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| **Group** 27 | Item Tracker |
| **Major:** | **Team members:** |
| CS | Mohammad Aljagthmi |
| EE | Ryan Ly |
| CEG | Jake Manser |
| CS | Donald Taylor |

**System Design Trades**

Hardware design trades

1. Adafruit HUZZAH ESP8266 breakout
2. Arduino MKR WiFi
3. Arduino MKR1000 WiFi
4. Raspberry Pi Zero
5. LED
6. Incandescent lightbulb
7. Compact fluorescent lightbulb
8. Battery power
9. Solar cells
10. Super-capacitors
11. Hydrogen fuel cell
12. Nuclear power
13. Ethanol
14. Hamster-wheel turbine power
15. Hand-crank turbine
16. Stationary bicycle turbine
17. Button cell batteries in series
18. Mobile Android device
19. Mobile IOs device

Software design trades

1. GUI
   1. Programming language
   2. Platform for delivery
   3. Design and layout
2. Database
   1. Database language
   2. Database model
   3. Database interaction API
3. Background Services
   1. API
   2. Communication to Database
4. OS Communication
   1. API
   2. Communication to External Services
5. Tracker
   1. API
   2. Communication methodology to transmit data
   3. Structure of data transmitted
   4. Data transmission interval