

CS 145 Project Parameter-Adaptive Reliable UDP-based Protocol

1 Requirements

- **Level Declaration:** Level 3

2 Documentation

2.1 Code Explanation

The code is divided into 5 major parts: the possible changing of parameters, the getting of transaction ID, the estimation of payload size, the adjustment of the estimated of payload size, and the sending of the remaining payload

2.1.1 Changing of Parameters

With the assumption of valid inputs, we traverse the arguments by pair after the python file argument.



Figure 1: parameter changing snippet

Running a python file will have at least 1 argument and via the argv of the sys module we are able to access it as list of strings with the first index being the python file. To show that this is working, we simply created a show input wherein it shows all the variables like ip of the receiver, the port numbers, the id, and the period. below is a Screenshot of testing and showing that the changing of parameters work.

```

C:\Users\user\Desktop\Requirements\cs 145 Project>python rproj.py -f "newfilepath/path.txt" -i cs145 -a 192.168.1.1 -c 1234 -s 4567
path: newfilepath/path.txt
ipreceiver: 192.168.1.1
port receiver: 4567
port sender: 1234
ID: cs145

C:\Users\user\Desktop\Requirements\cs 145 Project>python rproj.py
path: 9bb836ec.txt
ipreceiver: 10.0.7.141
port receiver: 9000
port sender: 6756
ID: 9bb836ec

C:\Users\user\Desktop\Requirements\cs 145 Project>python rproj.py -f "newfilepath/path.txt" -i cs145 -a 192.168.1.1
path: newfilepath/path.txt
ipreceiver: 192.168.1.1
port receiver: 9000
port sender: 6756
ID: cs145

C:\Users\user\Desktop\Requirements\cs 145 Project>python rproj.py -a 192.168.1.1
path: 9bb836ec.txt
ipreceiver: 192.168.1.1
port receiver: 9000
port sender: 6756
ID: 9bb836ec

```

Changing all Parameters

default parameters

Figure 2: parameter changing test

Each Test case either changes the default values on indication or stay with the default, for a clearer view, all figures will be viewable via a google drive link provided in the Links section with names in the figure number.

For the first test, we changed everything with the following values, path: "newfilepath/path.txt", IP 192.168.1.1, port receiver 4567, port sender 1234, id=cs145 and have the following changes as shown to be what it is intended to do.

For the second test, we ought to see the default values thus, we did not change any of the parameters. The output is as expected, basing from the default values from figure 1.

2.1.2 Initializing of transaction

For this code section, there are three things that will happen: Initializing sender port, loading payload, and connecting for transaction ID.

```

12 client= socket.socket(socket.AF_INET, socket.SOCK_DGRAM)
13 client.bind(("",port_sender))
14 client.settimeout(30)

```

Port Initialization

Figure 3: Port Initialization

3 Links

- **Google Drive Link for pictures:**
- **GitHub Link:** <https://github.com/anagramiccoder/cs145proj>
- **Video Link:** <https://github.com/anagramiccoder/cs145proj>