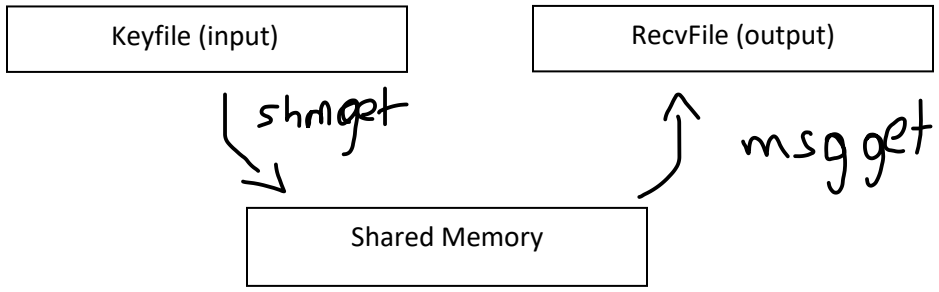
I. Data Flow:



II. Pseudo code:

- Sender:

Init:
Generate shared memory key
Allocate part of shared memory
Attach to shared memory using a pointer (set up by receiver)
Make a message queue

Send:

While (not at end of file)
    Read number of bytes and store in shared memory
    Send message telling receiver data is ready
    Wait for receiver to send message that it saved the memory chunk

Send message to receiver with size field set to 0 (indicating there are no more messages to send)

Cleanup:
Close file
Detach from shared memory
Exit

receiver:

signal:
Install signal handler

init:

Generate key for shared memory
Allocate a piece of shared memory
Attach to shared memory with a pointer
Make a message queue

mainloop:

Open file for writing
Receive message and determine message size

While (message size =/= 0)
    Read number of bytes from shared memory and save to file.
    Send message to sender confirming reception and saving of data

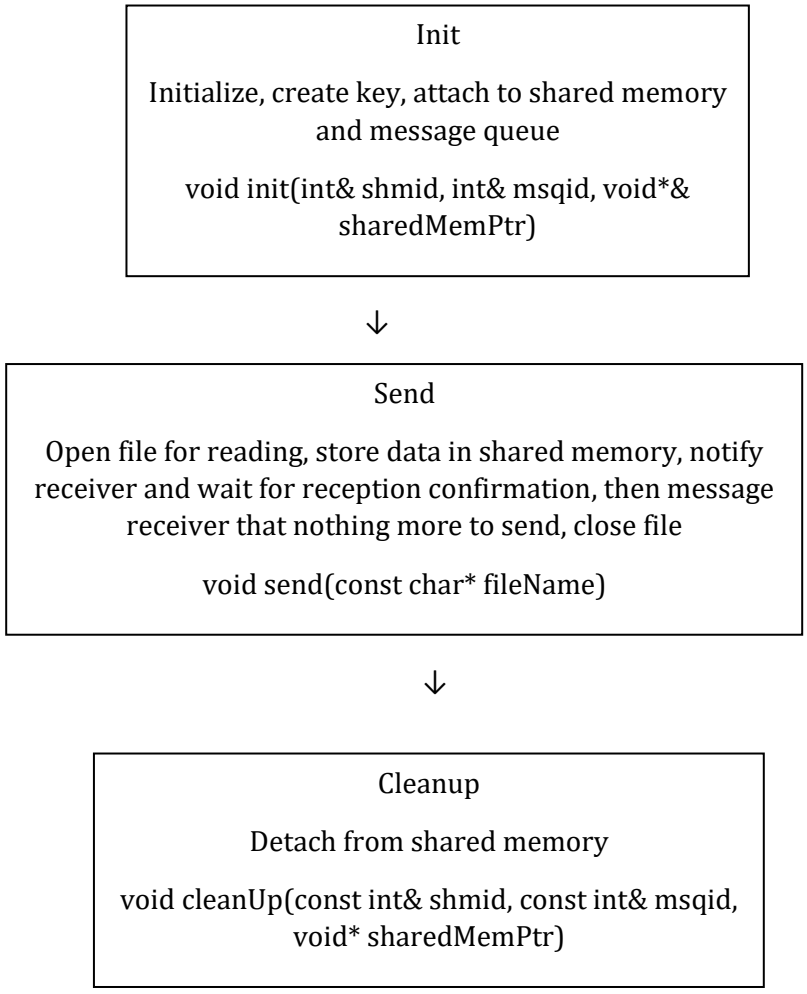
cleanup:

Close file
Detach from shared memory
Exit

III. Flowchart Design

Sender Program Flow Chart

sender.cpp



Receiver Program flow chart

recv.cpp