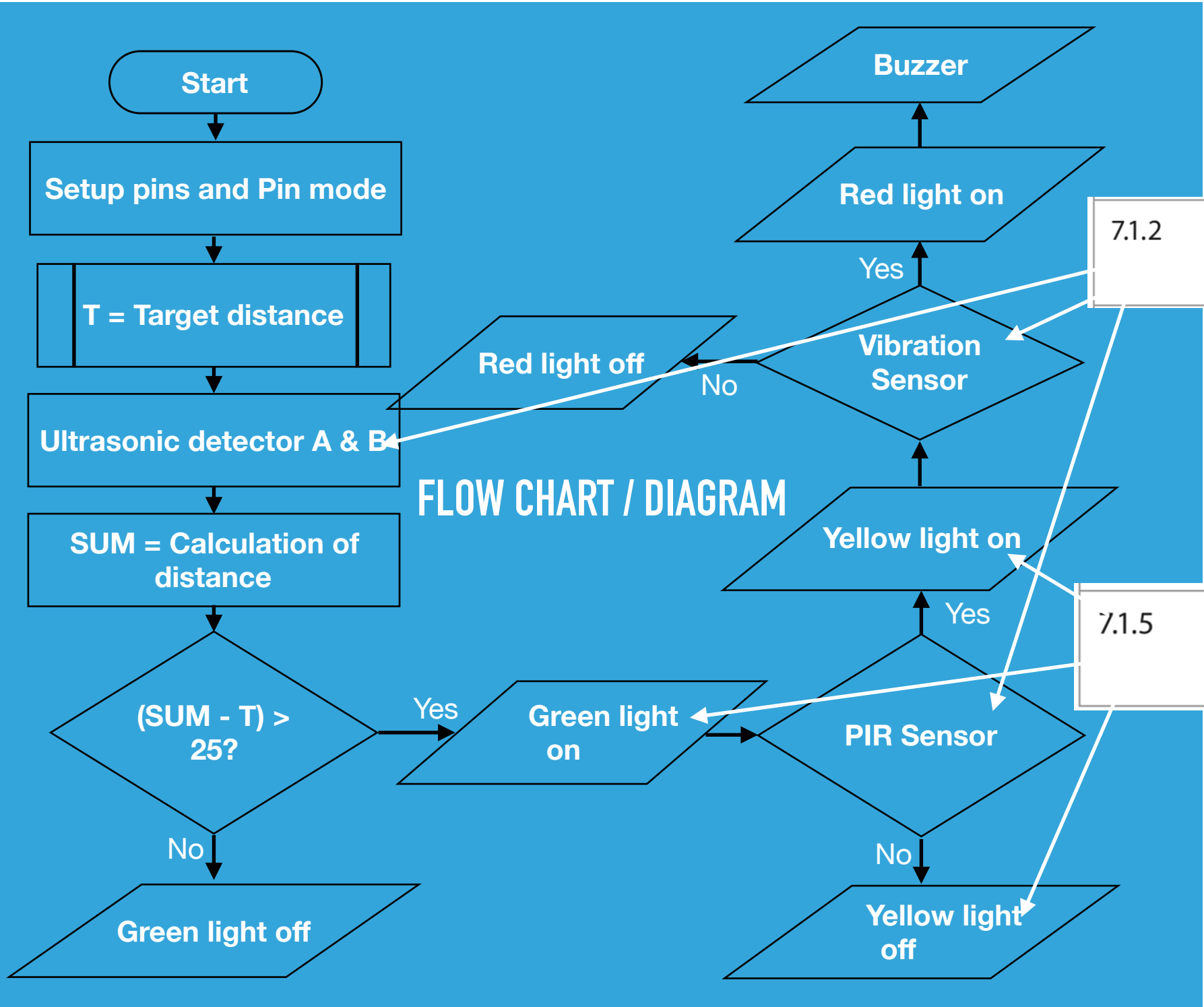# IB CS HL

CONTROL

INTRUDER ALARM

- Motion sensors

- Buzzer

- Involves multiple concepts

- Easy to build

- Real-world application: "anti-thieves", home protection

DESIGN OVERVIEW

FLOW CHART / DIAGRAM

7.1.2	Outline the uses of microprocessors and sensor input in control systems.
7.1.5	Describe the role of feedback in a control system.

| Reference: syllabus

PROJECT IMPLEMENTATION

CHART FOR KEY COMPONENT A

Difficulties & Solution

CHART FOR KEY COMPONENT B

Difficulties & Solution

| Reference: pages of detection demo

Start

Setup pins and Pin mode

T = Target distance

Ultrasonic detector A & B

SUM = Calculation of distance

(SUM - T) > 25?

Red ligh

Buzzer

Yes → Green l

No

Green light off
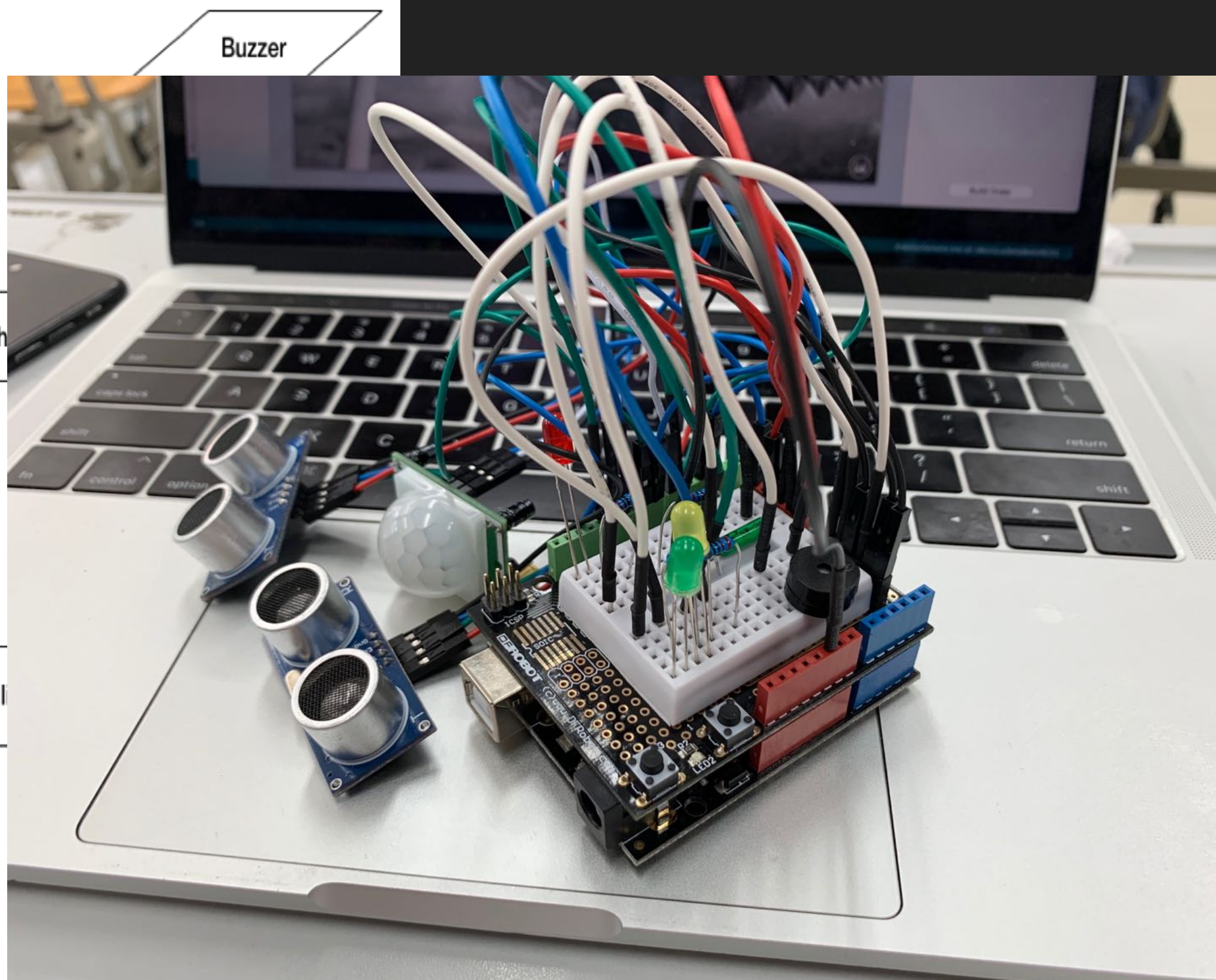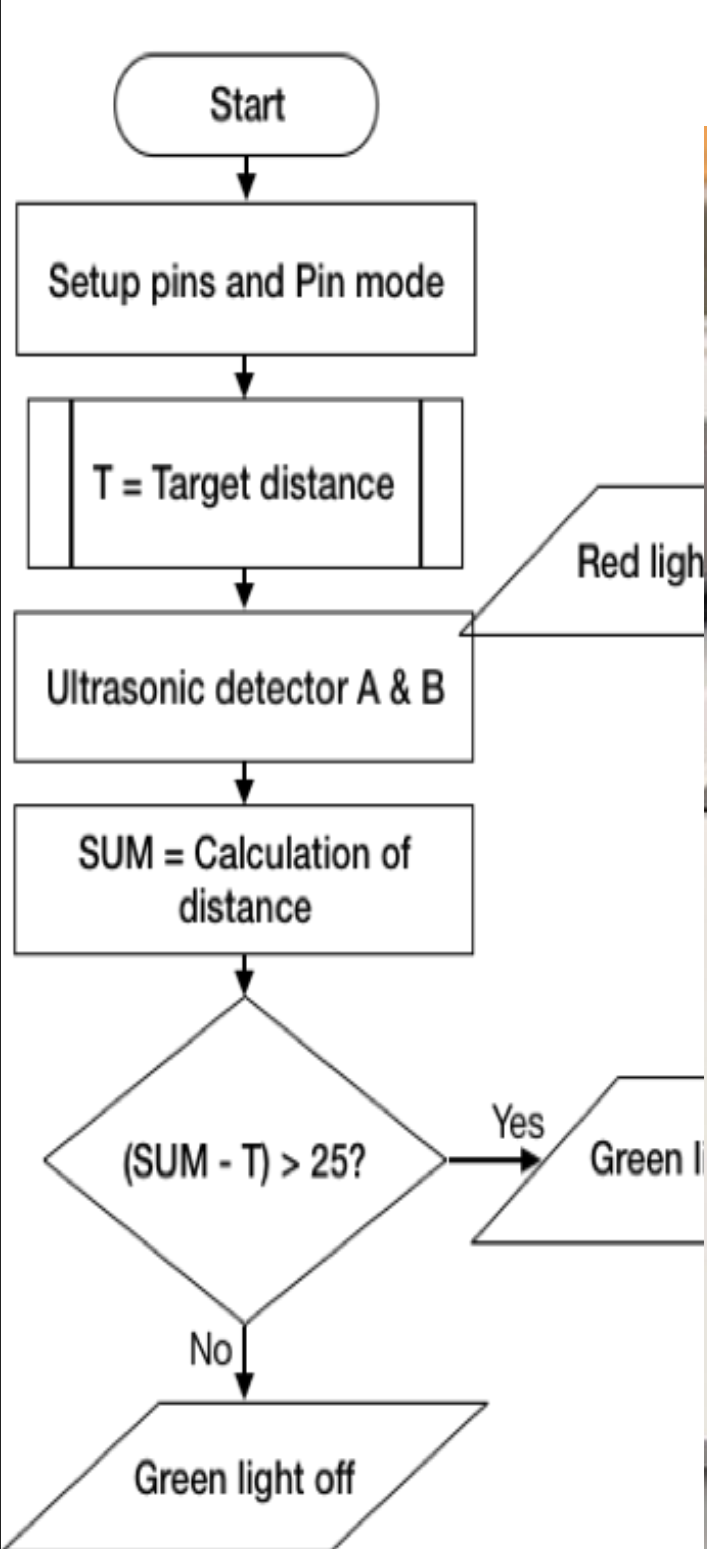
PRO & CON

- Easily implement, viable solution

- Noise from environment -> not robust

- Insufficient feedback

FUTURE WORK

- Connect to more sensors & better algorithms

- Better sensors

- Connect to phones / laptops / other home control systems

Thanks!