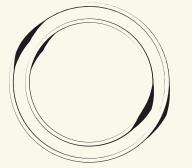
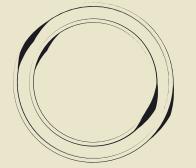


# Automated Automobile Analysis

Presented by KE Group-2



# Team Members



Triple A Company

Yin Yin Kyaw  
4KE-1287



Naing Soe Htut  
4KE-1302



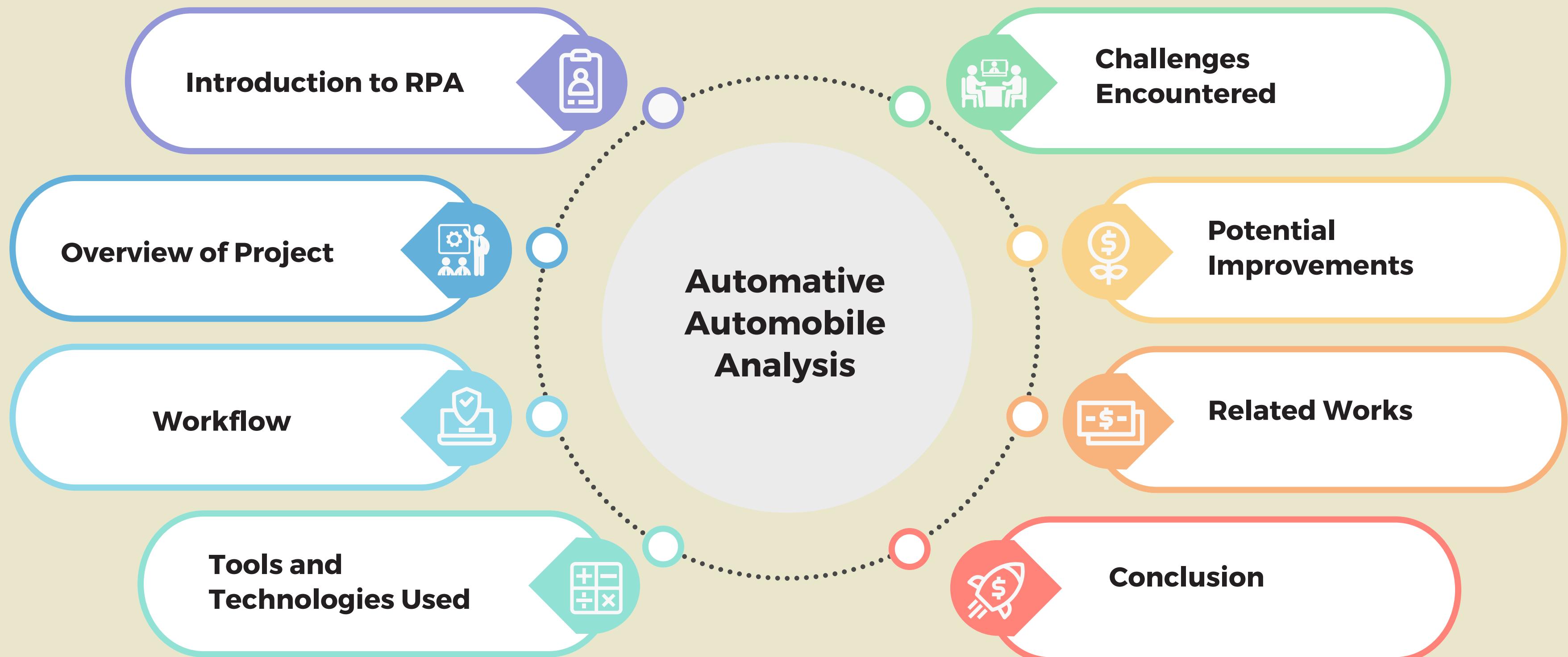
Htay Lwin  
4KE-1370



Khin Kg Nge  
4KE-1213



# OBJECTIVES



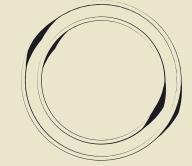
# Introduction

## Concept of RPA

RPA is a technology that allows organizations to automate repetitive tasks by using software robots or "bots." These bots mimic human actions and interact with digital systems and applications.



# Overview of AAA



- This project automates the process of extracting, processing, and visualizing used car data from multiple websites.
- Reduce manual effort and speed up the process of gathering insights, turning raw data into actionable information
- The final output is a professionally formatted PDF report containing visualized data, which is automatically shared via email.

# Workflow

01

## DATA EXTRACTION

- Automated retrieval of used car listings from two different websites.
- Ensuring accurate and up-to-date data collection through web scraping.



02

## DATA CONVERSION

- Extracted data is cleaned and formatted into a CSV file.
- This conversion makes the data usable for further analysis and visualization.



03

## DATA VISUALIZATION

- Using the cleaned data to generate visual insights, such as trends, comparisons, and market analysis, through charts and graphs.



04

## PDF GENERATION

- The visualized data is converted into a structured PDF report using Nodejs's PDFKit

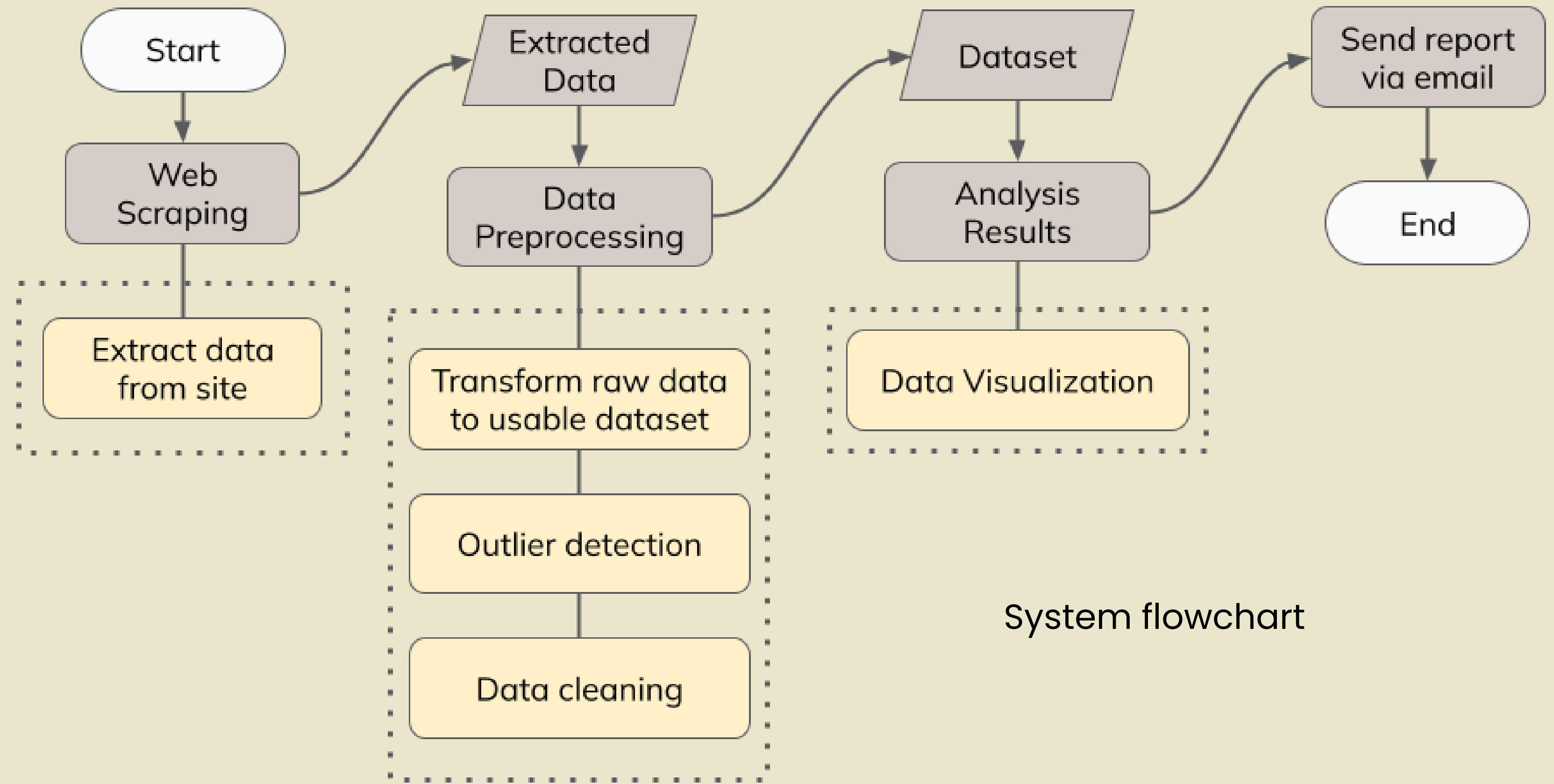


05

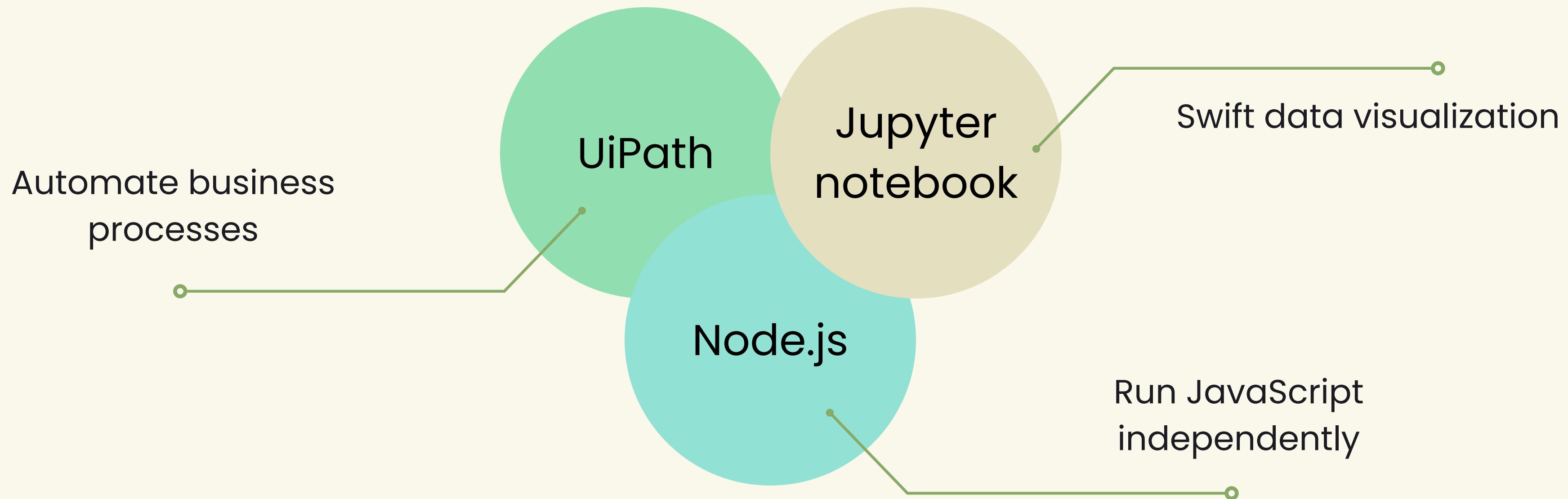
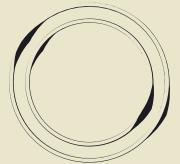
## SHARING THE RESULTS

- The PDF report is automatically sent via email to specified recipients.
- Integration with Outlook ensures seamless delivery.





# Tools and Technologies Used



# CHALLENGES ENCOUNTERED



## Dynamic Web Content

Some websites used dynamic loading techniques (e.g., AJAX), making it difficult to extract data



## Captcha and Security Blocks

Certain websites had security features such as CAPTCHAs and IP blocks that restricted data extraction.



## Inconsistent Data

Missing or inconsistent data entries made it challenging to process and prepare clean data for analysis.



## Choosing the Right Visuals

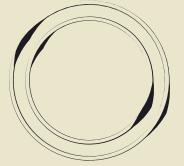
Identifying the most appropriate visualization types to represent different data points was a key challenge.



## Formatting Consistency

Ensuring that charts and graphs maintained across different formats (CSV to PDF) was difficult, especially with limited styling options.

# Potential Improvements



## Additional Functionalities

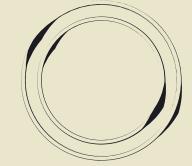
- Real-Time Data Updates
- Advanced Data Analytics
- Customizable Reports
- Improved User Interface

## Scaling for Larger Datasets

- Distributed Data Processing
- Database Integration
- Customizable Reports
- Handling Multiple Data Sources

# Automation Opportunities

## for Related Processes



Really Great  
Company

### Automating Market Research

Introduce sentiment analysis by scraping customer reviews and feedback on used car platforms to understand buyer preferences.

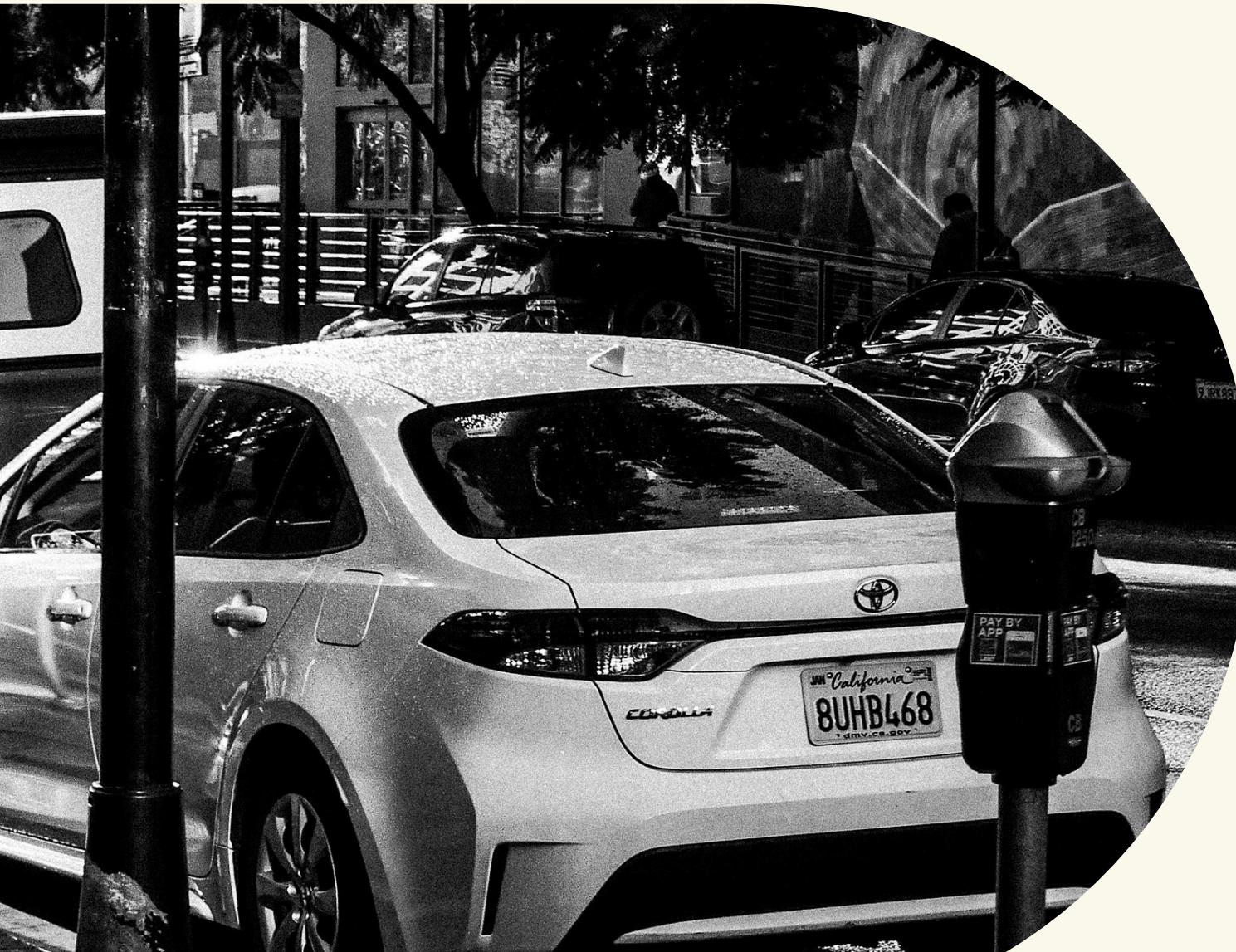
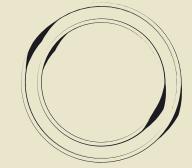
### Enhanced Reporting Automation

Integrate with CRM systems like Salesforce to automatically deliver reports to clients or sales teams.

### Inventory Management

Help car dealerships track their inventories and pricing strategies by automating the process of scraping competitor listings and adjusting their pricing accordingly.

# Conclusion



- Successfully automated the entire workflow from data extraction to report distribution.
- Integrated multiple platforms (websites, data processing tools, Node.js, email) into one cohesive automation.
- Automated workflows ensure consistent data formatting, error-free visualizations, and timely delivery of reports, leading to improved decision-making.
- Reduces labor costs associated with repetitive tasks, making the process more cost-effective over time.

# Thanks!

