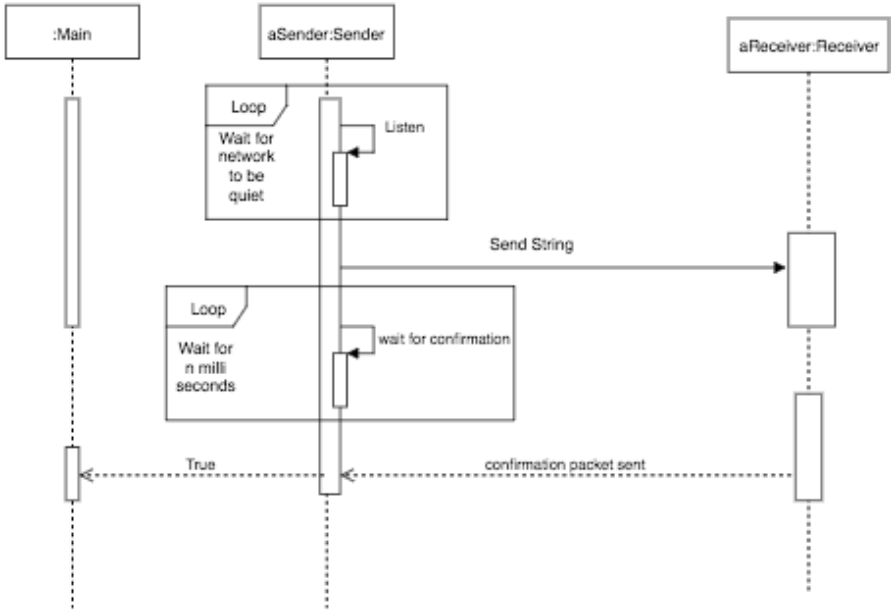
Benjamin Taubenblatt ID: 260626105 COMP 303 Assignment 2 Question 1 Sender Sequence Diagram



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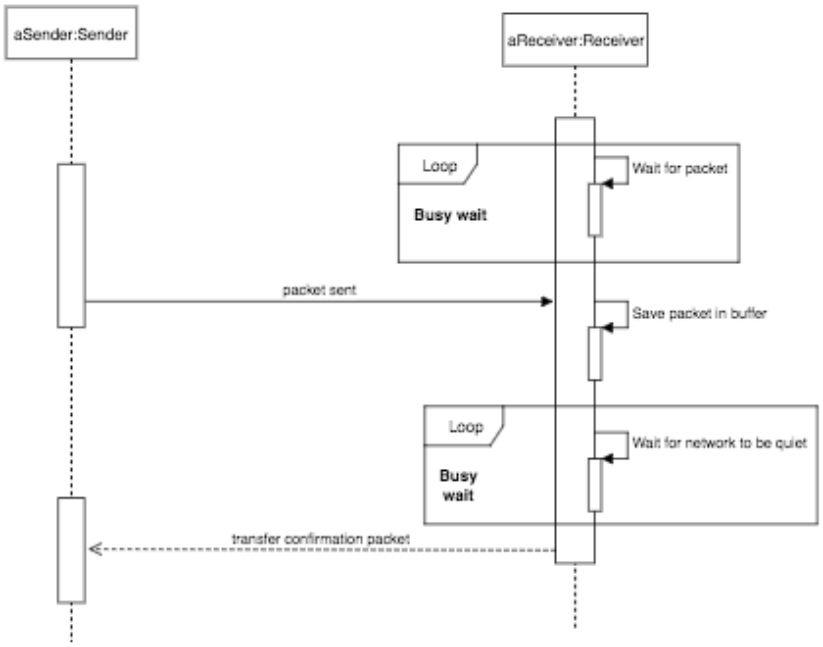

COMP 303 Assignment 2 Question 1 Part B:

The Sender would send a request to the receiver asking if it is ready. The receiver would send a confirmation message back saying it is ready. The receiver would also send a request to the sender asking if it is ready, the sender would send a confirmation back to the receiver to confirm it was ready. This would all be done with dependency calls to each other. The sender would then start to continuously send packets while the receiver would prepare to receive those packets. The sender would send packets in a loop one by one, it will not send the m^{th} packet until it knows the $(m-1)^{st}$ packet has been received correctly. The receiver would receive packets in a loop in one of 2 buffers it creates utilizing calls to itself. Every time a packet is received it is placed into a buffer and the receiver will start a thread which will send a confirmation response back to the sender saying it has received the packet and is ready for another. The receiver uses the 2 buffers in this way: 1 buffer to catch incoming packets, and the other to be switched with the original buffer when the original buffer becomes full. This is all done in a loop and utilizing calls to the receiver by the receiver. When the original buffer becomes full, the receiver will write that buffer to memory using a call to itself and begin receiving packets with the second buffer. In this way we both minimize the amount of times we need to clear our buffers and write to memory(an “expensive” task) and we also never stop being able to receive packets therefore minimizing the chance that a packet is missed.

State Diagram Assignment 2 Question 2

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