Zone 1 London Underground Travel

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Artificial intelligence

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Abstract

Zone 1 London Underground Travel is a program suitable for London underground user to find the shortest and most time efficient route to travel in the Zone 1 of London underground. The program runs operate on Prolog for most of the session while it also use Python via pyswip for graphical user interface visualization.

1. Introduction
   1. Overview

Zone 1 London Underground travel is the AI project with aim to create program like application for user of London underground to use the most recommended path to travel in London underground. The path that is selected is the fastest route that will allow the user to reach destination quickest. The program use prolog as base and A star search as algorithm to find the fastest route. The visualization is shown on python.

* 1. Motivation

London underground is one of the most complex underground in the world that it is divided into 7 different zone. However, zone 1 consist of many tourist attractions where people around the world come to cherish the beauty of the Great Britain. However, complex underground transportation map could lead to people avoiding the underground and sometimes it is no time efficient to other method. Therefore, we would like to create program that allow people to travel and find the fastest route to get to their destination within no time.

1. Implementation

2.1 Program used

Python 2.7

Pyswip

Prolog-SWI

2.2 Heuristic Value

In addition for the heuristic value, the generating function is using latitude and longitude of the current node and the goal state node to find the displacement between the two of them.

Using the Haversine’s formula:









