PJ2:Path Adviser based on Shortest Path Algorithms

Ⅰ. Purpose

1. To better understand the graph data structures learned in this course
2. Be more familiar with graph algorithms especially the shortest path algorithms

Ⅱ. Requirements

A. Implementation

1. You can choose one piece of map of any place you like. The map can be either obtained from the Internet or designed by yourself.
2. The size of your chosen map must be appropriate: it should contains dozens of paths. At least 6 nodes and 20 edges are required.
3. User enter the start and end place, then you print out the recommended path.
4. Your application should be able to give different kind of paths to satisfy users' different requirements such as walk, bus and so on.
5. ATTENTION: You should show the used time of each query.

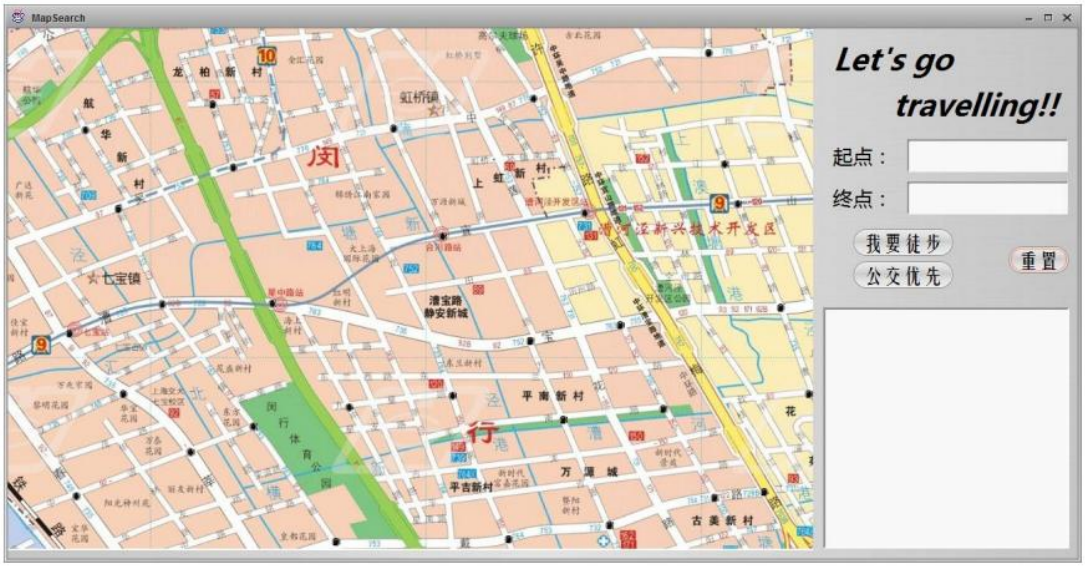
B. Document

Document is very important, and you need to:
1. Tell how to use your application.
2. Show that which algorithm is used and explain why you choose that.
3. Analyze your implementation's performance with collected data.

Ⅲ. Score Points

Item		Percentage
Application Implement (50%)	Correct program logic	10%
	Can choose specific location	10%
	Single path type	15%
	Composite path type	15%
UI (a command line UI is acceptable)		10%
Coding style		5%
Algorithm efficiency		15%
Document		20%
Bonus		5%

Ⅳ. Simple Demo



User clicks the map twice to determine start and end location, and chooses walk or bus in the right side. Then the recommended path will be painted on the map and be described in the text area of right side.

Attention： If you find it difficult to write a UI in C++, you can implement a simple command-line UI. That is, user inputs the start and end location through standard input, and the recommended path is then outputted through standard output.