

7 Bill Of Materials

No	Name	Part No	Description	Qty	Cost per unit	Total Cost	Manufacturer
1	Wheels	–	Plywood wheels	4	£6.80	£0.93	In house
2	Base (Plywood)	–	Base platform	1	£6.80	£2.79	In house
3	Base (Acrylic)	–	Base platform	1	£7.49	£4.81	In house
4	Hubs	–	Plywood hubs	4	£6.80	£0.25	In house
5	Hub connectors	–	Steel connectors	4	£6.99	£6.99	Amazon
6	Screw and Lead	–	Lead screw with nut	2	£8.99	£4.50	Amazon
7	Plastic Tube	–	Hollow plastic tube	1	£4.27	£4.27	Amazon
8	Motor	–	DC Motor (mechanical)	1	£6.99	£6.99	Amazon
9	Datum	–	Reference point component	1	–	–	Amazon
10	Gears	–	3D printed	1	£10.99	£0.13	In house

7.1 Mechanics

No	Name	Part No	Description	Qty	Cost per unit	Total Cost	Voltage/Rating	Manufacturer
1	IC/Chips	SN7404N	Hex Inverter IC	×1	£1.99	£1.99	5V	Texas Instruments
		SN74LS08N	AND Gate IC (Quad 2-input)		£0.57	£0.57	5V	Texas Instruments
		CD74HC73E	Dual JK Flip-Flop IC (Dual 1-bit)		£0.64	£0.64	5V	Texas Instruments
		SE555P	Timer IC (Astable, Monostable)		£0.27	£0.27	5V	Texas Instruments
2	Resistors	CF14JT27K0CT-ND	27kΩ Fixed Resistor	×1	£0.08	£0.08	1/4W	Stackpole Electronics
		CF12JT10K0CT-ND	10kΩ Fixed Resistor	×2	£0.08	£0.16	1/2W	Stackpole Electronics
		CF14JT220RCT-ND	220Ω Fixed Resistor		£0.08	£0.16	1/4W	Stackpole Electronics
3	Capacitors	738-CML0603X7R104KT50VCT-ND	100nF Ceramic Capacitor (X7R)	×1	£0.08	£0.08	50V	Stackpole Electronics
		16ZLJ470MTA8X11.5	470μF Electrolytic Capacitor		£0.38	£0.38	16V	Rubycon
4	LEDs	754-1264-ND	Red Diffused LED (T-1 3/4)	×1	£0.15	£0.15	2V	Kingbright
		754-1263-ND	Green Diffused LED (T-1 3/4)		£0.15	£0.15	2V	Kingbright
5	MOSFETs	IRLZ44NPBF-ND	N-channel MOSFET	×2	£0.96	£1.92	55V/47A	Infineon Technologies
		IRF5305PBF-ND	P-channel MOSFET		£1.35	£2.70	55V/31A	Infineon Technologies
6	Switch	CKN10157-ND	SPDT Snap Action Switch	×1	£0.76	£0.76	100mA/125V	C&K
		EG5619-ND	Rocker Switch SPST		£0.55	£0.55	10A/125V	E-Switch
		MS0850506F020P1C-ND	SPST-NO Snap Action Switch		£0.92	£0.92	5A/125V	E-Switch
9	Buzzer	433-1028-ND	5V Magnetic Buzzer	×1	£0.39	£0.39	5V	Soberton Inc.
10	Fuse	BF310-ND	Fuse Holder with 3A Fuse	×1	£1.53	£1.53	250VAC	MPD (Memory Protection Devices)
		F2707-ND	FUSE GLASS 3A 250VAC 5X20MM		£0.92	£0.92	250VAC	Littelfuse Inc.

7.2 Electronics

Bulk Buy Basket: <https://www.digikey.co.uk/short/75mq0qh1>

Miscellaneous items (purchased on the general internet):

- 6V AA Battery Pack with Holder (As needed)
- Jumper Wires (As needed)
- Insulation Tape for Wires (As needed)