

	A	B	C	D	E	F	G	H	I	J	K	L
1	<b>CMPT 433 – Hardware to Lend</b>				Last update: Feb 15, 2024			Groups to Loan out to		OUT	RETURNED	
2	<b>Description</b>		<b>Quant</b>	<b># Out</b>	<b>URL</b>	<b># To Buy</b>	<b>Price (USD)</b>	<b>TKDS</b>	<b>Server Rack</b>	<b>7891234</b>	<b>BB Burnout Brigade</b>	<b>Beagle Dash Cam</b>
4	<b>Sensors / Inputs</b>											
5	<b>Temperature / Humidity</b>											
6		RHT03: Temperature & Humidity Sensor (Analog signal? Need accurate PRU timing?)	3	3	<a href="http://www.rpelectronics.com/sen-10167-temperature-humidity-sensor-rht03.html">http://www.rpelectronics.com/sen-10167-temperature-humidity-sensor-rht03.html</a>					1	1	
7		Temperature sensor (TMP36)	11	3	<a href="http://www.adafruit.com/product/165">http://www.adafruit.com/product/165</a>					1	1	
8		I2C Temperature sensor (high accuracy)	3	2	<a href="http://www.adafruit.com/product/1782">http://www.adafruit.com/product/1782</a>							
9		Grove: Temperature/Humidity Sensor -- Not easy w/ BBG: Analog signal	1		<a href="http://www.robotshop.com/ca/en/gravity-dht11-temperature-humidity-sensor.html">http://www.robotshop.com/ca/en/gravity-dht11-temperature-humidity-sensor.html</a>							
10	<b>Input Devices</b>											
11		12-key Keypad	1	1	<a href="http://www.rpelectronics.com/12key-12-key-keypad-common-ground.html">http://www.rpelectronics.com/12key-12-key-keypad-common-ground.html</a>							
12		4x4 Matrix Keypad	1	1	<a href="https://www.adafruit.com/product/3844">https://www.adafruit.com/product/3844</a>		\$6		1			
13		Grove: Mini-Joystick (A2D, PS2 style) -- Analog! May not be compat with BBG	1	1	<a href="http://www.robotshop.com/ca/en/seeedstudio-grove-mini-joystick.html">http://www.robotshop.com/ca/en/seeedstudio-grove-mini-joystick.html</a>							
14		Analog mini-thumbstick (Breadboard friendly)	2		<a href="http://adafru.it/3246">http://adafru.it/3246</a>							
15		Square Force-Sensitive Resistor (FSR) (detects physical pressure)	1	1	<a href="https://www.adafruit.com/product/1075">https://www.adafruit.com/product/1075</a>		\$9					
16												
17		Grove: GPS [3.3V, UART] (Makes buzzer on Zen beeps, but works!)	1	0	<a href="https://www.seeedstudio.com/Grove-GPS-p-959.html">https://www.seeedstudio.com/Grove-GPS-p-959.html</a>				Pass			1 – MISS!
18		Adafruit Mini GPS PA1010D - UART/I2C, 3.3V			<a href="https://www.adafruit.com/product/4415">https://www.adafruit.com/product/4415</a>	1	\$30					
19		Grove: I2C FM Receiver [3.3V, I2C] (Works)	1		<a href="https://www.seeedstudio.com/Grove---I2C-FM-Receiver-p-1953.html">https://www.seeedstudio.com/Grove---I2C-FM-Receiver-p-1953.html</a>							
20												
21		Photoresistors	1									
22		Ambient light sensor	1		<a href="http://www.adafruit.com/products/1384">http://www.adafruit.com/products/1384</a>							
23		BH1750 Light Sensor - STEMMMA QT / Qwiic	1		<a href="https://www.adafruit.com/product/4681">https://www.adafruit.com/product/4681</a>							
24	<b>Motion / Distance Sensors</b>											
25		Grove: PIR Motion Sensor [3.3V, Digital]	1		<a href="https://www.seeedstudio.com/Grove-PIR-Motion-Sensor-p-902.html">https://www.seeedstudio.com/Grove-PIR-Motion-Sensor-p-902.html</a> (Or digikey: <a href="https://www.digikey.ca/en/products/detail/seeed-technology-co-ltd/101020020/5482614">https://www.digikey.ca/en/products/detail/seeed-technology-co-ltd/101020020/5482614</a> )		\$10					
26		PIR MotionSensor (Breadboard friendly; GPIO)	4	4	<a href="https://www.adafruit.com/product/4871">https://www.adafruit.com/product/4871</a>		\$4					1
27		IR Distance Sensor (10cm-80cm)	1		<a href="http://www.adafruit.com/products/164">http://www.adafruit.com/products/164</a>							
28		VL53L0X ToF Distance Sensor - .3m-1m	2	2	<a href="https://www.adafruit.com/product/3317">https://www.adafruit.com/product/3317</a>		\$15					
29		Ultrasonic Distance Sensor - 3V or 5V - HC-SR04 compatible - RCWL-1601	4	4	<a href="https://www.adafruit.com/product/4007">https://www.adafruit.com/product/4007</a>	1	\$4				Ordered	
30												
31		Vibration Sensor Module (Normal Closed SW-420)	4	2	<a href="https://www.canadarobotix.com/products/1886">https://www.canadarobotix.com/products/1886</a>		\$3		1			
32		GY-521 Gyroscope	1	1		1						
33												
34	<b>Cameras</b>											
35		Logitech C270 USB camera	6	6	<a href="https://www.amazon.ca/Logitech-Widescreen-Calling-Recording-960-000694/dp/B004FH05Y6/">https://www.amazon.ca/Logitech-Widescreen-Calling-Recording-960-000694/dp/B004FH05Y6/</a>	1	\$28		SKIP			1
36		Logitech C920 USB camera	1	1								
37		Camera cape (Work to get functioning)	1		<a href="http://www.radiumboards.com/HD_Camera_Cape_for_BeagleBone_Black.php">http://www.radiumboards.com/HD_Camera_Cape_for_BeagleBone_Black.php</a>							
38												
39	<b>Audio</b>											
40		Electret Microphone Amplifier	2		<a href="https://www.adafruit.com/product/1063">https://www.adafruit.com/product/1063</a>							
41		Electret Microphone Amplifier - MAX9814 with Auto Gain	2	2	<a href="https://www.adafruit.com/product/1713">https://www.adafruit.com/product/1713</a>		\$8					
42		Breakout Board w/ Electret Microphone	1	1	<a href="https://www.robotshop.com/ca/en/breakout-board-electret-microphone.html">https://www.robotshop.com/ca/en/breakout-board-electret-microphone.html</a>							1
43		USB Mini Microphone	2		<a href="http://adafru.it/3367">http://adafru.it/3367</a>		\$6					
44		USB audio input/output; works with BBG.	3	1	<a href="https://www.amazon.ca/gp/product/B097H7HB5J">https://www.amazon.ca/gp/product/B097H7HB5J</a>							
45		3.5mm (1/8") Stereo plug (F) to wires	3		<a href="http://adafru.it/2791">http://adafru.it/2791</a>							
46		3.5mm Stereo cable (M-M)	2	1								
47												
48	<b>Motors / Actuators / Relays</b>											
49		Micro servo	2		<a href="http://www.adafruit.com/product/169">http://www.adafruit.com/product/169</a>							
50		Motor Driver (Dual H-Bridge for DC or Stepper)	1	1	<a href="http://www.adafruit.com/products/807">http://www.adafruit.com/products/807</a>	1	\$5					
51		Pan/Tilt kit (web-cam or sensor weight only)	5	1	<a href="http://www.robotshop.com/ca/en/dagu-mini-pan-and-tilt-kit.html">http://www.robotshop.com/ca/en/dagu-mini-pan-and-tilt-kit.html</a>							
52		Pan/Tilt Kit (medium weight)	1	1	<a href="http://www.robotshop.com/ca/en/lynxmotion-pan-and-tilt-kit-aluminium2.html">http://www.robotshop.com/ca/en/lynxmotion-pan-and-tilt-kit-aluminium2.html</a>							

	A	B	C	D	E	F	G	H	I	J	K	L
2		Description	Quant	# Out	URL	# To Buy	Price (USD)	TKDS	Server Rack	7891234	BB Burnout Brigade	Beagle Dash Cam
53		Robot car chassis; 4W drive (Control with relay board (4ch) or H-Bridge), not inc)	1	1	<a href="https://www.robotshop.com/ca/en/dfrobot-4wd-arduino-mobile-platform.html">https://www.robotshop.com/ca/en/dfrobot-4wd-arduino-mobile-platform.html</a>	1	\$45				ORDER	
54		Robot car chassis: 2W drive (Control with relay board or H-bridge; not inc)	1		<a href="https://ca.robotshop.com/products/2wd-mobile-platform-arduino">https://ca.robotshop.com/products/2wd-mobile-platform-arduino</a>	1	\$37					
55		Grove: I2C Mini Motor Driver	2		<a href="https://www.robotshop.com/ca/en/grove-i2c-mini-motor-driver.html">https://www.robotshop.com/ca/en/grove-i2c-mini-motor-driver.html</a>							
56												
57		40mm Fan, 12V 6.5CFM CFA124010MB	1									
58		4-Channel 5V relay board (works on 3.3V)	1	1	<a href="http://www.robotshop.com/ca/en/4-channel-5v-relay-module.html">http://www.robotshop.com/ca/en/4-channel-5v-relay-module.html</a> or <a href="https://ca.robotshop.com/products/jsumo-5v-4-channel-relay-board?variant=42545752211607">https://ca.robotshop.com/products/jsumo-5v-4-channel-relay-board?variant=42545752211607</a>	1	\$10				ORDER	
59		Grove: Relay [3.3V; use "UART" grove, control with GPIO P9_22 (Linux #2)]	4	1	<a href="https://www.seeedstudio.com/Grove-Relay-p-769.html">https://www.seeedstudio.com/Grove-Relay-p-769.html</a>							
60		Lock-style Solenoid – 12VDC	1	1	<a href="https://www.adafruit.com/product/1512">https://www.adafruit.com/product/1512</a>		\$15					
61		Transistors (TIP120 Power Darlington) - 3 pack	1	1	<a href="https://www.adafruit.com/product/976">https://www.adafruit.com/product/976</a>		\$3					
62												
63		<b>Displays</b>										
64		<b>keypah</b>										
65		16x32 RGB Pixel matrix (with power adapter, no need for lvl shifter)	3	3	<a href="http://www.adafruit.com/products/420">http://www.adafruit.com/products/420</a>	1?	\$25					
66		NeoPixel 8x8 RGB LED Pixel Matrix (with power adapter, and connector, level shifter) <b>Requires PRU for timing</b>	2		<a href="https://www.adafruit.com/product/1487">https://www.adafruit.com/product/1487</a>							
67		Neon ring 12xWS2812 <b>Requires PRU for timing</b>	1		<a href="http://www.adafruit.com/products/1643">http://www.adafruit.com/products/1643</a>							
68		NeoPixel Stick - 8 x 5050 RGB LED <b>Requires PRU for timing</b>	2		<a href="https://www.adafruit.com/product/1426">https://www.adafruit.com/product/1426</a>							
69		Custom built LED Cube (7x7x6) Get the 30A@5V power supply; w/ guide 2019	1									
70		<b>Small Matrix, 7 Seg, Bar</b>										
71		Mini 8x8 Yellow-green LED Matrix w/ I2C Backpack	2		<a href="http://adafru.it/861">http://adafru.it/861</a>							
72		8x8 Bicolor LED Matrix with I2C Backpack	1		<a href="http://adafru.it/901">http://adafru.it/901</a> and <a href="http://adafru.it/458">http://adafru.it/458</a> (which is 902)							
73		Small 1.2" 8x8 Ultra bright white LED matrix w/ backpa	1		<a href="http://adafru.it/1048">http://adafru.it/1048</a> and <a href="http://adafru.it/1613">http://adafru.it/1613</a>							
74		4x4 Button with integrated LED matrix (with silicone keypad)	1		<a href="https://www.adafruit.com/product/3954">https://www.adafruit.com/product/3954</a>							
75		Grove: 4-Digit Display [3.3V, Digital; std guide] -- Bit-bang: One group worked, one did not.	1	0	<a href="http://www.robotshop.com/ca/en/grove-4-digit-display.html">http://www.robotshop.com/ca/en/grove-4-digit-display.html</a>							
76		Grove: LED Bar [3.3V, Digital] -- Claims not compat with BBG; timing?	1		<a href="http://wiki.seeed.cc/Grove-LED_Bar/">http://wiki.seeed.cc/Grove-LED_Bar/</a>							
77		Quad Alphanumeric Display - Blue 0.54" Digits w/ I2C	1	1	<a href="https://www.adafruit.com/product/1912">https://www.adafruit.com/product/1912</a> (= 1910 + 1908)	0	\$14					
78		<b>OLED / LCD Displays</b>										
79		4DCAPE-43T – Resistive touch 4" LCD - screen OK; touch is half broken. - Must use on BBB w/ external 5V 2A power	1		<a href="http://www.4dsystems.com.au/product/4DCAPE_43/">http://www.4dsystems.com.au/product/4DCAPE_43/</a>							
80		Grove: OLED Display 1.12" [3.3V, I2C]	1	1	<a href="https://www.seeedstudio.com/Grove-OLED-Display-1.12%22-p-824.html">https://www.seeedstudio.com/Grove-OLED-Display-1.12%22-p-824.html</a>				1			
81		2.2" 18-bit color TFT LCD display with microSD card b	1	1	<a href="https://www.adafruit.com/product/1480">https://www.adafruit.com/product/1480</a>	1	\$25					
82		LCD 16x2 + extras - White on Blue w/ POT	4	4	<a href="https://www.adafruit.com/product/1447">https://www.adafruit.com/product/1447</a>		\$11				1	
83												
84		<b>Networking</b>										
85		<b>WiFi &amp; Ethernet</b>										
86		USB WiFi Dongle (Edimax N 150)	2	2	<a href="https://www.amazon.ca/Edimax-EW-7811Un-150Mbps-Raspberry-Supports/dp/B003MTTJOY">https://www.amazon.ca/Edimax-EW-7811Un-150Mbps-Raspberry-Supports/dp/B003MTTJOY</a>						1	
87		USB WiFi (802.11b/g/n)	2	2	<a href="https://www.adafruit.com/product/1012">https://www.adafruit.com/product/1012</a>		\$14		1			
88		USB WiFi Dongle (MicroNEXT MN-WD552b)	1	1								1
89		USB WiFi (Ralink 802.11n WLAN w/ Antenna)	4	3								
90		USB 2.0 WiFi Hub with 3 USB Ports	10	0	<a href="https://www.adafruit.com/product/2937">https://www.adafruit.com/product/2937</a>	7	\$5					
91		USB Ethernet Adapters (wired connection)	2		<a href="https://www.amazon.ca/TP-Link-USB-Ethernet-Adapter-UE306/dp/B09GRL3VCN/">https://www.amazon.ca/TP-Link-USB-Ethernet-Adapter-UE306/dp/B09GRL3VCN/</a>		\$13					
92		Ethernet cables			From Dr. Brian							
93		8-Port Ethernet Hub (not router)	1									
94												
95		<b>Bluetooth &amp; BLE</b>										
96		NRF51822 Bluetooth 4.0 Evaluation Kit (seems to work for BLE5.0) WaveShare	2		<a href="https://www.robotshop.com/ca/en/nrf51822-bluetooth-40-evaluation-kit.html">https://www.robotshop.com/ca/en/nrf51822-bluetooth-40-evaluation-kit.html</a>							
97		USB Bluetooth 4.0 Module (v2.1 back-compatible)	1	1	<a href="https://www.adafruit.com/product/1327">https://www.adafruit.com/product/1327</a>	1?	\$12					

	A	B	C	D	E	F	G	H	I	J	K	L
2		Description	Quant	# Out	URL	# To Buy	Price (USD)	TKDS	Server Rack	7891234	BB Burnout Brigade	Beagle Dash Cam
98		Grove: BLE (dual mode V1.0) [3.3V, UART] – Bluetooth Low Energy	1		<a href="https://www.seeedstudio.com/Grove---BLE-%28dual-model%29-p-2407.html">https://www.seeedstudio.com/Grove---BLE-%28dual-model%29-p-2407.html</a>							
99		Grove: BLE (v1) [3.3V, UART] – Bluetooth low energy	1		<a href="https://www.seeedstudio.com/Grove---BLE-p-1929.html">https://www.seeedstudio.com/Grove---BLE-p-1929.html</a>							
100		Circuit Playground Bluefruit	3		<a href="http://adafru.it/4333">http://adafru.it/4333</a>							
101		Other										
102		NFC Scanner (PN532 NFC/RFID controller breakout board)	1	1	<a href="https://www.adafruit.com/product/364">https://www.adafruit.com/product/364</a>		\$40					
103		RFID Reader/Writer (PN532 NFC NXP) 3.3V I2C, card + keychain	2	0	<a href="https://www.amazon.ca/dp/B0BPR4DM19">https://www.amazon.ca/dp/B0BPR4DM19</a>		\$11					
104		RFID Reader/Writer (MFRC522 Chip), 3.3V SPI, With card + keychain	6		<a href="https://www.amazon.ca/dp/B0BPR4SCVC">https://www.amazon.ca/dp/B0BPR4SCVC</a>		\$4					
105												
106		Power										
107		2.1mm DC Power adapter for breadboard	7	3	<a href="http://www.adafruit.com/product/368">http://www.adafruit.com/product/368</a>		\$2					
108		Power supply (5V, 1A)	2									
109		Power supply (5V, 2A)	3	0								
110		Power supply (5V, 3A)	3	1								
111		Power supply (5V, 30A; for LED cube)	1									
112		Power supply (9V, 0.5A)	1									
113		Power supply (12V, 1A)	1	1								
114		Power supply (21.75V, 210mA)	1									
115		Power supply (22V, 1.25A)	1		From Roomba							
116		Power supply (3v to 12V, 800mA)	1									
117												
118		Power Supply (800mA 3v-12v)	1									
119		Alligator clips	Some									
120		3-outlet power bar	1									
121		Small USB power brick "PKCELL"	1	1								1
122												
123		BeagleBones										
124		BeagleBone Black (need 5v 2A+ power)	4									
125		BeagleBone Green	2									
126		Zen Cape	1									
127		BeagleBoard-xM	1									
128		BeagleBone White	1									
129		Loaner Boards (BBG w/ Zen Cape and parts)	2									
130												
131		Pumps / Water / Soil										
132		Pumps: Used by students for liquids (assorted w/ tubing)	6	2								1
133		Soil moisture sensor w/ cable	2	2	<a href="https://www.adafruit.com/product/4026">https://www.adafruit.com/product/4026</a>	1	\$11					1
134		Peristaltic Liquid Pump with Silicone Tubing - 5V to 6	2	1	<a href="https://www.adafruit.com/product/3910">https://www.adafruit.com/product/3910</a>		\$30					
135		Tubing (assorted)										
136												
137		General										
138		OBDII USB Interface (ELM 327, V1.5a) (Read a car's data)	2									
139		Grove: I2C Hub	1		<a href="https://www.seeedstudio.com/Grove-I2C-Hub-p-851.html">https://www.seeedstudio.com/Grove-I2C-Hub-p-851.html</a>							
140		Grove: 4-pin cables for I2C	5		<a href="https://www.seeedstudio.com/Grove-Universal-4-Pin-20cm-Unbuckled-Cable-5-PCs-Pack-p-749.html">https://www.seeedstudio.com/Grove-Universal-4-Pin-20cm-Unbuckled-Cable-5-PCs-Pack-p-749.html</a>							
141		Thermal Printer – (Prints images slowly)	1		<a href="https://www.seeedstudio.com/Embedded-Thermal-Printer-p-1621.html">https://www.seeedstudio.com/Embedded-Thermal-Printer-p-1621.html</a>							
142		Thermal Printer - Power	1		<a href="https://www.seeedstudio.com/wall-adapter-power-supply-5vdc-2a-p-1508.html?cPath=1_4">https://www.seeedstudio.com/wall-adapter-power-supply-5vdc-2a-p-1508.html?cPath=1_4</a>							
143		Old android phones	Some									
144		FTDI TTL to USB cable (for debugging)	2									
145		USB Micro to USB-A cables	2									
146		Adafruit Feather RP2040 Bare metal Cortex M0+ microcontroller	1		<a href="https://www.adafruit.com/product/4884">https://www.adafruit.com/product/4884</a>							
147		Adafruit AW9523 GPIO Expander breakout board	1		<a href="https://www.adafruit.com/product/4886">https://www.adafruit.com/product/4886</a>							
148		Level Shifters										
149		Bi-directional level shifter	3		<a href="http://www.adafruit.com/products/1875">http://www.adafruit.com/products/1875</a>							
150		Level shifter – 8 channel	2		<a href="http://www.adafruit.com/products/395">http://www.adafruit.com/products/395</a>							
151		Level shifter – 4 channel (74AHCT125)	6	1	<a href="http://www.adafruit.com/products/1787">http://www.adafruit.com/products/1787</a>							

	A	B	C	D	E	F	G	H	I	J	K	L
2		Description	Quant	# Out	URL	# To Buy	Price (USD)	TKDS	Server Rack	7891234	BB Burnout Brigade	Beagle Dash Cam
152		Converter (5V to 3V, one way) (CD4050B)		1	<a href="https://www.ti.com/lit/dspym/nicd4050b.pdf?H2S=ds-mous-null-mousermode-dd-pf-null-wwa&amp;tr=1050830020293&amp;ref_url=steph2534n252f%2Fwww.mouser.com%2F">https://www.ti.com/lit/dspym/nicd4050b.pdf?H2S=ds-mous-null-mousermode-dd-pf-null-wwa&amp;tr=1050830020293&amp;ref_url=steph2534n252f%2Fwww.mouser.com%2F</a>							
153		5V Step-up/Step-down Voltage regulator		1	<a href="http://www.robotshop.com/ca/en/step-up-step-down-voltage-regulator-s7v7f5.html">http://www.robotshop.com/ca/en/step-up-step-down-voltage-regulator-s7v7f5.html</a>							
154												
155		<b>Components</b>										
156		LEDs (red, green, yellow, blue, multi-colour)		Lots								
157		Buttons (breadboard friendly)		Lots	0							
158		Breadboards (1/2 size)		5	1							
159		Perma-Proto 1/2 size protoboard		4	<a href="http://adafru.it/1609">http://adafru.it/1609</a>							
160		Potentiometer Knob - 10k Ohms		1	<a href="http://adafru.it/4133">http://adafru.it/4133</a>							
161												
162		Jumpers: Male to Male		Some	<a href="http://www.robotshop.com/ca/en/65-22-gauge-assorted-jumper-wires.html">http://www.robotshop.com/ca/en/65-22-gauge-assorted-jumper-wires.html</a>							
163		Jumpers: Male to Female		Some	<a href="http://www.robotshop.com/ca/en/drobot-assorted-jumper-wires-premium.html">http://www.robotshop.com/ca/en/drobot-assorted-jumper-wires-premium.html</a>							
164		Jumpers: Female to Female		Some	<a href="http://www.robotshop.com/ca/en/300mm-40-pin-jumper-wire-splittable.html">http://www.robotshop.com/ca/en/300mm-40-pin-jumper-wire-splittable.html</a>							
165		Resistors (variety)		Some								
166		2x23 Header		Some								
167		1x? Header		Some								
168												
169		<b>Click Boards</b>										
170		mikroBUS Cape (holds 4 Click boards)		3	<a href="http://elinux.org/Tigal:BeagleBone_mikrobuscape">http://elinux.org/Tigal:BeagleBone_mikrobuscape</a>							
171		Click: BarGraph		2	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
172		Click: ADC		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
173		Click: Bluetooth – (Poor documentation)		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
174		Click: BUZZ		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
175		Click: MP3		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
176		Click: Joystick		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
177		Click: DAC		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
178		Click: Gyro		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
179		Click: Relay		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
180		Click: 7-seg Display		3	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
181		Click: 8x8 Red		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
182		Click: 8x8 Yellow		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
183		Click: 8x8 Blue		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
184		Click: 8x8 Green		1	<a href="http://www.mikroe.com/click/">http://www.mikroe.com/click/</a>							
185												
186		<b>TOTAL OUT</b>			77							
187												
188		<b>### Wishlist</b>										
189		Magnetic contact switch		2	<a href="https://www.adafruit.com/product/375">https://www.adafruit.com/product/375</a>	2	3.95			1		
190		5V, two channel relay w/ optocoupler		2	<a href="https://www.amazon.ca/Yizhet-Control-Optocoupler-Raspberry-Arduino/dp/B09">https://www.amazon.ca/Yizhet-Control-Optocoupler-Raspberry-Arduino/dp/B09</a>	1	8			1		
191		Hall effect sensor		1	<a href="https://www.adafruit.com/product/158">https://www.adafruit.com/product/158</a>	1	2					
192		High-strength magnet		1	<a href="https://www.adafruit.com/product/9">https://www.adafruit.com/product/9</a>	1	2.5					
193		Vibration motor (May need transistor to turn on)		2	<a href="https://www.adafruit.com/product/1201">https://www.adafruit.com/product/1201</a>	2	2					
194		12mm toggle switch		1	<a href="https://www.adafruit.com/product/1683">https://www.adafruit.com/product/1683</a>	1	2					
195		High torque - mettal Gear Servo		1	<a href="https://www.adafruit.com/product/1142">https://www.adafruit.com/product/1142</a>	1	20					
196		Laser Diode - 5mW 650nm Red (2.8V to 5.2V)		1	<a href="https://www.adafruit.com/product/1054">https://www.adafruit.com/product/1054</a>	1	6					
197		Laser Mounting Stand (fixed)		1	<a href="https://www.adafruit.com/product/1094">https://www.adafruit.com/product/1094</a>	1	5					
198		DC/Stepper Motor Driver Breakout Board (TB6612 1.2		2	<a href="https://www.adafruit.com/product/2448">https://www.adafruit.com/product/2448</a>	2	7					
199		Powered USB hub			<a href="https://www.amazon.ca/AmazonBasics-Port-USB-Power-Adapter/dp/B00DQFG2?">https://www.amazon.ca/AmazonBasics-Port-USB-Power-Adapter/dp/B00DQFG2?</a>		26					
200		Speed/displacement sensor for vehicles?				2?						
201		More jumpers.				?						
202		RFID keys		0		?						
203		Speakers: Battery powered, 3.5mm jack		0			0					
204		9-DOF Orientation IMU Fusion Breakout BNO085		2	<a href="https://www.adafruit.com/product/4754">https://www.adafruit.com/product/4754</a>	2	25					
205												
206												
207												
208												
209		<b>2023+ WISH LIST</b>										
210		RGB LED Matrix (16x32; 6mm pitch)					\$25					

	A	B	C	D	E	F	G	H	I	J	K	L	
2		Description	Quant	#	Out	URL	# To Price Buy (USD)	TKDS	Server Rack	7891234	BB Burnout Brigade	Beagle Dash Cam	
211		RGB LED Matrix (32x32; 4mm pitch) - 5V 4A power need				<a href="https://www.adafruit.com/product/607">https://www.adafruit.com/product/607</a>	Orde \$30						
212		RGB LED Matrix (64x32; 2.5mm pitch) - 5V 4A power need				<a href="https://www.adafruit.com/product/5036">https://www.adafruit.com/product/5036</a>	\$40						
213		RGB LED Matrix (16x32; 6mm pitch)											
214		Power supply (5V 4A)				<a href="https://www.digikey.ca/en/products/detail/adafruit-industries-llc/1466/10670047">https://www.digikey.ca/en/products/detail/adafruit-industries-llc/1466/10670047</a> DIGIKEY	\$16						
215													
216		2x Motor drivers to switch external power (not mini motor driver); use grove?											
217		Full sized breadboard				<a href="https://www.adafruit.com/product/239">https://www.adafruit.com/product/239</a>	\$6						
218		LCD 20x4 w/ RGB Backlight				<a href="https://www.adafruit.com/product/498">https://www.adafruit.com/product/498</a>	\$25						
219		2.8" TFT LCD with Cap Touch Breakout Board w/MicroSD Soc				<a href="https://www.adafruit.com/product/2090">https://www.adafruit.com/product/2090</a>	\$40						
220		3.2" TFT LCD with Touchscreen Breakout Board w/MicroSD S				<a href="https://www.adafruit.com/product/1743">https://www.adafruit.com/product/1743</a>	\$35						
221		3.5" TFT 320x480 + Touchscreen Breakout Board w/MicroSD				<a href="https://www.adafruit.com/product/2050">https://www.adafruit.com/product/2050</a>	\$40						
222		Adafruit 1.54" 240x240 Wide Angle TFT LCD Display with Mic				<a href="https://www.adafruit.com/product/3787">https://www.adafruit.com/product/3787</a>	\$25						
223		1.8" Color TFT LCD display with MicroSD Card Breakout – ST				<a href="https://www.adafruit.com/product/358">https://www.adafruit.com/product/358</a>	\$20						
224													
225		F-F Jumpers (20 x 6")				<a href="https://www.adafruit.com/product/1950">https://www.adafruit.com/product/1950</a>	\$2						
226													
227													
228													
229		Adafruit Shipping				SHIPPING	1 \$31						
230						Duties	1 \$20						
231		TOTAL TO PURCHASE (ADAEDU discount on >\$250)					\$401						
232		CND Guess		1.36			\$546						
233							\$177						
234													
235													
236													
237		FUTURE											
238		Fill out form to borrow HW: list row number XOR description; notes field for any additional directions.											
239		Fill out form for new HW to buy: URL, description, cost (US or CAD), # needed, notes											



	B	M	N	O	P	Q	R	S	T	U	V	W	X	Y
2	<b>Description</b>	<b>BLIS</b>	<b>Bus Access Team</b>	<b>Byte Speak</b>	<b>"CMPT 433"</b>	<b>Smart Door</b>	<b>All In</b>	<b>PlantPal</b>	<b>DARP</b>	<b>DTS</b>	<b>Edmond Q-Ivy</b>	<b>Group-1</b>	<b>Gyrobros</b>	<b>High Tech Builders</b>
53	Robot car chassis; 4W drive (Control with relay board (4ch) or H-Bridge), not inc)													
54	Robot car chassis: 2W drive (Control with relay board or H-bridge; not inc)													
55	Grove: I2C Mini Motor Driver													
56														
57	40mm Fan, 12V 6.5CFM CFA124010MB													
58	4-Channel 5V relay board (works on 3.3V)													
59	Grove: Relay [3.3V; use "UART" grove, control with GPIO P9_22 (Linux #2)]											1		
60	Lock-style Solenoid – 12VDC											1		
61	Transistors (TIP120 Power Darlington) - 3 pack													
62														
63	<b>Days</b>													
64	<b>Day</b>													
65	16x32 RGB Pixel matrix (with power adapter, no need for I2C shifter)												1	
66	NeoPixel 8x8 RGB LED Pixel Matrix (with power adapter, and connector, level shifter) Requires PRU for timing													
67	Neon ring 12xWS2812 Requires PRU for timing													
68	NeoPixel Stick - 8 x 5050 RGB LED Requires PRU for timing													
69	Custom built LED Cube (7x7x6) Get the 30A@5V power supply; w/ guide 2019													
70	<b>LED Matrix, 7 Seg, Bar</b>													
71	Mini 8x8 Yellow-green LED Matrix w/ I2C Backpack													
72	8x8 Bicolor LED Matrix with I2C Backpack													
73	Small 1.2" 8x8 Ultra bright white LED matrix w/ backpack													
74	4x4 Button with integrated LED matrix (with silicone keypad)													
75	Grove: 4-Digit Display [3.3V, Digital; std guide] -- Bit-bang: One group worked, one did not.								SUGGEST INSTEAD					
76	Grove: LED Bar [3.3V, Digital] -- Claims not compat with BBG; timing?													
77	Quad Alphanumeric Display - Blue 0.54" Digits w/ I2C								OUT OF STOCK Option above..					
78	<b>LED / LCD Displays</b>													
79	4DCAPE-43T – Resistive touch 4" LCD - screen OK; touch is half broken. - Must use on BBB w/ external 5V 2A power													
80	Grove: OLED Display 1.12" [3.3V, I2C]													
81	2.2" 18-bit color TFT LCD display with microSD card b			1										
82	LCD 16x2 + extras - White on Blue w/ POT	1										1		
83														
84	<b>Working</b>													
85	<b>WiFi &amp; Ethernet</b>													
86	USB WiFi Dongle (Edimax N 150)													
87	USB WiFi (802.11b/g/n)						1							
88	USB WiFi Dongle (MicroNEXT MN-WD552b)													
89	USB WiFi (Ralink 802.11n WLAN w/ Antenna)													
90	USB 2.0 WiFi Hub with 3 USB Ports		Ordered						Ordered	Ordered		Ordered		
91	USB Ethernet Adapters (wired connection)													
92	Ethernet cables													
93	8-Port Ethernet Hub (not router)													
94														
95	<b>Bluetooth &amp; BLE</b>													
96	NRF51822 Bluetooth 4.0 Evaluation Kit (seems to work for BLE5.0) WaveShare													
97	USB Bluetooth 4.0 Module (v2.1 back-compatible)									1				







	B	Z	AA	AB	AC	AD	AE	AF	AG	AH
1	<b>PT 433 - Hardware to Lend</b>									
2	<b>Description</b>	<b>Left 4 Read</b>	<b>Mini Motor Mechanics</b>	<b>Plants vs GPA</b>	<b>3's a Chorus</b>		<b>STB</b>	<b>Coollest Group</b>	<b>Embeddoors</b>	<b>NotOK</b>
4	<b>sors / Inputs</b>	<b>Digital Sign board</b>	<b>Remote control car</b>	<b>Plant monitor</b>		<b>Game on LED Matrix</b>	<b>BB Guitar Pedal</b>	<b>Camera find motion</b>	<b>Open Doors NO HW YET</b>	<b>Walking Stick</b>
5	<b>Temperature / Humidity</b>									
6	RHT03: Temperature & Humidity Sensor (Analog signal? Need accurate PRU timing?)			1						
7	Temperature sensor (TMP36)	1								
8	I2C Temperature sensor (high accuracy)			1						
9	Grove: Temperature/Humidity Sensor -- Not easy w/ BBG: Analog signal									
10	<b>Bit Devices</b>									
11	12-key Keypad									
12	4x4 Matrix Keypad									
13	Grove: Mini-Joystick (A2D, PS2 style) -- Analog! May not be compat with BBG									
14	Analog mini-thumbstick (Breadboard friendly)									
15	Square Force-Sensitive Resistor (FSR) (detects physical pressure)									
16										
17	Grove: GPS [3.3V, UART] (Makes buzzer on Zen beeps, but works!)									
18	Adafruit Mini GPS PA1010D - UART/I2C, 3.3V									
19	Grove: I2C FM Receiver [3.3V, I2C] (Works)									
20										
21	Photoresistors									
22	Ambient light sensor									
23	BH1750 Light Sensor - STEMMMA QT / Qwiic									
24	<b>ion / Distance Sensors</b>									
25	Grove: PIR Motion Sensor [3.3V, Digital]									
26	PIR MotionSensor (Breadboard friendly; GPIO)									
27	IR Distance Sensor (10cm-80cm)									
28	VL53L0X ToF Distance Sensor - .3m-1m									1
29	Ultrasonic Distance Sensor - 3V or 5V - HC-SR04 compatible - RCWL-1601			1		1				
30										
31	Vibration Sensor Module (Normal Closed SW-420)	1								
32	GY-521 Gyroscope			1						
33										
34	<b>eras</b>									
35	Logitech C270 USB camera							1		
36	Logitech C920 USB camera									
37	Camera cape (Work to get functioning)									
38										
39	<b>io</b>									
40	Electret Microphone Amplifier									
41	Electret Microphone Amplifier - MAX9814 with Auto Gain			1						
42	Breakout Board w/ Electret Microphone									
43	USB Mini Microphone									
44	USB audio input/output; works with BBG.									1
45	3.5mm (1/8") Stereo plug (F) to wires									
46	3.5mm Stereo cable (M-M)									
47										
48	<b>ors / Actuators / Relays</b>									
49	Micro servo									
50	Motor Driver (Dual H-Bridge for DC or Stepper)			ORDER						
51	Pan/Tilt kit (web-cam or sensor weight only)									
52	Pan/Tilt Kit (medium weight)			1						





