Use Case Name	Write to Server	
Brief Description	User can write a file from the host to the server.	
Precondition	Server is running.	
Primary Actor	File Transfer System user	
Secondary Actor	None	
Dependencies to other use cases	None	
Basic flow	Steps	
	1	User inputs request type "write" into Client UI.
	2	User inputs file path into Client UI.
	3	User inputs data type "octet" or "netascii" into Client UI.
	4	User inputs output mode "quiet" or "verbose" into Client UI.
	5	User inputs mode "normal" or "test" into Client UI.
	6	Client creates WRQ packet and sends it to the Server
	7	Server receives packet, parses WRQ, and spawns new ServerThread
	8	ServerThread creates an ACK packet and sends it to the client.
	9	Client receives ACK packet.
	10	DO: Client creates & sends DATA packet to ServerThread. ServerThread receives DATA packet. ServerThread creates & sends ACK packet to Client. Client receives ACK packet. LOOP UNTIL: size of DATA packet data < 512 bytes
	11	UI prompts user for next input.
Global Alternative Flow	If server operator enters "shutdown" into the terminal THEN	
	1	Shutdown Server
	2	Abort
Bounded Alternative Flow	Step 7-10: IF opcode or filename or mode is invalid	
	1	Create & send ERR packet (code 4)
	2	Terminate connection
	3	Abort
Specific Alternative Flow	Step 10	
	1	DO: Client does NOT receive ACK packet. Client waits 5 sec Client re-sends DATA packet LOOP UNTIL: timeout limit reached
	2	Abort
Specific Alternative Flow	Step 10: IF DATA packet TID is invalid THEN	
	1	Create & send ERR packet (code 5) to the invalid TID
	2	Continue transfer

Use Case Name	Read from Server	
Brief Description	User can read a file from the server.	
Precondition	Server is running.	
Primary Actor	File Transfer System user	
Secondary Actor	None	
Dependencies to other use cases	None	
Basic flow	Steps	
	1	User inputs request type "read" into Client UI
	2	User inputs file path into Client UI
	3	User inputs data type "octet" or "netascii" into Client UI
	4	User inputs output mode "quiet" or "verbose" into Client UI
	5	User inputs mode "normal" or "test" into Client UI
	6	Client creates RRQ packet and sends it to the Server
	7	Server receives packet, parses RRQ, and spawns new ServerThread
	8	DO: ServerThread creates & sends DATA packet to Client Client receives DATA packet Client creates & sends ACK packet to ServerThread. ServerThread receives ACK packet LOOP UNTIL: size of DATA packet data < 512 bytes
	9	Client UI prompts user for next input.
Global Alternative Flow	If server operator enters "shutdown" into the terminal THEN	
	1	Shutdown Server
	2	Abort
Bounded Alternative Flow	Step 7-10: IF opcode or filename or mode is invalid	
	1	Create & send ERR packet (code 4)
	2	Terminate connection
	3	Abort
Specific Alternative Flow	Step 8	
	1	DO: ServerThread does NOT receive ACK packet ServerThread waits 5 sec and times out ServerThread re-sends DATA packet LOOP UNTIL: timeout limit reached
	2	Abort
Specific Alternative Flow	Step 8: IF DATA packet TID is invalid THEN	
	1	Create & send ERR packet (code 5) to the invalid TID
	2	Continue transfer