

A	B	C	D	E
1	CMPT 433 – Hardware to Lend			Last update: Jan 5, 2024
2				
	Description	Quant	# Out	URL
3	Sensors / Inputs			
4	Temperature / Humidity			
5	RHT03: Temperature & Humidity Sensor (Analog signal? Need accurate PRU timing?)	3		http://www.rpelectronics.com/sen-10167-temperature-humidity-sensor-rht03.html
6	Temperature sensor (TMP36)	11		http://www.adafruit.com/product/165
7	I2C Temperature sensor (high accuracy)	3		http://www.adafruit.com/product/1782
8	Grove: Temperature/Humidity Sensor -- Not easy w/ BBG: Analog signal	1		http://www.robotshop.com/ca/en/gravity-dht11-temperature-humidity-sensor.html
9	Input Devices			
10	12-key Keypad	1		http://www.rpelectronics.com/12key-12-key-keypad-common-ground.html
11	4x4 Matrix Keypad	1		https://www.adafruit.com/product/3844
12	Grove: Mini-Joystick (A2D, PS2 style) -- Analog! May not be compat with BBG	1		http://www.robotshop.com/ca/en/seedstudio-grove-mini-joystick.html
13	Analog mini-thumbstick (Breadboard friendly)	2		http://adafru.it/3246
14	Square Force-Sensitive Resistor (FSR) (detects physical pressure)	1		https://www.adafruit.com/product/1075
15				
16	Grove: GPS [3.3V, UART] (Makes buzzer on Zen beeps, but works!)	1		https://www.seeedstudio.com/Grove-GPS-p-959.html
17	Grove: I2C FM Receiver [3.3V, I2C] (Works)	1		https://www.seeedstudio.com/Grove---I2C-FM-Receiver-p-1953.html
18				
19	Photoresistors	1		
20	Ambient light sensor	1		http://www.adafruit.com/products/1384
21	BH1750 Light Sensor - STEMMMA QT / Qwiic	2		https://www.adafruit.com/product/4681
22	Motion / Distance Sensors			
23	Grove: PIR Motion Sensor [3.3V, Digital]	1		https://www.seeedstudio.com/Grove-PIR-Motion-Sensor-p-802.html (Or digikey: https://www.digikey.ca/en/products/detail/seeed-technology-co-ltd/101020020/5482614)
24	PIR MotionSensor (Breadboard friendly; GPIO)	4		https://www.adafruit.com/product/4871
25	IR Distance Sensor (10cm-80cm)	1		http://www.adafruit.com/products/164
26	VL53LOX ToF Distance Sensor - .3m-1m	2		https://www.adafruit.com/product/3317
27	Ultrasonic Distance Sensor - 3V or 5V - HC-SR04 compatible - RCWL-1601	4		https://www.adafruit.com/product/4007
28				
29	Vibration Sensor Module (Normal Closed SW-420)	4		https://www.canadarobotix.com/products/1886
30	GY-521 Gyroscope	1		
31				
32	Cameras			
33	Logitech C270 USB camera	6		https://www.amazon.ca/Logitech-Widescreen-Calling-Recording-960-000694/dp/B004FH05Y6/
34	Logitech C920 USB camera	1		
35	Camera cape (Work to get functioning)	1		http://www.radiumboards.com/HD_Camera_Cape_for_BeagleBone_Black.php
36				
37	Audio			
38	Electret Microphone Amplifier	2		https://www.adafruit.com/product/1063
39	Electret Microphone Amplifier - MAX9814 with Auto G	2		https://www.adafruit.com/product/1713
40	Breakout Board w/ Electret Microphone	1		https://www.robotshop.com/ca/en/breakout-board-electret-microphone.html
41	USB Mini Microphone	2		http://adafru.it/3367
42	USB audio input/output; works with BBG.	3		https://www.amazon.ca/gp/product/B097H7HB5J
43	3.5mm (1/8") Stereo plug (F) to wires	3		http://adafru.it/2791
44	3.5mm Stereo cable (M-M)	2		
45				
46	Motors / Actuators / Relays			
47	Micro servo	2		http://www.adafruit.com/product/169
48	Motor Driver (Dual H-Bridge for DC or Stepper)	1		http://www.adafruit.com/products/807
49	Pan/Tilt kit (web-cam or sensor weight only)	5		http://www.robotshop.com/ca/en/dagu-mini-pan-and-tilt-kit.html
50	Pan/Tilt Kit (medium weight)	1		http://www.robotshop.com/ca/en/lynxmotion-pan-and-tilt-kit-aluminium2.html
51	Robot car chassis; 4W drive (Control with relay board (4 relays), not inc	1		https://www.robotshop.com/ca/en/drobot-4wd-arduino-mobile-platform.html
52	Grove: I2C Mini Motor Driver	2		https://www.robotshop.com/ca/en/grove-i2c-mini-motor-driver.html
53				
54	40mm Fan, 12V 6.5CFM CFA124010MB	1		
55	4-Channel 5V relay board (works on 3.3V)	1		http://www.robotshop.com/ca/en/4-channel-5v-relay-module.html
56	Grove: Relay [3.3V; use "UART" grove, control with GPIO P9_22 (Linux #2)]	4		https://www.seeedstudio.com/Grove-Relay-p-769.html
57	Lock-style Solenoid – 12VDC	1		https://www.adafruit.com/product/1512
58	Transistors (TIP120 Power Darlington) - 3 pack	1		https://www.adafruit.com/product/976
59				
60	Displays			
61	keypah			
62	16x32 RGB Pixel matrix (with power adapter, no need for I/O shifter)	3		http://www.adafruit.com/products/420
63	NeoPixel 8x8 RGB LED Pixel Matrix (with power adapter, and connector, level shifter) Requires PRU for timing	2		https://www.adafruit.com/product/1487
64	Neon ring 12xWS2812 Requires PRU for timing	1		http://www.adafruit.com/products/1643
65	NeoPixel Stick - 8 x 5050 RGB LED Requires PRU for timing	2		https://www.adafruit.com/product/1426
66	Custom built LED Cube (7x7x6) Get the 30A@5V power supply; w/ guide 2019	1		
67	Small Matrix, 7 Seg, Bar			

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68	Mini 8x8 Yellow-green LED Matrix w/ I2C Backpack	2		http://adafru.it/861
69	8x8 Bicolor LED Matrix with I2C Backpack	1		http://adafru.it/901 and http://adafru.it/458 (which is 902)
70	Small 1.2" 8x8 Ultra bright white LED matrix w/ backpack	1		http://adafru.it/1048 and http://adafru.it/1613
71	4x4 Button with integrated LED matrix (with silicone keypad)	1		https://www.adafruit.com/product/3954
72	Grove: 4-Digit Display [3.3V, Digital; std guide] -- Bit-bang: One group worked, one did not.	1		http://www.robotshop.com/ca/en/grove-4-digit-display.html
73	Grove: LED Bar [3.3V, Digital] -- Claims not compat with BBG; timing?	1		http://wiki.seeed.cc/Grove-LED_Bar/
74	Quad Alphanumeric Display - Blue 0.54" Digits w/ I2C	1		https://www.adafruit.com/product/1912 (= 1910 + 1908)
75	OLED / LCD Displays			
76	4DCAPE-43T - Resistive touch 4" LCD - screen OK; touch is half broken. - Must use on BBB w/ external 5V 2A power	1		http://www.4dsystems.com.au/product/4DCAPE_43/
77	Grove: OLED Display 1.12" [3.3V, I2C]	1		https://www.seeedstudio.com/Grove-OLED-Display-1.12%22-p-824.html
78	2.2" 18-bit color TFT LCD display with microSD card b	1		https://www.adafruit.com/product/1480
79	LCD 16x2 + extras - White on Blue w/ POT	4		https://www.adafruit.com/product/1447
80				
81	Networking			
82	WiFi & Ethernet			
83	USB WiFi Dongle (Edimax N 150)	2		https://www.amazon.ca/Edimax-EW-7811Un-150Mbps-Raspberry-Supports/dp/B003MTTJOY
84	USB WiFi (802.11b/g/n)	2		https://www.adafruit.com/product/1012
85	USB WiFi Dongle (MicroNEXT MN-WD552b)	1		
86	USB WiFi (Ralink 802.11n WLAN w/ Antenna)	4		
87	USB Ethernet Adapters (wired connection)	2		https://www.amazon.ca/TP-Link-USB-Ethernet-Adapter-UE306/dp/B09GRL3VCN
88	Ethernet cables			From Dr. Brian
89	8-Port Ethernet Hub (not router)	1		
90				
91	Bluetooth & BLE			
92	NRF51822 Bluetooth 4.0 Evaluation Kit (seems to work for BLE5.0) WaveShare	2		https://www.robotshop.com/ca/en/nrf51822-bluetooth-40-evaluation-kit.html
93	USB Bluetooth 4.0 Module (v2.1 back-compatible)	1		https://www.adafruit.com/product/1327
94	Grove: BLE (dual mode V1.0) [3.3V, UART] - Bluetooth Low Energy	1		https://www.seeedstudio.com/Grove---BLE-%28dual-model%29-p-2407.html
95	Grove: BLE (v1) [3.3V, UART] - Bluetooth low energy	1		https://www.seeedstudio.com/Grove---BLE-p-1929.html
96	Circuit Playground Bluefruit	3		http://adafru.it/4333
97	Other			
98	NFC Scanner (PN532 NFC/RFID controller breakout b	1		https://www.adafruit.com/product/364
99				
100	Power			
101	2.1mm DC Power adapter for breadboard	7		http://www.adafruit.com/product/368
102	Power supply (5V, 1A)	2		
103	Power supply (5V, 2A)	3		
104	Power supply (5V, 3A)	3		
105	Power supply (5V, 30A; for LED cube)	1		
106	Power supply (9V, 0.5A)	1		
107	Power supply (12V, 1A)	1		
108	Power supply (21.75V, 210mA)	1		
109	Power supply (22V, 1.25A)	1		From Roomba
110	Power supply (3v to 12V, 800mA)	1		
111				
112	Power Supply (800mA 3v-12v)	1		
113	Alligator clips	Some		
114	3-outlet power bar	1		
115	Small USB power brick "PKCELL"	1		
116				
117	BeagleBones			
118	BeagleBone Black (need 5v 2A+ power)	4		
119	BeagleBone Green	2		
120	Zen Cape	1		
121	BeagleBoard-xM	1		
122	BeagleBone White	1		
123	Loaner Boards (BBG w/ Zen Cape and parts)	2		
124				
125	Pumps / Water / Soil			
126	Pumps: Used by students for liquids (assorted w/ tubin	6		
127	Soil moisture sensor w/ cable	2		https://www.adafruit.com/product/4026
128	Peristaltic Liquid Pump with Silicone Tubing - 5V to	2		https://www.adafruit.com/product/3910
129	Tubing (assorted)			
130				
131	General			
132	OBDII USB Interface (ELM 327, V1.5a) (Read a car's data)	2		
133	Grove: I2C Hub	1		https://www.seeedstudio.com/Grove-I2C-Hub-p-851.html
134	Grove: 4-pin cables for I2C	5		https://www.seeedstudio.com/Grove-Universal-4-Pin-20cm-Unbuckled-Cable-5
135	Thermal Printer - (Prints images slowly)	1		https://www.seeedstudio.com/Embedded-Thermal-Printer-p-1621.html
136	Thermal Printer - Power	1		https://www.seeedstudio.com/wall-adapter-power-supply-5vdc-2a-p-1508.html?cPath=1_4
137	Old android phones	Some		
138	FTDI TTL to USB cable (for debugging)	2		
139	USB Micro to USB-A cables	2		
140	Adafruit Feather RP2040 Bare metal Cortex M0+ microcontroller	1		https://www.adafruit.com/product/4884
141	Adafruit AW9523 GPIO Expander breakout board	1		https://www.adafruit.com/product/4886

	A	B	C	D	E
142		Level Shifters			
143		Bi-directional level shifter	3		http://www.adafruit.com/products/1875
144		Level shifter – 8 channel	2		http://www.adafruit.com/products/395
145		Level shifter – 4 channel (74AHCT125)	6		http://www.adafruit.com/products/1787
146		Converter (5V to 3V, one way) (CD4050B)	1		https://www.5.com/8tdslymink/td4952p.pdf?%Q5=6s mouse null mousemode=66-pl-null-www&ts=155929020293&ref_url=http%253A%252F%252Fwww.mouse.com%252F
147		5V Step-up/Step-down Voltage regulator	1		http://www.robotshop.com/ca/en/step-up-step-down-voltage-regulator-s7v7f5.html
148					
149		Components			
150		LEDs (red, green, yellow, blue, multi-colour)	Lots		
151		Buttons (breadboard friendly)	Lots		
152		Breadboards (1/2 size)	5		
153		Perma-Proto 1/2 size protoboard	4		http://adafru.it/1609
154		Potentiometer Knob - 10k Ohms	2		http://adafru.it/4133
155					
156		Jumpers: Male to Male	Some		http://www.robotshop.com/ca/en/65-22-gauge-assorted-jumper-wires.html
157		Jumpers: Male to Female	Some		http://www.robotshop.com/ca/en/dfrobot-assorted-jumper-wires-premium.html
158		Jumpers: Female to Female	Some		http://www.robotshop.com/ca/en/300mm-40-pin-jumper-wire-splittable.html
159		Resistors (variety)	Some		
160		2x23 Header	Some		
161		1x? Header	Some		
162					
163		Click Boards			
164		mikroBUS Cape (holds 4 Click boards)	3		http://elinux.org/Tigal:BeagleBone_mikrobuscape
165		Click: BarGraph	2		http://www.mikroe.com/click/
166		Click: ADC	1		http://www.mikroe.com/click/
167		Click: Bluetooth – (Poor documentation)	1		http://www.mikroe.com/click/
168		Click: BUZZ	1		http://www.mikroe.com/click/
169		Click: MP3	1		http://www.mikroe.com/click/
170		Click: Joystick	1		http://www.mikroe.com/click/
171		Click: DAC	1		http://www.mikroe.com/click/
172		Click: Gyro	1		http://www.mikroe.com/click/
173		Click: Relay	1		http://www.mikroe.com/click/
174		Click: 7-seg Display	3		http://www.mikroe.com/click/
175		Click: 8x8 Red	1		http://www.mikroe.com/click/
176		Click: 8x8 Yellow	1		http://www.mikroe.com/click/
177		Click: 8x8 Blue	1		http://www.mikroe.com/click/
178		Click: 8x8 Green	1		http://www.mikroe.com/click/
179					
180					
181					
182					
183					
184		WISH LIST			
185		RGB LED Matrix (16x32; 6mm pitch)			https://www.adafruit.com/product/2034
186		RGB LED Matrix (32x32; 4mm pitch) - 5V 4A power need			https://www.adafruit.com/product/607
187		RGB LED Matrix (64x32; 2.5mm pitch) - 5V 4A power need			https://www.adafruit.com/product/5036
188		RGB LED Matrix (16x32; 6mm pitch)			
189		Power supply (5V 4A)			https://www.digikey.ca/en/products/detail/adafruit-industries-llc/1466/10670047 DIGIKEY
190					
191		2x Motor drivers to switch external power (not mini motor driver); use grove?			
192		Full sized breadboard			https://www.adafruit.com/product/239
193		LCD 20x4 w/ RGB Backlight			https://www.adafruit.com/product/498
194		2.8" TFT LCD with Cap Touch Breakout Board w/MicroSD S			https://www.adafruit.com/product/2090
195		3.2" TFT LCD with Touchscreen Breakout Board w/MicroSD S			https://www.adafruit.com/product/1743
196		3.5" TFT 320x480 + Touchscreen Breakout Board w/MicroSD			https://www.adafruit.com/product/2050
197		Adafruit 1.54" 240x240 Wide Angle TFT LCD Display with Mi			https://www.adafruit.com/product/3787
198		1.8" Color TFT LCD display with MicroSD Card Breakout – S			https://www.adafruit.com/product/358
199					
200		F-F Jumpers (20 x 6")			https://www.adafruit.com/product/1950
201					
202					
203					
204		Adafruit Shipping			SHIPPING
205					Duties
206		TOTAL TO PURCHASE (ADAEDU discount on >\$250))			
207		CND Guess	1.36		