# COMP3331 - Networks Assignment: Networking eDocuments (Report)

Program Design

**How System Works**

* Both reader and server have different directories, to support the ability for independent databases (which may have conflicting names) to be used
* Reader
  + Has a directory for each book, each containing the book's pages and contents
  + The first message (containing data) sent to the server will be the reader's username, mode (push/pull), . This message has a particular format, described in 'Message Design'.
* Server
  + Doesn't need to know the content of the books - only an ID for each book is required
  + Config file used to map the books with unique ID's

Message Design

* Reader
  + Introduction message: used to provide the username and mode to the reader  
    '#Username#[user\_name]'

Design Considerations and Tradeoffs

Possible Improvements

**Issues**

* When using Ctrl+C to close the server, it needed to wait about 60 seconds before . To fix this, I set the options for the socket as 're-usable'. Not sure if there will be any future issues when a TCP tuple for a previous packet is recreated.

Code References

* Code used as a framework for creating sockets, and making connections between a server and client taken from "Socket Programming HOWTO" (https://docs.python.org/2/howto/sockets.html)
* Code used for handling multiple clients using 'Select' for networks was adapted from "Python Network Programming: Echo Server with Select"  
  (http://ilab.cs.byu.edu/python/select/echoserver.html)