Erik Macik

Conputer Networks Assignment 1

SMTP

**Contents of the program Macik\_EmailClient.py**

# Erik Macik

# Computer Networks Assignment 1

# SMTP Server communication

from socket import \*

# Constant SMTP commands used when creating messages for SMTP server

HELO = "helo "

MAIL\_FROM = "mail from: "

RCPT\_TO = "rcpt to: "

DATA = "data"

SUBJECT = "subject: "

BODY = ""

RETURN = "\r\n"

# Receive a message from the server represented y `client\_socket`

def receive\_and\_print(client\_socket):

response = client\_socket.recv(1024)

print('From server:', response.decode())

# Send a message to the server represented by `client\_socket`

# The message will have a prefix of `command` to identify command

# The message will have contents of `argument`

def send\_message(client\_socket, command, argument):

to\_send = command + argument + RETURN

if command == SUBJECT:

to\_send += RETURN

elif command == BODY:

to\_send += RETURN+"."+RETURN

client\_socket.send(to\_send.encode())

# Main function. Read SMTP Server address and port number from user, and connect

# to server.

# The user is walked through the SMTP conversation process where they are asked

# for input, it is automatically sent to the server in the correct format,

# and the response from the server is shown to the user.

# #

if \_\_name\_\_ == "\_\_main\_\_":

print("SMTP Mail Server automation")

# Get SMTP server and port from user

server\_name = input("Enter SMTP mail server address: ")

server\_port = int(input("Enter port numer: "))

# Initiate TCP connection with server

client\_socket = socket(AF\_INET, SOCK\_STREAM) # TCP connection

try:

# Try to connect

print("Connecting to mail server...")

client\_socket.connect((server\_name, server\_port))

print("Connected to", server\_name, "at port", server\_port)

except Exception as e:

# Quit if the connection fails

print("Couldn't connect to server")

exit()

# Display successful connection response

receive\_and\_print(client\_socket)

# Read and communicate domain name with helo command

domain\_name = input("Enter the domain name: ")

send\_message(client\_socket, HELO, domain\_name)

receive\_and\_print(client\_socket)

# Read and communicate source email

source\_email = input("Enter your email address: ")

send\_message(client\_socket, MAIL\_FROM, source\_email)

receive\_and\_print(client\_socket)

# Read and communicate receiving email

dest\_email = input("Enter the receiving email address: ")

send\_message(client\_socket, RCPT\_TO, dest\_email)

receive\_and\_print(client\_socket)

# Initiate start of email contents with server

send\_message(client\_socket, DATA, "")

receive\_and\_print(client\_socket)

# Read email subject and body from user

subject = input("Enter email subject: ")

body = input("Enter email body: ")

# Communicate email subject and body

send\_message(client\_socket, SUBJECT, subject)

send\_message(client\_socket, BODY, body)

# Display successful message queued

receive\_and\_print(client\_socket)

# Close connection

client\_socket.close()

**Contents of README.txt:**

USAGE FOR Macik\_EmailClient.py

Instructions for running my email client:

1. Connect your machine to the UTEP VPN if you are not running this

program in person at UTEP.

2. Run the email client with the following command:

python3 Macik\_EmailClient.py

3. The program will prompt you for the information it needs.

4. Specifying the SMTP server:

i. Enter "smtp.utep.edu" as the SMTP server

ii. Enter "25" as the port number

5. If the connection is successful, the program will continue. If it

is unsuccessful, the program will quit.

6. Enter "utep.edu" as the domain name.

7. Enter your university email as the "your email address."

8. Enter the university email of the receiver you wish to send to.

9. Specifying main contents

i. Enter any string for the "subject" of the email

ii. Enter any string for the "body" of the email

10. After your mail has been successfully added to the server's queue,

you will see "Queued mail for delivery" and the program will quit.

**Evidences and sample runs:**

Proof of successful test email sent from [esmacik@miners.utep.edu](mailto:esmacik@miners.utep.edu) to [esmacik@miners.utep.edu](mailto:esmacik@miners.utep.edu) with program output and received email screenshot.

A screenshot of a cell phone

Description automatically generated

A picture containing bird

Description automatically generated

Proof of successful submission of email from esmacik@miners.utep.edu to dktosh.utep@gmail.com

A screenshot of a cell phone

Description automatically generated

**References used:**

* The following stack overflow page provided some clarification on the format of strings that need to be sent to the SMTP server. For example, it was a bit confusing that an “enter” sequence in this context is the string “\r\n”. https://stackoverflow.com/questions/33397024/mail-client-in-python-using-sockets-onlyno-smtplib