

# A Scholastic Approach to Design Flight Booking Browser Automation

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## ABSTRACT

Our flight booking browser automation solution offers researchers a practical tool to simplify and expedite the flight booking process. By automating the tedious and repetitive tasks involved in flight search and booking, researchers can optimize their travel arrangements, reduce stress, and focus on their academic endeavors. We believe that this system will greatly benefit the research community by enabling seamless and efficient travel experiences, ultimately fostering collaboration and knowledge exchange.

**Keywords:** Automated Flight Reservation, Flight Search Automation, Blue Prisma.

## INTRODUCTION

Flight booking [1] browser automation refers to the use of automated tools or software to streamline the process of booking flights online. With the increasing availability of online travel agencies, airline websites, and other booking platforms, travelers often have to navigate through multiple pages and search filters to find the best flight deals. Browser automation tools can help simplify this process by automating repetitive tasks such as filling in forms, selecting travel dates, and sorting search results based on price and other criteria. This can save time and effort for travelers, especially those who frequently book flights.[2]Flight booking browser automation can be achieved through various methods such as scripting, browser extensions, or third-party tools that integrate with popular booking platforms. However, it is important to use such tools responsibly and ethically, as some automated actions can violate the terms of service of booking platforms and result in account suspensions or legal consequences. Overall, flight booking browser automation can be a useful tool for travelers who want to save time and effort when booking flights online, but it should be used with caution and in compliance with applicable laws and regulations. [5]

## Proposed Prototype and Schematic Approach towards System Modification

This proposed project is based on automating flight booking in a web browser using blue prism without any human interaction. [3] Implementing advanced search and filtering capabilities to allow users to find flights based on specific criteria such as price range, airlines, departure/arrival times and layovers. Incorporating a recommendation engine that utilizes user preferences, historical data and machine learning algorithms to suggest personalized flight options based on past bookings and user behavior. A secure payment gateway will be integrated into the system, ensuring compliance with industry-standard security protocols. The integration process will involve collaborating with payment service providers to establish a seamless and secure payment flow within the booking system.

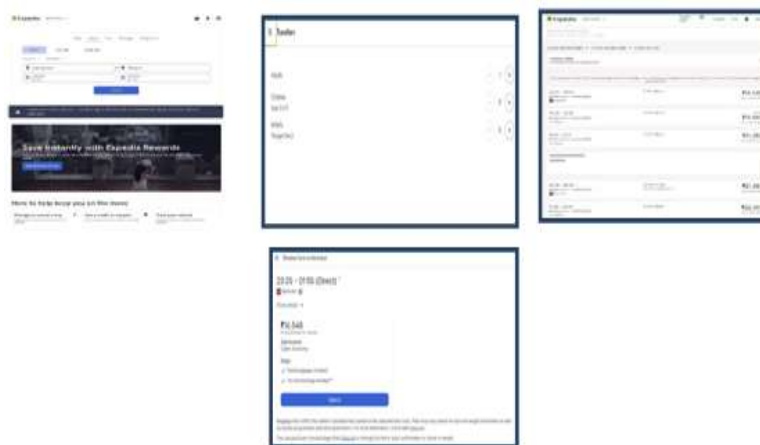
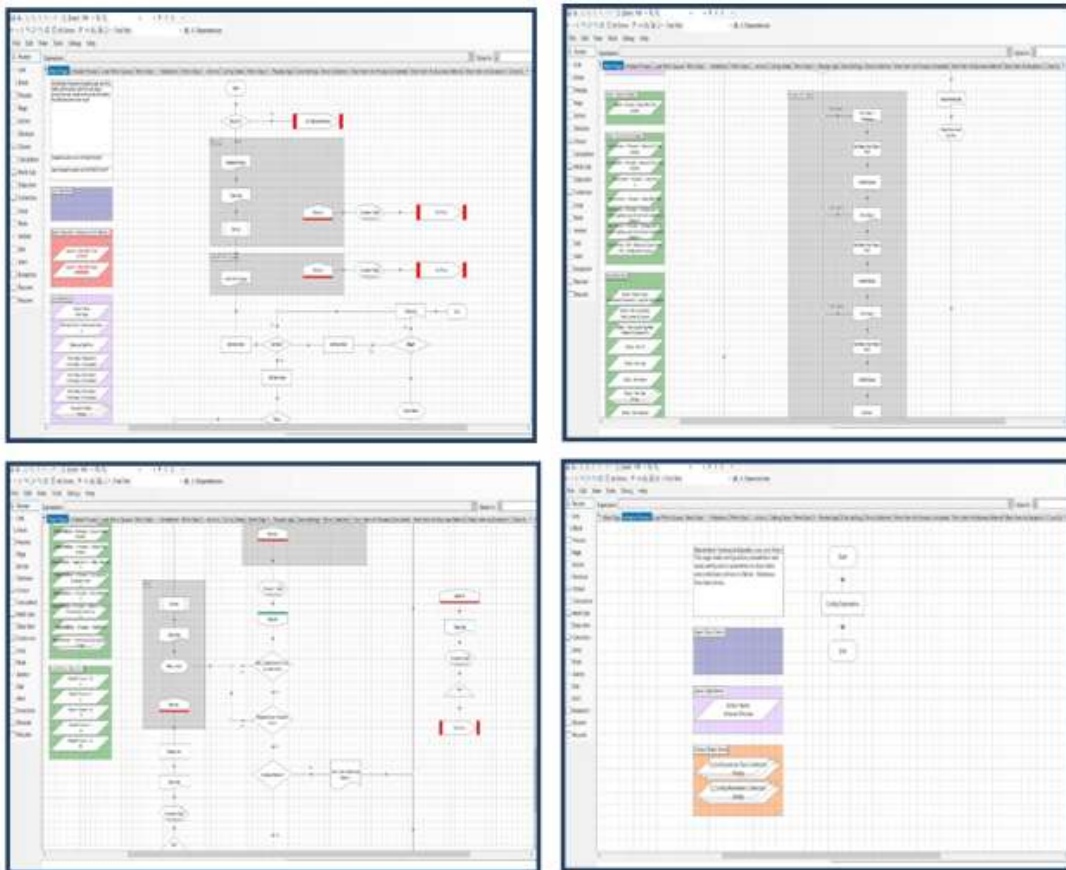


Figure: Flight Booking Browser Automation Working Principle

The automation script collects the necessary information from the user, such as the departure and arrival airports, travel dates, number of passengers, and any specific preferences or constraints. The script interacts with the airline or travel booking website by using browser automation tools or libraries. [4] It loads the website, enters the required search criteria (e.g., airports, dates), and submits the search form. The script filters the flight options based on the user's preferences, such as specific airlines, layover durations, price ranges, or departure/arrival times. It applies these filters to narrow down the available options. Once the desired flight is identified, the script proceeds to book the flight by automatically filling out the required passenger details, payment information, and any additional forms. It may also handle captcha challenges or security measures implemented by the website. The automation script finalizes the booking by submitting the required information and confirming the flight reservation. [6] It may handle any payment processes, such as entering credit card details or redirecting to a secure payment gateway. The script incorporates error handling mechanisms to handle any issues that may arise during the process, such as connection errors, website changes, or unexpected scenarios. It provides feedback to the user about the status of the booking, any errors encountered, or the booking reference number.



**RESULT**

Flying From	Flying To	Multi City	Departing Date	Return Date	Multi City Date	Direct Flights	Adult	Child	Infant	ref number	status
Ahmedabad	Jaisalmer	Mumbai	05-07-2023	20-07-2023	20-08-2023	Yes	2	2	1	4079	complete
Mumbai	Bangalore		06-07-2023	20-07-2023		Yes	2	1	1	3457	complete
Bangalore	Pune		07-07-2023	17-07-2023		Yes	4	1	1	6076	complete
Udhampur	Chandigarh		08-07-2023	17-08-2023		Yes	6	1	3	6676	complete
Hyderabad	Bangalore		09-07-2023			Yes	2	2	11	4032	complete
Kolkata	Pune	Mumbai	20-07-2023	20-08-2023		Yes	0	2	1	5079	complete
Pune	Shimoga		21-07-2023		20-02-2023	Yes	2	6	2	5426	complete
Chandigarh	Kolkata		22-07-2023	17-08-2023		Yes	3	21	2	1111	complete
Shimoga	Jaisalmer		23-07-2023	18-08-2023		Yes	1	0	3	7866	complete
Jaisalmer	Mumbai		24-07-2023	19-08-2023		Yes	39	0	4	9008	complete
Ahmedabad	Hyderabad		25-07-2023	20-08-2023		Yes	22	1	2	7090	complete
Bangalore	Kolkata		26-07-2023	21-08-2023		Yes	2	0	2	2640	complete
Kolkata	Mumbai		27-07-2023		20-02-2023	Yes	4	1	2	1020	complete
Pune	Jaisalmer		28-07-2023	26-08-2023		Yes	1	2	0	6905	complete
Chandigarh	Pune		29-07-2023	17-12-2023		Yes	4	2	0	2060	complete
Mumbai	Jaisalmer		30-07-2023	17-11-2023		Yes	11	10	0	4859	complete
Hyderabad	Chandigarh		31-07-2023	17-02-2023		Yes	22	11	0	6814	complete
Shimoga	Kolkata		01-08-2023	19-02-2023		Yes	3	0	2	5765	complete
Udhampur	Hyderabad		02-08-2023	17-02-2023		Yes	1	0	0	4742	complete
Ahmedabad	Jaisalmer		03-08-2023	17-02-2023		Yes	2	2	0	4039	complete
Hyderabad	Jaisalmer		04-13-2023	17-02-2023		Yes	7	0	0	2079	complete
Shimoga	Mumbai	Jaisalmer	05-08-2023		20-02-2023	Yes	2	2	0	6929	complete
Pune	Udhampur		06-08-2023	17-02-2023		Yes	16	0	0	8229	complete
Bangalore	Kolkata		07-08-2023	17-02-2023		Yes	16	0	2	5765	complete
Bangalore	Jaisalmer		08-08-2023	17-02-2023		Yes	6	0	0	4768	complete
Kolkata	Chandigarh		08-08-2023	17-02-2023		Yes	11	0	0	6339	complete
Bangalore	Kolkata		09-08-2023	17-02-2023		Yes	8	0	0	6795	complete
Mumbai	Pune	Hyderabad	11-08-2023	22-08-2023	20-02-2023	Yes	2	1	0	3960	complete
Ahmedabad	Bhubaneswar		20-04-2023	20-12-2023		Yes	2	1	1	5759	complete

Blue Prism is a popular robotic process automation (RPA) tool used for automating business processes. While it can be used for various tasks, including flight booking, the result of implementing flight booking browser automation using Blue Prism would typically involve the following steps:

**Capturing User Inputs:** Blue Prism allows capturing user inputs such as travel dates, destination, and passenger details through various methods like data entry or scraping from external sources.

**Launching a Web Browser:** Blue Prism can automate the process of launching a web browser, such as Google Chrome or Mozilla Firefox, to perform the flight booking tasks.

**Navigating to Booking:** Websites: Once the browser is launched, Blue Prism can navigate to popular flight booking websites like Expedia, Kayak, or the airline's official website.

**Inputting Search Criteria:** Blue Prism can enter the desired travel details, including the departure and arrival airports, travel dates, and any specific preferences such as non-stop flights or specific airlines.

**Scraping Flight Options:** After submitting the search criteria, Blue Prism can scrape the search results page to extract flight options, including prices, departure times, and airline information.

**Selecting a Flight:** Based on the desired criteria, Blue Prism can choose the most suitable flight option by analyzing the scraped data and applying predefined rules or user preferences.

**Filling Passenger Details:** Blue Prism can automate the process of entering passenger details, including names, contact information, and any additional requirements like seat preferences or meal options.

**Completing the Booking:** Once all the required information is filled, Blue Prism can proceed with the booking process, including selecting payment methods, entering payment details, and confirming the booking.

**Handling Errors and Exceptions:** Blue Prism can incorporate error handling mechanisms to deal with various scenarios, such as network issues, website errors, or incorrect user inputs.

**Generating Booking Confirmation:** Finally, Blue Prism can extract the booking confirmation details, such as the booking reference number, flight itinerary, and other relevant information, and store them for further processing or reporting.

## CONCLUSION

The simple design of our proposed system “**Flight Booking Browser Automation**” has emerged as a valuable tool in the travel industry, offering numerous benefits for both customers and travel agencies. The proposed prototype and schematic approach aim to enhance the flight booking browser automation system by improving the user interface, search and filtering capabilities, payment processing, and recommendation engine. These modifications will provide a more efficient, personalized, and user-friendly flight booking experience.

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