

COMP3331 Assignment - Ryan McClue (z5346008)

(no more than 3 pages)

Program Design

Utilise a unity build system to reduce linkage time and remove need for an external build tool. Build by running script `chmod +x build && ./build`, which will produce `client` and `server` binaries.

File Structure

Entrypoints to client and server binaries are `client.c` and `server.c` respectively.

`common.h` contains various common includes and function definitions that are used by both the client and server.

`io.h/io.c` contain functions related to file reading/writing and string parsing

`commands.c` contains functions implementing client side commands

`messages.h` contains definitions for application layer message format

Files produced by EDG are placed in the current working directory of the `client` binary and are named `[device-name]-[fileid].txt`

Files uploaded by UED are placed in the current working directory of the `server` binary and are named `server-[device-name]-[fileid].txt`

Files uploaded by UVF are placed in a folder named `[recieving-device-name]/[sending-file-name]`

Key Functions

names of key functions ##### Client

Server

Program Flow

a brief description of how your system works.

Application Layer Message Format

Design Tradeoffs

Also, discuss any design tradeoffs considered and made.

Describe possible improvements and extensions to your program and indicate how you could realise them.

Security (encryption, packet length manipulation, authentication spoofing)
Bandwidth Endianness Scalability (assume no more than 32 clients connected
in one session) Concurrency (assume no concurrent connect)

Program Features Not Working

If your program does not work under any particular circumstances, please report this here.