CSSE 373 - RDT Data Transfer Project
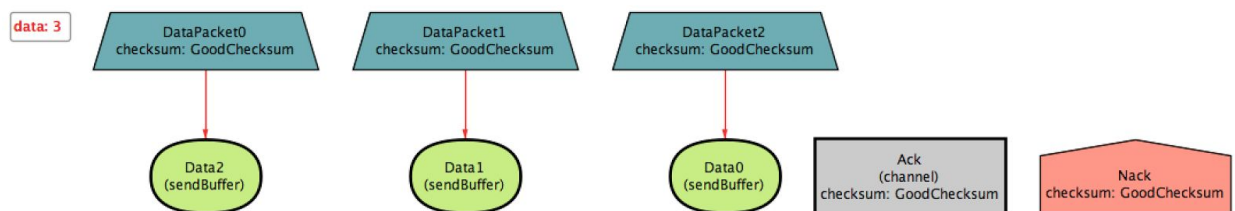
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Project Plan

In each milestone, we will check the following two properties of the protocol we are modeling:

1. Using the given protocol, it is possible to transmit all of the data in the sender's buffer to the receiver's buffer. Here, you are asked to find one possible way to do so.

2. Using the given protocol, it is always possible to transmit all of the data in the sender's buffer to the receiver buffer. Here, you are asked to find one possible way in which the data cannot be transferred, thus, refuting the claim. You must ensure that the causes of flaws are due to the flaws in the protocol and not your model. Keep in mind that not all versions of RDT have flaws.
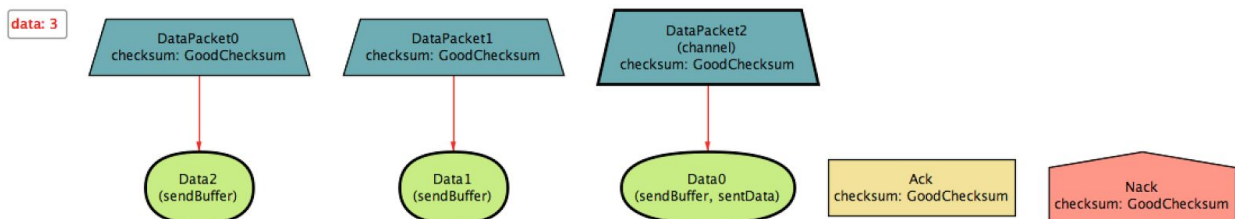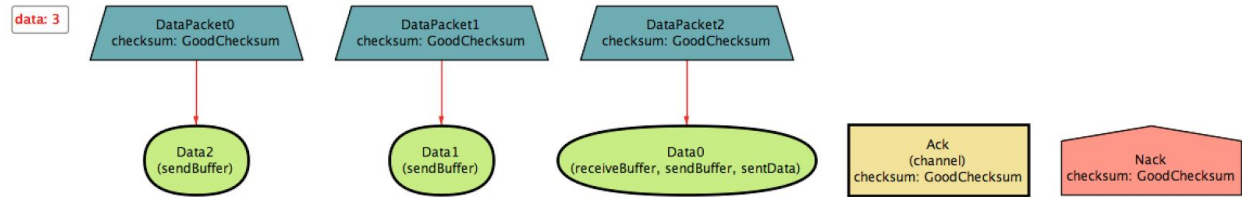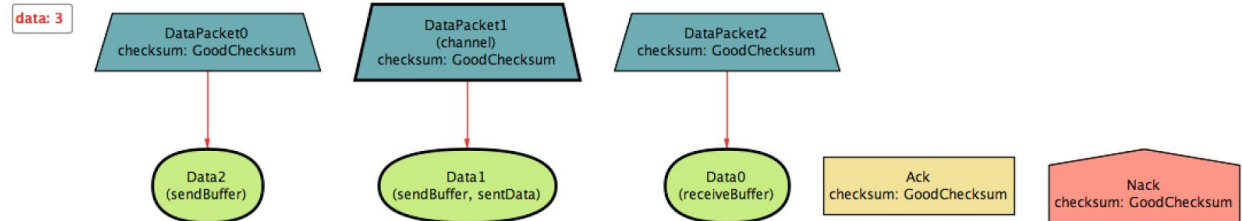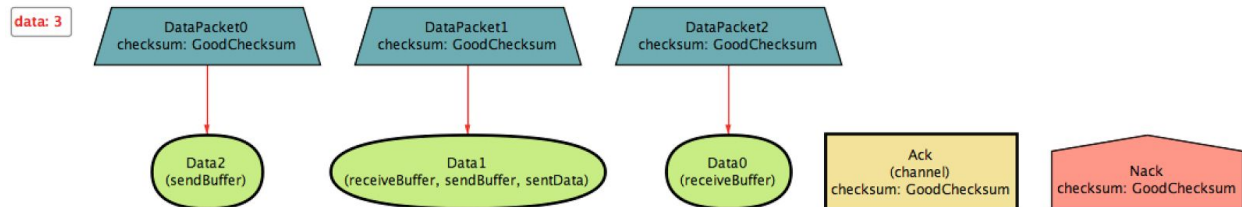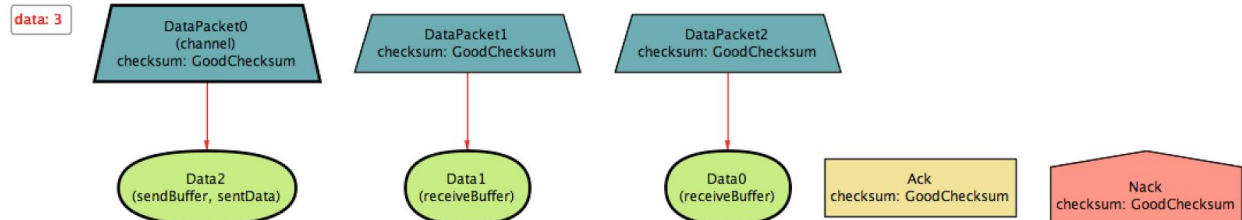
Milestone 2

Property 1

Step 1

Step 2

Step 3

data: 3

DataPacket0 checksum: GoodChecksum	DataPacket1 checksum: GoodChecksum	DataPacket2 checksum: GoodChecksum
Data2 (sendBuffer)	Data1 (sendBuffer)	Data0 (receiveBuffer, sendBuffer, sentData)

Ack (channel) checksum: GoodChecksum

Nack checksum: GoodChecksum

Step 4

data: 3

DataPacket0 checksum: GoodChecksum	DataPacket1 (channel) checksum: GoodChecksum	DataPacket2 checksum: GoodChecksum
Data2 (sendBuffer)	Data1 (sendBuffer, sentData)	Data0 (receiveBuffer)

Ack checksum: GoodChecksum

Nack checksum: GoodChecksum

Step 5

data: 3

DataPacket0 checksum: GoodChecksum	DataPacket1 checksum: GoodChecksum	DataPacket2 checksum: GoodChecksum
Data2 (sendBuffer)	Data1 (receiveBuffer, sendBuffer, sentData)	Data0 (receiveBuffer)

Ack (channel) checksum: GoodChecksum

Nack checksum: GoodChecksum

Step 6

data: 3

DataPacket0 (channel) checksum: GoodChecksum	DataPacket1 checksum: GoodChecksum	DataPacket2 checksum: GoodChecksum
Data2 (sendBuffer, sentData)	Data1 (receiveBuffer)	Data0 (receiveBuffer)

Ack checksum: GoodChecksum

Nack checksum: GoodChecksum

Step 7

data: 3

DataPacket0 checksum: GoodChecksum	DataPacket1 checksum: GoodChecksum	DataPacket2 checksum: GoodChecksum
Data2 (receiveBuffer, sendBuffer, sentData)	Data1 (receiveBuffer)	Data0 (receiveBuffer)

Ack (channel) checksum: GoodChecksum

Nack checksum: GoodChecksum

Step 8

data: 3

DataPacket0 checksum: GoodChecksum	DataPacket1 checksum: GoodChecksum	DataPacket2 checksum: GoodChecksum
Data2 (receiveBuffer)	Data1 (receiveBuffer)	Data0 (receiveBuffer)

Ack checksum: GoodChecksum

Nack checksum: GoodChecksum
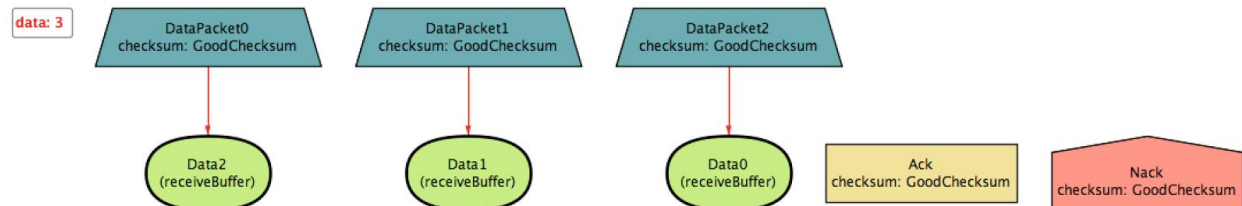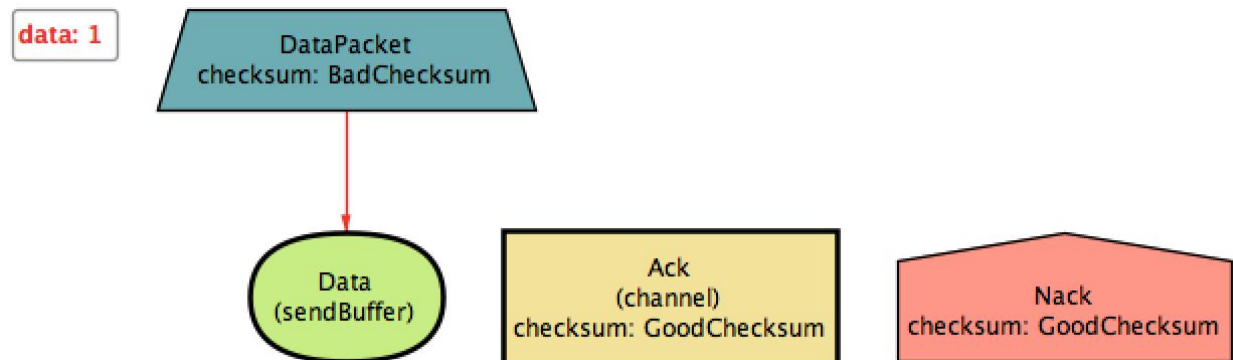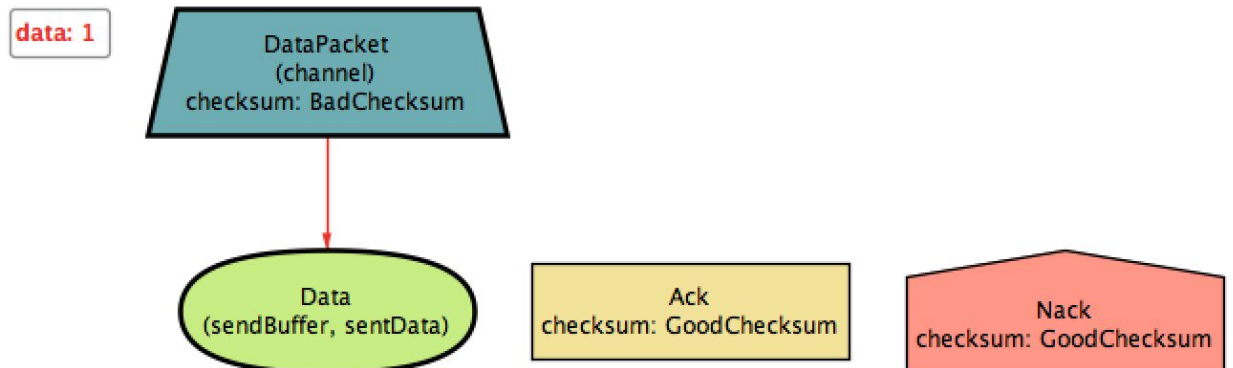
Property 2

The flaw is when there is a NAK; there is an endless loop if that message is also corrupted. Steps 2 and 3 repeat infinitely.
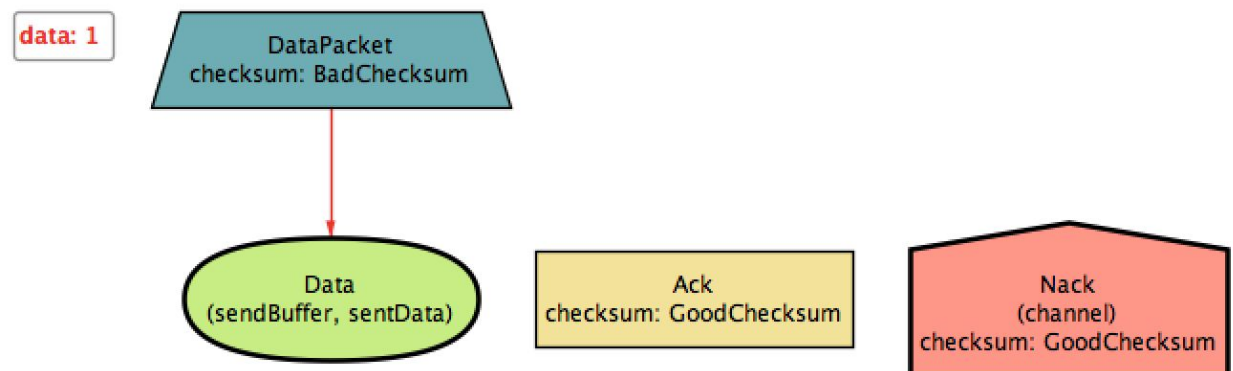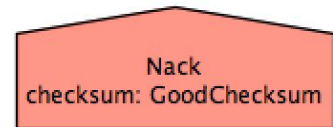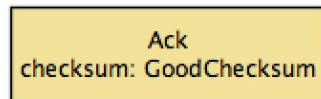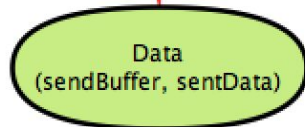
Step 1

data: 1

DataPacket
checksum: BadChecksum

Data
(sendBuffer)

Ack
(channel)
checksum: GoodChecksum

Nack
checksum: GoodChecksum

Step 2

data: 1

DataPacket
(channel)
checksum: BadChecksum

Data
(sendBuffer, sentData)

Ack
checksum: GoodChecksum

Nack
checksum: GoodChecksum

Step 3

data: 1

DataPacket
checksum: BadChecksum

Data
(sendBuffer, sentData)

Ack
checksum: GoodChecksum

Nack
(channel)
checksum: GoodChecksum

Step 4

data: 1

DataPacket
(channel)
checksum: BadChecksum

Data
(sendBuffer, sentData)

Ack
checksum: GoodChecksum

Nack
checksum: GoodChecksum

Step 5

data: 1

DataPacket
checksum: BadChecksum

Data
(sendBuffer, sentData)

Ack
checksum: GoodChecksum

Nack
(channel)
checksum: GoodChecksum