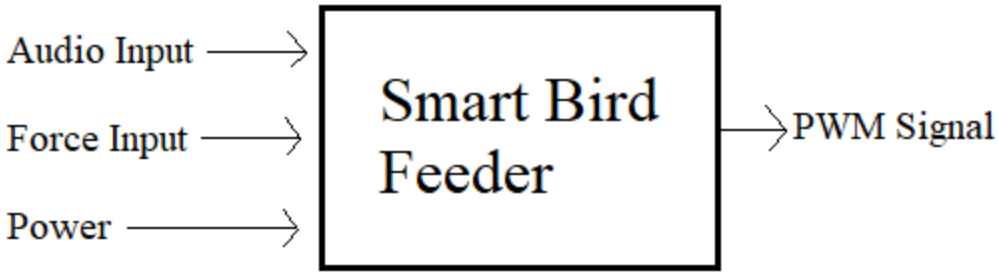
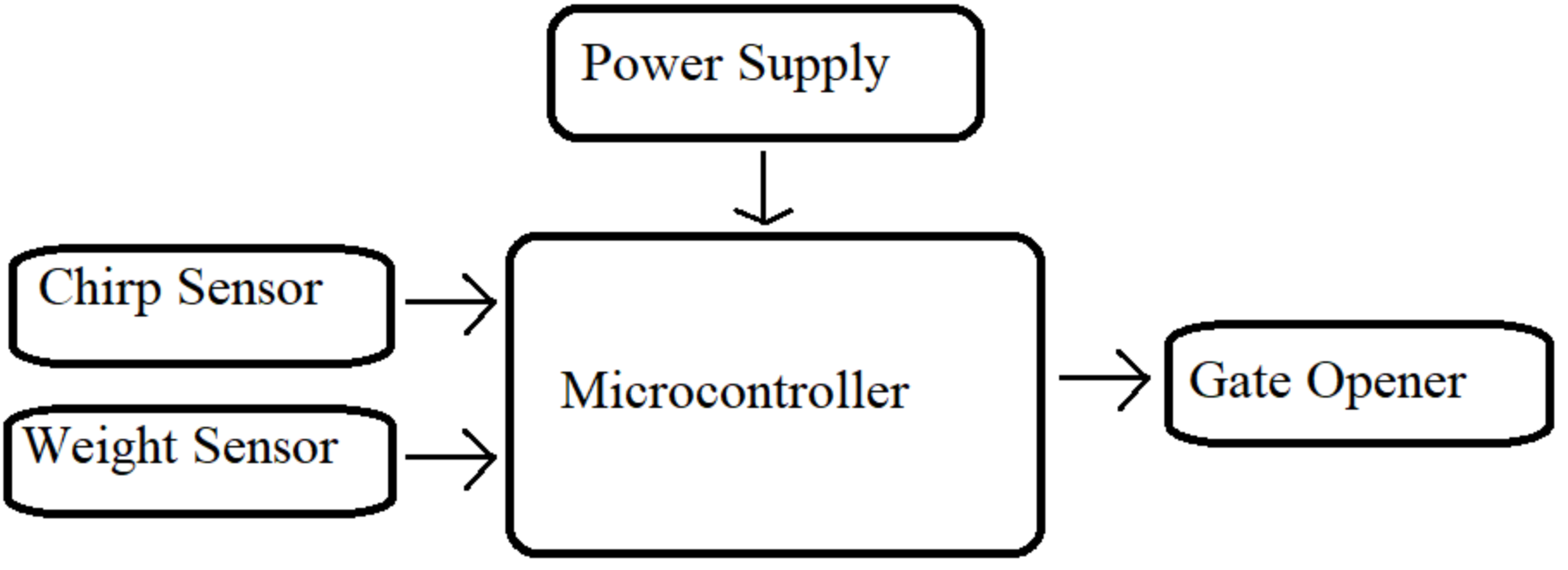
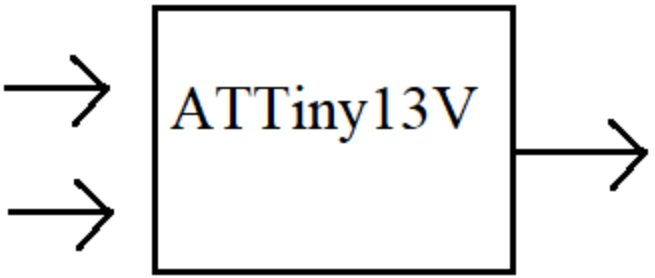
Stevie Nicks and the Xaybanha Zhous
Stevie Taylor, Calvin Xaybanha, Zeming Zhou, Nick Short
11/20/2020, revision 1.0

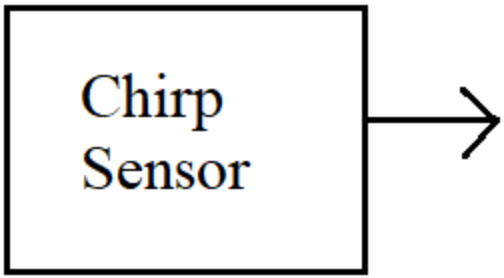


Module	Smart Bird Feeder
Inputs	Frequency detected signal (interrupt) and 0-5V (force measurement) and power
Outputs	PWM Signal
Functionality	Processes Chirp interrupt signal and Weight measurement to determine whether to actuate the actuator.

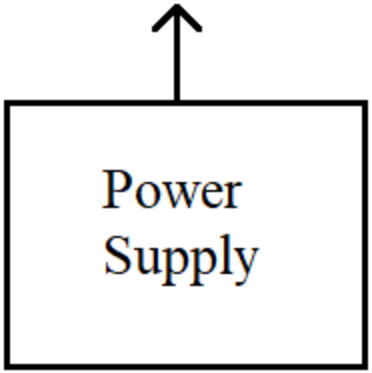

Power Supply
Chirp Sensor
Weight Sensor
Microcontroller
Gate Opener



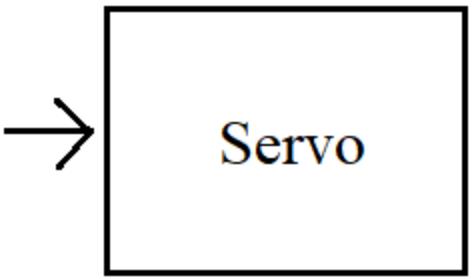
Module	Microprocessor Module
Inputs	Frequency detected signal (interrupt) and 0-5V (force measurement)
Outputs	PWM Signal
Functionality	Processes Chirp interrupt signal and Weight measurement to determine whether to actuate the actuator.



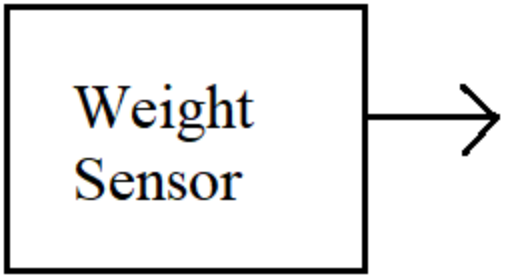
Module	Chirp Sensor Module
Inputs	Audio Signal
Outputs	Frequency Detected Signal
Functionality	Outputs an interrupt signal when a sufficiently strong frequency at or above 500Hz is detected.



Module	Power Supply
Inputs	Power: 9V DC
Outputs	5V
Functionality	Convers our lithium ion battery into 5V for the components in the system.



Module	Gate Opener Module
Inputs	PWM Signal
Outputs	Servo Rotation
Functionality	Receives a PWM signal and rotates to a specified position.



Module	Weight Sensor Module
Inputs	Force
Outputs	0-5V
Functionality	Outputs a 0-5V, proportional to the mass on the sensor, constantly.