faster data retrieval.

Software Requirements:

Operating System: The checker should be compatible with common operating systems like Windows, macOS, and Linux.

Web Browser: Compatibility with major web browsers for user interfaces or browser extensions.

Functional Description

DFD / Activity Diagram

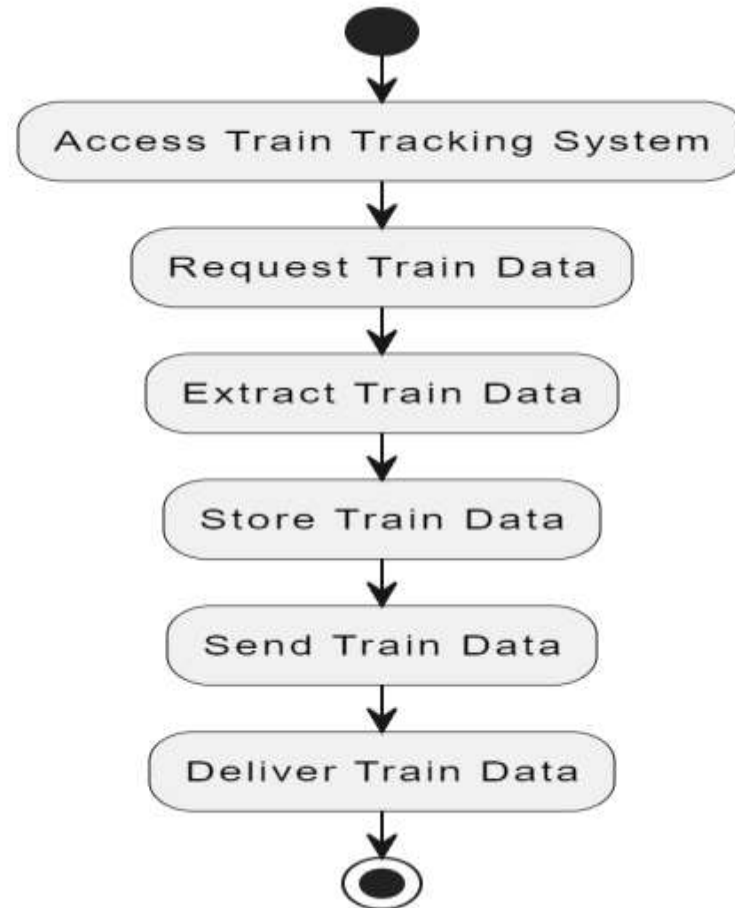
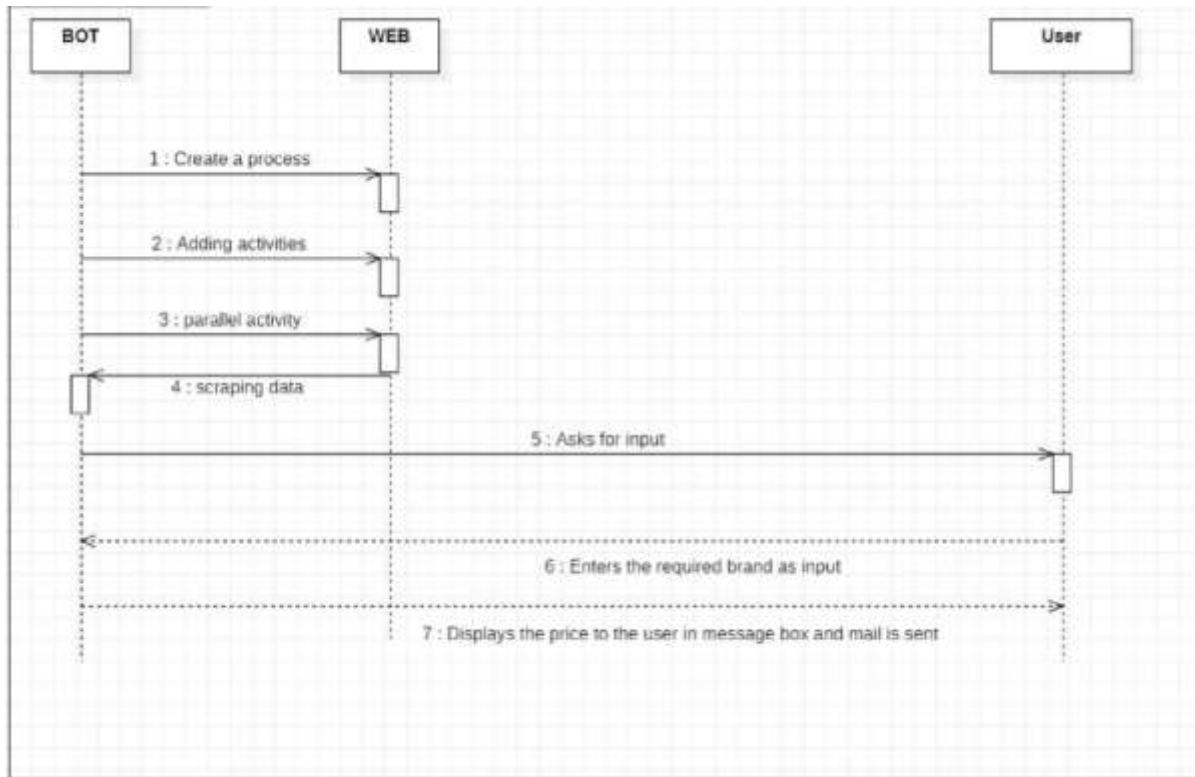


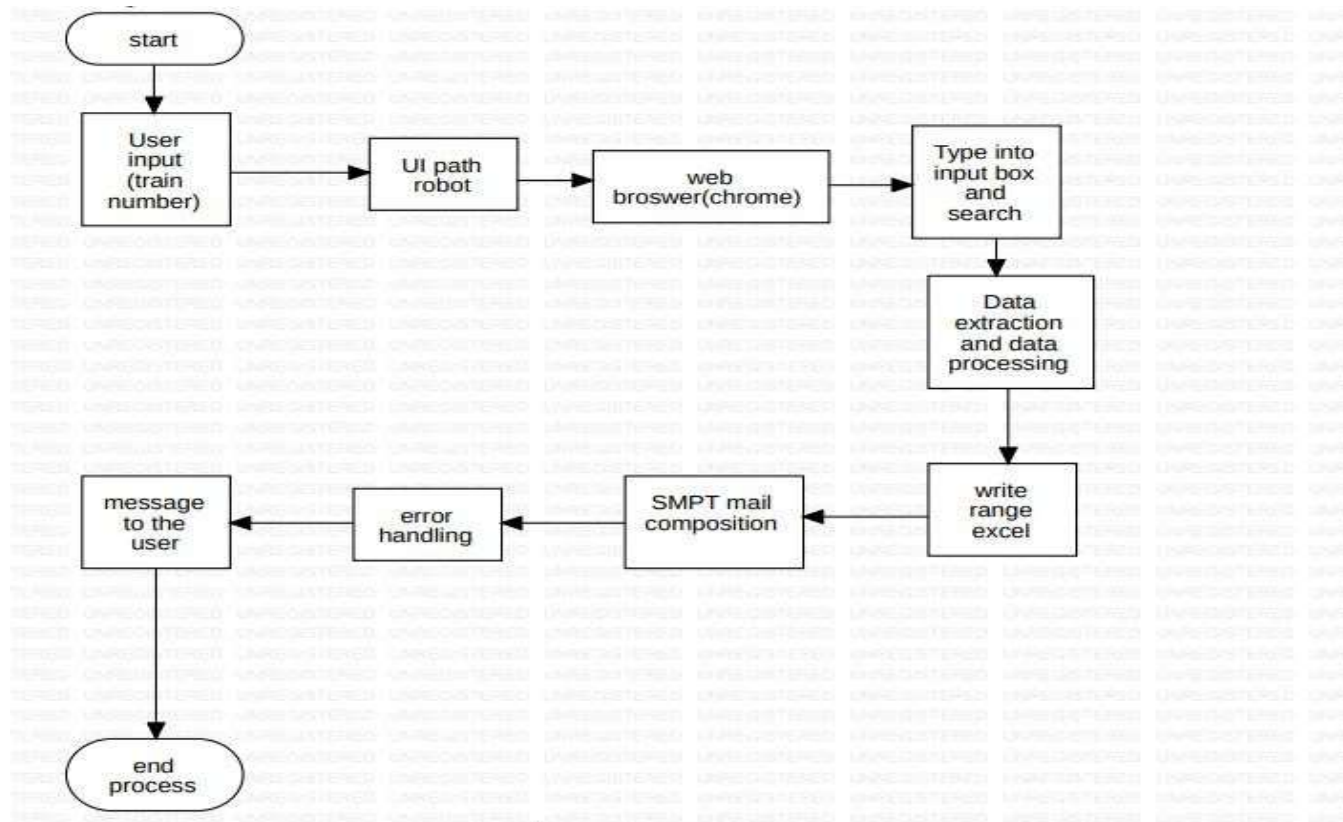
Table Design

- ERD



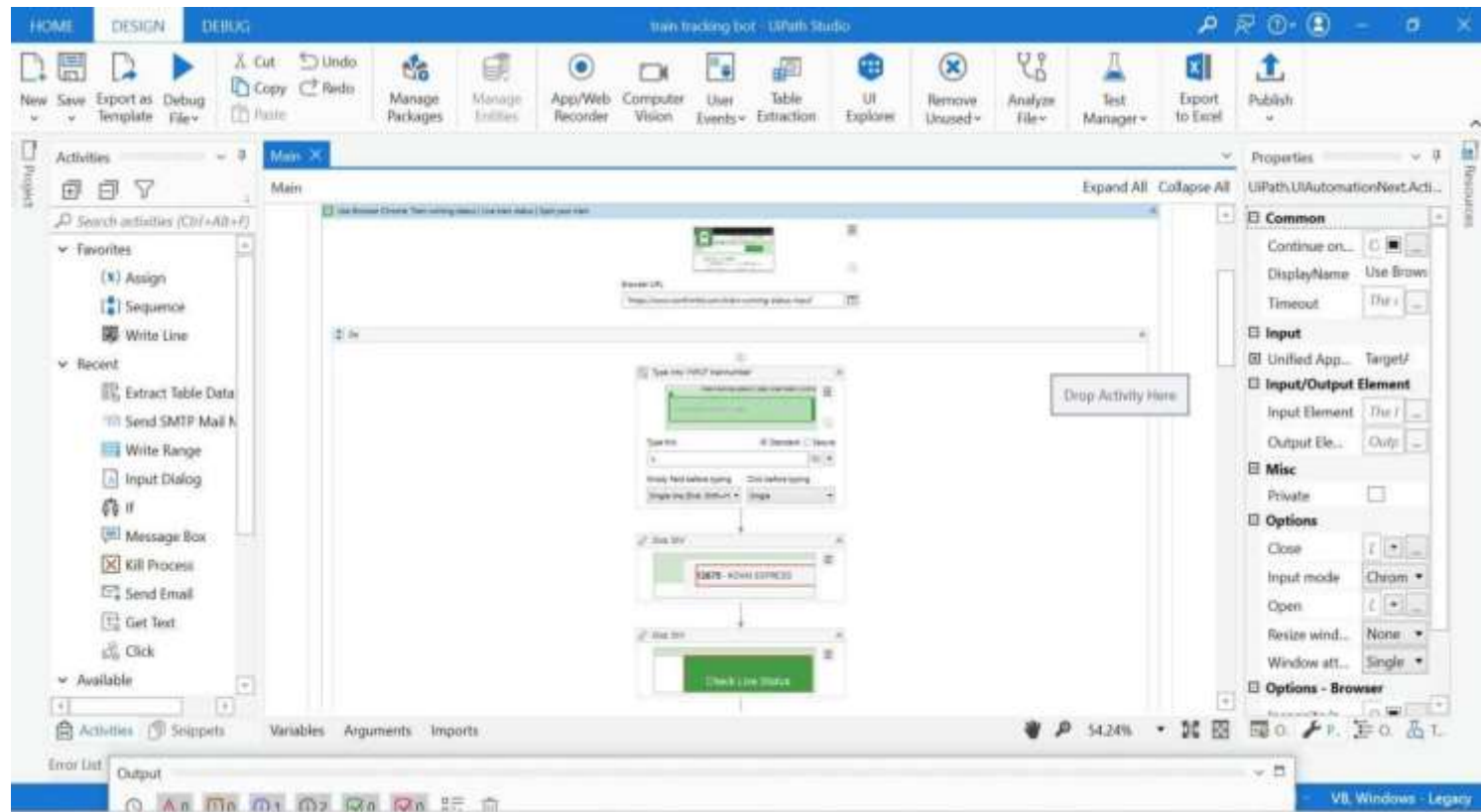
Process Design

- Main Process

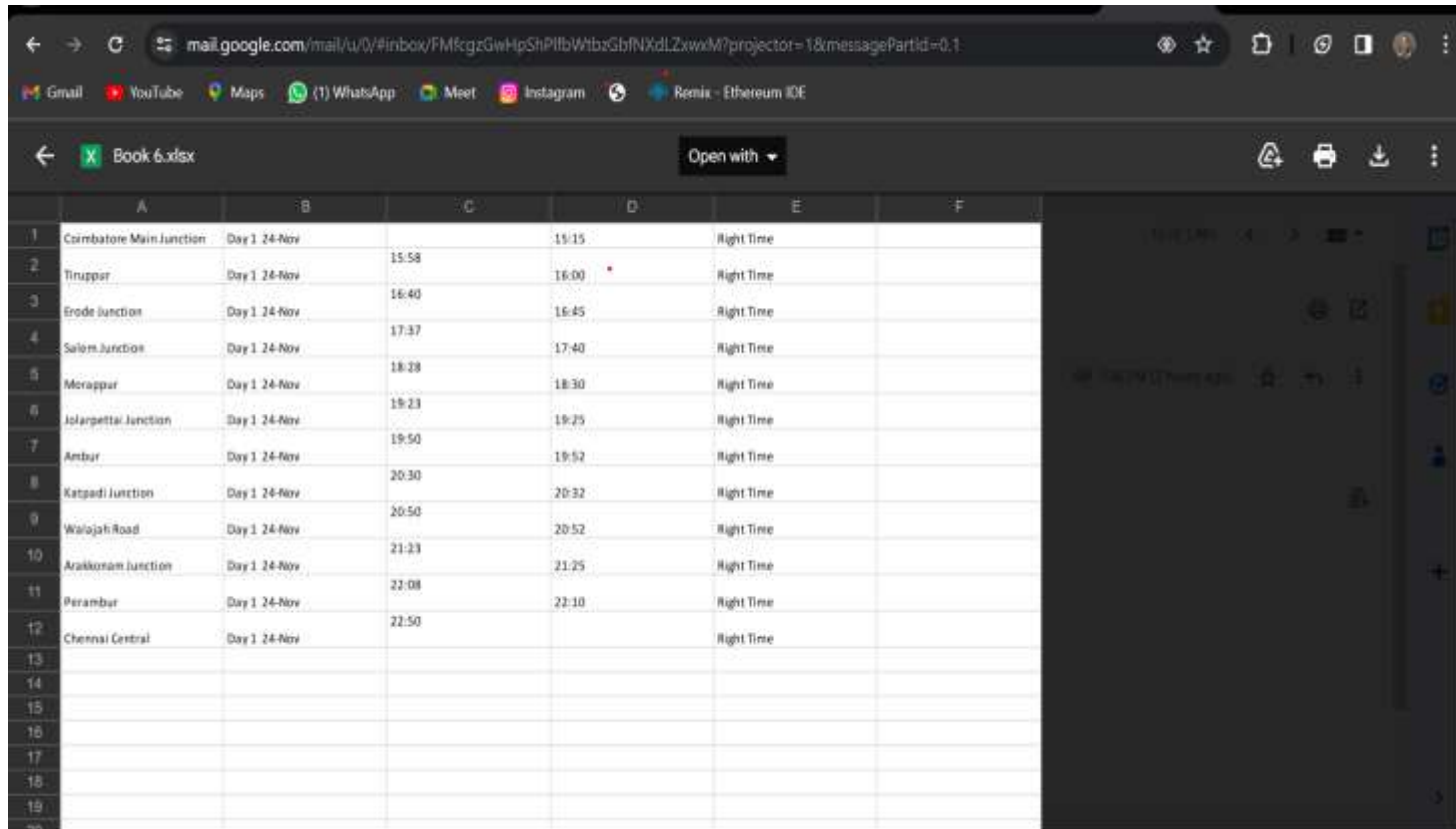


Implementation

- Implementation



Testing



The screenshot shows a web browser window with a Google Mail interface. An Excel spreadsheet titled "Book 6.xlsx" is open, displaying a train schedule for Day 1, 24-Nov. The spreadsheet has columns for station names, dates, arrival times, departure times, and right times. The data is as follows:

| | A | B | C | D | E | F |
|----|--------------------------|--------------|-------|-------|------------|---|
| 1 | Coimbatore Main Junction | Day 1 24-Nov | | 15:15 | Right Time | |
| 2 | Tiruppur | Day 1 24-Nov | 15:58 | 16:00 | Right Time | |
| 3 | Erode Junction | Day 1 24-Nov | 16:40 | 16:45 | Right Time | |
| 4 | Salem Junction | Day 1 24-Nov | 17:37 | 17:40 | Right Time | |
| 5 | Morappur | Day 1 24-Nov | 18:28 | 18:30 | Right Time | |
| 6 | Jolarpettai Junction | Day 1 24-Nov | 19:23 | 19:25 | Right Time | |
| 7 | Ambur | Day 1 24-Nov | 19:50 | 19:52 | Right Time | |
| 8 | Katpadi Junction | Day 1 24-Nov | 20:30 | 20:32 | Right Time | |
| 9 | Walajah Road | Day 1 24-Nov | 20:50 | 20:52 | Right Time | |
| 10 | Arakkonam Junction | Day 1 24-Nov | 21:23 | 21:25 | Right Time | |
| 11 | Perambur | Day 1 24-Nov | 22:08 | 22:10 | Right Time | |
| 12 | Chennai Central | Day 1 24-Nov | 22:50 | | Right Time | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |

Conclusions

- The implementation of the train tracking bot using UiPath marks a significant advancement in automating data extraction and dissemination from train tracking websites. This project successfully streamlined the process by efficiently extracting relevant information, processing it into an Excel format, and delivering concise, accurate updates to users via email. The achieved efficiency gains, accuracy improvements, and enhanced accessibility underscore the transformative potential of automation. Looking ahead, opportunities exist to further enrich reporting capabilities, enable real-time updates, and incorporate user interaction, setting the stage for continued evolution and optimization of this innovative solution.

Future Enhancement

- **AI-Powered Recommendations:** Implement AI algorithms to suggest optimized routes, maintenance schedules, or operational decisions based on data analysis.
- **Automated Response Systems:** Develop automated response mechanisms for immediate action in case of emergencies or critical events.
- **Share details through various source:** Developing the Bot to share data through various source like whatsapp,sms.

References

- [Smith, John. (Year)]. "The Rise of Video Streaming Services." Journal of Media Studies, vol. 30, no. 2, pp 45-60.
- Kim, Y., & Lee, H. (2020). "Enhancing Communication in Educational Tools through Email Integration." International Journal of Educational Technology, 48(1), 56-72.
- Patel, R., & Gupta, S. (2019). "Enhancing Accessibility and Usability of Scholarship Management Systems." International Journal of Information Technology in Education, 6(2), 87-102.

Queries

Demonstration

Thank You