Introduction to Robotic Process Automation

Spotify Player & Recommendation Bot

220701088
Harshini Akshaya A S
Mrs. J. Jinu Sophia
Assistant Professor (SG)

RAJALAKSHMI
ENGINEERING COLLEGE

Abstract

- The proposed system is a song recommendation and playback bot designed using UiPath. This bot integrates with Spotify to provide a seamless music experience. Users can input a specific artist's name or song title to search and play music directly. Alternatively, if users are unsure of what to listen to, the bot gauges their mood through predefined queries and recommends songs accordingly. By combining mood-based recommendations with direct search and playback functionality, the bot creates a personalized and efficient music experience.

Need for the Proposed System

- In the fast-paced digital era, music has become an essential medium for relaxation, motivation, and emotional expression. However, searching for suitable songs on platforms like Spotify can be time-consuming, especially when users are unsure of their preferences. The proposed system bridges this gap by offering personalized music recommendations based on mood and simplifying song playback with text-based input. This enhances user convenience, reduces decision fatigue, and tailors the music experience to individual preferences.

Advantages of the Proposed System

- **Personalization**: Delivers mood-based song recommendations, creating a unique experience for users.

- **Time-Saving**: Reduces the time spent searching for music manually.

- **Versatility**: Caters to both specific song requests and uncertain moods.

- **Automation**: Leverages UiPath's automation capabilities for seamless integration and operation.

Literature Survey

- **AUTOMATION TECHNOLOGIES IN MUSIC RECOMMENDATION**

  - Automation technologies in music recommendation systems revolutionize how music is curated and discovered. By automating data scraping tasks, these technologies enable accurate and efficient extraction of song details, reducing processing time and ensuring consistent music information flow.

- **CASE STUDIES AND PROJECTS IN AUTOMATED MUSIC RECOMMENDATION**

  - Exploring existing projects highlights how automation has enhanced music discovery and personalization. These case studies provide benchmarks and insights for refining future music recommendation systems.

Main Objective

- The primary objective is to create a bot that enhances the user experience on Spotify by automating music search and playback while offering personalized mood-based song recommendations.
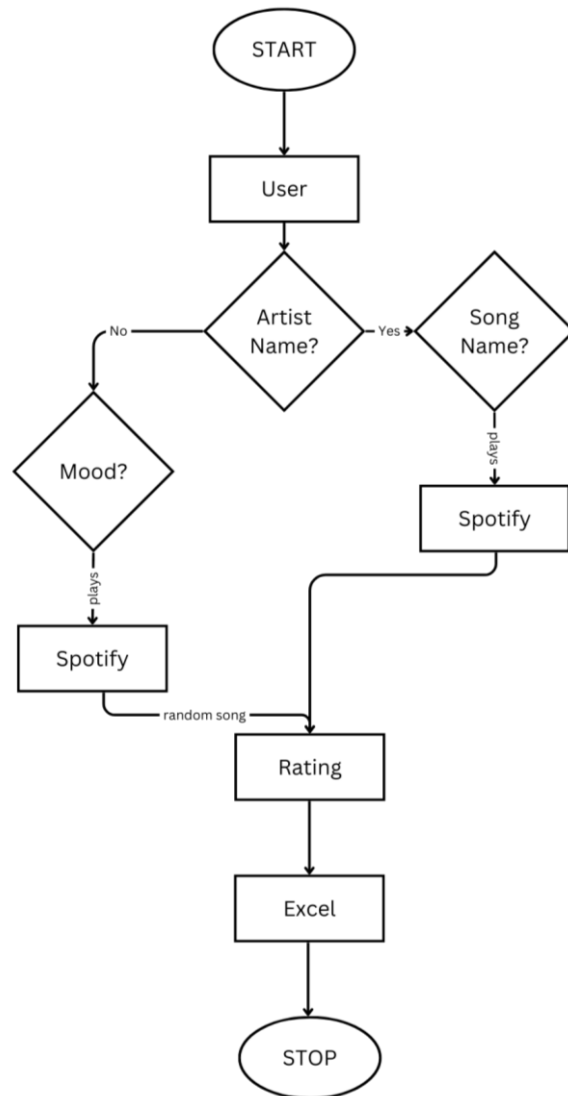
System Requirements

HARDWARE:

1. Processor: Minimum Intel i3 or equivalent.

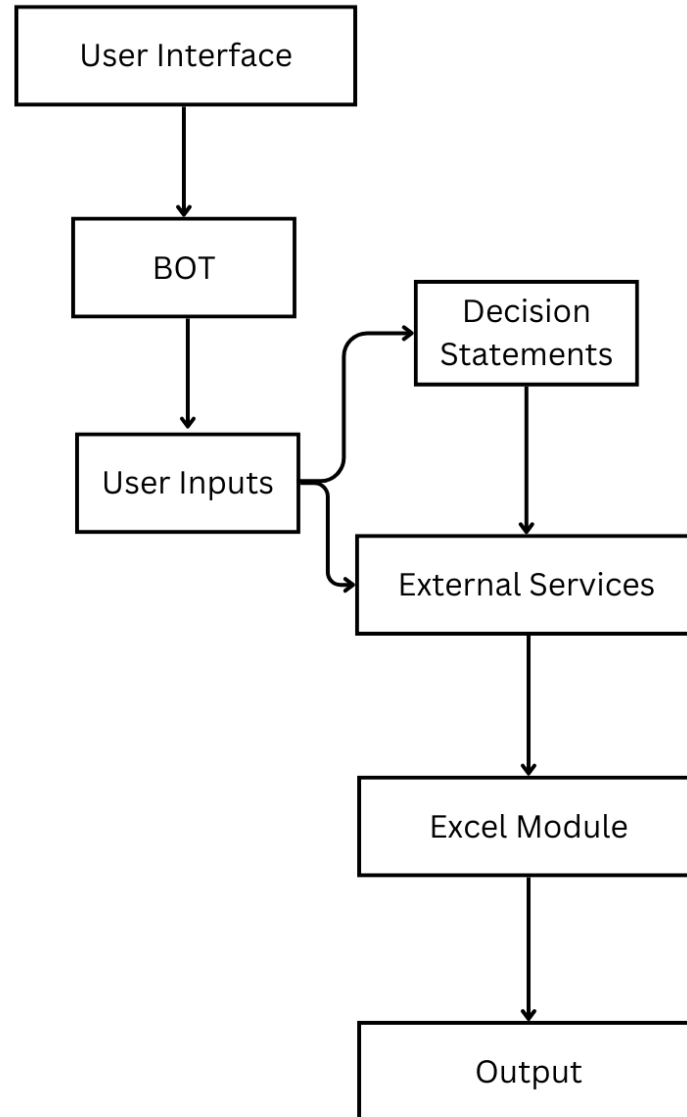2. RAM: 4GB or higher.

3. Storage: At least 10GB free space.

SOFTWARE:

1. UiPath Studio 2021.10 or later.

2. Spotify Account

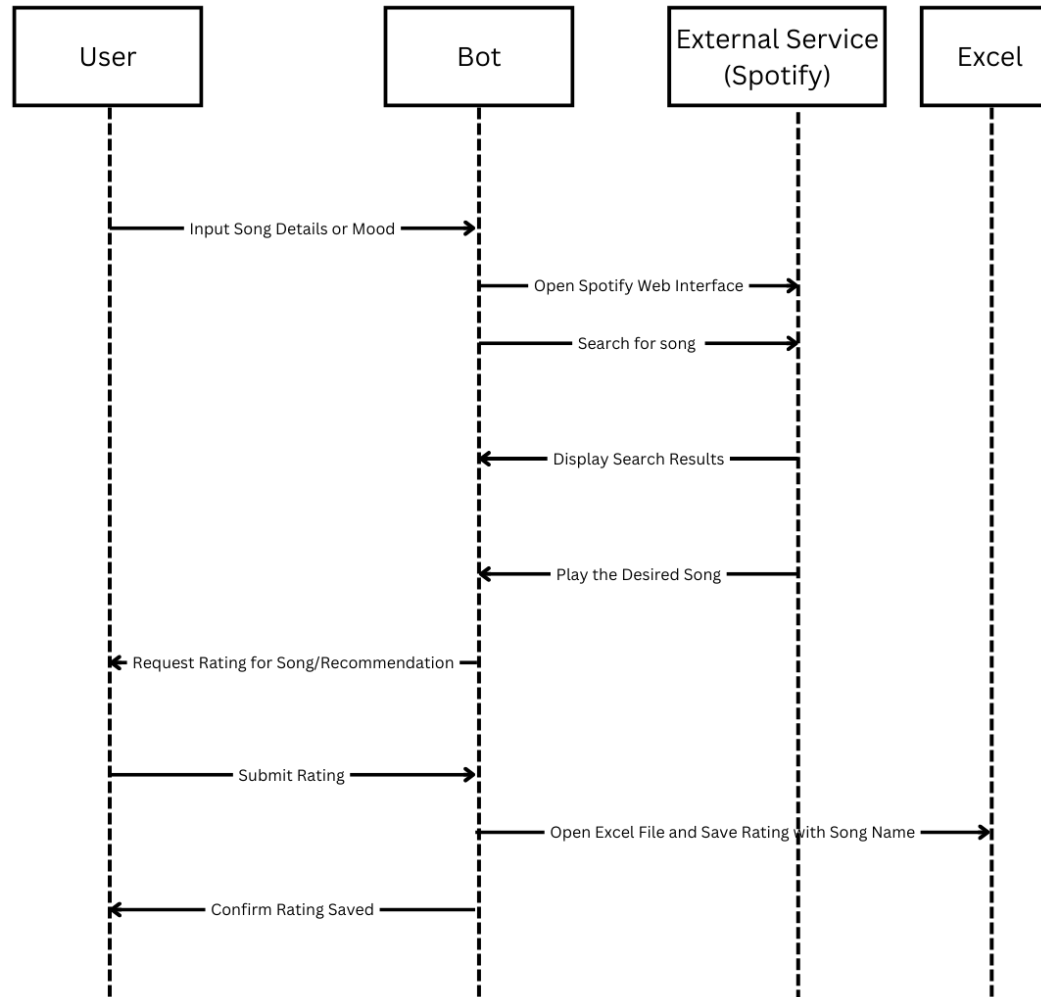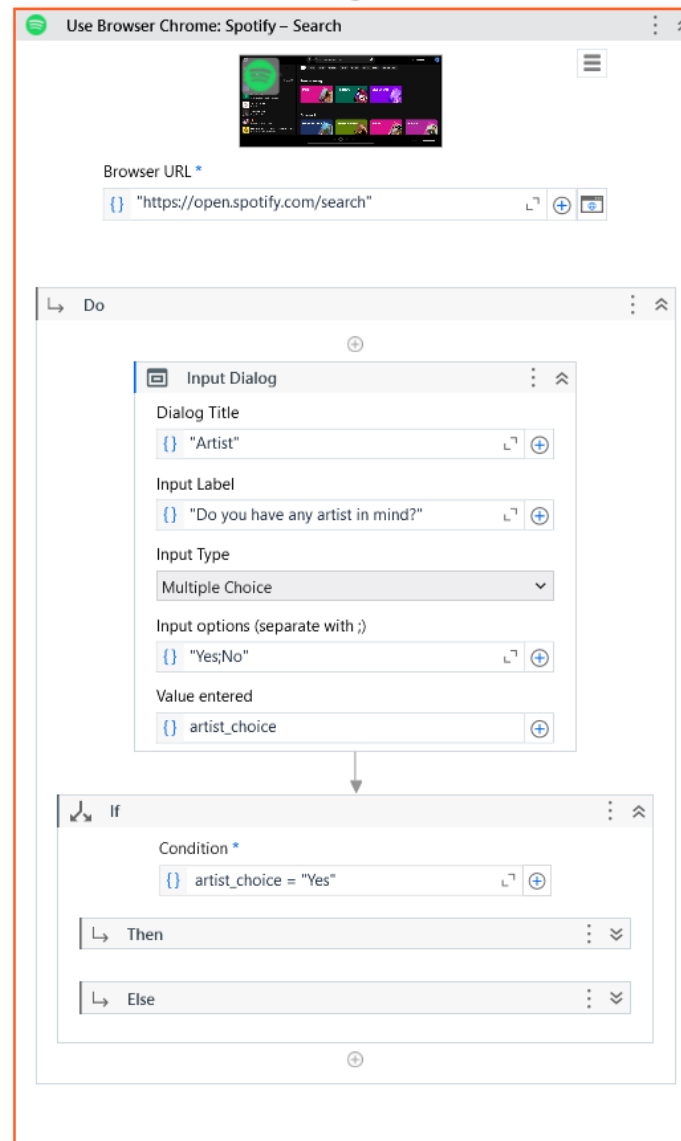3. Microsoft Windows 10 or equivalent OS.

System Flow Diagram
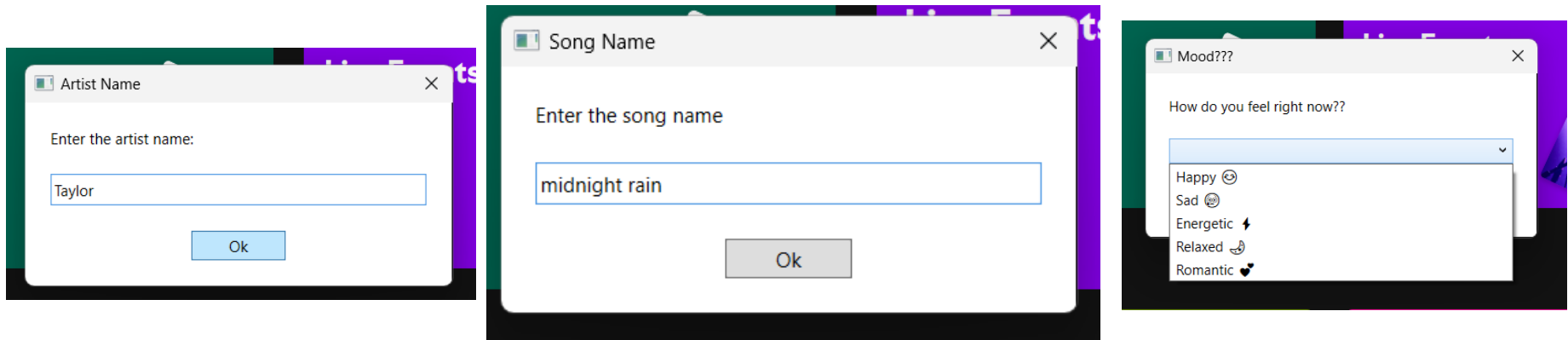
Architecture

Sequence Diagram

Process Design

Implementation of Module 1
# Input Handling and Initialization

- This module processes user input to initialize the system:

- **Song/Artist Input:** Accepts direct input of a song or artist name.

- **Mood Input:** Prompts the user for their mood if no song or artist is specified, categorizing it to suggest mood-based songs.

Implementation of Module 2
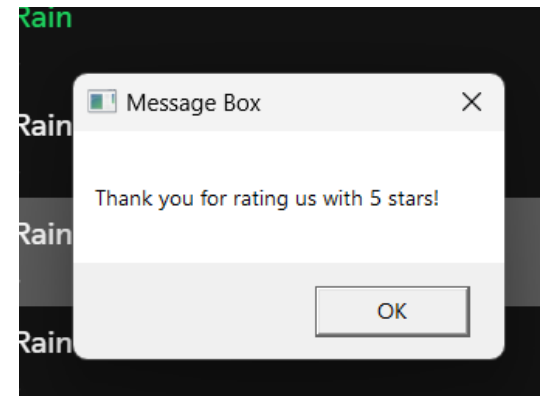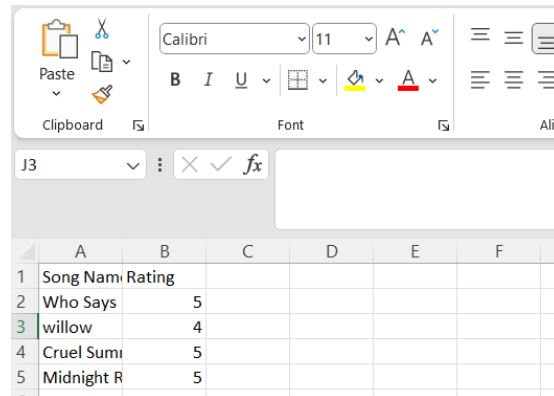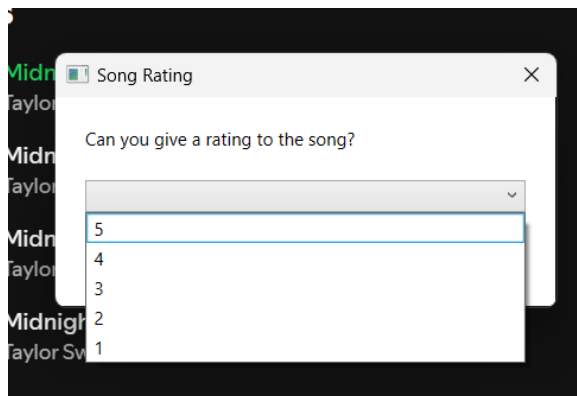# Spotify Interaction

- This module integrates with Spotify to:

- **Search and Playback:** Finds the requested song or artist on Spotify and plays it.

- **Mood Recommendations:** Analyzes the user's mood to suggest songs from predefined categories.
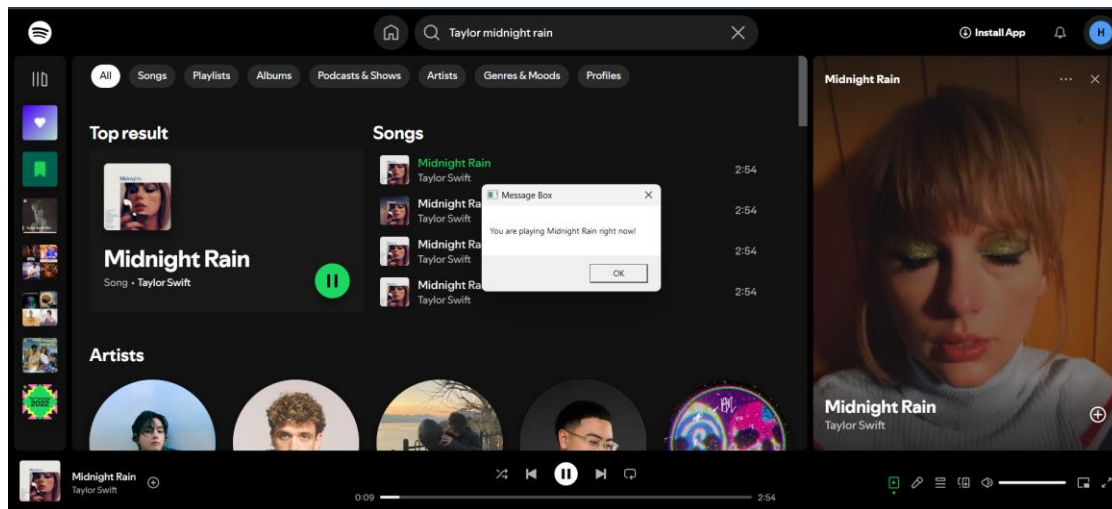
Implementation of Module 3
Data Scraping and Export

- This module extracts specific information from music platforms and stores it efficiently:

- **Data Scraping:** Retrieves the **song name**, **artist name**, and **user rating** from the website.

- **Excel Export:** Organizes the scraped data into an Excel file with clearly defined columns for easy access and analysis.

Conclusions

- The integration of automation technologies in the music recommendation system has streamlined user interaction, enhanced personalization, and ensured efficient data management. The modules for input handling, Spotify interaction, and data scraping work cohesively to provide accurate song suggestions and maintain user engagement. Additionally, the data export functionality ensures that valuable insights can be derived from user ratings and preferences.

Future Enhancement

- **Automated Playlist Creation**

- Use UiPath bots to automatically create personalized playlists on Spotify based on user preferences, mood inputs, and listening history.

- **Integration with Social Media**

- Automate the sharing of favorite songs or playlists on social media platforms directly from the system using UiPath's social media API connectors.

References

1. Flowcharts: Studio - Flowcharts (uipath.com)

2. Datascraping: Studio - About Data Scraping (uipath.com)

3. File conversion: Excel sheet to pdf - Help / Activities - UiPath Community Forum

4. Email activitiy: Activities - Send SMTP Mail Message (uipath.com)

5. Email activity: https://youtu.be/8vlLvsyCO3Q

6. Task scheduling: https://youtu.be/mqLN_gEG8VA?si=TjZETuhBReGaDxF7

Queries

Demonstration

Thank You