SP16 MP4 Paper Report

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1. Thread pool implementation

After the server initialization, I create as many worker threads as the thread_num given. Then I make the threads run a loop that runs forever.

I create an global array that records the status of every thread. Once the server receives a connection from a client, scan through the recording array to check if there is any thread that is not working. If there is one, assign the client to the thread to handle request from the client. Else if all the threads are busy, send “BUSY” to the client and to remind him to send request later.

2. Multiple process

Use fork() to create child processes instead of creating thread.

Comparison:

Memory consumption:

Multiple process is more memory consuming than multiple thread since it copies the whole memory whereas multiple thread only copies the thread stack.

Delay time:

Multiple process has longer delay time.

It is faster for operation system to switch between threads than it is to switch between processes.