

GroupShare

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Project Description

Architecture

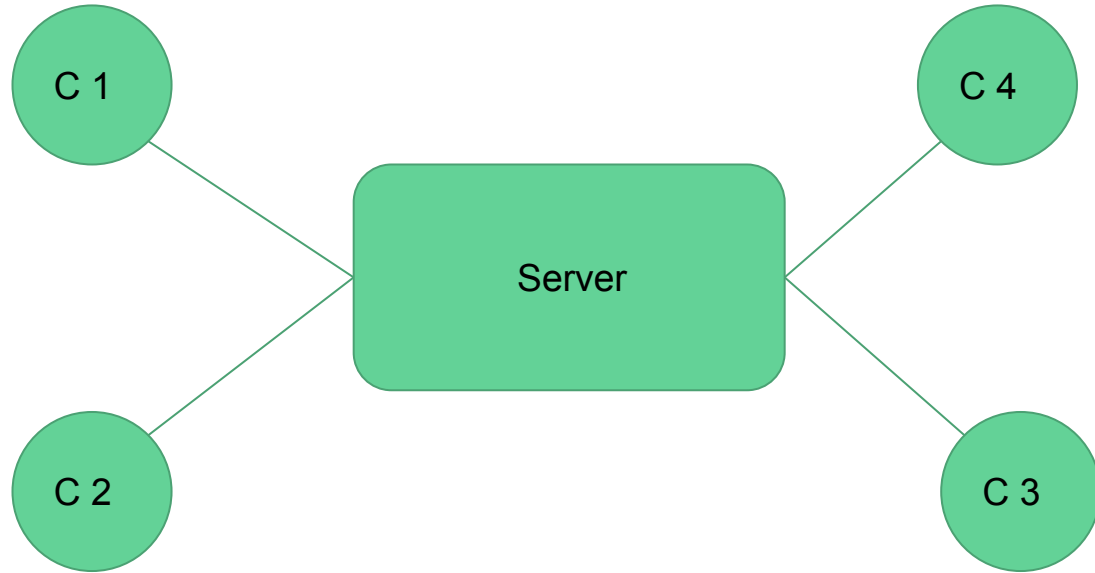


Fig: Traditional Server - Client Architecture

Architecture

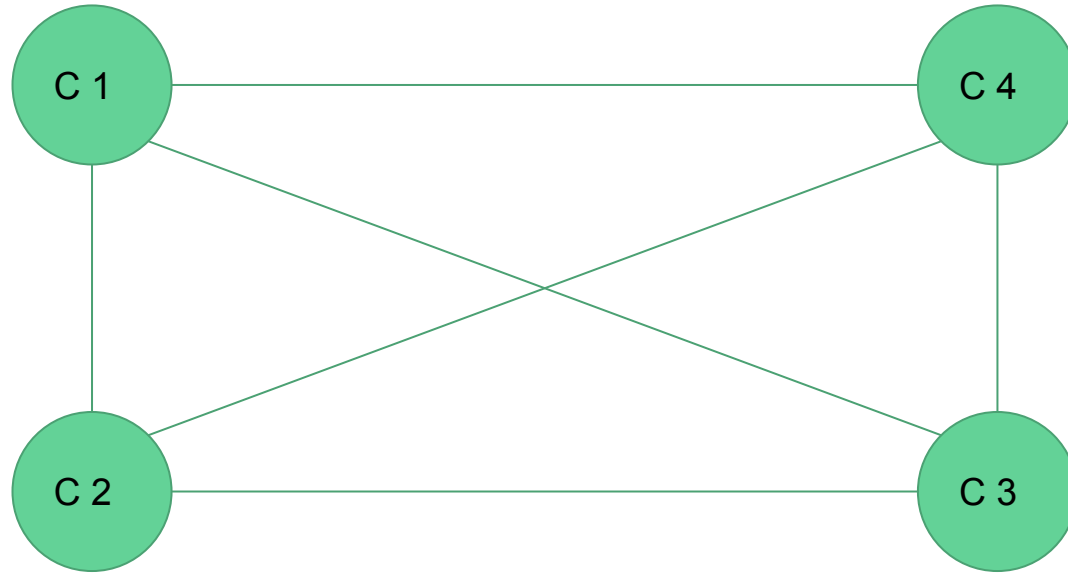


Fig: Peer to Peer architecture

Architecture



Fig: The initiation phase (when a peer starts the group)

Architecture

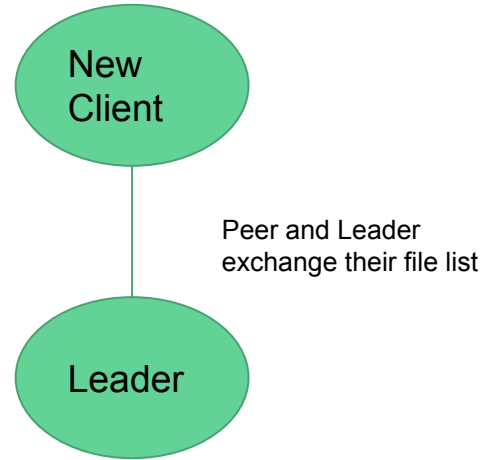
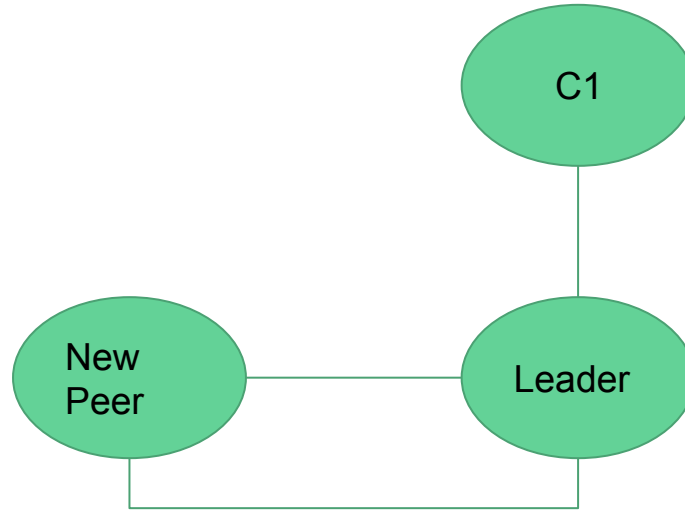


Fig: First Peer joins the group (i.e. connects with the leader)

Architecture



Leader accepts the connection and
replies back with the list of peers

Fig: Second Peer sending join request to leader.

Architecture

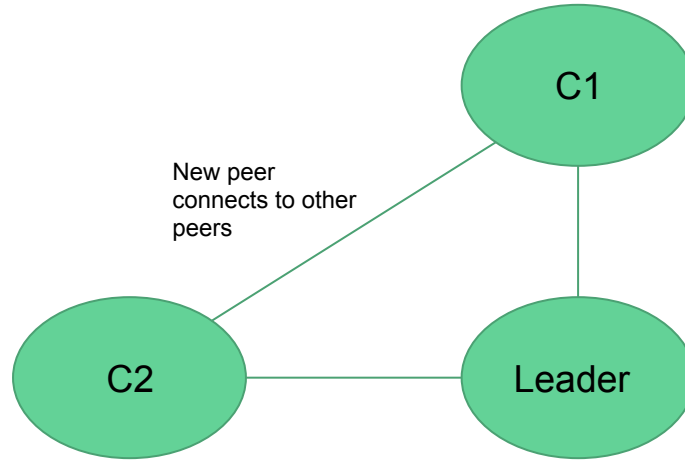
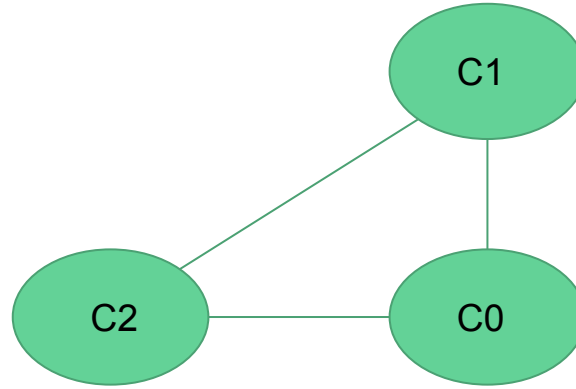


Fig: Second Peer joins the complete group.

Architecture



Key Features:

- Once formed, the group can remain existent till every peer from the group leaves.
- The group organically increases independent of who started the group. An incoming peer need not to connect to the leader. It can send connection request to any of the peer in the group.
- On disconnection of a Peer from the group, that Peer is removed from the connected Peers list of each client.
- On updation of file list by a client, the client notifies all the peers about this and the list is refreshed for that client.

Efforts

Team:

- Designed the architecture of the application
- Pair programming on the complex logic portions of the application

Individual:

1. Devashish:
 - a. Tried various frameworks like pyqt, fxml and flask. Finally decided to move forward with flask and sqlite
 - b. Implemented the interface of the application
2. Sourav:
 - a. Implemented the intercommunication logic between the peers
 - b. Handled events like automatic updation of the file list, addition of new client and removal of client

Tools Used:

- Flask
- Jinja
- JQuery
- JsTree
- Sqlite
- Bootstrap

DEMO

Thank You