Design Document

**Election:**

- For the election we use our heartbeat checkers from the previous version of the homework except now the status they return will be the amount of clients connected so that the election algorithm can determine load balancing.

- The election checks the health of all the servers before selecting a pair, if the server is down it is not part of the pair at all (so it wont be selected as a slave)

- The master is selected based on the minimum number of clients connected

**Dataconsistency:**

- There is a read and write function that stores the client\_db in a text file

- The goal is for all the client\_db on each available master to be synced so that timeline mode and commands results are accurate

- The servers read on startup and login.

- The servers write on a follow and unfollow command and send out a notification to the router which sends it to the other masters for everyone to read in the new updates.

**Network Failure:**

- The slave server checks if it is connected to the internet, if not it doesnt start spawning masters but just waits until it is reconnected to the internet

- The master will clear its client\_db whenever it is disconnected from the internet and read in when its connected again.