

Pseudocode for sender.cpp

sender.cpp

```
//Function to initialize the shared memory and message queue
initialize(shared memory id, message queue id, shared memory pointer) {
    Create a key from a file

    If failed to generate key
        Generate an error message

    Initialize the shared memory

    If the shared memory was not created
        Generate an error message
        Attach to shared Memory

    If failed to attach to share memory
        Generate an error message

    Initialize message queue

    If failed to initialize/connect to message queue
        Generate error message
}

//Clean up resources
cleanup(shared memory id, message queue id, share memory pointer) {
    deallocate memory
}
```

```
send(file name) {
```

```
    Open the file for reading {
```

```
        If the file failed to open
```

```
            Generate an error
```

```
        Read the entire file
```

```
        If nothing was read
```

```
            Generate an error
```

```
        Pass Message to the message queue
```

```
        If the connection to the message queue was not established while reading
```

```
            Generate an error
```

```
        Check to see if the message was received by the receiver
```

```
        If the message was not received
```

```
            Generate an error
```

```
}
```

```
    Send message to message queue that sending is complete
```

```
    If message was not able to be sent/received
```

```
        Generate an error
```

```
    Close file
```

```
}
```

```
main(argc, file name) {  
    Check to make sure two arguments  
        Otherwise generate and error  
  
    Connect to the shared memory and message queue  
  
    Send the file  
  
    Cleanup resources  
}
```