CMP2204 Introduction to Computer Networks

Spring 2023, Term Project

Goal: The goal is to apply the concepts learned in class, through programming and hands-on practice. At the end of this project, you will have a better understanding of how a networked application operates and what are the technologies behind it.

Task: Design and implement a peer-to-peer file sharing application. The shared design document specifies the necessary protocols that you need to implement. Please follow the design doc closely (in fact, verbatim) in your implementation.

Requirements: The application should;

1. Have 4 processes: Chunk_Announcer, Chunk_Discovery, Chunk_Downloader, Chunk_Uploader. These processes should work as outlined in their respective specifications.
2. Successfully detect the available content in the peers in the Local Area Network.
3. Successfully download a content from other peers in the Local Area Network.
4. Display an error dialog if a download is in error.
5. Output a download/upload log, containing timestamps, names and chunk index of all downloaded files.

Important Notes: There will be two demo sessions, one on Week 13 and one on Week 14. Those who present in Week 13 will receive 15% bonus (or demos on Week 14 will be evaluated from 85%). Deadline for the project is 23:59 on **Sunday, May 28** if you will present on Week 13, and on **Sunday, June 4** if you will present on Week 14. (Late submissions will not be accepted for either cases.) Please commit all material under the "Term Project" assignment under Resources on itslearning. Your commits should include:

- All pieces of codes that you wrote.
- A README file describing how your program works, and known limitations of your program (so that I run your code correctly).
- A 1-page document describing which platform (Windows/Linux) you've used to develop your code, faced challenges, group members' names and division of workload within the group.

Please name all your files as [XXX]_[filename] where XXX is your team members' initials.

You may work in groups of size **2 or 3**. You should determine a partitioning of responsibilities so that group members can work effectively in parallel.

Please note that only the students who present their work in the demo session on weeks 13-14 will get a grade out of their term project.