SecureDrop

Overview

User Registration

- If a user does not exist, the registration module will be presented to the user
- Credentials are required to register user

User Login

Following successful registration, the login module is presented immediately

SecureDrop

- Upon Successful user login, the user is given a few options within the newly started shell
- The user can add contacts and list mutual online contacts as well.
- SecureDrop alo allows a user to send a file securely to a mutual contact

User Registration

- By validating the presence of a private_key, SecureDrop will know recognize if new user registration is required
- User registration requires full name, email, and password
- Credentials for files are held on an encrypted user.json file for user confidentiality



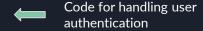
Private_key validation

Collecting and securely storing we user credentials



User Login

- Logging in a previously registered user requires the email and password that was user for registration
- A successful login starts a shell and gives the user access to certain commands
- The command list can be shown by simply typing "help"



Adding Contacts

- The "add" command allows users to add contacts to their own contact list
- Upon using the command, a name and email is required for each contact
- All contacts are held on an encrypted contact.json to ensure user confidentiality

```
# append contact.json everytime add new contact in
contact list.append(contact)
if not file exist(contact file):
        with open(contact file, "w") as f:
                json.dump(contact list,f, indent=4)
        with open(contact file, "r") as f:
                data.append(contact)
        unique entries = []
        for entry in data:
                if entry not in unique entries:
                        unique entries.append(entry)
        with open(contact file, "w") as write json:
                json.dump(unique entries, write json)
if Duplicate:
        print("Duplicate contact, nothing added")
        print("Contact added")
```

Listing Contacts

- Users can list mutual contacts that are online by using the "list" command
- By communicating through a TCP server, SecureDrop can identify active contacts and

display them effectively

```
# Continuously accept connections and handle them until a timeout occurs
while True:

try:

Contactinfo = json.load(open(contact_file, "r"))

# establish a connection

# receiving email from other client

clientsocket.addf = serversocket.accept()

client message = clientsocket.recv(1024)

client message = client message.decode("utf-8")

# search client email within contact file

contact_name = search_misl(client_msg_email_str, Contactinfo)

contact_name = search_misl(client_msg_email_str, Contactinfo)

# if client email = client message email_str.

Contact_email = client_msg_email_str.

Clientsocket.send(email.encode("utf-8"))

# receiving another message on handshake whether

# both client handshake = clientsocket.recv(1024)

client handshake str = client handshake.decode("utf-8")

if client handshake str = client handshake.decode("utf-8")

if client handshake str = client handshake.decode("utf-8")

connect = True

else:

clientsocket.send(msg.encode("utf-8"))

clientsocket.close()

except socket.timeout:

break

serversocket.close()

return connect

recurred

connect = True

connect = True

connect = True

recurred

recurred
```

```
SecureDrop>> list

The following contacts are online:

No contact online
SecureDrop>>
```

Secure File Transfer

- The most crucial feature "send" allows users to send a file to mutual contacts that are online
- This secure file change only requires the user to enter the recipients email and the file name you would like to send

```
# File transfer receiving modules

if (incoming msg_str = "sendrequest"):

contactemail = client socket.recv(1024) #recieve identity of sender and filename
contactemail = client socket.recv(1024)

filename = str = filename.decode("utf-8")
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