Week 3: Generate 3 Projects and Choose One

Team 3: Celina Wong, Alex Kim, Huibo Yu, Dmytro Prystupa

Project 1: Flappy Bird/Timer/Counter

This would be a device that switches between three different modes. One of the modes would allow the user to activate a timer until a button is pressed. The second mode would allow the user to use the same device as a counter. Every button click would automatically add one count and display it on a screen. The third of the three modes would allow the user to play a flappy bird game with the help of one button.

Sensor(s)	Controller(s)	Actuator(s)
● Push-button ● Switch	● Arduino	● LCD display

Brief explanation of why this idea was chosen:
I found a similar device online and thought it was a cool idea. I own a coffee stand and I use a timer and counter all of the time. At weddings, I use the counter to make sure that I serve and charge for the right amount of drinks. I also use a timer to time the grinding of the coffee beans. A lot of the time I just have time to kill while I wait for guests to order drinks, thus incorporating a game into the device would be a great idea.

Project 2: Automated Pill Dispenser

A portable, smart little box that reminds the user at a scheduled time to get a specific medication.

Sensor(s)	Controller(s)	Actuator(s)
● Infrared sensor ● Pressure sensor ● Temperature sensor ● Humidity sensor	● Arduino	● Speakers ● LCD display

Brief explanation of why this idea was chosen:
This could help people who don't have a good memory by reminding them to take their medication on time. Affordable and easy to carry.

Project 3: Speed Detector
The purpose of this project is to measure the speed of a motor & trigger the alarm if the speed exceeds a certain limit. The system can use a microcontroller with IR sensors to count the spin of a motor. The speed data can be displayed through the LCD screen and if the speed is over the limit then the system can alert a person through light/sound.

Sensor(s)	Controller(s)	Actuator(s)
● IR sensors (tachometer)	● Arduino	● Speakers ● LCD display ● LED bulb

Brief explanation of why this idea was chosen:
The system could monitor any motor that rotates and ensure it is running at a safe state. This can be implemented in many different practical applications depending on the design and industry/market we are trying to enter.

We are choosing…
Project 1: Flappy Bird/Timer/Counter