Equipment List_BOM

Type	Functionality	Equipment Name	Model Name/Number	No. of Units	Dimension Height (mm)	Dimension Length (mm)	Dimension Width (mm)	Dimension Diameter (mm)	Weight per Unit (kg)	Weight (kg) TOTAL	Voltage [V]	Current [A]	Power per Unit [W] ON	Total Power [W] ON	Price per Unit (US$)	Total Price (US$)	Purchase Link	Supplier/Manufacturer	Equipment characteristics (capacity, speed, fps, angle, FoV, rpm, etc)	Equipment lifetime	Comments	Source/URLs
UVC Source	Lamp	UV Amalgam Lamp GPHA843T5	GPHA843T5L	3		843		15	0.4	1.2	110	1.2	105	315	80	240	https://www.buyultra	Atlantic Ultravio	185nm/254nn	13000 hours		https://d163axztg8am2h.c
														0		0						
Power System	Battery	LiFePO4 Battery 12V/100Ah	EP12100	1	213	330	173		10.5	10.5	12			0	789	789	https://www.amazon.	ExpertPower D	100Ah, Cycles 250	10 years		
	Battery Charger	V Li-Ion Battery Converter/Charg	PD9145ALV	1	279	370	140		2.3	2.3				0	190	190	https://www.amazon.	Progressive Dy	45A			
	Inverter	Inverter 400W/110V	MRI4011IU	1	176	297	78		1.5	1.5	12			0	50	50	https://www.amazon.	BESTEK	12Vto110V			
	Power Converter	AC-DC step-down converter		1	30	106	57		0.15	0.15	110			0	13	13	https://www.tindie.co	ICStation	2V-34V adjustable			
	Fuses			10	19	19				0.013						10	https://www.amazon.		Pack of 100 fuses			
	Main Switch	Rocker Power Switch		1																	Part of the Inverter	
														0								
Embedded Electronics	Onboard Processor	Jetson TX2 Developer Board	Jetson TX2	1	50	170	170		0.09	0.09	18		15		380	380	https://www.amazon.	NVIDIA	RAM 32GB, Freq 60MHz			https://developer.nvidia.c
	Microcontroller	Arduino UNO	UNO REV3 ATm	1	12.5	68.6	53.4		0.025	0.025	12			0	23	23	https://store.arduino.	Arduino	ATmega328P			https://store.arduino.cc/us
	Light Switching PCB	Relay switch + Attiny85	HiLetgo 03-01-03	1	26	86.4	43.2		0.06	0.06		0.5	0.5		10	10	https://www.amazon.co		12V relay + AtTiny 85			https://www.amazon.com/Artshu-10PCS-ATTINY85-20P
	USB hub	4 port USB	H40-A	1	10.16	89	40		0.06	0.06					10	10	https://www.amazon.com/KOOTION-4-P		7 ports 3.0 USB		KOOTION 4-Port USB 3.0 Hub	
	Connectors	Jumper Wires & connectors								0.3				0		50	https://www.sparkfun		M-M, F-F, M-F types			
										0												
Locomotion	Motors	Geared DC motor	JGY370	2	32	80	25		0.165	0.33	12	1	3	6	30	60	https://www.joom.cor		10rpm, 2.5Nm			
	Wheels	Bearing Wheel	Type 6	2				100	0.26	0.52			0	0	29.3	58.6	https://www.aliexpres		6 mm bore, 100kg load			
		Caster wheel	CHAMJ-S50-R	1			28	50	0.325	0.325					3.5	3.5	https://jp.misumi-ec.c					
	Motor Driver	Dual-channel H-Bridge IC	L298N	1	27	43	43		0.03	0.03	5			0	3	3	https://www.smart-pr					
Sensors	Scanner Mapping	LIDAR	R360-UST-20LX	1	70		50	50	0.13	0.13	12	0.5		0	2600	2600	https://acroname.cor	Hokuyo	Range(5.6m×240°), Freq 10Hz			https://www.hokuyo-aut.jp
	Vision	RGBD Camera	Realsense D435	4	25	99	25		0.25	1	5	1	2	8	179	716	https://www.amazon.	Intel	30-90fps			https://www.intelrealsense
	Proximity	Sonar-EZ0 Ultrasonic Range Fin	SEN-08502 ROH	4	15.5	22.1	19.9		0.0043	0.0172	5	0.003		0	30	120	https://www.maxbotix	MaxBotix	Max Range 5m, Resolution of 1 inch			
	Motion	Passive Infrared	HC-SR501	4		32	24	23	0.005	0.02	12			0	5.36	21.44	https://www.elektor.c	Kuongshun				
														0								
Safety	Light Indicator	Red Strobe LEDs	B07NP2WRMP	4	20			22	0.05	0.2	12			0	3.5	14	https://www.amazon.	TRP Traders	Waterproof			
	Alarm	Buzzer	SFM-27	1				41.4	0.02	0.02	12			0	5.99	5.99	https://www.amazon.					
	Remote shutdown	Mobile application								0				0								
	Emergency Stop	Emergency Push Button		1	85	77	71		0.15	0.15		10			8.99	8.99	https://www.amazon.		Weatherproof Switch			
	Battery Level Indicato	Battery Capacity Indicator Digital	B07ZP1BR8F	1	13.5	61.36	33.36		0.02	0.02					10.43	10.43	https://www.amazon.	Geekcreit				
Structure	Body	Cylindrical casing	ABS resin	1					3.69	3.69				0		56			3D printed			
		Top Plate	ABS resin	1					0.15	0.15							https://www.alibaba.c					
		Base Plate	Al-5052	1					4.442	4.442						70	https://www.alibaba.c		CNC milling			
	Support	Support rods	SS400	3					0.505	1.515				0		10	https://www.alibaba.c					
		Electronics box	ABS resin	1					0.083	0.083												
		Bracket for tubes	Al 1100	1					1.272	1.272						10	https://www.alibaba.c					
	Connectors	Fasteners	M6 screws							0.8						50						
	Bearing	Wheel Bearing	URA-722	2					0.1	0.2				0	28	56	https://jp.misumi-ec.c	Miyoshi	T type			
	Motor support	Motor Bracket	SS400	2	30	38	46		0.05	0.1				0	4.5	9	https://www.banggoo	Machifit				
	Power Cable	Retractable Cable	DYH-1807	1			105	20	0.5	0.5	250	10		0	5	5	https://www.alibaba.c		2M retractable length, Current rating: 10 A			
Communication/IOT	Wifi	Wifi antennas		1	185			10	0.02	0.02						0	https://www.amazon.		WiFi Antenna 9dBi 2.4Ghz. 5GH	Included with Jetson TX2 Development Kit		
														0		0						
Storage	Memory Card	MicroSD 128GB	P500	1	0.3	121	89		0.009	0.009				0	18	18	https://www.amazon.	Netac				
														0		0						
Thermal	Vent slits									0				0		0						
Software	Operating System	ROS								0												
	Cloud Computing Ser	Amazon Web Services																				
SUB TOTAL										31.7122				329.5		5652.95						
VAT 20%																1130.59						
TOTAL																6783.54						

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