Problem Statement and Goals
Grocery Spending Tracker

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Table 1: Revision History

Date	Developer(s)	Change
20/09/23	Sawyer Tang	Add Problem Statement.
20/09/23	Ryan Yeh	Added section introduction for Problem Statement
20/09/23	Jason Nam	Added Inputs and Outputs for Problem Statement Doc
22/09/23	Jason Nam	Completed Stakeholders Section
23/09/23	Ryan Yeh	Added initial Goals and Stretch Goals
24/09/23	Jason Nam	Added Environment section for Problem Statement and Goals Doc
25/09/23	Jason Nam	Removed team members as Stakeholders

1 Problem Statement

This section will outline the problem being solved by the Grocery Spending Tracker. It will go over the general problem, expected inputs and outputs of the application, stakeholders, and the environment the application will be used in.

1.1 Problem

With the rising cost of living in Hamilton as well as across Canada, many households are searching for ways to cut back on costs of their living expenses. Grocery prices, most notably, are quickly on the rise and are making it difficult for households to handle/manage their budgets. **Grocery Spend Tracker** will

strive to make it easier for users to make *smart* grocery decisions to lower their spending on food and household needs.

1.2 Inputs and Outputs

1.2.1 Inputs

- Personal consumer spending data
- Location data
- Historical Shopping Lists
- Shopping History

1.2.2 Outputs

- Analysis of spending data
- Purchase suggestions based on spending data
- Budgeting Plans
- Local Price Comparison
- Shopping Trip Summaries

1.3 Stakeholders

- Students of McMaster University
- Single income households
- Dr. Spencer Smith and TAs

1.4 Environment

1.4.1 Hardware

The system will utilize any apparatus equipped with optical sensors for image capture and visual display components for presenting graphical information.

1.4.2 Software

The system will employ a centralized data repository managed by a database server to facilitate data storage and aggregation.

2 Goals

- Create an intuitive interface for the application
  - The application is intended for a broad range of users of different age groups and demographics. Therefore, the application should be easy to use such that anyone is able to navigate and use its features without guidance.
- Provide cost savings to users
  - Considering the application is being created to help lessen the burden of increasing grocery prices and lower food spending, there should be a tangible decrease in grocery spending over time with its use.
- Ensure reasonable performance for user convenience
  - The application's performance should not provide any disruption to the user's life. It should be a tool that can be seamlessly integrated without requiring user accommodation.
- Ensure high level of correctness on application features
  - Since the application is targeted towards reducing spending of users, mistakes on the application side should be minimal and low risk if any. The possibility of negatively impacting a user's financial state due to bugs would be unacceptable for this kind of project.

3 Stretch Goals

- Create a heatmap for locations with cheaper spending
  - Using mapping and location data, a visual representation for locations with cheaper grocery spending could be created to better assist users in making smarter financial decisions.
- Add in-app budgeting suggestions for users
  - Through further analysis of spending data and user data, it may be possible to provide automatic in-app budgeting suggestions to further help reduce user grocery spending.