

*BIJOUX*

# *BIJOUX*

A modular kit to for personalized jewelry that is responsive to people and the environment.

Considerations will include

Light

Temperature

*Future*

Proximity

Sound

Touch

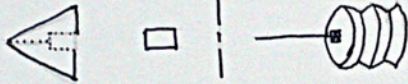
# Mist

Metallic shell directs mist

Diffuser

Ear

Small pump with scent

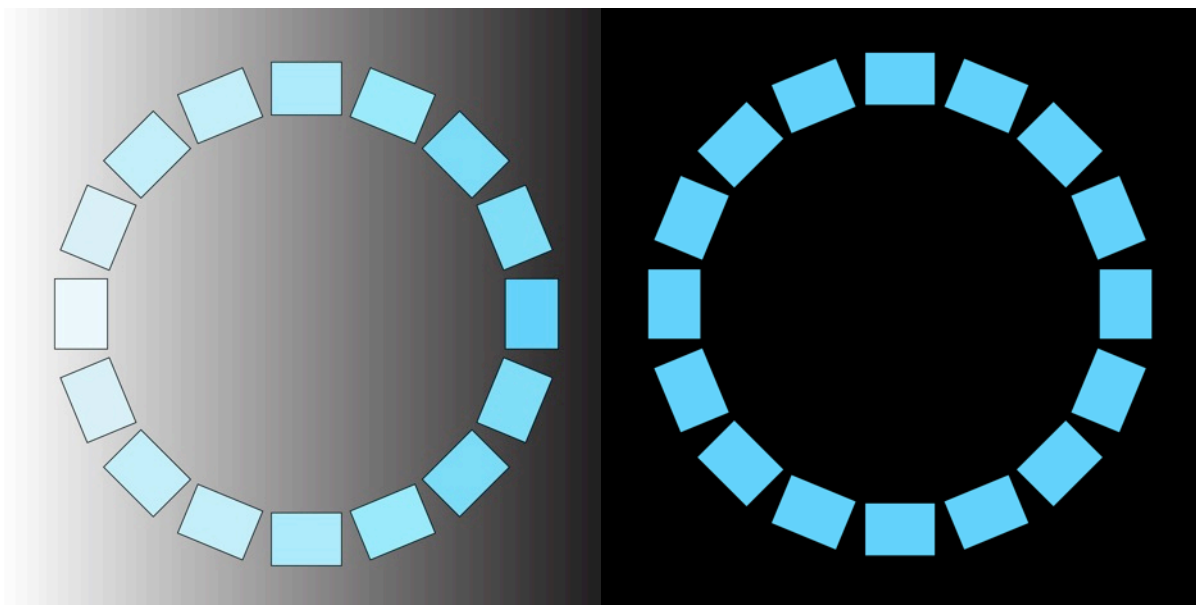
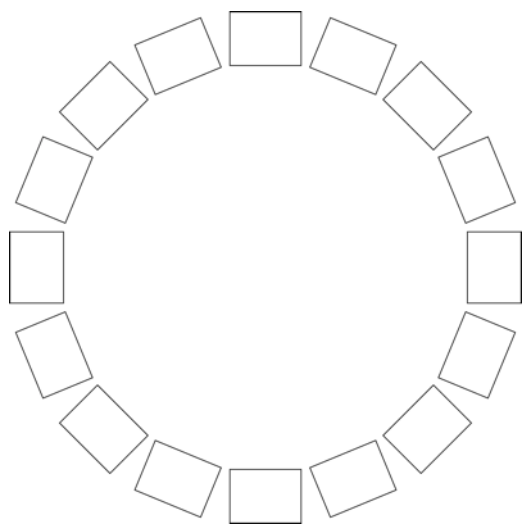


Exploded diagram

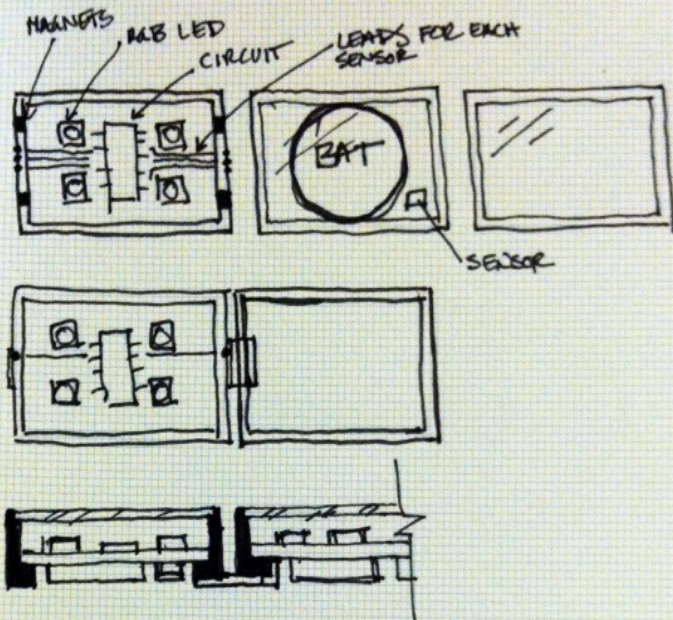


These earrings are used to provide the wearer with innocuous odor relief. When the concealed pump behind the ear that is filled with air neutralizer or scent is pressed, the wearer is enveloped in a temporary cloud that reduces the effects of unpleasant surrounding odors. The earrings are designed with a diffuser that points the mist away from the side of the face so that the mist surrounds the wearer, rather than hitting the wearer. The pump is the backing for the earring.





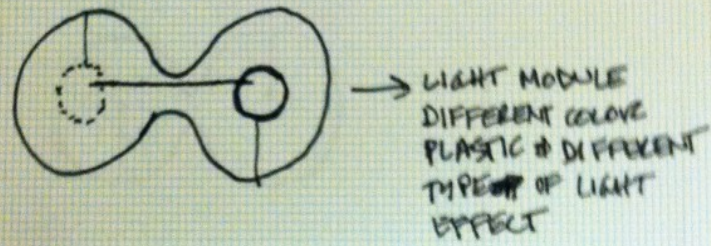
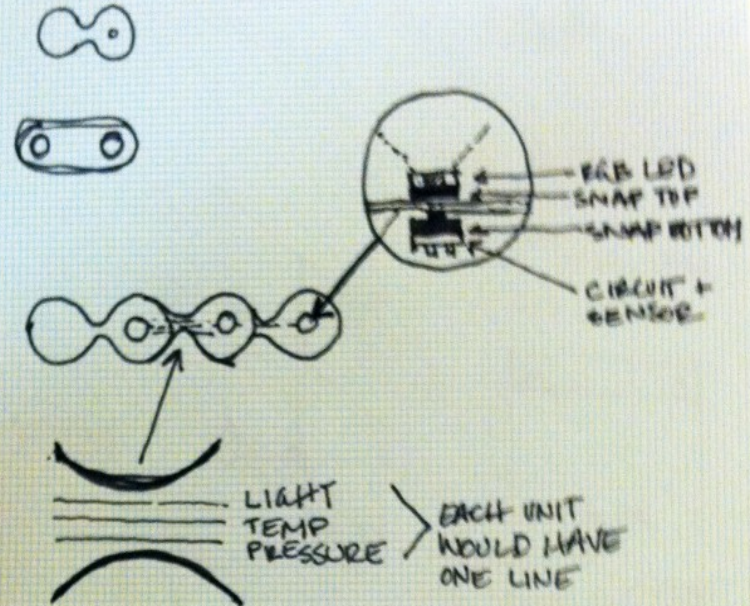




PRESSURE → EACH UNIT WORKS INDEPENDENTLY  
IF ONE AREA IS PRESSED IT WILL  
SHOW A GRADIENT ACROSS MULTIPLE  
MODULES JUST BY THE NATURE OF  
THE SENSOR


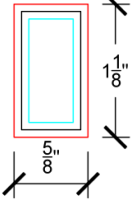
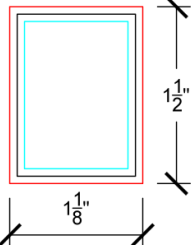
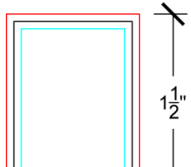
LIGHT → EACH UNIT WORKS INDEPENDENTLY...  
FADE UP AND DOWN BASED ON ENVIRONMENTAL  
LIGHT

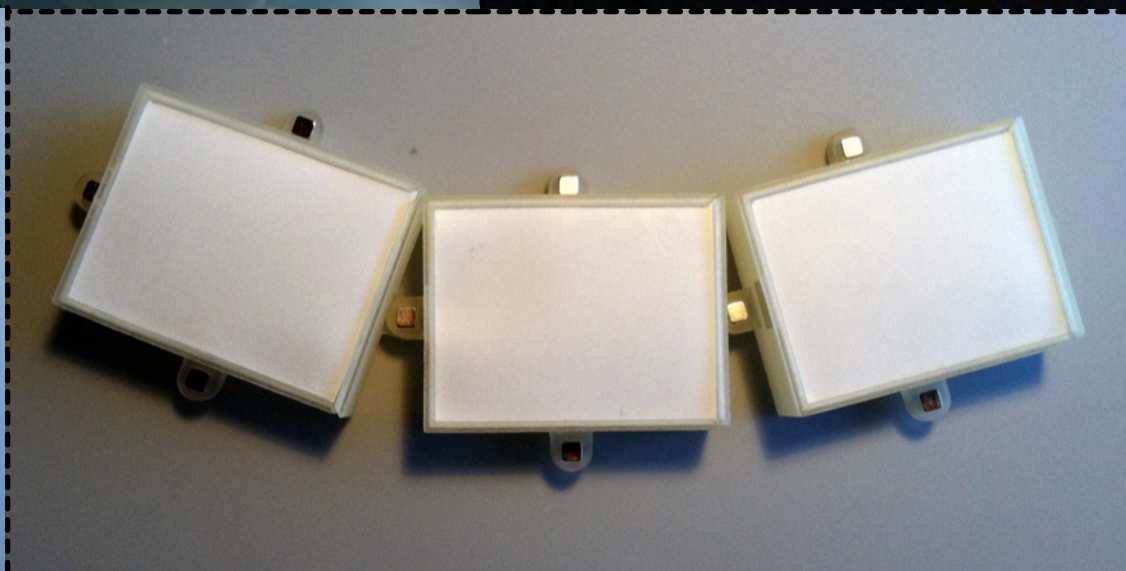
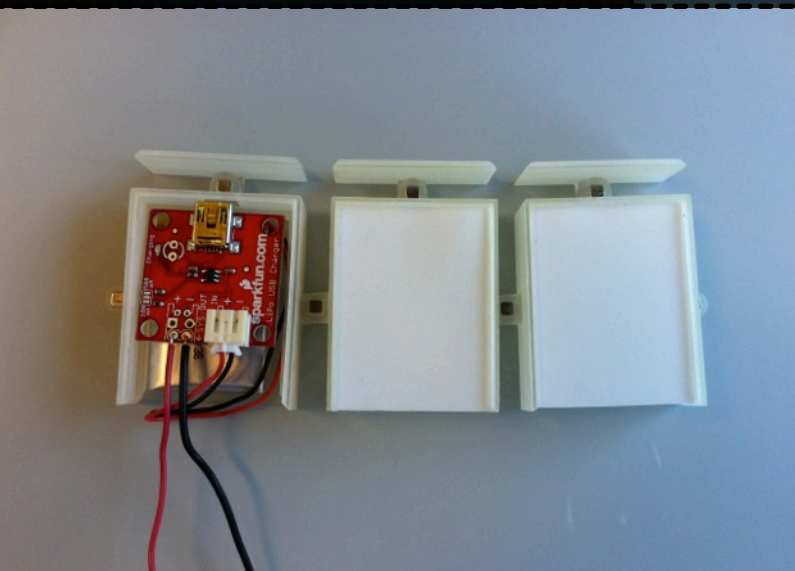
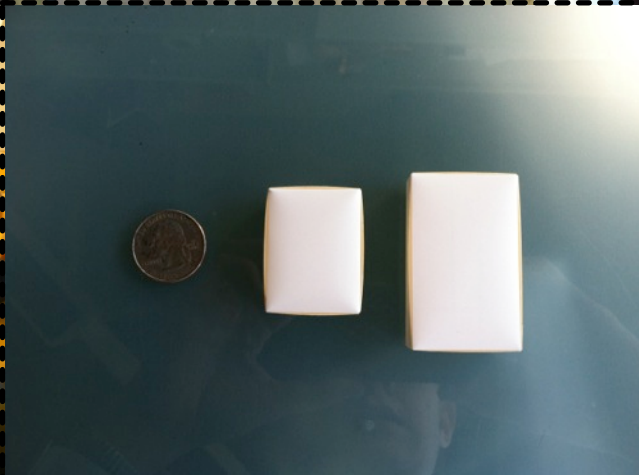
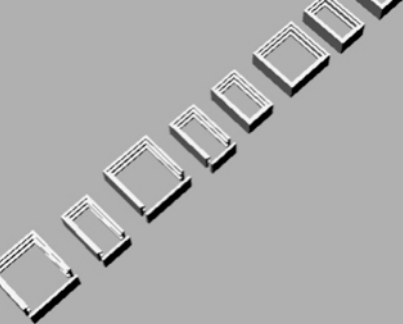
TEMPERATURE → EACH UNIT WORKS INDEPENDENTLY  
(SENSORS)  
CAN CHARACTERISTICS INFLUENCE THE  
OUTPUT OF ONE ANOTHER?



LIGHT → FADE IN AND OUT BASED ON LIGHT  
IN SPACE

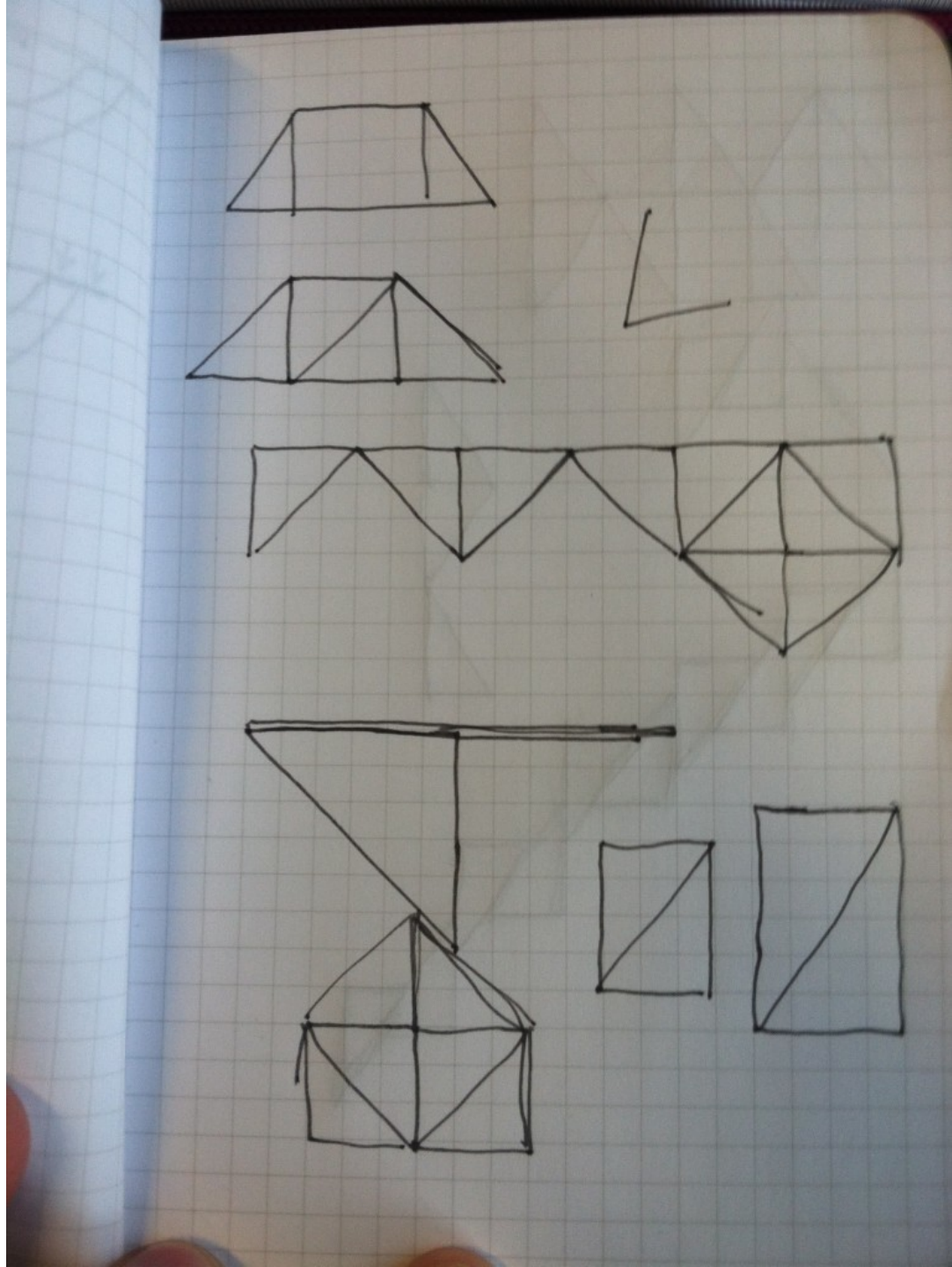
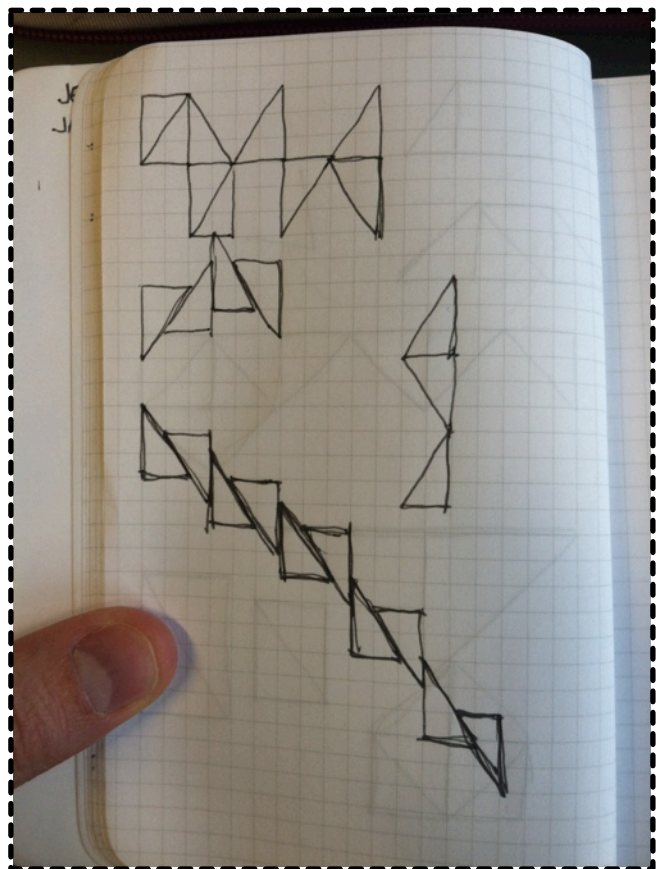


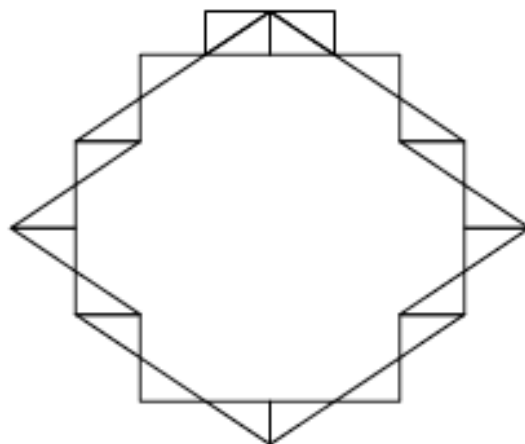
Option 1				Battery/Charger	15.9					6		\$8.39	\$50.39
				110 mA/H, Charge	2.65	LiPo Battery	PRT-00731	Sparkfun	1	\$6.95	\$6.95		
				3 units for 1 hour		4.7 uF	445-1385-2-ND	Digikey	2	\$0.05	\$0.10		
						2 K ohm	311-2.00KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						10 K ohm	311-10.0KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						330 ohm	311-330KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						USB connector	H2961CT-ND	Digikey	1	\$1.25	\$1.25	\$379.62	
		Module Size	Pros	Cons	Weight (g)	Part	Part #	From	Num Per Unit	Cost	Unit Total	Total	
Option 2 - Small Package, Each		Smallest package, more time in between charges, no mechanical electrical connections, bright LED	Heavier, more batteries, you must charge each module seperately	Circuit					24		\$8.79	\$210.96	
				1 RGB LED (half power @ 30 mA) with Thermistor	Attiny13	ATTINY13A-SSH-ND	Digikey	1	\$1.07	\$1.07			
					RGB LED	CLV1A-FKB-CJ1M1F1BB7R4S3	Digikey	1	\$0.60	\$0.60			
					10 K	311-10.0KFRCT-ND	Digikey	4	\$0.03	\$0.12			
					1 K	311-1.00KFRCT-ND	Digikey	2	\$0.03	\$0.06			
					1 uF	445-1423-1-ND	Digikey	1	\$0.04	\$0.04			
					Thermistor	235-1109-1-ND	Digikey	1	\$2.86	\$2.86			
					PCB	(with value quantity)	PCB 123	1	\$4.04	\$4.04			
				Case					24		\$4.93	\$118.32	
				.5" x 1" Case	3D print case (per cm^3)	PA 2200	Shapeways	3	\$1.40	\$4.20			
					Plastic Diffuser (per inch^2)	23114-01	Inventables	1	\$0.05	\$0.05			
					NDFB Magnets	M18x116DI	Apex	4	\$0.17	\$0.68			
				Battery/Charger	63.6				24		\$8.39	\$201.36	
				110 mA/H, Charge	2.65	LiPo Battery	PRT-00731	Sparkfun	1	\$6.95	\$6.95		
				1 unit for 3 hours		4.7 uF	445-1385-2-ND	Digikey	2	\$0.05	\$0.10		
						2 K ohm	311-2.00KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						10 K ohm	311-10.0KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						330 ohm	311-330KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						USB connector	H2961CT-ND	Digikey	1	\$1.25	\$1.25	\$530.64	
Option 3 - Midsize Package, Interval		less batteries, lightweight for batteries, bright LED	Mechanical/ electrical connections	Circuit					16		\$10.38	\$166.08	
				1 RGB LED (half power @ 30 mA) with Thermistor	Attiny13	ATTINY13A-SSH-ND	Digikey	1	\$1.07	\$1.07			
					RGB LED	CLV1A-FKB-CJ1M1F1BB7R4S3	Digikey	1	\$0.60	\$0.60			
					10 K	311-10.0KFRCT-ND	Digikey	4	\$0.03	\$0.12			
					1 K	311-1.00KFRCT-ND	Digikey	2	\$0.03	\$0.06			
					1 uF	445-1423-1-ND	Digikey	1	\$0.04	\$0.04			
					Thermistor	235-1109-1-ND	Digikey	1	\$2.86	\$2.86			
					PCB	(with value quantity)	PCB 123	1	\$5.63	\$5.63			
				Case					16		\$6.38	\$102.08	
				1" x 1.37" Case	3D print case (per cm^3)	PA 2200	Shapeways	4	\$1.40	\$5.60			
					Plastic Diffuser (per inch^2)	23114-01	Inventables	1	\$0.10	\$0.10			
					NDFB Magnets	M18x116DI	Apex	4	\$0.17	\$0.68			
				Battery/Charger	18				2		\$9.39	\$18.78	
				400 mA/H, Charge	9	LiPo Battery	PRT-10718	Sparkfun	1	\$7.95	\$7.95		
				13 units for 1 hour (little less than an hours worth of charge for current configuration)		4.7 uF	445-1385-2-ND	Digikey	2	\$0.05	\$0.10		
						2 K ohm	311-2.00KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						10 K ohm	311-10.0KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						330 ohm	311-330KFRCT-ND	Digikey	1	\$0.03	\$0.03		
						USB connector	H2961CT-ND	Digikey	1	\$1.25	\$1.25	\$286.94	
Option 4 - Midsize Package, Each		more time in between charges, no mechanical electrical connections, bright LED	Heavier, more batteries, you must charge each module seperately	Circuit					16		\$10.38	\$166.08	
				1 RGB LED (half power @ 30 mA) with Thermistor	Attiny13	ATTINY13A-SSH-ND	Digikey	1	\$1.07	\$1.07			
					RGB LED	CLV1A-FKB-CJ1M1F1BB7R4S3	Digikey	1	\$0.60	\$0.60			
					10 K	311-10.0KFRCT-ND	Digikey	4	\$0.03	\$0.12			
					1 K	311-1.00KFRCT-ND	Digikey	2	\$0.03	\$0.06			
					1 uF	445-1423-1-ND	Digikey	1	\$0.04	\$0.04			
					Thermistor	235-1109-1-ND	Digikey	1	\$2.86	\$2.86			
					PCB	(with value quantity)	PCB 123	1	\$5.63	\$5.63			
				Case					16		\$6.38	\$102.08	
				1" x 1.37" Case	3D print case (per cm^3)	PA 2200	Shapeways	4	\$1.40	\$5.60			
					Plastic Diffuser (per inch^2)	23114-01	Inventables	1	\$0.10	\$0.10			



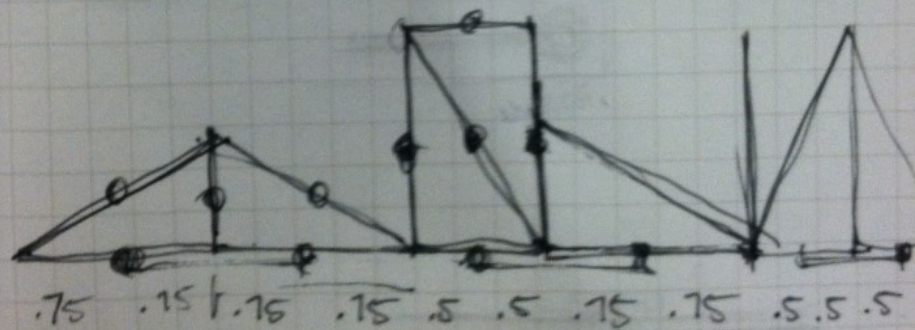
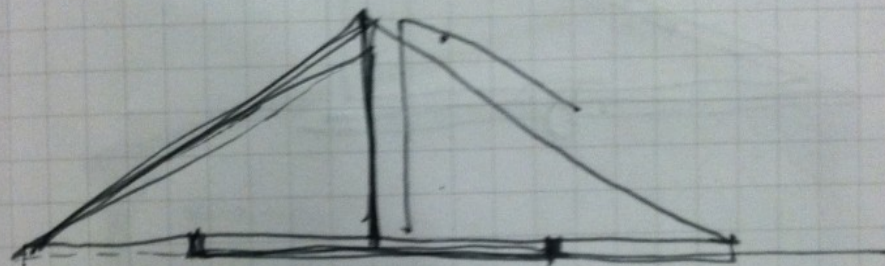
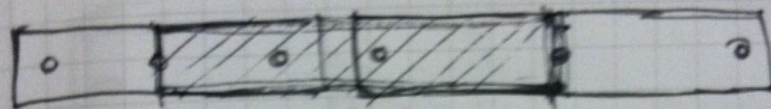
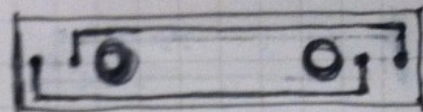
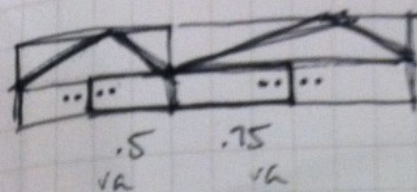
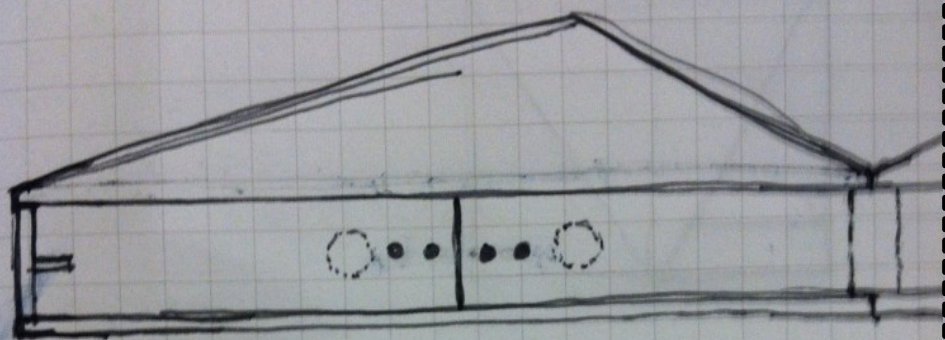












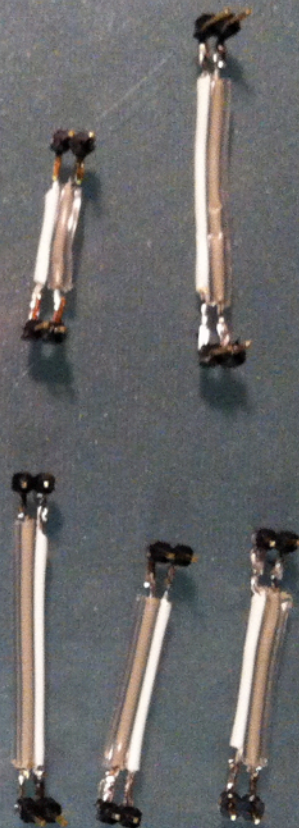
1.25

1.50

1.00

STRIP  
LENGTHS

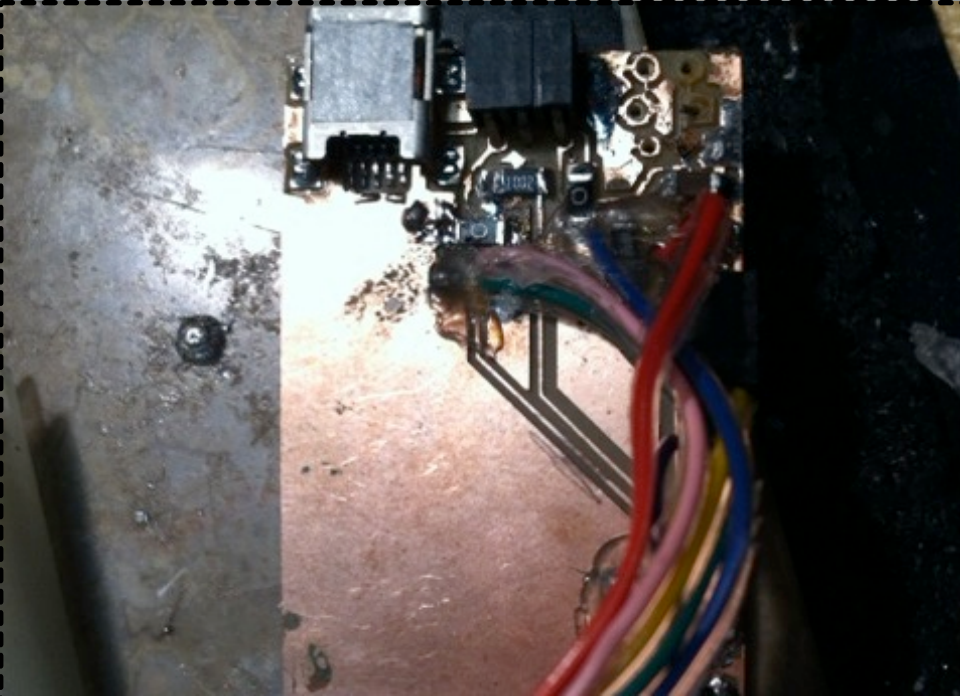
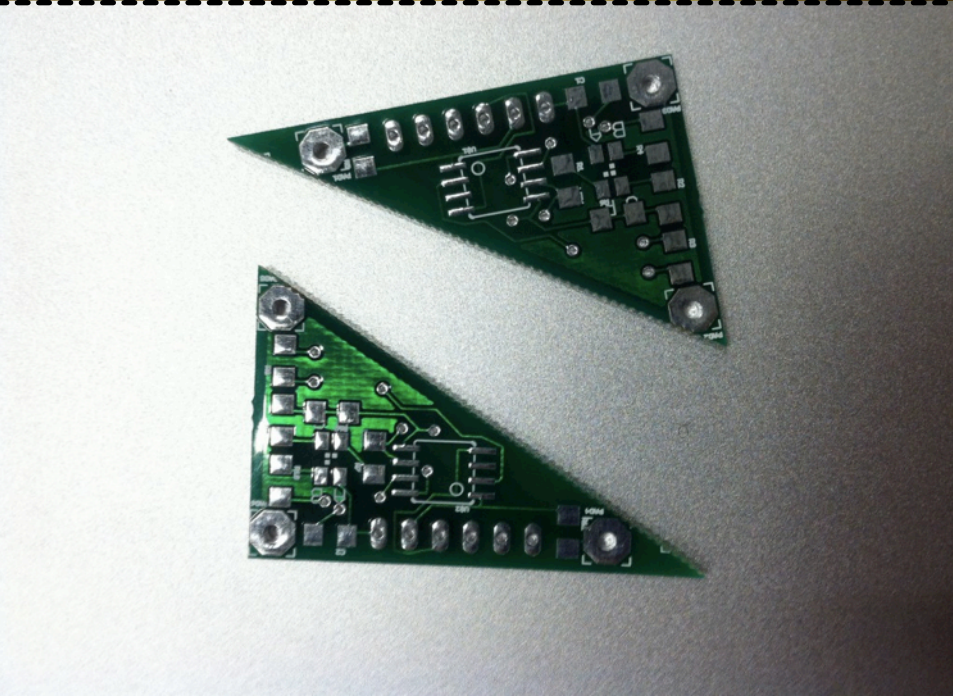
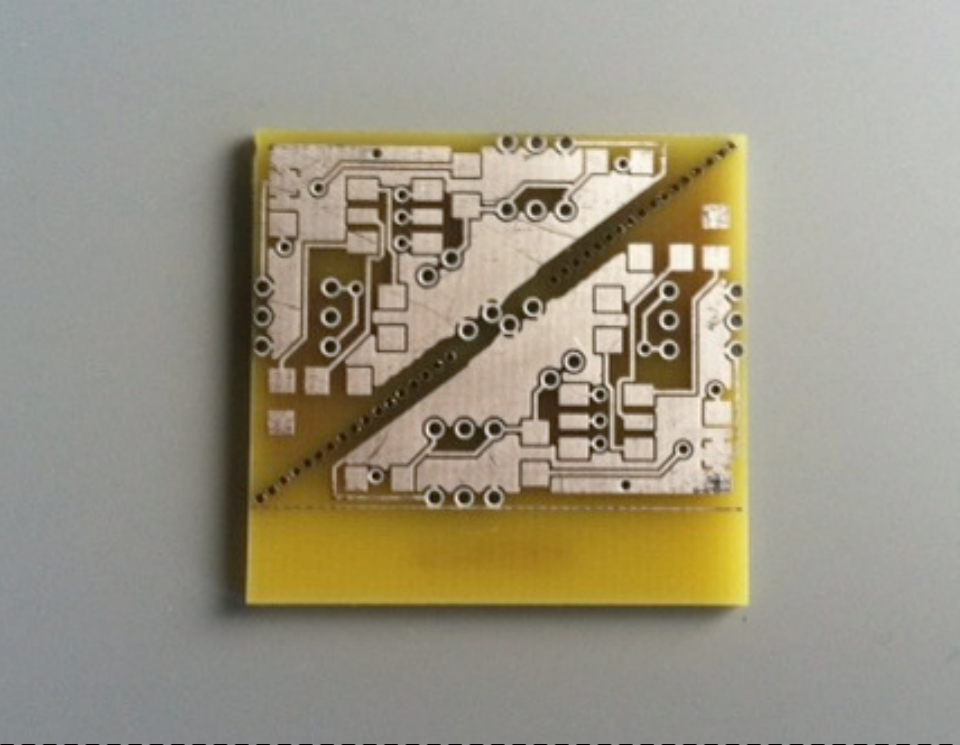
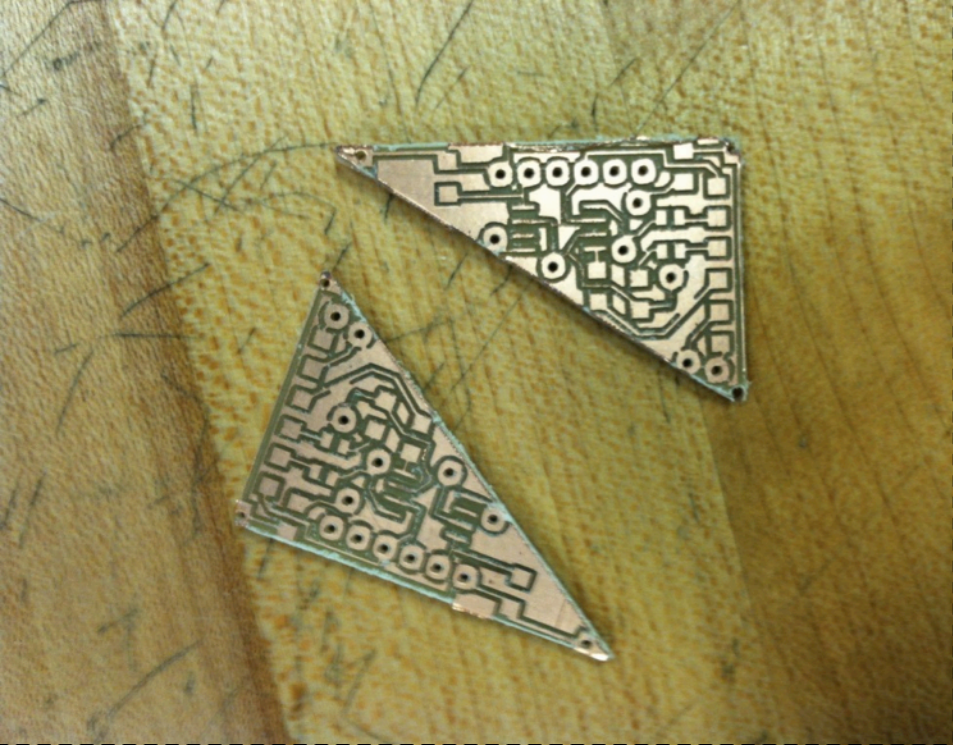




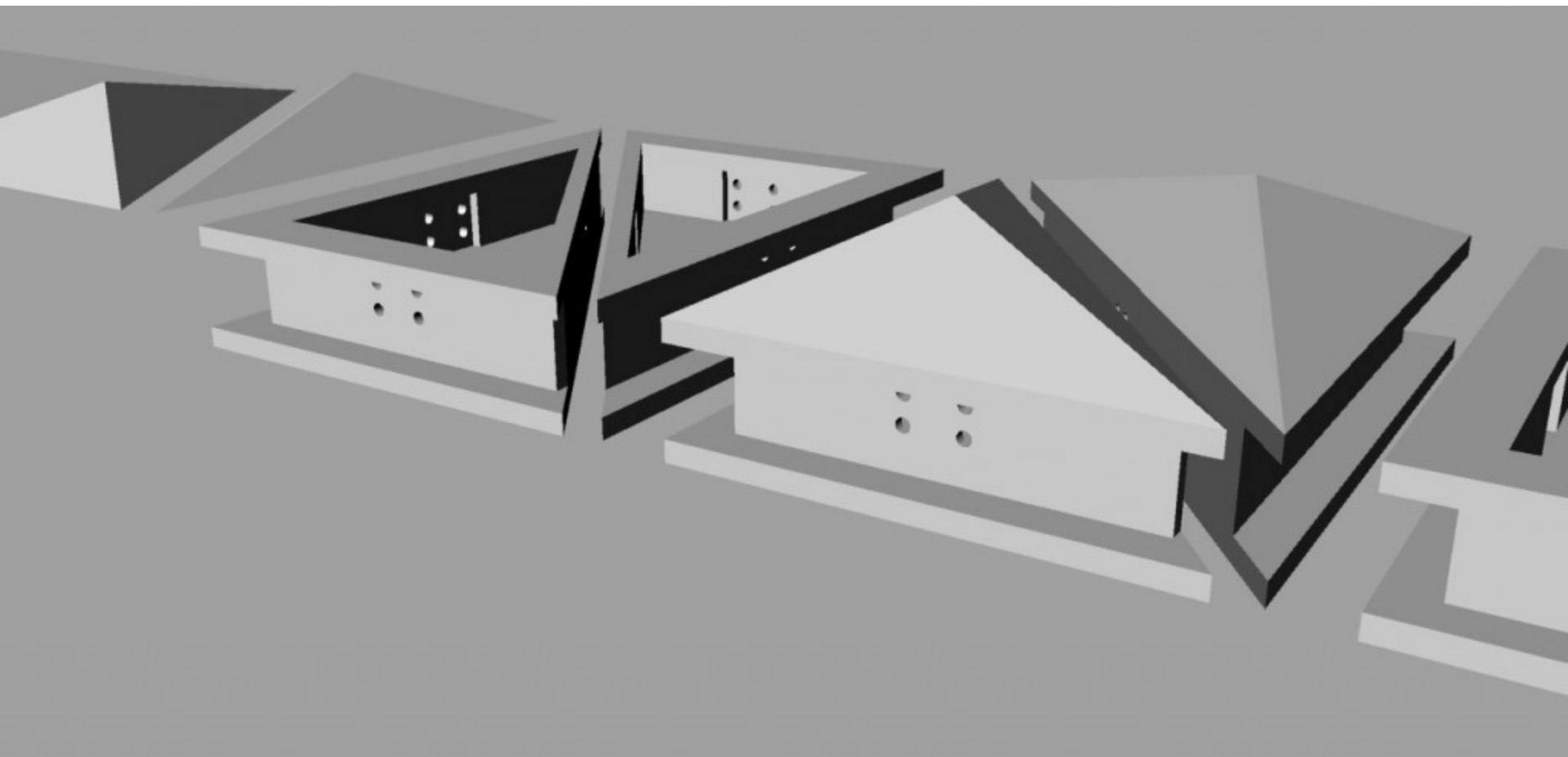






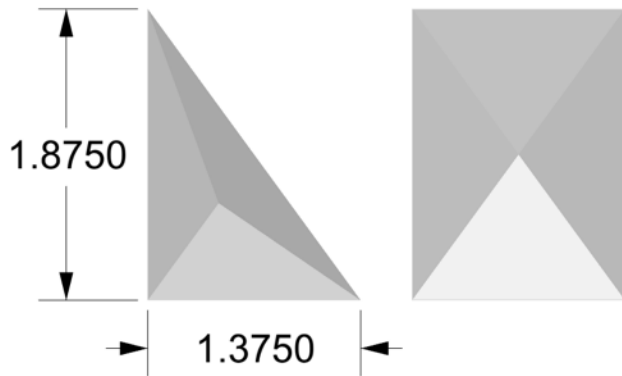












Type	Part	Part #	From	Num Per Unit	U.T. 1	U.T. 100	U.T. 1000
Temperature				1	\$19.57	\$13.15	\$11.27
	Attiny13	ATTINY13A-SSH-ND	Digikey	1	\$0.84	\$0.47	\$0.47
	RGB LED	CLV6A-FKB-CK1P1G1BB7R3R	Digikey	1	\$0.75	\$0.67	\$0.55
	10 K	3CT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
	1 K	311-10.0KFRCT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
	499 ohm	311-1.00KFRCT-ND	Digikey	4	\$0.03	\$0.02	\$0.01
	1 uF	311-499FRCT-ND	Digikey	1	\$0.24	\$0.09	\$0.05
	Thermistor	445-1423-1-ND	Digikey	1	\$2.73	\$1.36	\$1.15
	PCB	235-1109-1-ND	Digikey	1	\$6.14	\$3.07	\$1.50
	3D print case (per cm^3)	APC		1	\$1.40	\$1.40	\$1.40
	2mm Connect (6PIN)	PA 2200	Shapeways	2	\$1.76	\$1.37	\$0.98
	2mm 2Pin Header	3M9234-ND	Digikey	3	\$0.12	\$0.10	\$0.80
	2mm 4Pin Header	S5802-40-ND	Digikey	2	\$0.37	\$0.26	\$0.15

ITEM	Battery (1)	Temp (3)	Light (3)	Total
Necklace	U.T. 1	\$31.84	\$58.71	\$51.66
@ 7 units	U.T. 100	\$20.12	\$39.45	\$36.48
	U.T. 1000	\$16.84	\$33.81	\$31.20
				\$81.85

Type	Part	Part #	From	Num Per Unit	U.T. 1	U.T. 100	U.T. 1000
Temperature				1	\$19.57	\$13.15	\$11.27
	Attiny13	ATTINY13A-SSH-ND	Digikey	1	\$0.84	\$0.47	\$0.47
		CLV6A-FKB-CK1P1G1BB7			\$0.75	\$0.67	\$0.55
	RGB LED	R3R3CT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
		311-10.0KFR					
	10 K	CT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
		311-1.00KFR					
	1 K	CT-ND	Digikey	4	\$0.03	\$0.02	\$0.01
		311-499FRCT					
	499 ohm	-ND	Digikey	1	\$0.24	\$0.09	\$0.05
		445-1423-1-					
	1 uF	ND	Digikey	1	\$2.73	\$1.36	\$1.15
		235-1109-1-					
	Thermistor	ND	Digikey	1			
	PCB		APC	1	\$6.14	\$3.07	\$1.50
	3D print case (per cm^3)	PA 2200	Shapeways	2	\$1.40	\$1.40	\$1.40
	2mm Connect (6PIN)	3M9234-ND	Digikey	3	\$1.76	\$1.37	\$0.98
	2mm 2Pin Header	S5802-40-ND	Digikey	2	\$0.12	\$0.10	\$0.80
	2mm 4Pin Header			1	\$0.37	\$0.26	\$0.15
Light				1	\$17.22	\$12.16	\$10.40
					\$0.84	\$0.47	\$0.47
	Attiny13	ATTINY13A-SSH-ND	Digikey	1	\$0.75	\$0.67	\$0.55
		CLV6A-FKB-CK1P1G1BB7					
	RGB LED	R3R3CT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
		311-10.0KFR					
	10 K	CT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
		311-1.00KFR					
	1 K	CT-ND	Digikey	4	\$0.03	\$0.02	\$0.01
		311-499FRCT					
	499 ohm	-ND	Digikey	1	\$0.24	\$0.09	\$0.05
		445-1423-1-					
	1 uF	ND	Digikey	1	\$0.38	\$0.37	\$0.28
	Phototransistor	365-1162-1-					
	or	ND	Digikey	1	\$6.14	\$3.07	\$1.50
	PCB		APC	1	\$1.40	\$1.40	\$1.40
	3D print case (per cm^3)	PA 2200	Shapeways	2	\$1.76	\$1.37	\$0.98
	2mm Connect (6PIN)	3M9234-ND	Digikey	3	\$0.12	\$0.10	\$0.80
	2mm 2Pin Header	S5802-40-ND	Digikey	2	\$0.37	\$0.26	\$0.15
	2mm 4Pin Header			1	\$0.37	\$0.26	\$0.15
Proximity Sound							
Pressure							
Battery/Charger					\$31.84	\$20.12	\$16.84
400 mAh - Each unit requires approximately 30 mAh	LiPo Battery	PRT-10718	Sparkfun	1	\$7.95	\$6.36	\$6.36
		445-1385-2-			\$0.29	\$0.10	\$0.01
	4.7 uF	ND	Digikey	2	\$0.03	\$0.02	\$0.01
		311-2.00KFR					
	2 K ohm	CT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
		311-10.0KFR					
	10 K ohm	CT-ND	Digikey	1	\$0.03	\$0.02	\$0.01
		311-499FRCT					
	499 ohm	-ND	Digikey	1	\$0.03	\$0.02	\$0.01
		311-1.00KFR					
	1 K ohm	CT-ND	Digikey	2	\$1.25	\$0.75	\$0.53
	USB connector	H2961CT-ND	Digikey	1	\$0.68	\$0.42	\$0.42
		MCP73831T-2ACI/OTCT-					
	IC for LiPo	ND	Digikey		\$1.76	\$1.37	\$0.98
	2mm Connect (6PIN)	3M9234-ND	Digikey	2	\$0.51	\$0.37	\$0.32
	JST connector	455-1734-1-					
	PCB	ND	Digikey	1	\$12.28	\$4.00	\$2.00
			APC	1	\$1.40	\$1.40	\$1.40
	3D print case (per cm^3)	PA 2200	Shapeways	4			
ITEM		Battery (1)	Temp (3)	Light (3)			Total
Necklace @ 7 units	U.T. 1	\$31.84	\$58.71	\$51.66			\$142.21
	U.T. 100	\$20.12	\$39.45	\$36.48			\$96.05
	U.T. 1000	\$16.84	\$33.81	\$31.20			\$81.85

## Market

The target group is for technology/design oriented people, all ages – more focused towards females.

## Manufacture

### Hybrid Approach:

- The circuit boards and components will be premade and soldered.
- The exterior enclosure will be 3D printed (this may change).
- Assembly of each *bijoux* will be done in house (me). This will be a low maintenance process: Set preassembled circuit board and components onto bottom of enclosure with adhesive, Add magnets, Snap close enclosure
- Design of packaging will be done in house (me).
- Production of packaging/instructions will be done by contract.
- Packaging and shipment will be done in house (me).
- Assembly of *bijoux* system will be customized by the user.

Kickstarter Project with website for custom purchase, additionally sold as starter kits.