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Phase 1 Write up
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Bittorrent Client Phase 2 write up

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This program takes in a torrent file and downloads the file. It uses TorrentInfo class to parse and decodes the data given by the torrent file. After that tracker class gets the http url from specific ip and port number and gather the peer's information which then communicates with the peer and downloads the file. This also takes RTT into consideration. It will calculate the RTT time to connect the peer and choose the fastest connected peer with RU prefixing.

Class Info

RUBTClient.java: This is a main class that takes two arguments, the torrent file and the name that the client wants to save the file as. This class parses and decodes the file using torrentInfo class. The torrentInfo object holds the metadata of the torrent which is used by other classes to read and send messages to tracker so we know which pieces are already downloaded and which pieces are still left to be download.

Tracker.java: This class performs the creates URL and gets HTTP request so we can get the list of peers that the user can connect to. It also gets the peer id , and does URL encoding. It gets the correct peer from the tracker with RU prefixing.

Peer.java: This class connects to peers and maintain connection between each peer. It sends and receives messages to and from peers to communicate with different peers. It also verifies the handshake response. If the message indicates that the if the piece that the peer has is downloaded or not, if not it gets the piece from the peer. It also takes RTT into consideration. It will calculate the average RTT of packet.

Feedback

The assignment was doable, it was much easier than the phase 1 and also shorter. However, i think the difference between the bit torrent and the first socket assignment is day and night. The socket assignment is so basic it literally took less than 30 minutes to complete. However I think that getting this assignment right after the simple socket assignment makes it really hard for students to code because they have very little knowledge of server/socket programming.