

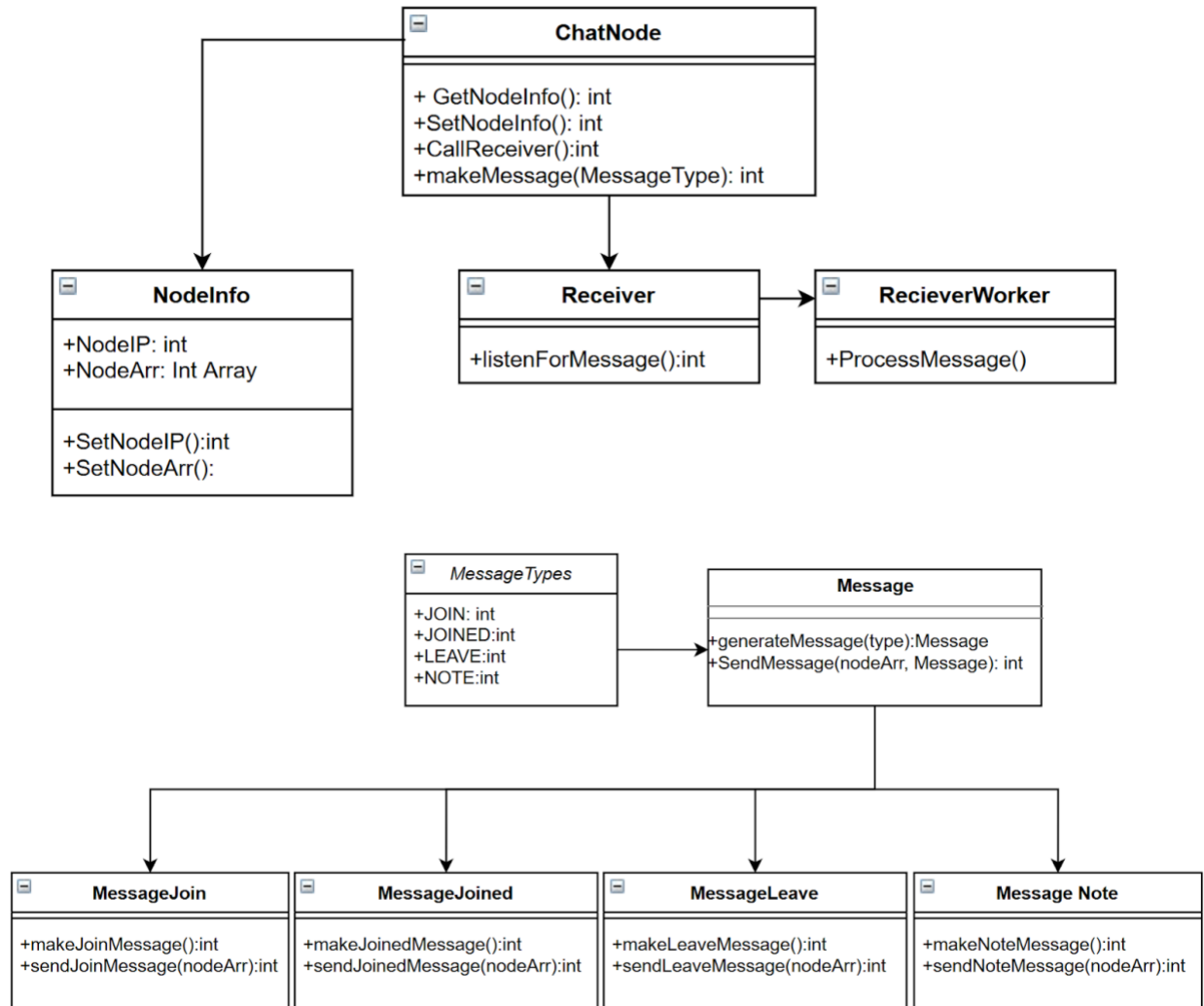
## **Assignment 02: Chat Application - Design**

Sam Gilb  
Chloe Bates  
Colton Spector

## Introduction:

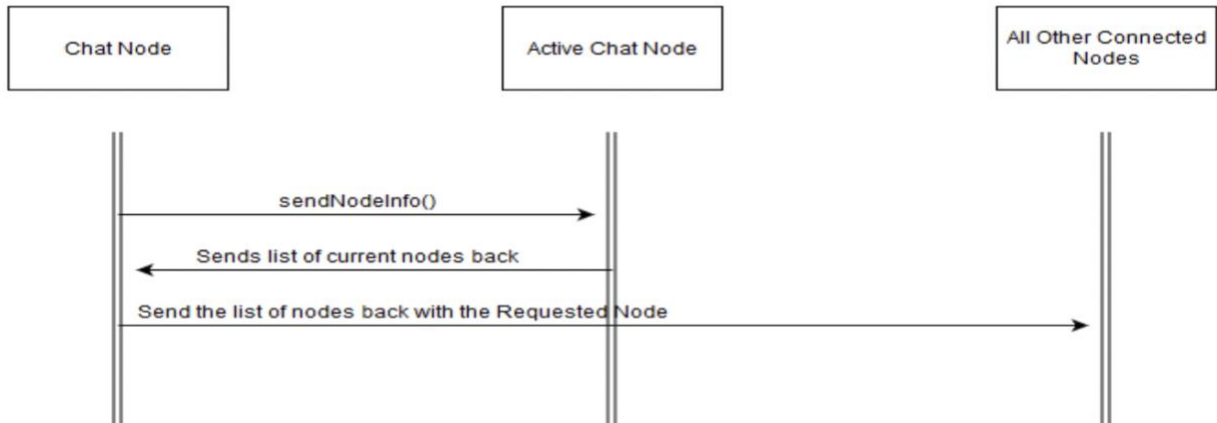
In the last assignment we surmised that a distributed star layout for the chat would be simple to create and easy to utilize. However, upon further class discussion we have decided to pivot to a mesh network.

## Class Diagrams:

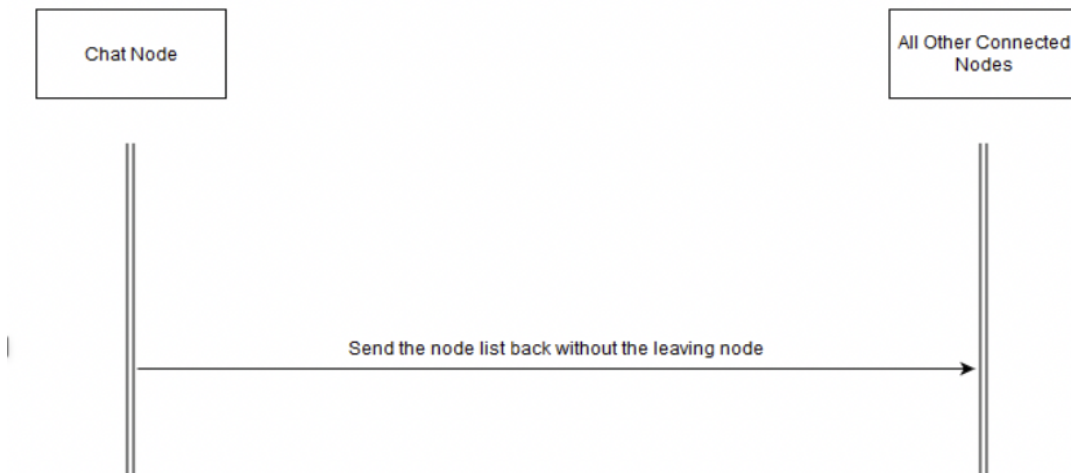


## Activity diagrams:

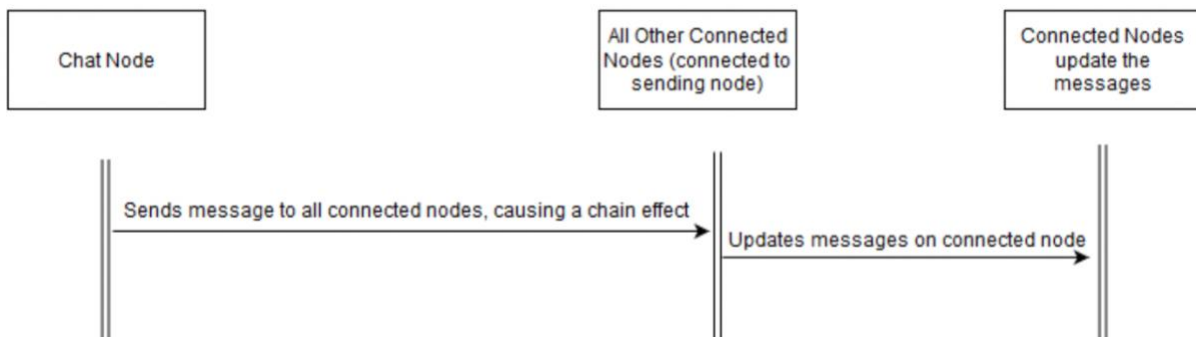
### Joining a Chat



### Leaving a Chat



### Sending A Message

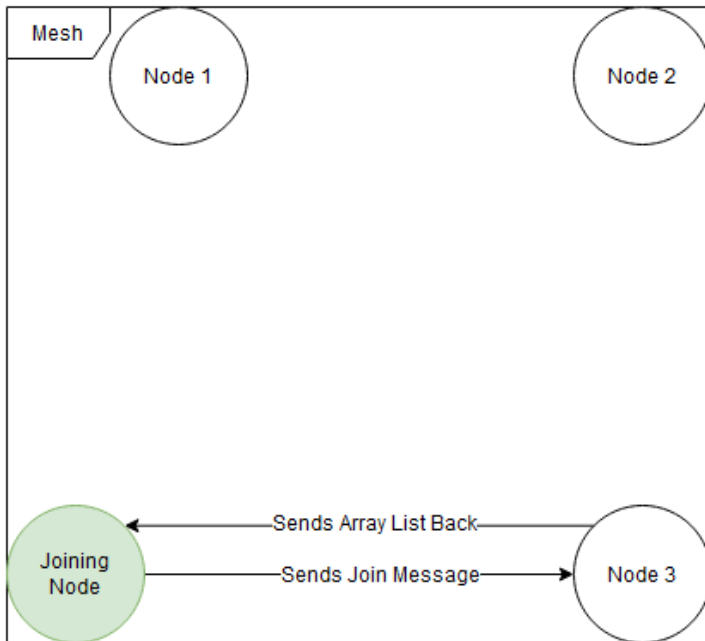


**Messaging Protocol:** Here are the three different scenarios for communication in our peer to peer mesh network.

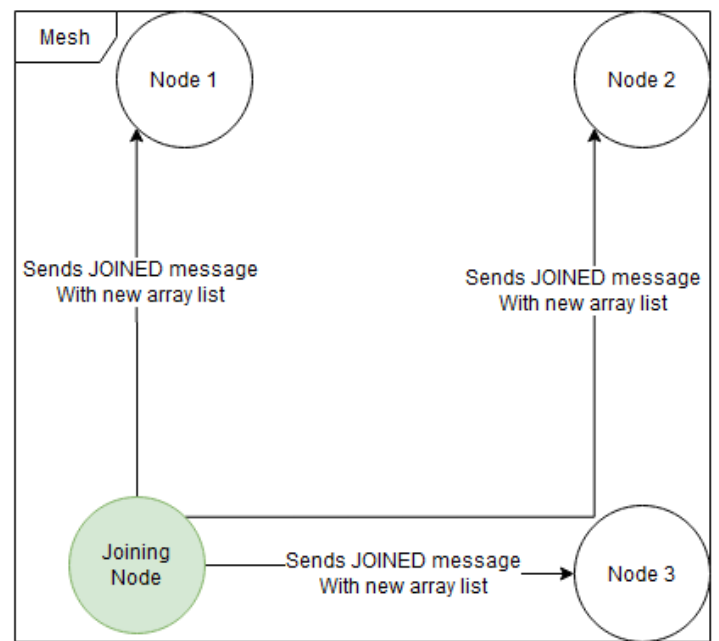
### Joining the Chat

- Joining node sends a message of type JOIN to every other node.
- The chat (ChatNode) sends back the list of active nodes to the joining node.
- The joining node then sends a message of type JOINED to all the other nodes.

Step 1:

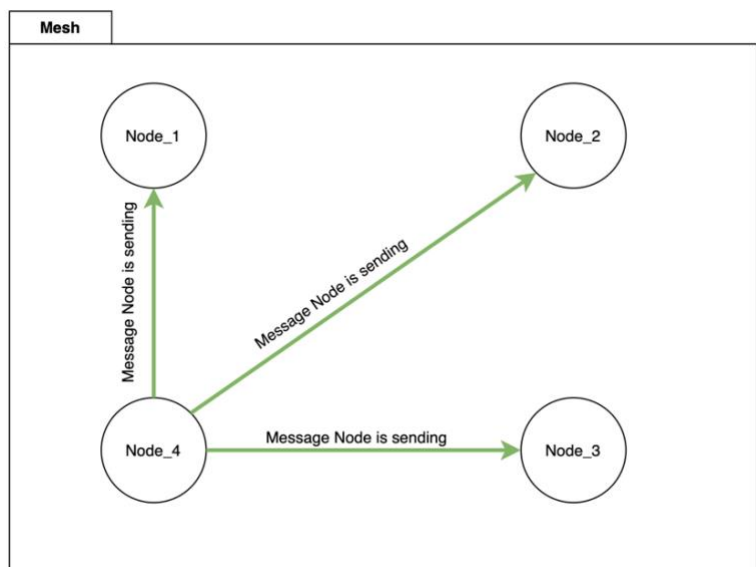


Step 2:



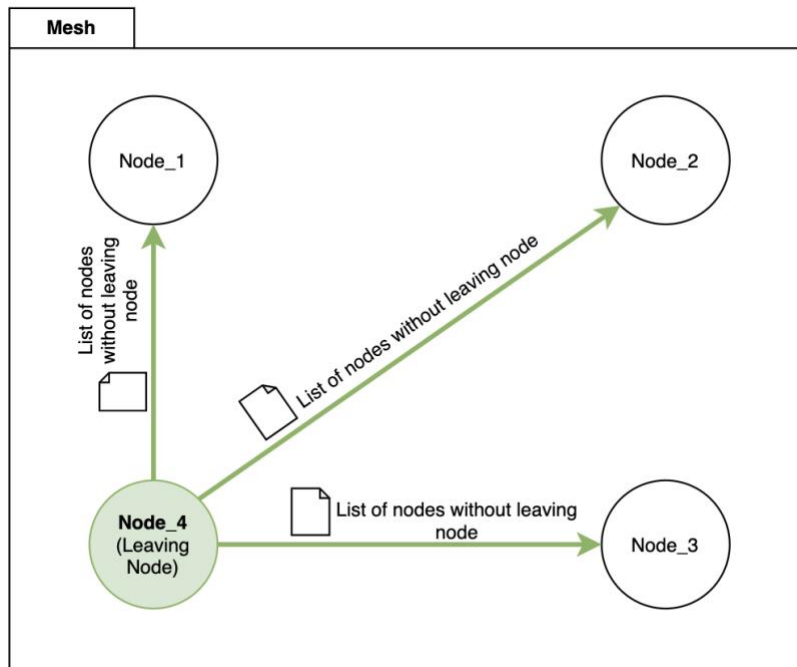
### Normal Operation (Chatting)

- Chatting Node sends a message to all of the other nodes with the message type NOTE.



## Leaving the Chat

- The leaving ChatNode sends an updates an array excluding itself from the chat. And notifies the rest of the chat by sending a message of type LEAVE.



## Alternative View:

