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7.4 Student Orientation Module

Network optimisation is a key factor in internet routing and we are still yet to find the most efficient solution. We explore the various approaches to optimal routing and the current means of calculating routing and where the system insofar lacks.

Both theorists (conventional mathematicians) and practitioners (coding of the network in practice) play vital roles in the process, we discuss the lack of an aligned approach between the parties to find an optimal solution.

Approaches are explored, such as theoretical and impractical viable working options, like MST. Progress from the simple MST solution brings us to explore OSPF and Intermediate System to System (IS-IS) that use DSPA to find minimum routes but these approaches do not consider how routes compete for link use.

This is where more optimal solutions come into effect, we propose their advancement for use in real-life scenarios, although there is still work to be done for the use of these techniques as viable solutions, such as the ACO routing implementation or Ant Colony Optimisation. We propose more research should be done to advance the current network strategies in the exploration of a more coherent routing strategy to be implemented.