CS142 Coursework II

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Introduction

The aim of this visualisation is to demonstrate the process of Dijkstra's Shortest Path algorithm using a simple graph with weighted edges, where colours of vertices and edges change based on the different stages of the algorithm.

Dijkstra's Shortest Path Algorithm

Dijkstra's Shortest Path algorithm is a method for finding the shortest distance from a given source node to all other nodes in a simple, weighted graph [1]. The version of the algorithm used in this visualisation is the original version, as opposed to min-priority queue implementation [2].

References

[1] EW Djikstra. A note on two problems in connection with graphs. *Numerische Mathematik*, 1:269–271, (1959).

[2] Michael L Fredman and Robert Endre Tarjan. Fibonacci heaps and their uses in improved network optimization algorithms. *Journal of the ACM (JACM)*, 34(3):596–615, (1987).