

**PROJECT TITLE :**

**Napster-style Peer-To-Peer File Sharing System**  
**Performance Evaluation**

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## Project Title: Napster-Style Peer-to-Peer File Sharing System

### PERFORMANCE EVALUATION:

#### Steps to Run Performance Evaluation:

- 1) Launch the Terminal application and Extract the given zip file:  
“PROG1\_Krishnamurthy\_Karthik.zip”

Using the command: `unzip PROG1_Krishnamurthy_Karthik.zip`

- 2) Navigate into the Extracted folder > There will be a subfolder called  
“P2P\_File\_Sharing\_System” which contains Performance\_Evaluation folder.
- 3) Navigate into the the Performance\_Evaluation folder:

The Folder contains:

- a) Source files for Testing: “CreateFiles.java” and “Perf\_Test.java”

And also “CentralIdxServer.java”-To Run the Server and  
“PeerServer.java” - To Run the Peer and to perform the Search with  
Timestamp.

- b) A folder called “Dummy\_Files” in which multiple-files(1000 files) will be  
automatically created when CreateFiles.java is executed.
- c) When Perf\_Test.java is executed, the 1000 files created in the  
“Dummy\_Files” folder will be automatically registered with the  
CentralIdxServer.

- d) “indxip.txt” – Edit the File, and Enter the IP Address of the  
CentralIdxServer into the file.

- 4) First enter the IP Address of the CentralIdxServer into the file “indxip.txt”

`$vim indxip.txt`

Example :10.0.0.16 -> Enter the IP, if this is the IP address of the  
CentralIdxServer.

- 5) 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.

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String filename = /Users/karthikk/...../...../Dummy\_Files/ -> This is the Path where the 1000 files will be automatically created.(Set the path).

- 6) Similarly, To Register those 1000 files which have been created in the Dummy\_Files folder, Edit the Path in the file: "Perf\_Test.java"

Example: Inside the file, there is a path to set -> for the files to be Registered.

File folder = new File("/Users/karthikk/...../Dummy\_Files/") -> This is the Path where the 1000 files that needs to be registered are present.(Set the Path).

- 7) Now to Compile all the changes, Run ant:

```
$ ant
```

- 8) After Successful build, Run the CentralIdxServer:

```
$ java CentralIdxServer
```

The CentralIdxServer is started and it starts to listen on port for incoming peer connections.

- 9) In a separate terminal, or a different machine, Now Run the CreateFiles.java -> To create 1000files in the Dummy\_Files directory

```
$ java CreateFiles
```

1000 files will be created in the path specified in the CreateFiles.java file.  
Cross-check the created files in Dummy\_Files folder.

- 10) 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
```

All the 1000 files will be Registered with the CentralIdxServer. This can be seen in the CIS Server Console Log.

- 11) Now Run the PeerServer.java: -> This starts the Peer, and this can be used to search for the files which have been registered.

The path where the 1000 files are present are hard coded in the files CreateFiles.java and the path for those 1000 files to be Registered are also hard coded in the file Perf\_Test.java.

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 -> 3 Seconds
- e) For 1500 Files -> 13 Seconds
- f) For 3000 Files -> 15 Seconds

2) **SEARCH:**

- a) 500 Lookup – 3 Seconds
- b) 1500 Lookup – 5 Seconds
- c) 3000 Lookup – 11 Seconds

3) **DOWNLOAD:**

- a) 1kb File Download – Less than a Second
  - b) 5MB File Download – 7mins.
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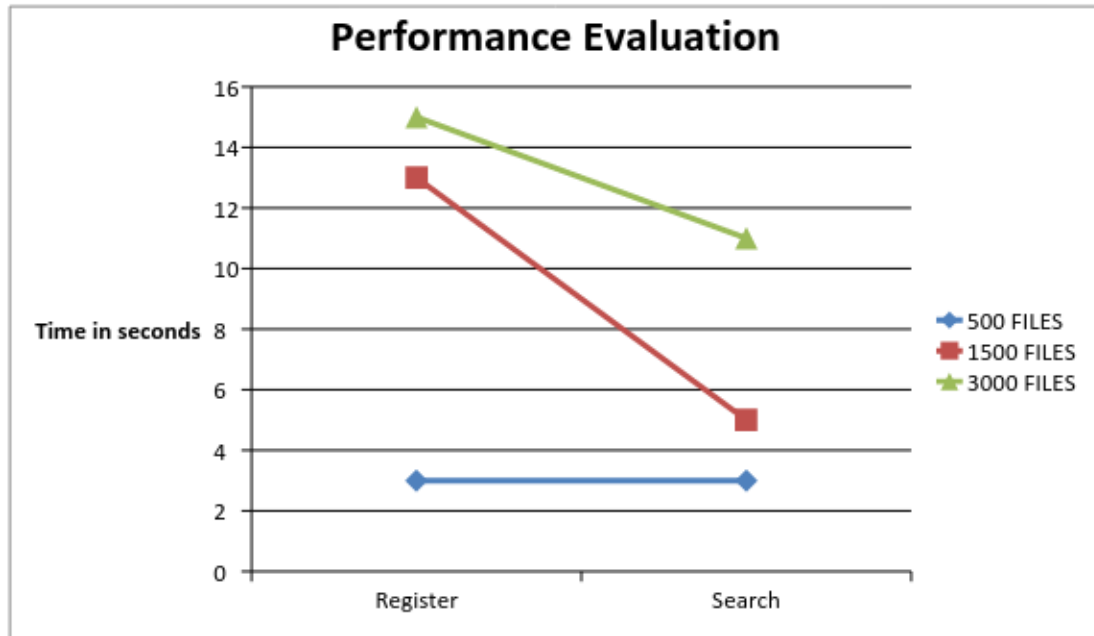


Fig: Plotted Chart for Performance Evaluation

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