# Parts and Materials

Pumping System:

|  |  |  |  |
| --- | --- | --- | --- |
| Part | Quantity | Cost ($) | Delivery Status |
| [Power Supply](https://www.amazon.com/SMAKN-Adaptor-Transformers-adapters-chargers/dp/B0754X9P3N/ref=cm_cr_arp_d_product_top?ie=UTF8) | 1 | 14.99 | Delivered |
| [Power Distribution](https://www.amazon.com/gp/product/B01CU66VM2/ref=as_li_tl?ie=UTF8&camp=1789&creative=9325&creativeASIN=B01CU66VM2&linkCode=as2&tag=hackerhouse-20&linkId=f8c7b18cbe6a59305668e4a4cc8ca9c3) | 1 | 16.50 | Delivered |
| [H-Bridges](https://www.digikey.com/product-detail/en/adafruit-industries-llc/3190/1528-1719-ND/6138098?WT.srch=1&gclid=CjwKCAjw6-_eBRBXEiwA-5zHacqVo6f-KaiFL3oI9xLdnBHSxi7wzI-vWsLaFR95OAn6--F4uLIRdxoCvDMQAvD_BwE) | 4 | 30 | Delivered |
| [Persistaltic Pump](https://www.ebay.com/itm/12V-400ml-min-Peristaltic-Pump-Dosing-Pump-Vacuum-Aquarium-Lab-Analytical-Water/122421770219?hash=item1c80e7f7eb%3Ag%3AMCQAAOSwzgBY3LFf%3Ark%3A5%3Apf%3A1&frcectupt=true&fbclid=IwAR0psLW0Xg_NyzJJP5MD7TaGmcsGVS1COzc00GGWdd4cgKyrqVX8ymHfqz0)  [Other Motor](https://www.ebay.com/itm/DC-12V-400ml-min-Aquarium-Lab-AnalyticaDosing-Pump-Peristaltic-Pump-For-l-Water/263975802514?_trkparms=aid%3D444000%26algo%3DSOI.DEFAULT%26ao%3D1%26asc%3D20170221122447%26meid%3Df954529c992d4dcea49a5f2bc0d2c8df%26pid%3D100752%26rk%3D3%26rkt%3D3%26sd%3D263639786471%26itm%3D263975802514&_trksid=p2047675.c100752.m1982) | 3  1 | 123.58 | Delivered |

Electronics:

|  |  |  |  |
| --- | --- | --- | --- |
| Part | Quantity | Cost ($) | Delivery Status |
| Arduino | 1 | 10 | Delivered |
| [PN532](https://www.amazon.com/gp/product/B00KKUECAO/ref=od_aui_detailpages00?ie=UTF8&psc=1) (NFC) | 1 | 37.97 | Delivered |
| [RC522](https://www.amazon.com/gp/product/B01CSTW0IA/ref=oh_aui_detailpage_o06_s00?ie=UTF8&psc=1) (NFC) | 1 | 5.49 | Delivered |
| [TFT Display](https://www.adafruit.com/product/1480) | 1 | 31.28 | Expected Delivery Monday |
| [5V Regulator](https://www.adafruit.com/product/1385) | 1 | 9.95 | Delivered |
| [Flow Rate Meter](https://www.digikey.com/product-detail/en/314150001/1597-1615-ND/5488169?utm_medium=email&utm_source=oce&utm_campaign=2390_OCE18RT&utm_content=productdetail_US&utm_cid=716377&so=57078285&mkt_tok=eyJpIjoiTUdGalptSmtNRGsyTjJKbCIsInQiOiIzQ1RmVEIxZGJOOTNtTGtadEcrZFlKZkZyVUt4czVwTW9scVhOU2VRXC9jMXFHMlwvMW9aRjUrM1ppVEFZSEdpaEZcL0lSbTBVcEN4XC92U3hJZk5NV3BOSVoydzA2NlNKS3l0bExQS3c4UWFuMUd4UXRYbVV3U0JHVjk4SE91NzM1QSsifQ%3D%3D) | 2 | 45.48 | Delivered |
| [Flow Rate Sensor (Adafruit)](https://www.adafruit.com/product/828) | 1 | 19.64 | Delivered |
| Flow Rate Meters | 2 | 74 | Delivered |
| Relays (co-lab) | 2 | 4 | Delivered |
| [4 Channel Relay](https://www.amazon.com/dp/B01HEQF5HU/ref=biss_dp_t_asn) | 1 | 7.86 | Expected Delivery Friday |
| [WiFi Module](https://www.amazon.com/DIYmall-ESP8266-ESP-01S-Serial-Transceiver/dp/B00O34AGSU) (Feather Huzzah) | 1 | 16.95 (Ocean Engineering) | Delivered |
| PING Sensor | 1 | 10 (Bingham) | Delivered |
| [DIYmall ESP8266 ESP-01S](https://www.amazon.com/gp/product/B00O34AGSU/ref=oh_aui_detailpage_o02_s00?ie=UTF8&psc=1) | 1 | 6.99 | Delivered |
| [4 WIFI Modules (Makerfocus)](https://www.amazon.com/Makerfocus-ESP8266-ESP-01S-Transceiver-Arduino/dp/B01N98BTRH/ref=sr_1_1?s=electronics&ie=UTF8&qid=1543454423&sr=1-1&keywords=Makerfocus+4pcs+ESP8266+ESP-01S+WiFi+Serial+Transceiver+Module+with+1MB+Flash+for+Arduino) | 1 | 13.99 | Expected Delivery Saturday |
| [Adafruit ESP8266 802.11](https://www.amazon.com/gp/product/B0131V0WYI/ref=oh_aui_detailpage_o01_s00?ie=UTF8&psc=1) | 1 | 14.93 | Delivered |
| [Variable Buck Converter](https://www.amazon.com/gp/product/B00SY37S00/ref=oh_aui_detailpage_o00_s00?ie=UTF8&psc=1) | 1 | 7.99 | Expected Delivery Friday |

Chassis:

|  |  |  |  |
| --- | --- | --- | --- |
| Part | Quantity | Cost ($) | Delivery Status |
| [Silicon Tubing](https://www.amazon.com/gp/product/B0754KH4KP/ref=oh_aui_detailpage_o05_s00?ie=UTF8&psc=1) (too large) | 1 | 12.99 | Delivered |
| [Silicon Tubing](https://www.amazon.com/gp/product/B01N3QTNTM/ref=oh_aui_detailpage_o00_s00?ie=UTF8&psc=1) (right size, not food safe) | 1 | 7.29 | Delivered |
| [Silicon Tubing (3/16”, 10 ft)](https://www.amazon.com/gp/product/B017EA5ST6/ref=oh_aui_detailpage_o00_s00?ie=UTF8&psc=1) - too thick | 1 | 8.69 | Delivered |
| Vinyl Tubing (1/4“) | 1 | 21.00 | Delivered |
| [Silicon Tubing (4mm ID, food safe)](https://www.amazon.com/Silicone-Tubing-16-ID-Wall/dp/B079X1S5WP/ref=sr_1_4?s=industrial&ie=UTF8&qid=1543433829&sr=1-4&keywords=Silicone%2BTube%2B3%2F16%22&th=1) | 1 | 9.99 | Expected Tuesday Dec. 2 |
| [Funnel](https://www.amazon.com/gp/product/B01NH53RBH/ref=as_li_tl?ie=UTF8&camp=1789&creative=9325&creativeASIN=B01NH53RBH&linkCode=as2&tag=hackerhouse-20&linkId=a45d40a61774986068afc3ec86f2a387) | 1 | 8.98 | Need to order/make |
| Old Bottles | 6 | 18 | Delivered |
| New Bottles | 4 | 15 | Delivered |

Total Spent: $696

Cost to rebuild: $420.99

# Reimbursement

David:

|  |  |
| --- | --- |
| Part | Cost ($) |
| Peristaltic Pumps (3) | 92.64 |
| [Silicon Tubing (3/16”, 10 ft)](https://www.amazon.com/gp/product/B017EA5ST6/ref=oh_aui_detailpage_o00_s00?ie=UTF8&psc=1) | 8.69 |
| Best Tubing (1/4“) | 21.00 |
| [DIYmall ESP8266 ESP-01S](https://www.amazon.com/gp/product/B00O34AGSU/ref=oh_aui_detailpage_o02_s00?ie=UTF8&psc=1) | 6.99 |
| [ESP8266 802.11](https://www.amazon.com/gp/product/B0131V0WYI/ref=oh_aui_detailpage_o01_s00?ie=UTF8&psc=1) | 14.93 |

Sujay

|  |  |
| --- | --- |
| Part | Cost ($) |
| Peristaltic Pump | 30.88 |
| Silicon Tubing (large and plasticky) | 12.99 |
| Silicon Tubing (rubbery and on Amazon) | 7.29 |
| Flow Rate Sensor (Digikey) (Ebay) | 22.74 |
| Flow Rate Sensor (Adafruit) | 19.64 |
| PN532 | 37.97 |
| Relay | 2 |
| Variable Buck Converter | 7.99 |
| 4 Channel Relay | 7.86 |
| TFT Display | 31.28 |

Justin:

|  |  |
| --- | --- |
| Part | Cost |
| Bottles | ? |

# Need to Return

|  |  |
| --- | --- |
| Part | Cost |
| Flow Rate Sensor (Adafruit) | 19.64 |
| [NFC Reader](https://www.amazon.com/gp/product/B00KKUECAO/ref=od_aui_detailpages00?ie=UTF8&psc=1) | 39.97 |
| [DIYmall ESP8266 ESP-01S](https://www.amazon.com/gp/product/B00O34AGSU/ref=oh_aui_detailpage_o02_s00?ie=UTF8&psc=1) | 6.99 |
| [ESP8266 802.11](https://www.amazon.com/gp/product/B0131V0WYI/ref=oh_aui_detailpage_o01_s00?ie=UTF8&psc=1) | 14.93 |
| [Silicon Tubing (3/16”, 10 ft)](https://www.amazon.com/gp/product/B017EA5ST6/ref=oh_aui_detailpage_o00_s00?ie=UTF8&psc=1) - too thick | 8.69 |
|  |  |

# Useful Links

Hacker Shack Drink Mixer (good parts reference): <https://www.youtube.com/watch?v=2DopvpNF7J4&t=486s>

GreatScott! Cocktail Machine (400ml/min motors): <https://www.youtube.com/watch?v=Z7GkGeZrb2Y&t=417s>

Wifi Module:

<https://medium.com/@cgrant/using-the-esp8266-wifi-module-with-arduino-uno-publishing-to-thingspeak-99fc77122e82>