Circuit Design

(WS2020/21)

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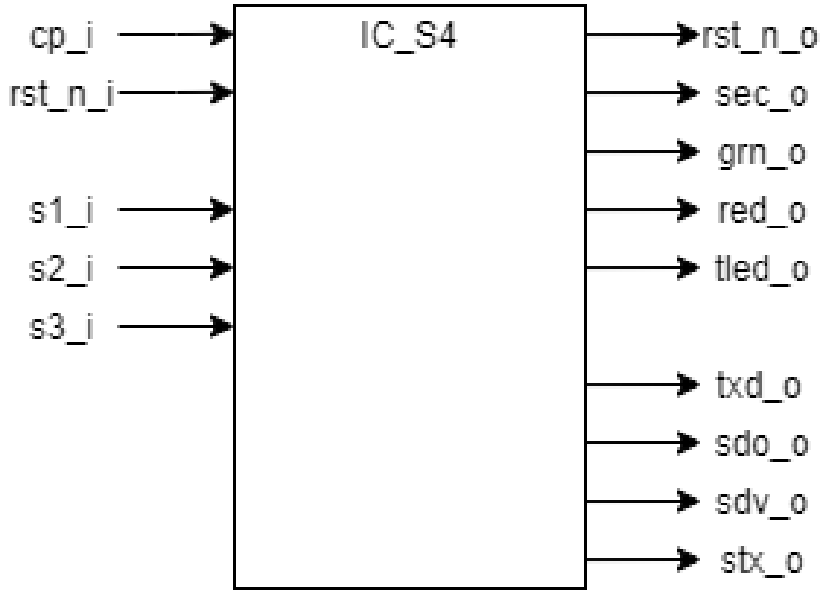
Circuit Design
Application

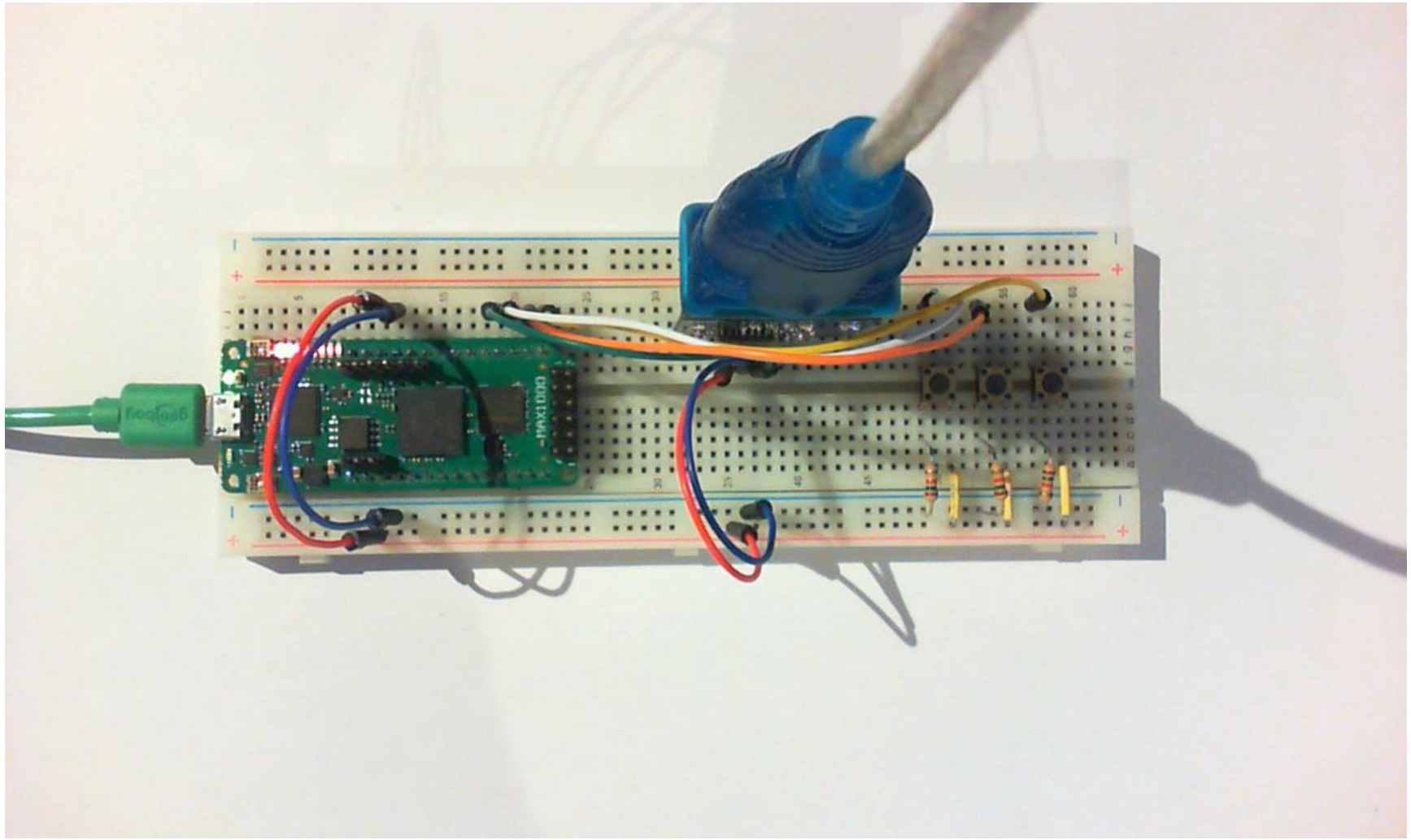
Matching Covid-19 Restriction

- ❑ Monitoring
- ❑ Visualizing
- ❑ Security

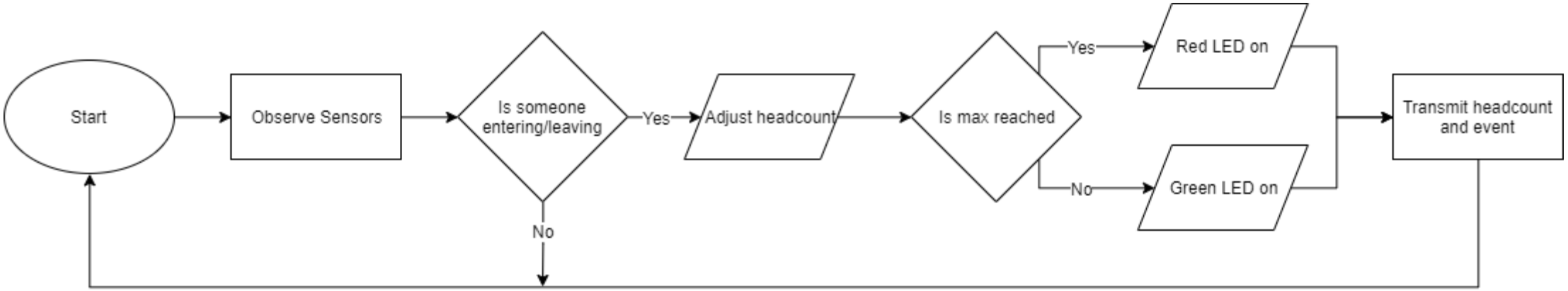
Circuit Design
Block Digram



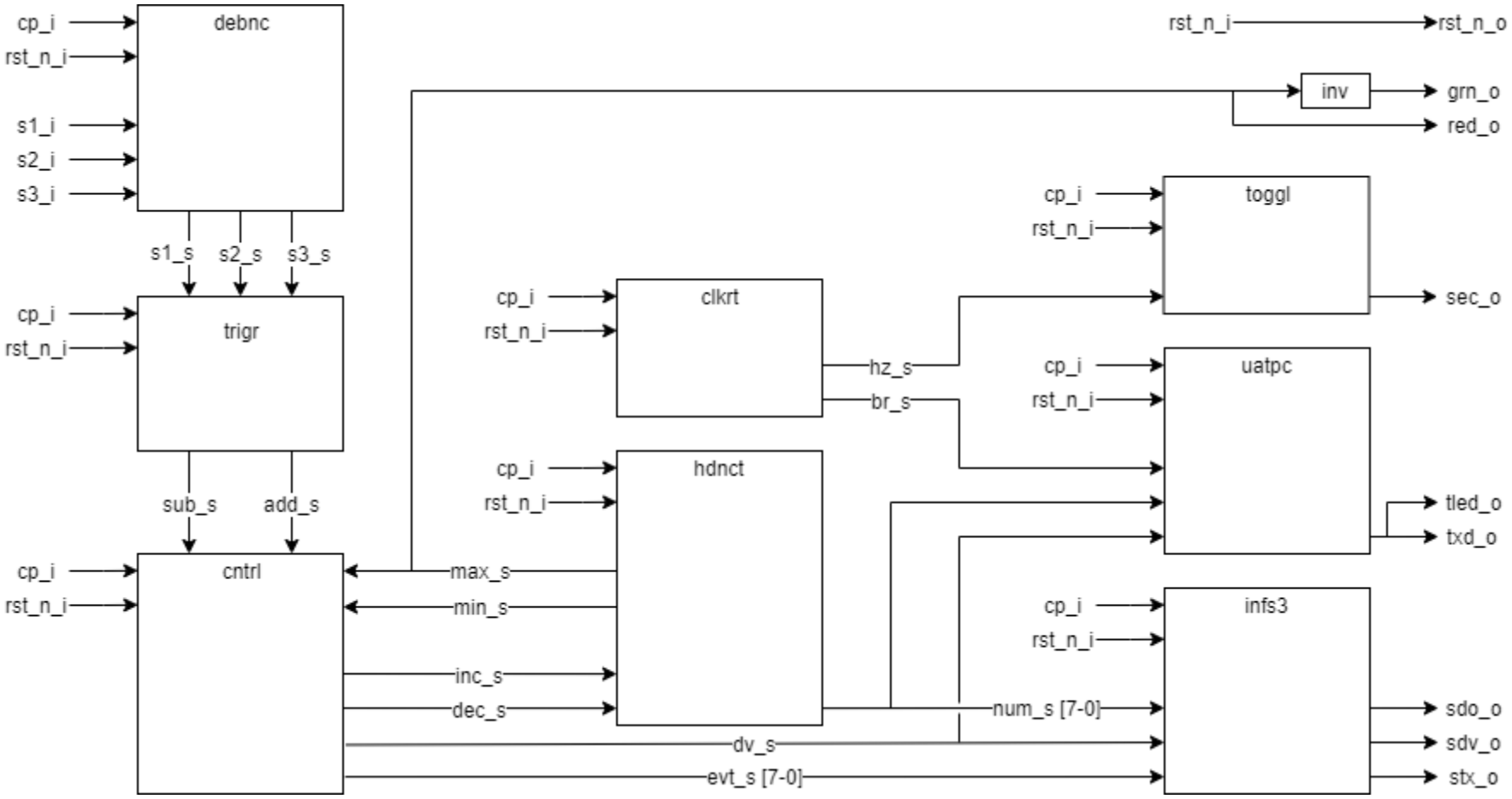
Circuit Design
Board Setup



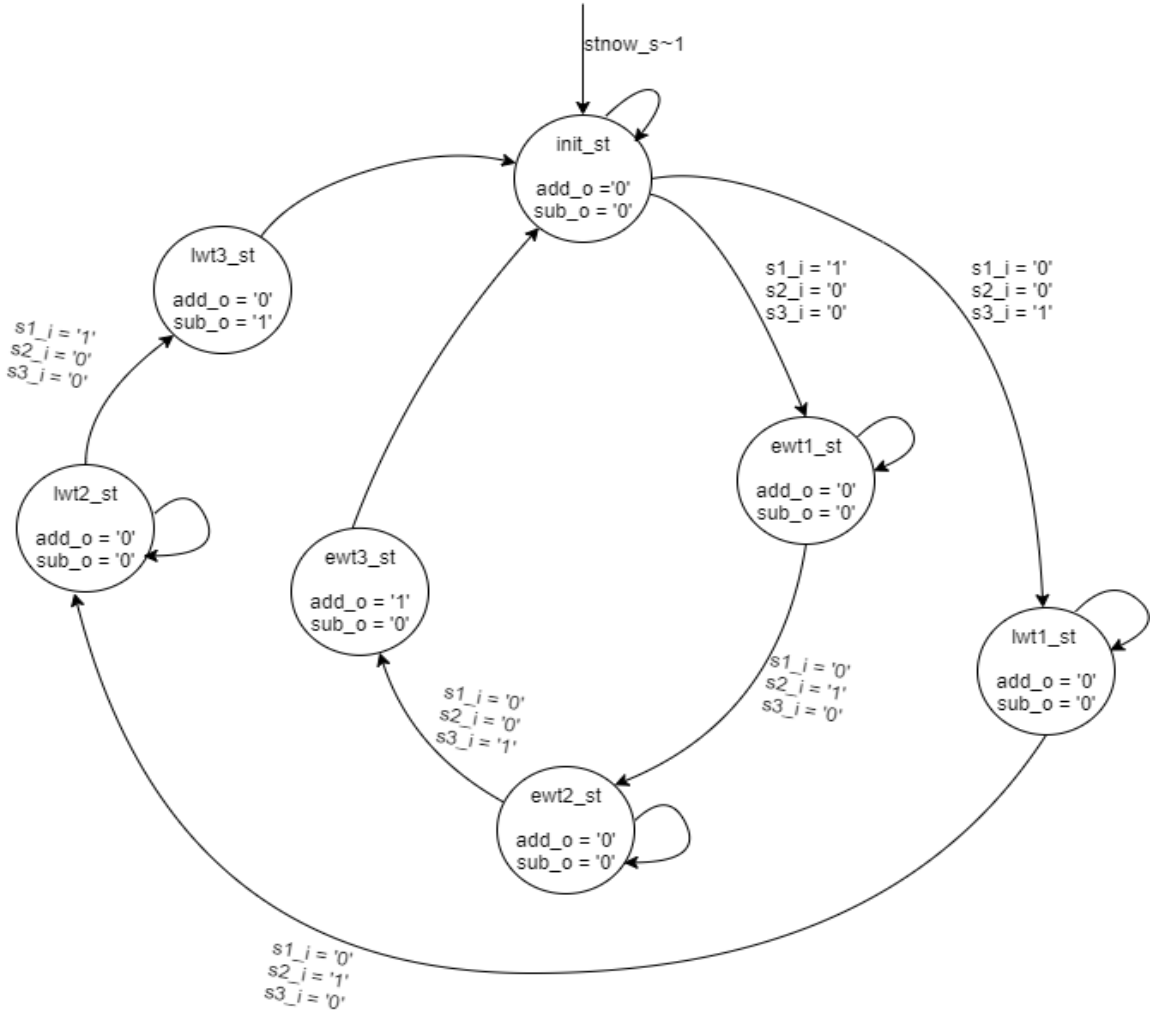
Circuit Design
Flow Chart



Circuit Design
Top-Level



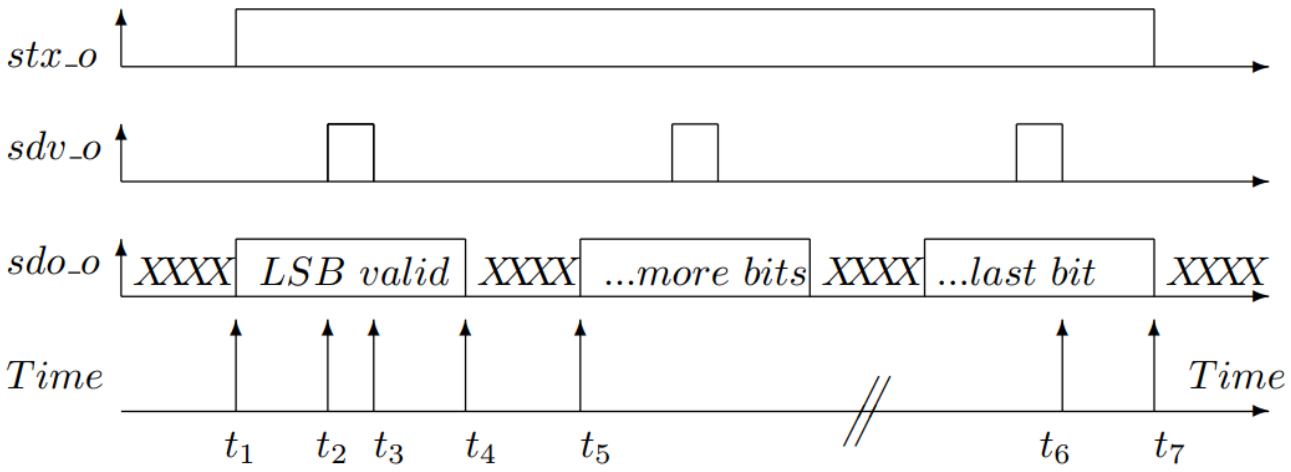
Circuit Design
Trigger



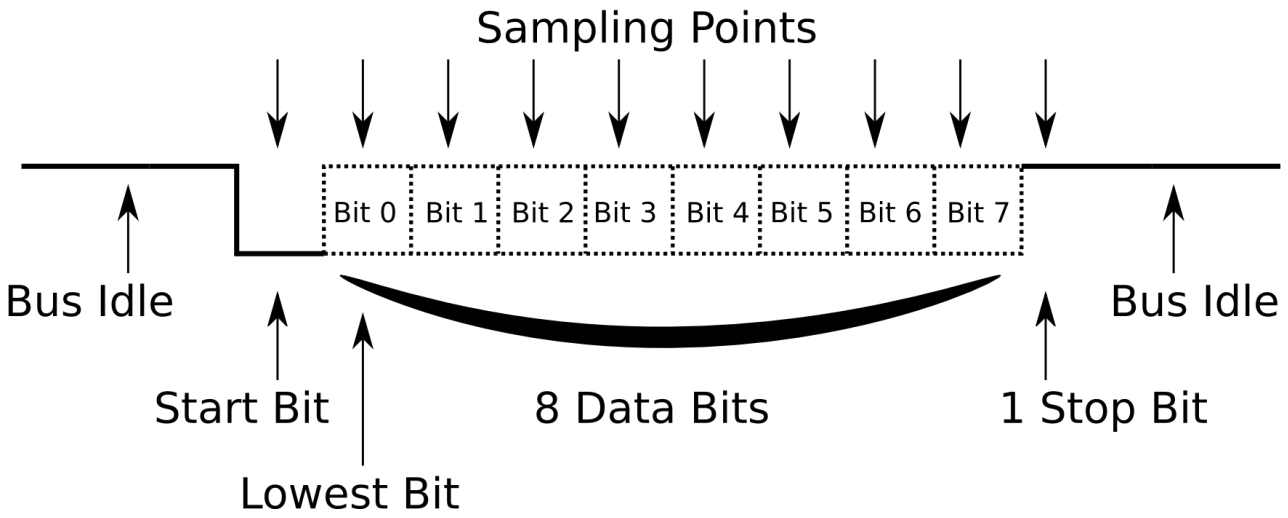
Circuit Design
Control Unit

Circuit Design
Interface S3

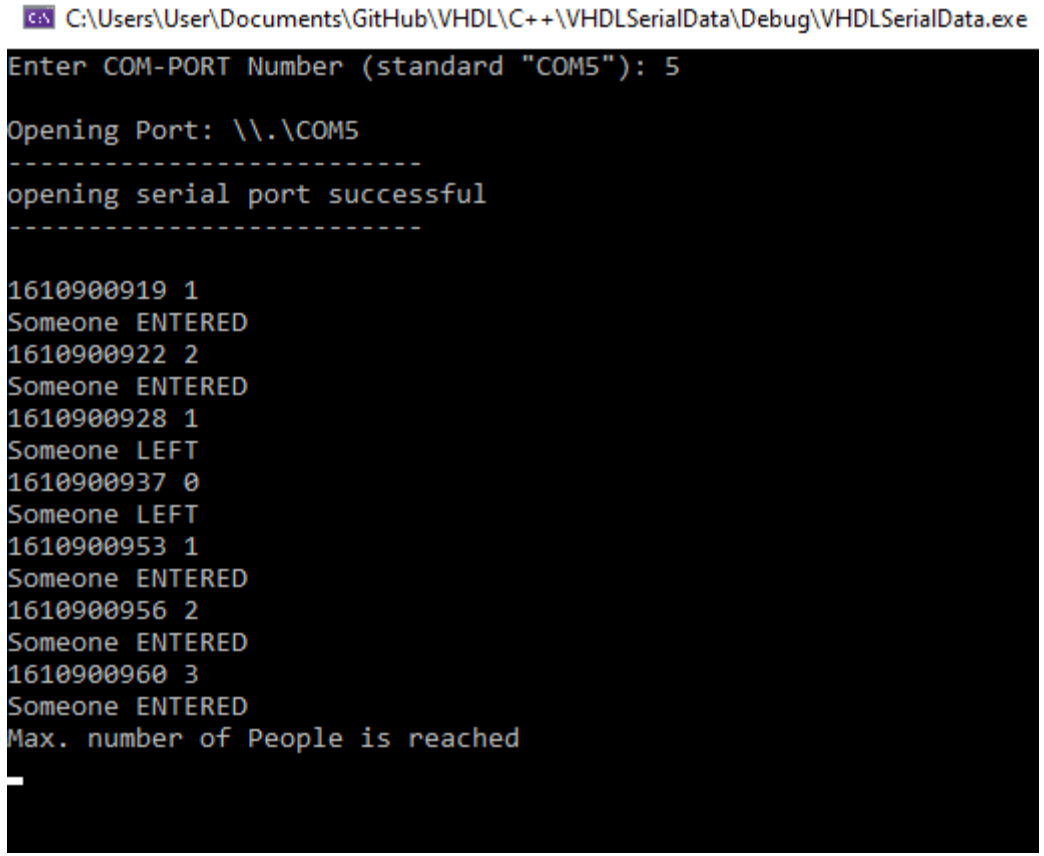
3-Wire-Interface



UART with 8 Databits, 1 Stopbit and no Parity



Circuit Design
Program



Circuit Design
Implementation

In real world assumptions:

- ❑ Only one door to enter/exit
- ❑ Everyone completes the enter/leave process completely
- ❑ No one enters, when the room is full
- ❑ No one leaves, when room is already empty

Thank you

Link: https://github.com/nlsy/VHDL