# DCIT 204 SEMESTER PROJECT

GROUP 48

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Project Summary

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# Summary of the project description

A piece of software designed to address problems with taking the long or incorrect route when traveling. It assists by identifying every route that could be taken from a user-defined source to a particular destination and then choosing the one that is most advantageous in terms of cost, time, and distance.

# The objectives achieved by the group

We were able to determine the distances and travel times between a few (chosen for testing purposes and to achieve the deadline) points on the UG campus.

With these variables, we have developed graph data structures. These graphs provide the best route between any two points as well as all other possible routes.

# The algorithms used and how you integrated they we implemented

A modified Depth-First Search on the graph that produced all the paths was utilized to look for all routes between two points. In order to get the shortest distance between the spots, Vogel's Approximation was then applied. The shortest time for the best distance was then calculated using the North-West Corner Method.

Link to GitHub repository for project:

<https://github.com/childerx/DCIT-204-GP-Project>