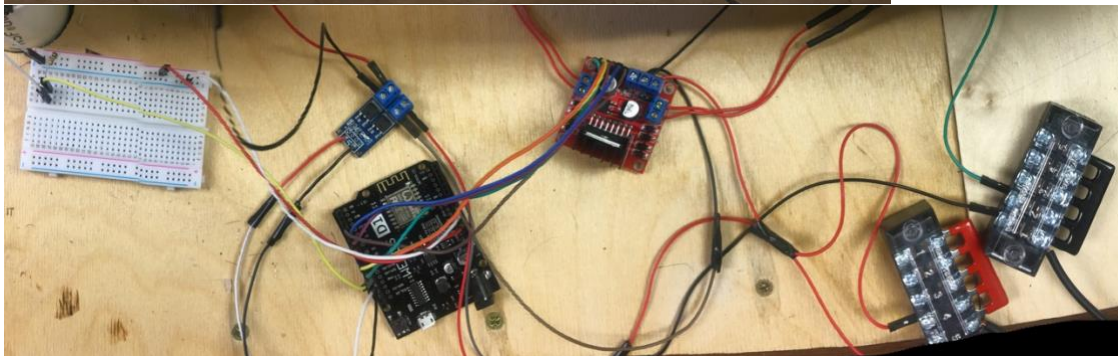
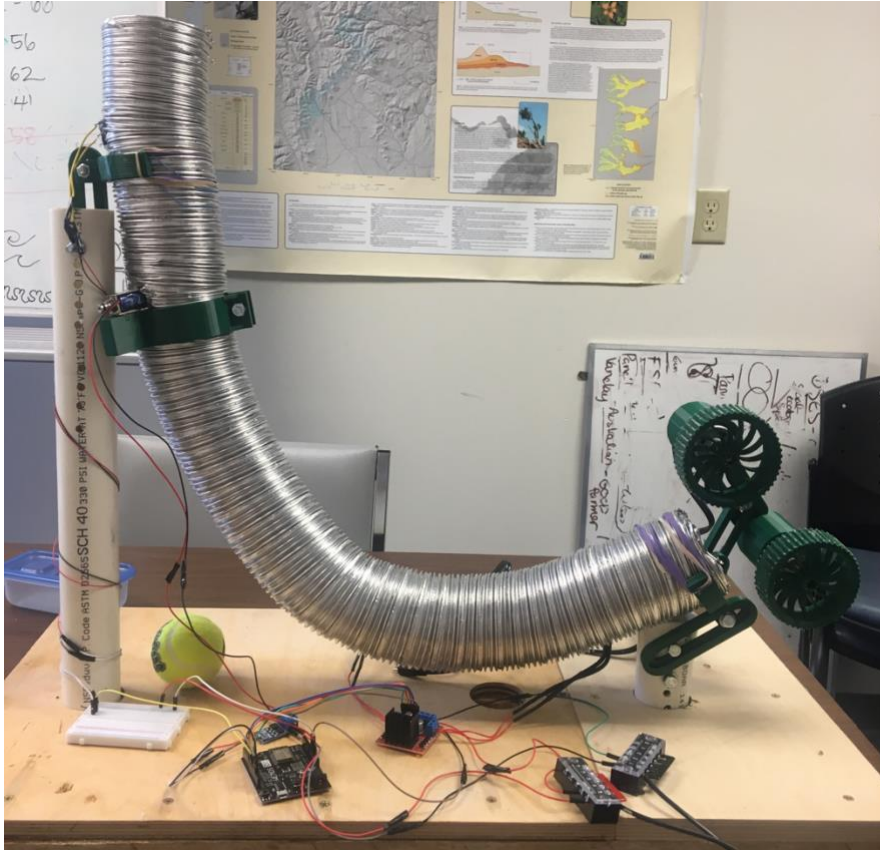
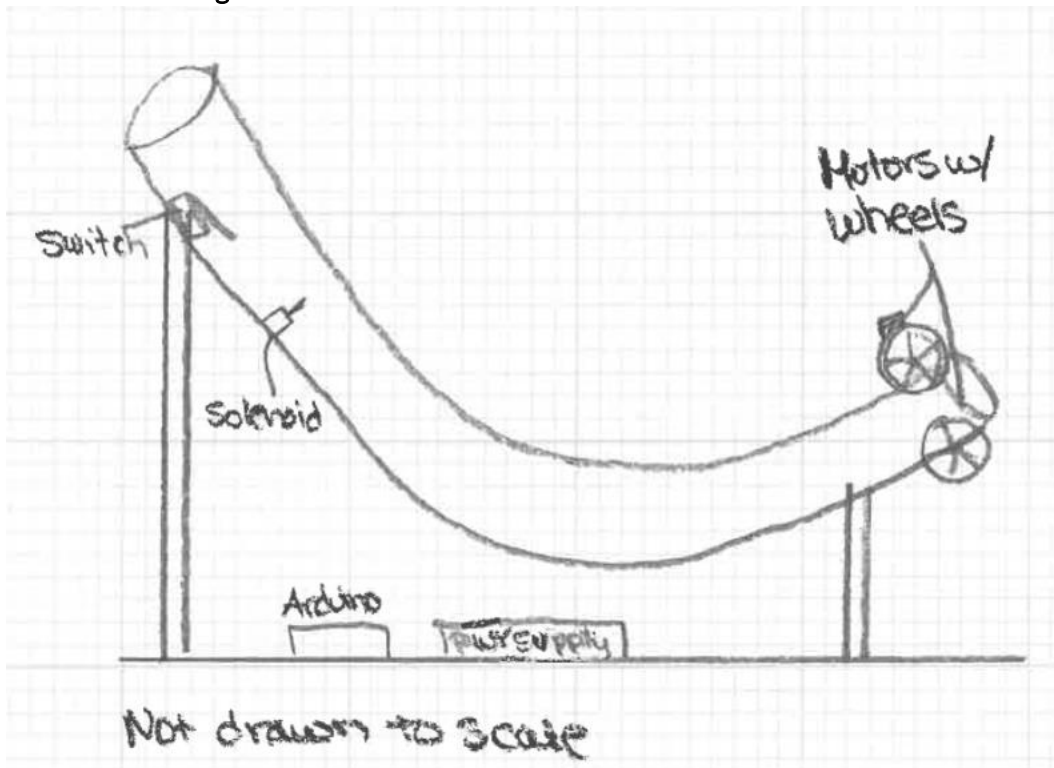


Johanna Eidmann  
May 8, 2019  
Charly's Ball Thrower

## Part I: Pictures



## Part II: Block Diagram



## Part III: Bill of Materials

Item	Quantity	Manufacturer and Part No./ID	Cost (per item)
12V 15000 RPM Electric Motor	2	Weelye RS550	\$13.69
Small push-pull solenoid 12V	1	Adafruit Part 412	\$14.87
Wemos D1R2 Wifi Module	1	Wemos V 2.1.0.	\$6.79
Screw terminals	2	Cofufu	\$2.20
Motor Driver Controller Board	1	Qunqi L298N H Bridge	\$4.95
12V Power Supply	1	MeanWell from Sparkfun	\$35.95
Solderless Breadboard	1	Banggood Item 91872	\$4.19
3.3V Mosfet	1	--	Jay's lab
Switch	1	--	Jay's lab
Jumper Cable Wires	1	Banggood Item 974006	\$6.27
O-rings, nuts, bolts, fasteners, etc.	--	Ace Hardware	~\$8.00
3-d printing parts	--	eSUN PLA+ filament	~\$5.00

Air Dog Squeaker Balls	1 set of 3	Kong	\$4.00
Wood Boards	2	Scrap Wood	\$8.00
1.5" PVC Pipe	1	--	\$2.00
Epoxy	1	J-B Weld	\$5.89

#### Part IV: Wiring Diagram

