

The slide features a teal background with a white circuit board pattern. A diagonal white line runs from the top-left corner to the bottom-right corner, creating a white triangular area in the top-left. The text is white and centered on the teal background.

**GCC 2021**

**Robust Protocol  
Challenge Presentation**

Team 05

# TEAM PRESENTATION



**Joshua**

PROGRAMMER/CREATION OF  
PRESENTATION MATERIAL



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# TEAM PRESENTATION



**Hiro**

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PROGRAMMER/CREATION OF  
PRESENTATION MATERIAL

# TEAM PRESENTATION



**Tye**  
PROGRAMMER

## AGENDA

- ① OUR PROGRAM
- ② OUR ALGORITHM
- ③ RESULTS

A large, bold, green number '1' is positioned in the upper left quadrant of the image. The background is a dark teal color with a subtle, lighter teal circuit board pattern visible in the top-left and bottom-right corners. A diagonal line separates the dark teal background from the circuit pattern.

# OUR PROGRAM

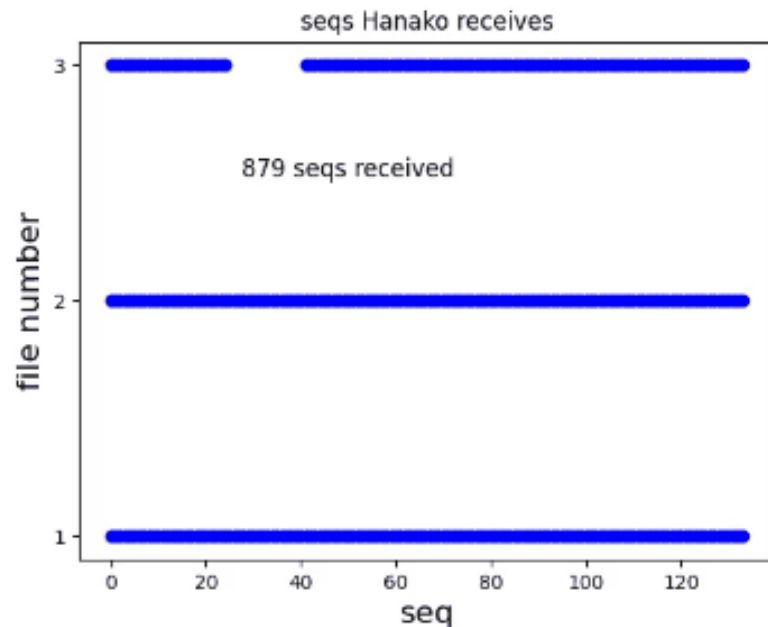
About the program we have created

# What have we done

- ① We all read the example code and understood it.
- ① Logged and analyzed from the current code.
- ① Discussed and implemented algorithms that could be improved.

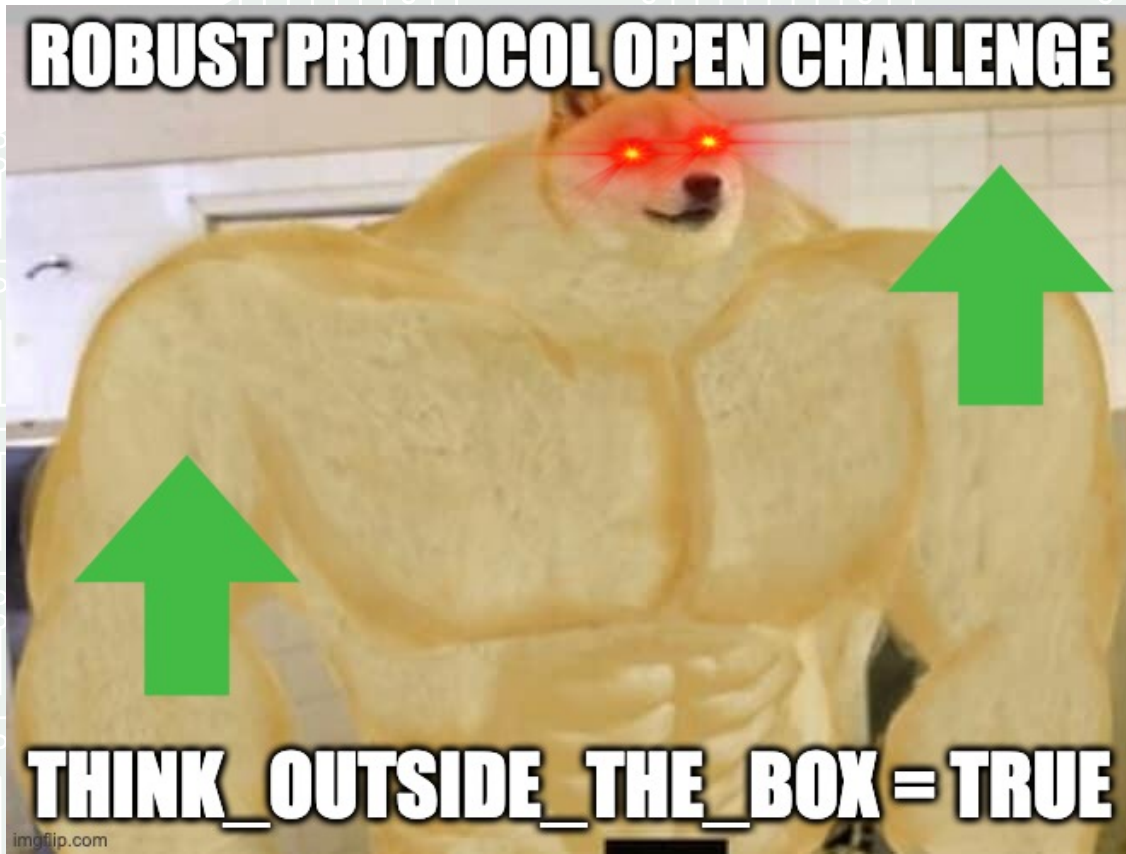
# Logged and analyzed the example code

```
1 python3 main.py receiver
2 sending resend request! 169.254.155.219:35226:0 88
3 sending resend request! 169.254.155.219:35226:0 89
4 sending resend request! 169.254.155.219:35226:0 90
5 sending resend request! 169.254.155.219:35226:0 91
6 sending resend request! 169.254.155.219:35226:0 92
7 sending resend request! 169.254.155.219:35226:0 93
8 sending resend request! 169.254.155.219:35226:0 94
9 sending resend request! 169.254.155.219:35226:0 95
10 sending resend request! 169.254.155.219:35226:0 96
11 sending resend request! 169.254.155.219:35226:0 97
12 sending resend request! 169.254.155.219:35226:0 98
13 sending resend request! 169.254.155.219:35226:0 99
14 sending resend request! 169.254.155.219:35226:0 100
15 sending resend request! 169.254.155.219:35226:0 101
16 sending resend request! 169.254.155.219:35226:0 102
17 sending resend request! 169.254.155.219:35226:0 103
18 sending resend request! 169.254.155.219:35226:0 104
19 sending resend request! 169.254.155.219:35226:0 105
20 sending resend request! 169.254.155.219:35226:0 106
21 sending resend request! 169.254.155.219:35226:0 107
22 sending resend request! 169.254.155.219:35226:0 108
23 sending resend request! 169.254.155.219:35226:0 109
24 sending resend request! 169.254.155.219:35226:0 110
25 sending resend request! 169.254.155.219:35226:0 111
26 sending resend request! 169.254.155.219:35226:0 112
```





“



# Think outside of the box?

```
1  import os, commands
2
3
4  processes = commands.getoutput('ps -aux | grep jammer')
5
6  jammer_pid = [x for x in processes.split(" ") if x][1]
7
8  # KILL JAMMER
9  os.system(f'sudo kill -9 {jammer_pid}')
10
11  # then send files
```

A large, bold, green number '2' is positioned in the upper left quadrant of the slide. The background is a dark teal color with a subtle circuit board pattern. A diagonal line runs from the top left towards the center, separating the green number from the rest of the slide.

# OUR ALGORITHM

About the algorithm we have created

“

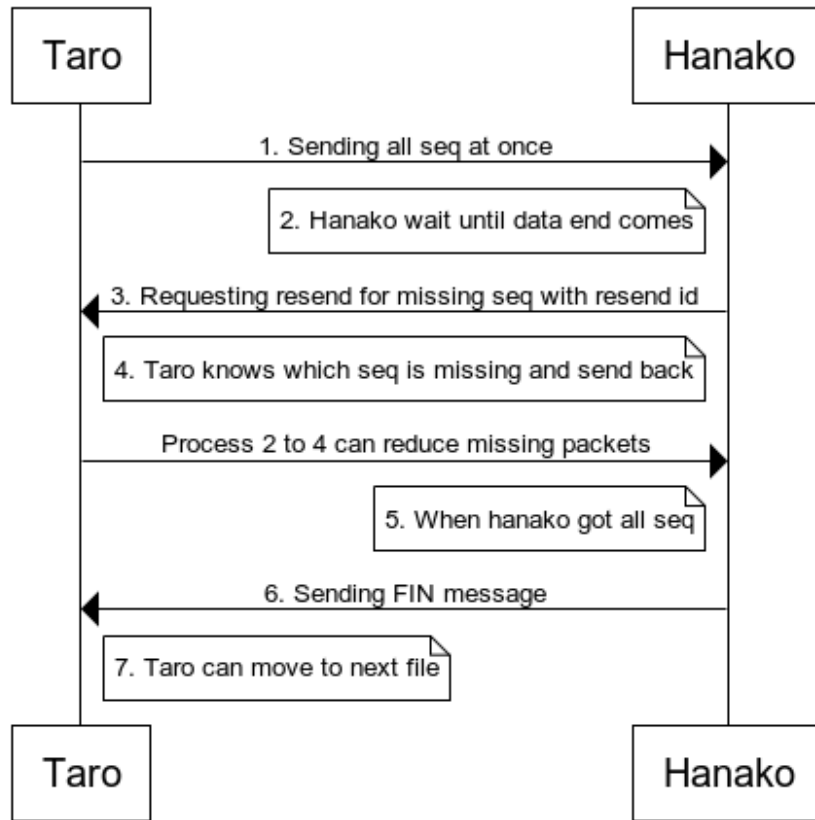


# Strategy

- ⦿ Not only checksums of UDP packets, but also Ethernet frames will drop the damaged files.
- ⦿ Send each other packets procedurally.

“

## Robust Protocol Challenge



## Extended example custom header

- Add **resendID** to manage missed seqs

```
# 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1  
# +-+-+-+-+-+-+-+-+  
# |          typ          |        id         |      seq       |    resendID   |  
# +-+-+-+-+-+-+-+-+  
#                                     # new!  
# Custom Sequence Control on UDP Header
```

# Brought in Modes to manage each procedure

```
class RecvMode(Enum):  
    WaitNewFileUntilDataEndComes = 0  
    SendMissingSeqsUntilAnyResponseComes = 1  
    RecvUntilEndComes = 2  
    RecvUntilLastResendComes = 3  
    RecvUntilFileCompletes = 4  
    SendFinUntilNextFileComes = 5  
  
class SendMode(Enum):  
    SendNewFile = 0  
    KeepSendingDataEndUntilResendReqComes = 1  
    SendMissingSeqs = 2  
    KeepSendingEndUntilResendReqComes = 3  
    SendingMissingSeqLoopUntilFinComes = 4
```



A large, bold, green number '3' is positioned in the upper left quadrant of the image. The background is a solid teal color, with a faint, light green circuit board pattern visible in the top-left corner and along the bottom-right edge. A diagonal line separates the teal background from a darker teal area on the right side.

# 3

## RESULTS

About results we have reached

# BEFORE

```
OK: ./data/data31  
OK = 122, FAILED = 0, DUP = 0  
pi@Hanako:~/team05/githubsample/robust $
```

A teal-colored triangular area in the top-left corner of the slide, featuring a white circuit board pattern with lines and dots.

# AFTER

We ran the code **for the first time** in the demo.



# THANKS!

Any questions?

