

Hacettepe University

Computer Science and Engineering Department

Name and Surname :Serdar Gül
Identity Number :20421689
Course :Bil-235
Experiment :1. experiment
Date :15.10.2007
Advisors :R.A.Yiğitcan AKSARI,Dr.EBRU
SEZER
Main Program :p2p.exe

2. Software Using Documentation

2.1 Software Usage

This program is very useful.We can say that this is a peer to peer program.This is like Ares,Limeware which are used as sharing and downloading some type of files.But my program makes it just in commands which are taken from input and gives the results to the output.

2 Error Messages

*** ERROR! Connection refused,server reached user limit :If there is a peer that wants to login a full server it will take this error message
*** ERROR! Server IP invalid : If a peer wants to login a server which is not defined in our program it will take this error message
*** ERROR! Invalid ID :If some files have the same Id they can not be shared together and there will be this error message
*** ERROR! Peer not found! :If there is not a peer that we give its ID program will give us this error message

*** ERROR! File found but peer(s) not available:If the peer which has the file wants to be shared disconnect from the server it will give us this error message when we want to find this file

*** ERROR! File not found : If the file we search does not exist in our system program gives us this error message

3. Software Design Notes

3.1. Description of program

3.1.1. Problem

The problem is object oriented programming. In this experiment we take some of the commands from the input file and we make some operations about this and give the result to the output file that we write positive or negative results to this. Whatever we write the operation to output file. We use lots of data structures and some useful things about the object oriented programming.

3.1.2 Solution

I defined ten method (except pops and pushes) for solution. Also I have some iterator and vector functions.

I used inheritance to manage the files and movies documents albums relationships

Methods:

```
int createServer(server);
int shutdownServer(string);
int connectToServer(string,peer,server*);
int disconnectFromServer(string,server*);
int shareMovie(movies,string,server);
int shareAlbum(albums,string,server);
int shareDocument(documents,string,server);
int shareExistingFile(string,string);
int SearchAndDownloadFile(string,string,string);
int SearchAndDownloadFile(string,string,string,string);
```

3.2. System Chart

INPUT	PROGRAMS	OUTPUT
<input device>	<program names>	<output devices>
Input.txt	p2p.exe	monitor,output.txt

3.3.Main Data Structures

Vector:I used to manage the classes like movies,file,documents etc.

Iterator:I used to Access element of(peerlist) server to manage this and cope with the commands in input file

StringTokenizer:I used this to seperate the string(input file's lines) into understandable parts

And also I use string,integer variables;

Program has 10 methods these are:

Methods:

int createServer(server);::this is used to create a server

int shutDownServer(string);::this is used to delete the server from the server

int connectToServer(string,peer,server*);::this is used that some of the pers in input file can Access the server

int disconnectFromServer(string,server*);::this is used to cut down the relationship between the server and the peer which is connected to server

int shareMovie(movies,string,server);::this is used to share some files(movies) which are in pers

int shareAlbum(albums,string,server););::this is used to share some files(albums) which are in peers

int shareDocument(documents,string,server););::this is used to share some files(documents) which are in peers

int shareExistingFile(string,string);::this is used to share the files which are used in **shareMovie(movies,string,server);** , **int shareAlbum(albums,string,server);** and **int shareDocument(documents,string,server);** functions

int SearchAndDownloadFile(string,string,string);::this used to search and download the file to define with name

int SearchAndDownloadFile(string,string,string,string); this used to search and download the file to define with name and type

type is the first letter of the file
for example
"M" movies
"A" albums
"D" documents

File pointer is for input and output file.

3.4Algorithm

```
1-check the arguments fort he program
1.1.if they are not true exit program
1.2. else
    1.2.1.read the a whole line of input file and seperate
    1.2.2.when we take the command
        1.2.2.1.if this is createServer
            1.2.2.1.1.Go to createServer function
        1.2.2.2 if this is shutDownServer
            1.2.2.2.1.Go to shutDownServer function
        1.2.2.3 if this is connectToServer
            1.2.2.3.1 Go to connectToServer function
        1.2.2.4 if this is disconnectToServer
            1.2.2.4.1 Go to disconnectToServer function
        1.2.2.5 if this is shareAlbum
            1.2.2.5.1 Go to shareAlbum function
        1.2.2.6 if this is shareMovies
            1.2.2.6.1 Go to shareMovies function
        1.2.2.7 if this is shareDocuments
            1.2.2.3.7 Go to shareDocuments function
        1.2.2.8 if this is shareExistingFile
            1.2.2.8.1 Go to shareExistingFile function
        1.2.2.9 if this is SearchaAndDownloadFile
            1.2.2.9.1 check it that is it with name or type
                1.2.2.9.1.2.if this is with type
                    1.2.2.9.1.2.1.go to int
SearchAndDownloadFile(string,string,string,string);
    Function
        1.2.2.9.1.3.else g oto int
SearchAndDownloadFile(string,string,string);:

1.3.give the results to output file after the command function
1.4. go to 1.2. step until the input file will be finished
1.5 exit from the program.
```

4.1. Software Testing Notes

4.1.1 Bugs and Reliability

Program have some bugs because of the string in the SearchAndDownloadFile function. Without this there is no bug in the program.

4.1.2 Software extendbility and upgradbility

Because of using functions so much program can easly develop. And it can learn us the object oriented programming

4.1.3 Performance considarations

It is very fast. And use lots of useful properties of the object oriented programming

4.1.4 Comments

I think this experiment is very faithful for us.

5. Referenses

Progrm Design in C

How to program with C/C++ DEITEL

And some of internet sites about iterators and vectors in C++

[www.cppreference.com/cpp**list**/index.html](http://www.cppreference.com/cpplist/index.html)

[www.cppreference.com/cpp**vector**/index.html](http://www.cppreference.com/cppvector/index.html)