**Programming Assignment 1**

**NAPSTER PEER TO PEER SHARING SYSTEM**

CS550 – Advanced Operating System

February 22, 2018

**NIKITA V. JADHAV**

A20401223

PERFORMANCE EVALUATION:

Steps to Run Performance Evaluation:

* Navigate into the the Performance\_Evaluate folder:
* The Folder contains:
  + “CreateFiles.java” and “Perf\_Test.java”
  + “CentralIndxServer.java”-To Run the Server and “PeerServer.java”
    - To Run the Peer and to perform the Search with Timestamp.
* A folder called “Dummy\_Files”
  + 1000 files will be automatically created when CreateFiles.java is executed.
* “indxip.txt” – Edit the File, and Enter the IP Address of the CentralIndxServer into the file.
* To Create the Files automatically (1000 files):
* First Edit the PATH, in the file “CreateFiles.java”
* Example: Inside the file, there is a path to set the files to be created.
* String filename = /Home/…. /…../…../Dummy\_Files/ -> This is the Path where the 1000 files will be automatically created.(Set the path).
* To Register those 1000 files which have been created in the Dummy\_Files folder, Edit the Path in the file: “Perf\_Test.java”
* Inside the file, there is a path to set -> for the files to be Registered.
* File folder = new File(“/Home/……../……./Dummy\_Files/”) -> This is the Path where the 1000 files that needs to be registered are present.(Set the Path).
* Run ant:
  + Ant
* Or run the following command
  + javac CreateFiles.java
  + javac Perf\_Test.java
* Run the CentralIndexServer on different machine:
  + java CentralIndxServer
* The CentralIndxServer is started and it starts to listen on port for incoming peer connections.
* Run the CreateFiles.java -> To create 1000files in the Dummy\_Files directory
  + java CreateFiles
* Run Perf\_Test.java -> This will Register all the 1000 files present in the directory specified by the path in the Perf\_Test.java file
  + java Perf\_Test
* Now Run the PeerServer.java: -> This starts the Peer, and this can be used to search for the files which have been registered.
* Timestamp has been added to calculate the Time taken for Register as well as Search functionality.

The Performance\_Evaluation Test Results are as follows:

1) REGISTRATION:

a) For 5 Files -> Less than a Second

b) For 10-15 Files ~ Less than a Second

c) For 100 Files ~ 1 Second

d) For 500 Files ~ 2 Seconds

e) For 1500 Files ~ 6 Seconds

f) For 3000 Files ~ 15 Seconds

2) SEARCH:

a) 500 Lookup – 3 Seconds

b) 1500 Lookup – 6 Seconds

c) 3000 Lookup – 12 Seconds

3) DOWNLOAD:

a) 1kb File Download – Less than a Second

b) 5MB File Download – 8mins.

Peer-To-Peer File Sharing System

Plotted Chart for Performance Evaluation

Few screenshots of Performance evaluation:

Time taken to register:









