

JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY



ALGORITHMS LAB PROJECT DELHI METRO DESKTOP APPLICATION

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SUBMITTED TO:-

Data structures elements used in basic Algorithm :

- 1) Graphs: The shortest distance between two stations is calculated with the help of graphs. Graph provides us nodes that can symbolize a single stations .Using graphs , the complexity can be reduced efficiently.
- 2) File handling :The map showing the stations all across the city can be entered and stored for further use using file handling.
- 3) Graphics*: The can be visually shown using the graphics . It gives the project a mature visual.
- 4) Vector: The entries can be stores in the vectors rather than using arrays as the size of the entry of the graph is big and unknown .

Algorithm Implemented :

Dijkstra's Algorithm redesigned for multiple paths to provide the user an option to choose between various available paths in the order of their complexity.

Overview :

We have covered the following grounds under this project :

Shortest route: Describing the route ,the passenger will take to reach the destination covering the shortest possible path. It is calculated using the `dijkstra()` function.

Fare calculation :Depending upon the distance the he/she has travelled , the average fare will be charged according the rules laid down by DMRC and is calculated using the `money()` function.

Average time: The estimated time to reach the destination.

Stations in between : Stations which lie in between the path and train will stop there is shown using the path() function.

Average Distance : the expected average distance is calculated using the minDistance() function.

Change of lines: The user is also notified of the line he or she has to change and at which station to reach the destination.

Work Distribution :

Designing :	Ayush and Trinendra
Algorithm implementation :	Chitranshu and Atharva
UI :	Chitranshu and Trinendra
Others:	Ayush and Atharva

Expected Completion :

1st May 2019