

OSPF Simulation

**Project Development Initial Draft**

**BRIEF DETAILS ABOUT PROJECT**

**Department of Computer Science & Software Engineering FAST NUCES PWR**

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| Project Name | OSPF Simulation | | |
| Date of Commencement | 5 dec 2021 | | |
| Expected date of Completion | 30 dec 2021 | | |
| Group members name with Roll number | Name | Roll No. |  |
| Aitzaz Tahir Ch | 19p0012 |  |
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| Implementation Tool | Python with VS Code | | |
| User interface / Graphics Development Tools | Python, Pygame(for visuals), console(for input) | | |
| Documentation Tools | MS word | | |
| Name of Platform for Implementation | VS Code | | |
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**Executive Summary**

We are building a software for simulation using Python(VS code) and Py game(visuals) in which user can add some nodes (Here node is a router) and make a topology or can use existing topologies like mesh or ring and then can ping a node from any other node and find the shortest path between them using dijkstra algorithm which is also called as Open Shortest Path First (OSPF).

Introduction

* 1. Problem Statement

Finding the shortest path between a network from one node to another.

* 1. Aim and Scope

We are building a software for simulation in which user can add some nodes and make a topology or can use existing topologies like mesh or ring and then can ping a node from any other node and find the shortest path between them using dijkstra algorithm which is also called as Open Shortest Path First (OSPF)

* 1. Project Background/ Previous Work Done

We are implementing this using **Python** in which we have already done our previous works like in numerical computing and OOP using VS code and Pygame library for some visuals.

* 1. Expected Deliverable /End Product

Our expected end product will have capacity to arrange the nodes in some topology or user’s on choice and find the shortest path between 2 nodes.

* 1. **Limitations**

Our project’s limitation is that we are assigning same bandwith which in real life is not possible due to several reason in some networks its and in some its low.

* 1. **Reference**

<https://www.linkedin.com/pulse/ospf-protocol-implementing-dijkstras-algorithm-ayush-ganatra/>

<https://medium.com/@kp-the-great/how-ospf-protocol-implements-dijkstra-algorithm-53c390199ee8>

<https://www.pygame.org/docs/>

<http://web.mit.edu/modiano/www/6.263/lec18.pdf>