

### Design Document for ContentServer Project (Testconf.java):

**Q. Did you use the backend protocol (udp) to handle advertisement/reachability messages or something else?**

Ans. I am handling advertisements and reachability messages to each of the nodes using the Datagram Socket and sending Node Information as objects through the ObjectOutputStream class of the Datagram socket.

However this is not working currently as I am unable to send packets through Socket due to some issue unknown to me.

**Q. What method did you use to perform link-state advertisements and priority selection?**

Ans. The LSA are not yet performed because of the Datagram sockets having issues. However in my implementation, I was planning to send the Node Information continuously across all the Network (at a distance of 5seconds) with each node comparing the current information with the previous instances information to write in the difference. The entire node object was to be shared across the network and not just one node.

The priority selection is done using the Dijkstra's algorithm. This has been completely implemented on the code **as long as all the node information are provided manually on to the code.** The Dijkstra algorithm takes each node based on minimum distance from the source node and reevaluates if there is a better path to each of the node through the CalculateMinimumDistance function. This function is responsible for the finding the Path as well as distance to each of the Nodes (shortest).

**Q.Libraries/JARs Used ?**

Ans.

jre1.8.0\_201\lib\resources.jar

jre1.8.0\_201\lib\rt.jar

jre1.8.0\_201\lib\jsse.jar

jre1.8.0\_201\lib\jce.jar

jre1.8.0\_201\lib\charsets.jar

jre1.8.0\_201\lib\jfr.jar

jre1.8.0\_201\lib\ext\access-bridge-64.jar

jre1.8.0\_201\lib\ext\cldrdata.jar

jre1.8.0\_201\lib\ext\dnsns.jar

jre1.8.0\_201\lib\ext\jaccess.jar

jre1.8.0\_201\lib\ext\jfxrt.jar

jre1.8.0\_201\lib\ext\localedata.jar

jre1.8.0\_201\lib\ext\nashorn.jar

jre1.8.0\_201\lib\ext\sunec.jar

jre1.8.0\_201\lib\ext\sunjce\_provider.jar

jre1.8.0\_201\lib\ext\sunmscapi.jar

jre1.8.0\_201\lib\ext\sunpkcs11.jar

jre1.8.0\_201\lib\ext\zipfs.jar

json-simple-1.1.1.jar - <https://code.google.com/archive/p/json-simple/downloads>

**Q. Extra Instructions.**

**Ans.** Please note that my entire implementation of Rank, Map, Neighbours are with UUID and not NAME. This is because Name is an optional field which is not provided to each of the nodes. Since it is mentioned in the document that we are allowed to design our implementation in our own way, I have chosen to take this method up.