Mobile Agents Design:

Node k k = 1, 2,.,m

MobileAgents

Agent

BaseStation

* **Methods Used:**
* **MobileAgents:**

1. *main()* – launches the program.
2. *stop()* – stops the program, when user exit the application.
3. *start(Stage primaryStage)* – Display element, reads the graph using scanner, stores the graph internally and draws the graph on the screen. It also runs the simulation, baseStattion findPaths in the graph, agent start wandering from baseStation, and onFire node spreads the fire.

* **Node:**

1. *run()* – runs the node thread,
2. *getStatus()* – gets the state of the node.
3. *getBurner()* – gets the fire spread thread.
4. *getX()* – gets the x position of specific node.
5. *getY()* – gets the y position of specific node.
6. *setState(Status status)* – change the state of the node to yellow or red.
7. *passAgent()* –passes the agent to a random neighbor (which doesn't have an agent already) and set the agent to null (Not cloning).
8. *recieveAgent(Agent agent)* – receives the agent on a specific node if the agent is not already there.
9. *setID(int id)* – creates the id for the node.
10. *makeAndSendAgentID()* –
11. *addNeighbor(Node node)* – this node adds neighbor node to the neighbor list.
12. *sendCloneAgent()* – clones the agents and sends the clone of the agent to live nodes that are blue or yellow and do not already have an agent.
13. *recieveClone(Agent clone)* – can make it private!!!!!
14. *scream()* – this node lets its neighbors know that he’s dead and fire is spreading.
15. *findPaths(LinkedList<Node> path,Node caller)* –
16. *sendID(int id, int x, int y)* –
17. *passID(int id, int x, int y, LinkedList<Node> path, LinkedList<Node> returnPath)* –
18. *passIDFromQueue(int id, int x, int y, LinkedList<Node> path, LinkedList<Node> returnPath)* –
19. *returnID(int id, int x, int y,boolean status, LinkedList<Node> path,LinkedList<Node> returnPath)* –
20. *returnIDFromQueue (int id, int x, int y,boolean status, LinkedList<Node> path,LinkedList<Node> returnPath)* –

* **Agent:**

1. run() –
2. kill() –

* **BaseStation:**

1. findPaths() –
2. passID(int id, int x, int y, LinkedList<Node> path, LinkedList<Node> returnPath) –
3. sendID(int id, int x, int y) –
4. printIDs() –