Computer Science NEA Practice Proposal Document

Name: Rowan Johns

Suggested Project Title: Supermarket Pathfinder

Describe the problem or investigation your program will address: When shopping in a supermarket, it can often be difficult to know where to find the items you are looking for, and this can result in you spending more time than you would like looking for those items. My program will take a customer’s shopping list and use a pathfinding algorithm to find the fastest route around the store to collect these items. This will improve the speed and efficiency of customers’ movement around the supermarket.

Who will be your end user(s)? My end users will be people who use supermarkets such as friends and family. They will give their perspective on how they would like the program to help them and give feedback on the program’s functionality.

List 5 **measurable objectives** for your program:

1. Stores product information and location in a database.

2. Takes input from a user and creates a “shopping list” comprised of selected items from the database. Requires no knowledge of databases to create shopping list; uses simple typing input to add items to the list.

3. Uses a path finding algorithm to find an efficient route minimising distance that visits all of the items and returns to the checkouts.

4. Outputs the route to the screen once it is found in a clear, simple way with easy to follow instructions.

5. Does not attempt to find an optimal solution for large amounts of data in order to keep processing time from being too high.