Bill Of Materials February 20,2023							Total Prototype Unit Cost	
Automatic Switch Team Schematic	c, Team 202 Revis	sed: Monday, February	21, 2023				Total Production Unit Cos	\$44.0
Revision: 1								
Team 202: Miguel Chacon Cuesta	, Carlos Chacon (Cuesta, Wyatte Ricks, L	ukas Severinghaus					
				Production batch 1000	0 units			
Part name	Unit Qty	Unit Prototype Cost	Total Prototype Cost	Unit Production Cost	Total Production Cost	Manufacturer	Manufacturer Part #	Supplier
6.2pF 10V Capacitor	1	\$0.24	\$0.24	\$0.051	\$0.051	Kyocera AVX	08051A6R2CAT2A	Digikey
10uF 10V Capacitor	3	\$0.10	\$0.30	\$0.017	\$0.050	Samsung Electro-Mechanics	CL21A106KOQNNNE	Digikey
4.7uF 10V Capacitor	1	\$0.10	\$0.10	\$0.020	\$0.020	Samsung Electro-Mechanics	CL21A475KAQNNNE	Digikey
0.1uF 10V Capacitor	9	\$0.10	\$0.90	\$0.011	\$0.098	Samsung Electro-Mechanics	CL21B104KBFNNNE	Digikey
100uF 10V Capacitor	1	\$0.31	\$0.31	\$0.121	\$0.121	Aishi Capacitors	SVF1EM101E09E00REX	ර Digikey
Blue LED	1	\$0.32	\$0.32	\$0.084	\$0.084	Lite-On Inc.	LTST-C171TBKT	Digikey
Red LED	6	\$0.10	\$0.60	\$0.086	\$0.519	Harvatek Corporation	B1701USD-20D000114U	Digikey
1N4148 Diode	3	\$0.10	\$0.30	\$0.017	\$0.050	Micro Commercial Co.	1N4148W-TP	Digikey
Female Micro USB Connector	1	\$0.43	\$0.43	\$0.27	\$0.27	Amphenol ICC (FCI)	10118192-0002LF	Digikey
2.2uH 5V Inductor	1	\$0.64	\$0.64	\$0.27	\$0.27	Pulse Electronics	PA4332.222NLT	Digikey
DRV8830GDQR Motor Driver	1	\$2.41	\$2.41	\$1.18		Texas Instruments	DRV8830DGQR	Digikey
S8050 SOT23 Transistor	2			\$0.05		UMW	S8050	Digikey
249kOhm 1/4W Resistor	1	\$0.10	\$0.10	\$0.01	\$0.01	KOA Speer Electronics, Inc.	RK73H2ATTD2493F	Digikey
54.9kOhm 1/4W Resistor	1			\$0.01		KOA Speer Electronics, Inc.	RK73H2ATTD5492F	Digikey
180-Ohm 1/4W Resistor	1			\$0.01		Stackpole Electronics Inc	RNCP0805FTD180R	Digikey
130-Ohm 1/4W Resistor	6			\$0.01		KOA Speer Electronics, Inc.	RK73H2ATTD1300F	Digikey
1kOhm 1/4W Resistor	5			\$0.01		Stackpole Electronics Inc	RNCP0805FTD1K00	Digikey
10kOhm 1/4W Resistor	14			\$0.01		Stackpole Electronics Inc	RNCP0805FTD10K0	Digikey
470-Ohm 1/4W Resistor	1			\$0.01		Stackpole Electronics Inc	RK73H2ATTD4700F	Digikey
4.7kOhm 1/4W Resistor	4			\$0.01		Stackpole Electronics Inc	RK73B2ATTD472J	Digikey
0.40hm 1/4W Resistor	1		\$0.41	\$0.06		Eaton - Electronics Division	MFLA0805R4000FA	Digikey
Pushbutton	5			\$0.00		E-Switch	TL3305BF260QG	Digikey
RT8059GJ5 Power Regulator	1	\$0.42		\$0.16		Richtek USA, Inc.	RT8059GJ5	Digikey
PIC24FJ64GA702 Microcontroller	1			\$1.59		· ·	PIC24FJ64GA702-I/SO	0 ,
ESP32-WROOM-32E WiFi Module		*		\$3.15		Microchip Technology Espressif Systems		Digikey
							ESP32-WROOM-32E-H4	
HIH6030 Humidity Sensor	1			\$7.85		Honeywell Sensing and Productivity Solution		Digikey
TC74 Temperature Sensor				\$0.87		Microchip Technology	TC74A4-3.3VCTTR	Digikey
TX Test Point (pad only)	1			\$0.00			N/A	N/A
RX Test Point (pad only)	1			\$0.00			N/A	N/A
Fault Test Point (pad only)	1			\$0.00			N/A	N/A
3A fuse	1			\$0.00			N/A	Peralta Labs
I2C Header	1			\$0.00			N/A	Peralta Labs
OLED Header	1			\$0.00			N/A	Peralta Labs
Debug UART Header	1			\$0.00			N/A	Peralta Labs
ICSP Header	1			\$0.00			N/A	Peralta Labs
Programming Jumper Header	1	\$0.00		\$0.00			N/A	Peralta Labs
ESP Programming Header	1			\$0.00			N/A	Peralta Labs
Power In Header	1			\$0.00			N/A	Peralta Labs
USB Debug Header	1			\$0.00			N/A	Peralta Labs
Motor Connector Header	1			\$0.00			N/A	Peralta Labs
Servo Header	1	\$0.00	\$0.00	\$0.00	\$0.00	N/A	N/A	Peralta Labs
External Parts:								
USB Power Supply	1	\$12.42	\$12.42	\$10.63	\$10.63	Phihong USA	AQ15A-050A	Digikey
Micro USB Cable	1	\$1.47	\$1.47	\$0.82	\$0.82	Cvilux	DH-20M50055	Digikey
Servo Motor	1	\$5.95	\$5.95	\$5.95	\$5.95	Adafruit Industries LLC	SERVOMOTOR RC 4.8V	
Fan	1	\$12.36	\$12.36	\$9.06	\$0.08	Orion Fans	OD4010-05HB	Digikey

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478-10412-1-ND 3	ence Desig Notes	
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160-1645-1-ND	,C9,C10,C11,C13,C15,C16,C1	.7
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RNCP0805FTD10K0CT-ND	,R6,R25,R33,R34	
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1028-1493-1-ND	SW2,SW3,SW4,SW5	
PIC24FJ64GA702-I/SO-ND	3112,0110,0114,0110	
1965-ESP32-WROOM-32E-H4CT-ND 180-5704-1-ND 1	3 samples ordered f	from Microchin 2/15
180-5704-1-ND	3 samples ordered i	TOTT WIIGIOCHIP 2/13
1		
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