



Project PathFinder

22 January 2021

CAPSTONE II - AIDI 2005- GROUP 2

TEAM ISHLA

Who we are

Team name: Ishla (Optimum Path)

Product name: Pathfinder

Tech-Lead: Meryl Gabrielle Tubio (100763231)

Members:

Izza Godinez (100556078)

Nandini Malhotra (100768797)

Maviya Javed Shaikh (100766785)

Executive Summary

Optimal path algorithms are a major interest in artificial intelligence. It has many applications in business, including product delivery and shipment processes, as well as in navigation. The aim for this project is to allow the user to create an optimal path between different stores to allow them to complete their shopping lists with various items in the shortest possible time.

Problem Statement

“To find the optimal path from the starting point (source), covering all the sub-destinations”.

The problem statements aim at determining the closest sub-destination from the current position, the starting point being the user's current location.

AI Agent

AI agent is the artificial intelligent component that helps to achieve the goal of our project. Based on the business problem to find the shortest path for the user, we will be using Utility-based AI agents. The reason for choosing Utility-based AI agent is that it not only helps to find the shortest path, but it also provides the best possible way to achieve it.

Project Details

Data / Software Requirements

A database of common shopping list items and what category of items they fall under

Information on what stores have each item available

Data:	Software:
<ul style="list-style-type: none">• A database of common shopping list items and what category of items they fall under• Information on what stores have each item available	<ul style="list-style-type: none">• For front end: HTML, CSS• For back end: Python, SQL• For deployment: GitHub

Project Details (contd.)

6. Assumptions

The data mentioned in the project is created based on the different use case scenarios without any bias and discrimination.

7 Constraints

For the purpose of the project, it will be assumed that grocery items will be found in grocery stores and electronics items found in electronics stores, regardless of the stores' actual stock

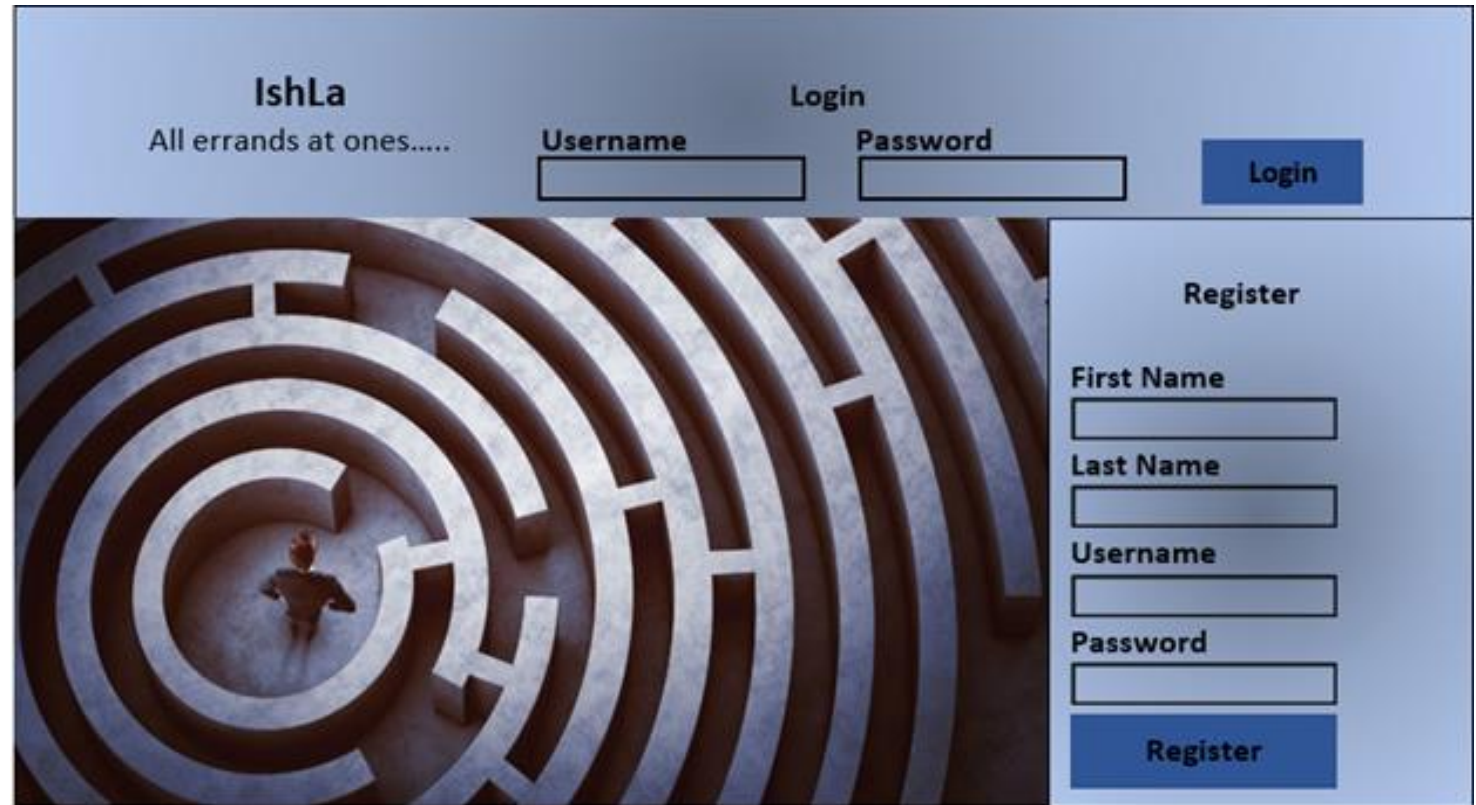
Items that can be included in the shopping list will be limited to those that are already in the database

Product Details

1. Ishla Layout

The User Registration/
Login Page

On this page the user
would either login or
register as new user.



The image shows a web page layout for 'IshLa'. The header is light blue and contains the site name 'IshLa' with the tagline 'All errands at ones.....'. To the right of the header is a 'Login' section with input fields for 'Username' and 'Password', and a blue 'Login' button. Below the header is a large image of a maze with a person standing in the center. To the right of the maze image is a 'Register' section with input fields for 'First Name', 'Last Name', 'Username', and 'Password', and a blue 'Register' button.

IshLa
All errands at ones.....

Login

Username

Password

Login

Register

First Name

Last Name

Username

Password

Register

2. The home page

This page would display the list of errands that a person needs to do. After selecting each category, items in the list would open a new page to select the type of item the user wants to buy.



3. The Groceries page

The user would select the items it needs to buy by checking the check box.

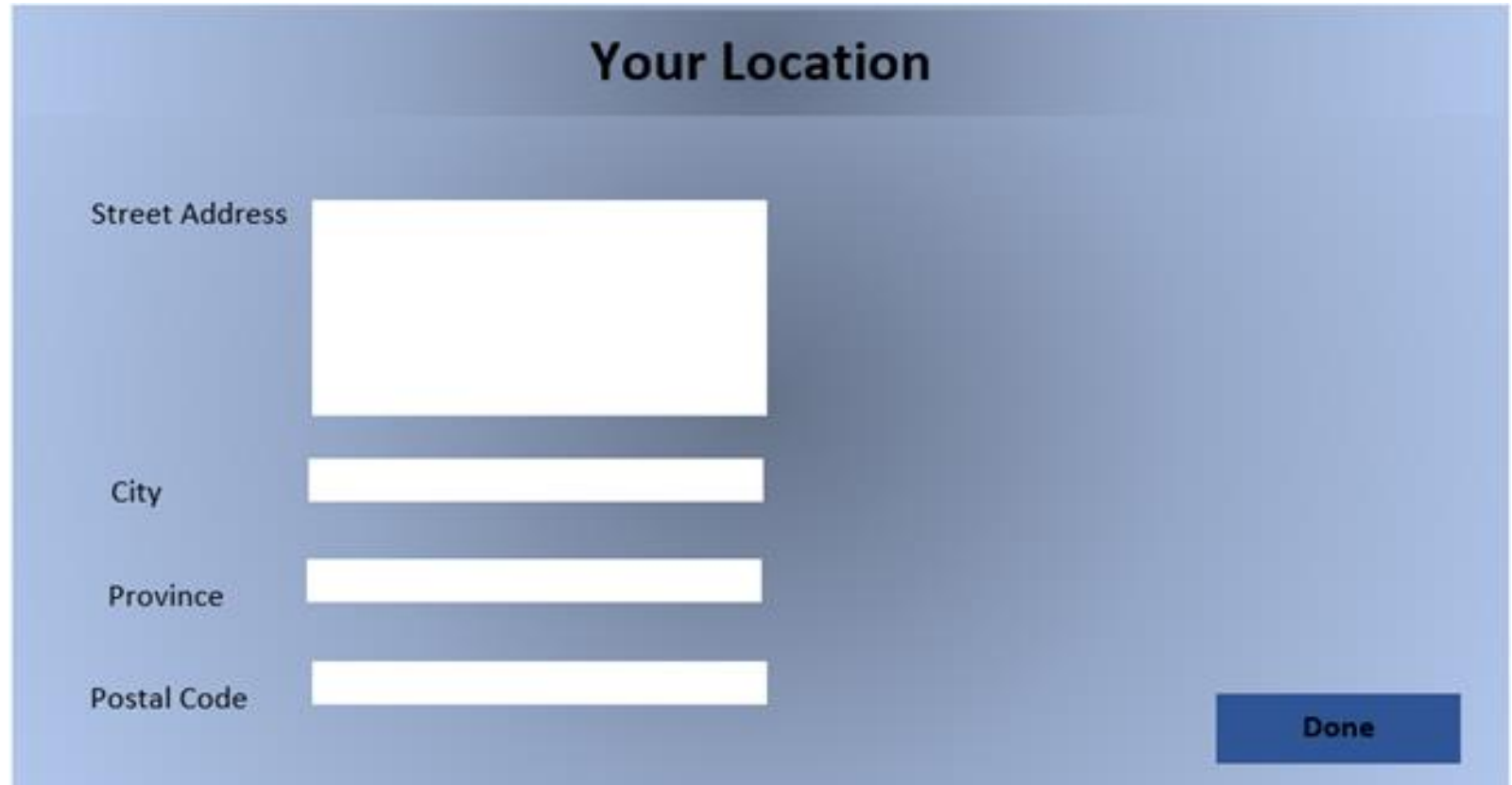
GROCERIES

<input type="checkbox"/> Eggs	<input type="checkbox"/> Salt
<input type="checkbox"/> Milk	<input type="checkbox"/> Sugar
<input type="checkbox"/> Fruits	<input type="checkbox"/> Spices
<input type="checkbox"/> Vegetables	<input type="checkbox"/> Sauces
<input type="checkbox"/> Flour	And so on.....

Done

4. Location Verification

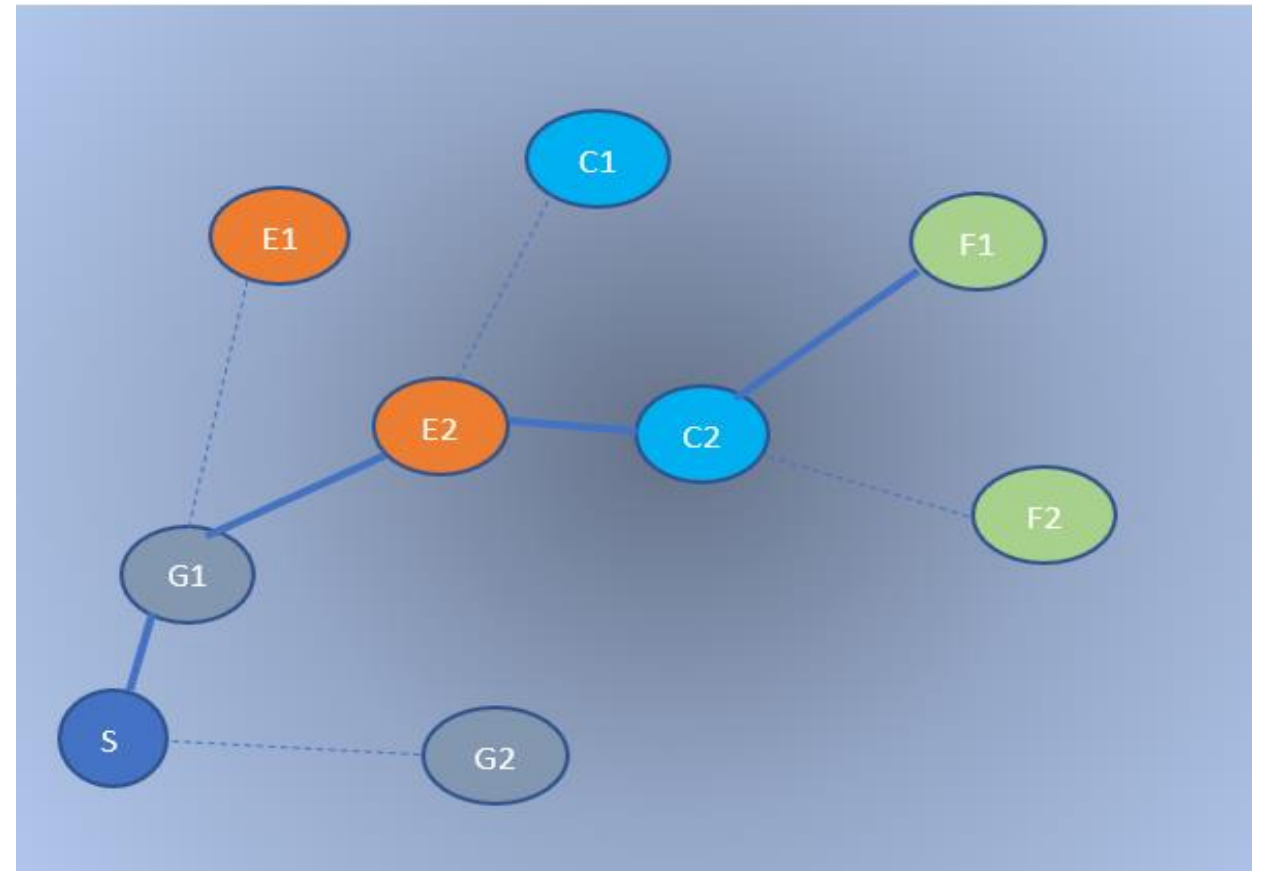
After selecting the items, the user would click on the “Make my route button” on the home page. This would direct him to a screen where the user address would be asked.



The image shows a digital form titled "Your Location" on a light blue background. The form contains four input fields, each with a label to its left: "Street Address" (a large rectangular box), "City" (a horizontal box), "Province" (a horizontal box), and "Postal Code" (a horizontal box). All input boxes are white. In the bottom right corner of the form, there is a dark blue button with the word "Done" in white text.

5. Visualization Map

After clicking on Done, the user would be directed to a map.



5. Visualization Map (contd.)

The user starts from S and first the closest place to S is determined which is Grocery store 1 (G1). Which means that the user should first visit the grocery store for the groceries. After the grocery store the user can go out to buy electronics at E2 which is close in comparison to E1 from G1. After buying electronics from E2, the closest store is Clothing store C2 and at the end the user can eat out at F1. Hence the optimal path followed by the user would be S->G1->E2->C2->F1.

Software Requirements

After selecting the items, the user would click on the “Make my route button” on the home page. This would direct him to a screen where the user address would be asked.

Next Steps

Presentation of Minimum Viable Product (version I)