

Metro Path Routing Software



Enhanced model software for route planner of the Metro System to find minimum travel time with respect to given source and destination in given map.

Design

- ❖ Structure based graph connected to windows forms interface.



Assumptions

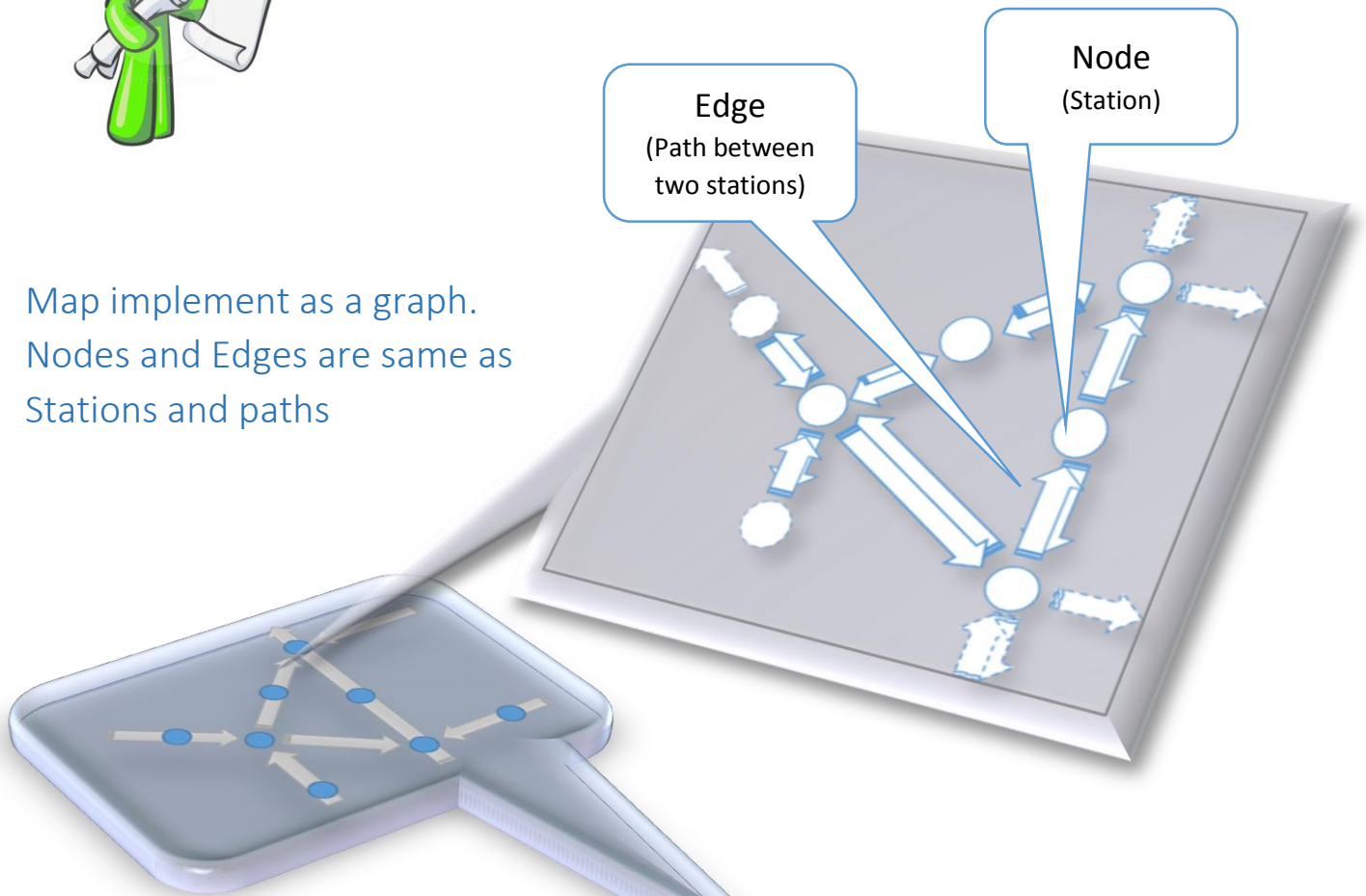
- ❖ Availability of train to given start station and destination is independent of time.
- ❖ Length of train is zero or at most one train travel at once in whole paths.





Implementation details.

Map implement as a graph.
Nodes and Edges are same as
Stations and paths



Cost of edge is defined as a time
range between two stations



Path with shortest time decide
using Dijkstra algorithm after
creating graph



Test methodology and analysis of test results



Eg: 1

Expected result

Station	Line	Time to next	Total time
Hradcanka	A	2mins	-
Malostranska	A	2mins	2mins
Staromestska	A	2mins	4mins
Mustec	A	1min	6mins
Muzeum	A	-	7mins

Application result

Distance to next(x0. km)	Time to next(min)	Line	Station
2	2	A	Hradcanka
2	2	A	Malostranska
2	2	A	Staromestska
1	1	A	Mustec
0	0	A	Muzeum

Eg: 2

Expected result

Station	Line	Time to next	Total time
Staromestska	A	2mins	-
Mustec	A	1mins	2mins
NR	B	2mins	4mins
Florenc	B	-	6mins

Application result

Distance to next(x0. km)	Time to next(min)	Line	Station
2	2	A	Staromestska
2	4	A	Mustec
1	2	B	NR
1	1	B	Florenc

Time Optimized Path

Distance to next(x0. km)	Time to next(min)	Line	Station
2	2	A	Staromestska
1	1	A	Mustec
1	1	A	Museum
1	2	C	Hlavni nadrazi
0	0	B	Florenc



How the program works?



Choose Start Station

Choose End Station

Load Time from System

Set Time Manually

Show optional path (if available)

Distance to next(x0.5 km)	Time to next station(min)	Line	Station
2	2	A	Staromestska
1	1	A	Mustek
1	1	A	Museum
1	2	C	Hlavni nadrazi
0	0	B	Florenc

Total Journey Time 6 min

☒ Show Optional Path

- ❖ Step 1 - Select start station by 1st popup.
- ❖ Step 2 - Select start station by 2nd popup.
- ❖ Step 3 - simply click Generate button.
(Automatic - program work by system time
Set time - manually set time)



Team members.



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