ARIZONA STATE UNIVERSITY

**CSE 434, SLN 70569 – Computer Networks – Fall 2021**

Instructor: Dr. Violet R. Syrotiuk

**Socket Programming Project Milestone**

09/26/2021

1. Message Format

Register (successful) - {

'res': SUCCESS,

'type': register,

'data': None

}

Register (unsuccessful) - {

'res': FAILURE,

'type': error,

'data': None

}

Deregister (successful) - {

'res': SUCCESS,

'type': deregister,

'data': None

}

Deregister (unsuccessful) - {

'res': FAILURE,

'type': error,

'data': None

}

setup-dht (successful) - {

'res': SUCCESS,

'type': DHT,

'data': [(‘username’, ‘ip’, ‘port’, ‘port’, ‘port’),(…)]

}

Setup-dht (unsuccessful) - {

'res': FAILURE,

'type': error,

'data': None

}

Dht-complete (successful) - {

'res': SUCCESS,

'type': dht-setup,

'data': None

}

Dht-complete (unsuccessful) - {

'res': FAILURE,

'type': error,

'data': None

}

Query-dht (successful) - {

'res': SUCCESS,

'type': query-response,

'data': (‘username’, ‘ip’, ‘port’, ‘port’, ‘port’)

}

Query-dht (unsuccessful) - {

'res': FAILURE,

'type': error,

'data': None

}

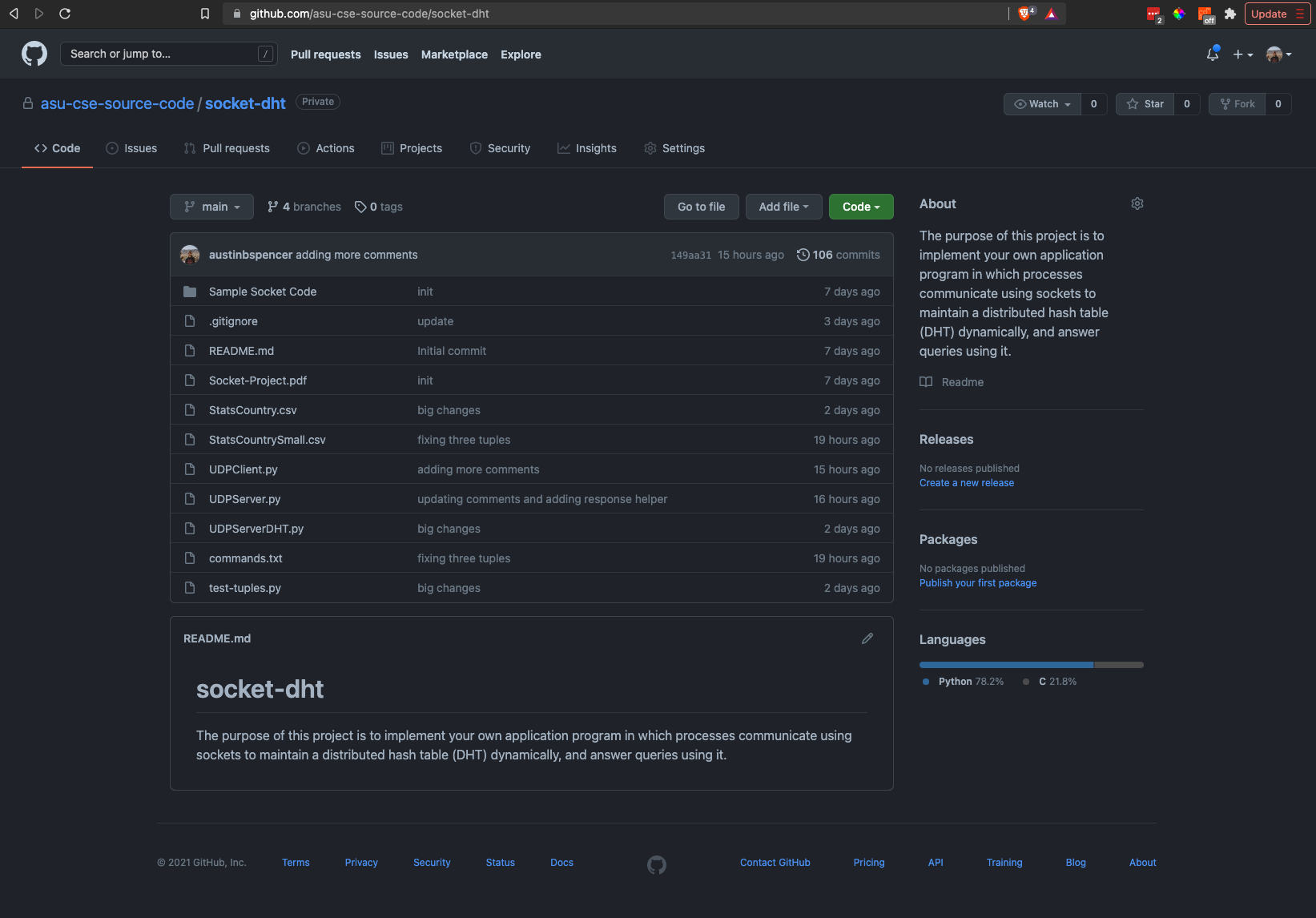
1. Time-space diagrams
2. Data structures and algorithms used

Server side:

1. User object – Python Class object
2. Users – Dictionary
3. DHT – List of dictionaries
4. Three\_tuples – tuple of tuples

Client side:

1. Client object – Python Class object
2. Local hash table – List of lists of dictionaries
3. Snapshot showing commits in GitHub



1. Video link