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18-441
Project 4 Design Document

a. What are the drawbacks/limitations of the given protocol?
b. Libraries used (optional; name, version, homepage-URL; if available)
c. Extra capabilities
d. Extra instructions on how to execute the code

Peer Search Protocol:
For our peer search protocol, we worked in both VodServer.java and BackendServer.java. Within VodServer, we called findPeers from an instance of the BackendServer that we have. Inside of VodServer, the current node (controller) calls findPeers on each of its neighbors. Then, we decrease the time-to-live (TTL) and wait for the search_interval (provided by .conf file or default 100ms).

Within the findPeers function, the BackendServer connects with its peers and communicates who has the requested file. This communication is performed with Datagram packets. In our main function, we check the packet header, looking for a packet that begins with "do yo have" and search for the requested file on the peer. Then, we return that peer to the BackendServer, which adds the peer to a result array, containing all peers in the network that have the requested file.

Libraries used:
Just as with project 3, we used JSON simple, and the jar file is included.

Instructions:
As per our README, the code is executed by running: "ant build jar -Darg0=filename run", where "filename" is the name of the .conf file. If there is none provided, the program will use node.conf by default.