CMP2204 Introduction to Computer Networks

Term Project Report

Spring 2020

Designing and Implementing Peer-to-Peer File Sharing Application

Arsen DÜZGÜN	Ezgi CUĞ	Ege YILDIRIM	Berk ÇATALAHMETOĞLU
1602980	1729778	1734536	1736771

Instructor

Assoc. Prof. Ece GELAL

TABLE OF CONTENTS

Designing and Implementing Peer-to-Peer File Sharing Application Project

1.Objective

The purpose of the project is designing and implementing a peer to peer file sharing application. P2P File sharing application specifies some essential concepts. These networking concepts like TCP protocol,UDP protocol IP address sub-netting, port mapping, etc. are used to design and implement this project and these are the main parts of designing architecture of a file sharing application.

2. How does the program work?

Developed Platform: Windows

First we designed the program in a way that every user has their own directory and have their files under their unique directories by using os.path.join function. This made it harder for server to access under users' directories because we had to ask username input in p2p_client. So we removed spesific directories and continued in hierarchy-free model.

Also, we tried using pickle library to pickle files under P2P_Server and unpickling it on P2P_Client. That wasn't necessary and was removed on next implementations.

We couldn't implement "Torrent-like" p2p file transfer. So users can't seed directly to another users with the chunks they have.

Chunk numbers displayed in p2p_client output is equal to file_size / buffer_size , its not hardcoded and depends on size of file we want to download. (eg. it has nothing to do with chunk description in 2.2.0-G step in FunctionalSpec.pdf

We haven't divided workload in spesific parts. We used pair programming method rather than dividing files because they were all integrated with each other, one of us would write the code and others watched his/her screen on Discord app. That way we could see our mistakes easier and we believe our overall effectivity increased.