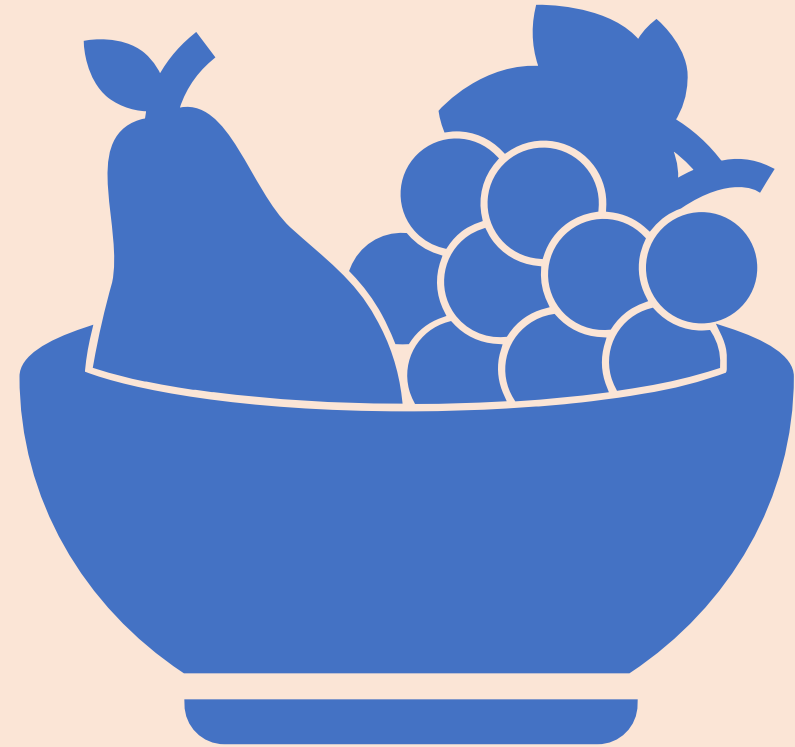


# Chatbot for Grocery Store Assistance - Provigo

**Abdulrahman Aroworamimo**

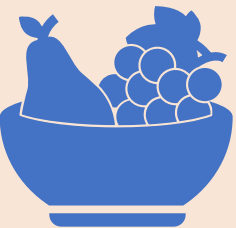
**Michelle Barabasz**

**Sean Clarke**



# What is Provigo?

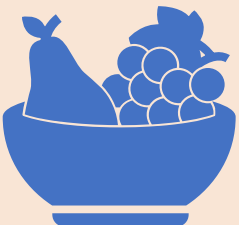
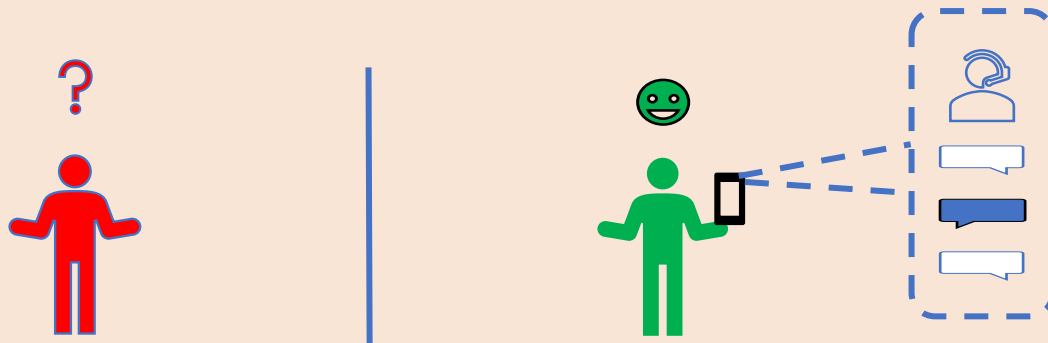
- Canadian supermarket chain that operates primarily in the province of Quebec (owned by Loblaw Companies Limited).
- Offers a wide range of grocery and household products, including fresh produce, meat, dairy, bakery items, and packaged goods.
- Aims to provide customers with a convenient and diverse shopping experience by offering a variety of products and services, often emphasizing local and regional offerings.
- Currently does not have a chatbot.



# Problem Statement

It can be difficult and overwhelming to navigate and find items in grocery stores, especially in unfamiliar ones. Creating a chatbot to enhance in-store navigation can improve customer experience when shopping, which, in turn, gives the company a competitive advantage.

The Provigo chatbot will be integrated into the existing Provigo website.







# Rationale & Value Proposition



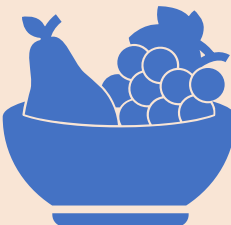
# Decision Analysis: Exclusive with Loblaws vs. Licensing to Multiple Retailers

## Exclusive to Loblaws (Provigo)

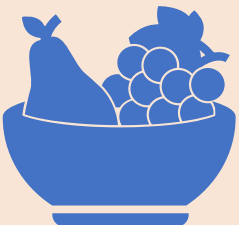
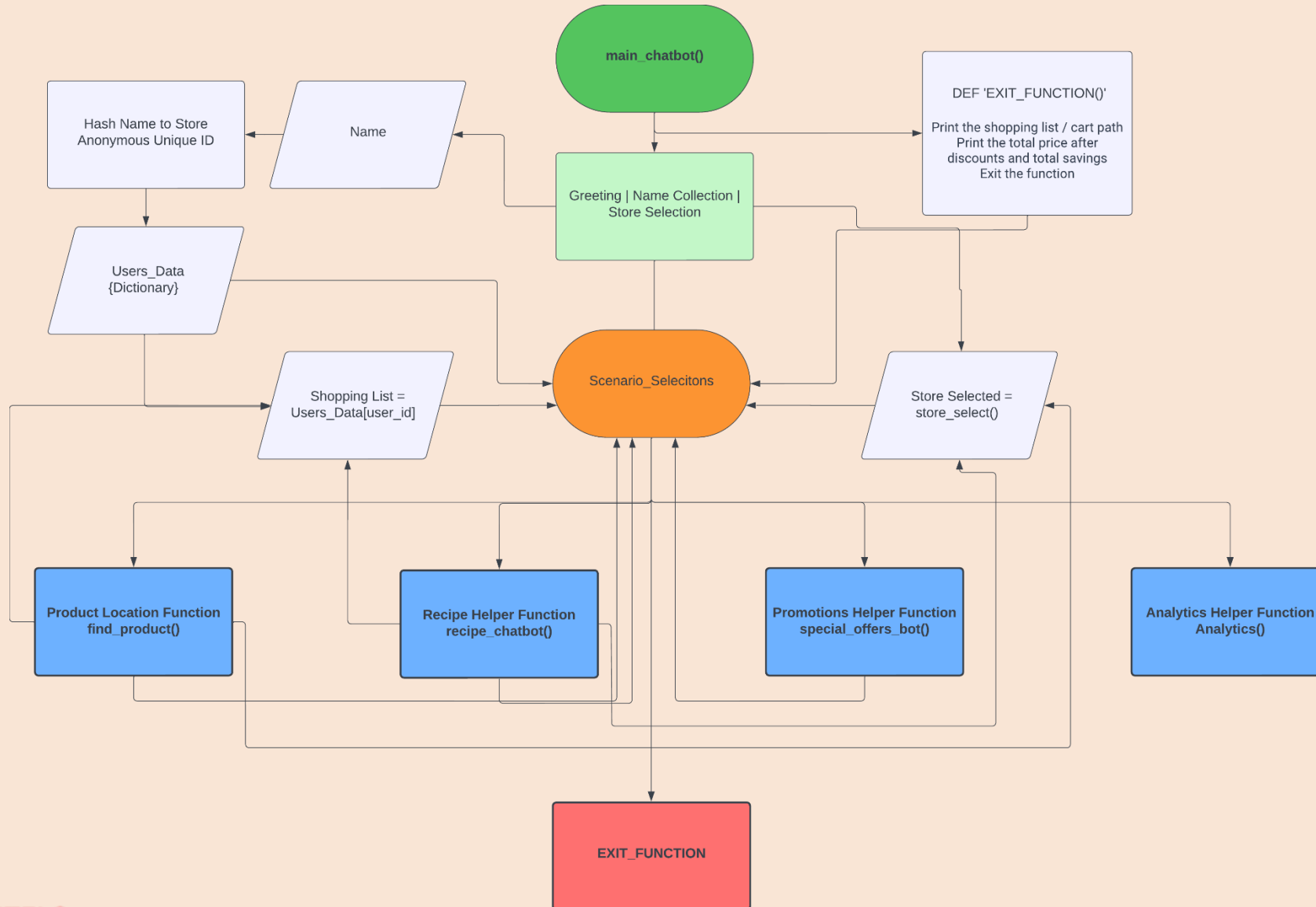
- Development:  
 Tailored for Loblaws
- Revenue:  
 One-time big payout or steady income
- Brand:  
 Premium association
- Risks:  
 Single client dependency

## Licensing to Multiple Retailers

- Development:  
 Modular for diverse stores
- Revenue:  
 Diverse, continuous licensing
- Brand:  
 Industry standard
- Risks:  
 Managing varied demands



# Chatbot: High Level Overview



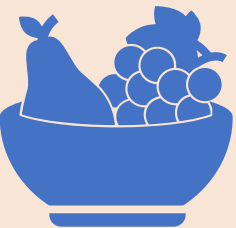
# Scenario 1- Get recipe suggestions

## Overview

- Provide recipe suggestions based on dietary restrictions.
- Show ingredients needed to make a recipe.
- Option to add the ingredients needed to your shopping list.

## Benefits

- For users: Personalization, convenience, variety.
- For business: Data collection, enhanced user profiles, brand differentiation.



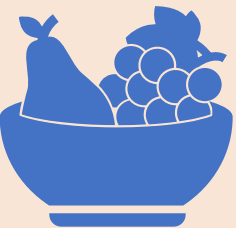
# Scenario 2- View product insights by borough

## Overview

- Leverage data-driven insights through the chatbot.
- Tailored analysis based on specific store boroughs.

## Product Insights

- Visual distribution of product prices.
- Comparative analysis of average prices across product categories.





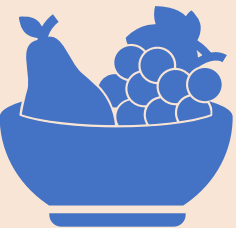
# Scenario 2- View product insights by borough

## Special Offers Analysis

- View average and highest discounts across product categories.
- User-driven queries for precise insights.

## Benefits

- For Users: Informed shopping, tailored insights, and maximized savings.
- For Business: Enhanced user engagement and feedback for strategic decisions.



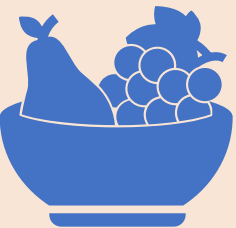
# Scenario 3- View special offers by store

## Overview

- Instant access to the best deals in the store.
- Focused insights based on specific store boroughs.

## Dynamic Display Modes

- View discounts by product category.
- Sort and display based on discount magnitude.



# Scenario 3- View special offers by store

## Product-Specific Search

- Users can inquire about the discounts for specific products.
- Real-time updates for the most current offers.

## Benefits

- For Users: Maximizing savings and making informed purchase decisions.
- For Business: Drives sales of discounted items and improves stock management.



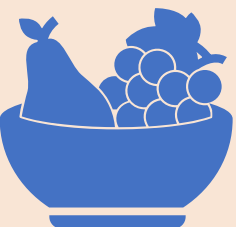
# Scenario 4- Get detailed product information

## Overview

- Location-based and hierarchically structured product discovery.
- Shopping list management including cart path optimization.

## Benefits

- For Users: Streamlined product search with integrated shopping list and path optimization.
- For Business: Boosts engagement, gathers product preference insights, and differentiates.



# Data Analytics Integration

## Pandas:

- **Use:** Data manipulation & analysis
- **Integration:** Transform raw inventory data
- **Rationale:** Efficient data handling

## Matplotlib & Seaborn:

- **Use:** Data visualization
- **Integration:** Visualize products insights
- **Rationale:** Derive insights from complex data and enhance interpretability



# Suggestions for Future Enhancements



Transform chatbot to a **Data collection tool**



Machine learning with **Scikit-learn**: Predict sales and impact of promotions



Web dashboards using **Streamlit/Dash**: Create live dashboard for managers to see real-time analytics

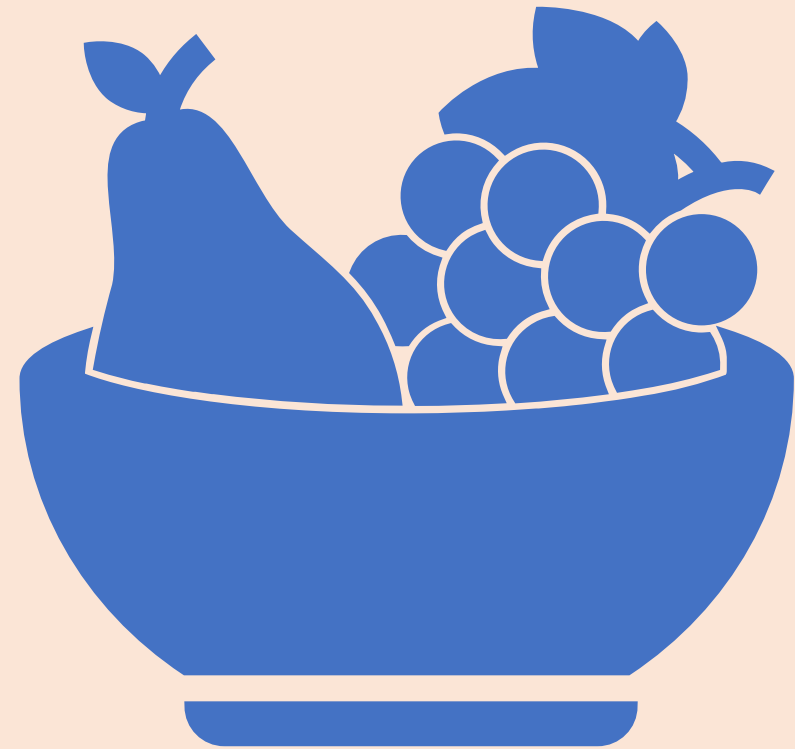


NLP with **NLTK/spaCy**: Analyze customer feedback collected via the chatbot



Thank you!

Questions?



# APPENDIX



## 1. Program Flowchart

## 2. CODE