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Senior Project Material List

PackIt

What we want the backpack to do:

* Be able to weigh itself
* Be able to tell the user it’s weight
* Be able to check the user’s posture
* Be able to tell the user their bad posture habits
* \*be able to distribute the weight of the bag\*
* Be able to tell the user charge percentage
* Be able to charge phone

What will be needed:

* Raspberry pi 4 model B
  + <https://www.amazon.com/CanaKit-Raspberry-4GB-Starter-Kit/dp/B07V5JTMV9/ref=sr_1_3?crid=U73YXJGJ4XNA&keywords=raspberry+pi+4&qid=1569420640&s=electronics&sprefix=rasber%2Celectronics%2C188&sr=1-3>
* Load cell (weight sensor), for weighing the bag
  + <https://www.amazon.com/Cylewet-Half-Bridge-Weighing-Electric-Resistance/dp/B01MS24DYF/ref=cm_cr_arp_d_product_top?ie=UTF8>
* Demo backpack
  + <https://www.amazon.com/dp/B074W4MS49/ref=twister_B07K69WC7L?_encoding=UTF8&psc=1>
* MORE SENSORS
  + Force/ pressure sensor, for knowing if the backpack is worn correctly
    - <https://learn.sparkfun.com/tutorials/force-sensitive-resistor-hookup-guide?_ga=2.48819430.176375050.1569421589-479072864.1542751629>
  + \*Tilt sensor, for knowing if the user is leaning too much\*
  + \*vibration motor to tell the user for quick posture adjustments (can quickly help with bad posture habits) \*
* Battery pack
  + <https://www.amazon.com/dp/B01LYVF137/ref=twister_B072N54RF6?_encoding=UTF8&psc=1>
* Blynk application to communicate with the user (can let the user know of their posture progression and let the user turn on/off certain notifications )
  + <https://blynk.io/en/getting-started>

\*not 100% sure if it will happen or be needed\*