

CSE 452/M552
Project 3: High availability

Design document due: May 28, 2013
Project Due: 5pm, June 6, 2013

In this assignment, you are to add high availability to your twitter service, using the Paxos algorithm. With assignment 2, a client is never blocked from making progress by another client, but if the server fails, all transactions must stall until it recovers. With this assignment, your system should allow clients to make progress even though any single server may have failed.

Instead of a single server, Paxos spreads the server function across a static set of nodes. During testing, for simplicity we advise you to use a separate set of nodes for clients and for servers, although there is no logical need for a distinction. The set of servers use Paxos to decide on the order in which to commit transactions; Paxos tolerates individual node failures, allowing progress even if any server in the group has failed. When the failed server restarts, your code should re-integrate it into the group to re-establish fault tolerance to individual server failures.

In your writeup, please also address the following design question:

If you have server state, how is it maintained? Does every server participating in Paxos store every modification of every file, do they elect a primary/backup, or do you use some other mechanism?

The turn in instructions are the same as the previous assignment.