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Homework 2

1. To perform an external search on the Internet of things problem. You can interview or talk to experts that work with network communication. You can also search for published articles that explain the concept of Internet of things. By performing these two search methods, you can gain a lot of insight that can lead to a solution to your problem.
2. The goal would be to make the act of computer support more efficient. Some concepts can involve having the system notify the technician when something is wrong; or notify when the technician before a problem occurs. Having the system predict a potential error before it occurs can be beneficial. The technician will be able to check out and fix the problem before it occurs during a critical time.
3. GPS guided trucks:
   1. Problem decomposition (User Action):
      * The user can be inside vehicle to monitor it.
      * Vehicle reaches its destination.
      * Vehicle collects garbage at designated location.
      * User can pick up garbage that cannot be picked up by the vehicle.
   2. Search Externally:
      * Interview individuals that have experience in A.I.
      * Research autonomous vehicles.
      * Research a GPS platform that can be used.
   3. Search Internally:
      * Truck uses A.I. to detect garbage can.
      * Garbage can sends out signal.
      * User can override system when needed.
   4. Explore Systematically:

C:\Users\Emilio\Downloads\tree.png

1. The five laptops I selected are: Lenovo Ideapad 720S, Asus Zenbook UX330UA, MacBook Pro 13” (2017), HP Envy 15t, and the Samsung Notebook 9 Pro 15”.

The Lenovo, Asus, and MacBook have Li-Polymer batteries in varying sizes. The HP and Samsung laptops have a Li-Ion battery. These two technologies are very common in laptops.

Concept selection methods that can be used to evaluate existing products include: testing, web-based surveys, and considering the pros and cons. When testing you see the durability of the battery. Web-based surveys can ask people how often they have to charge their device, for pros and cons you will have to consider the cost it takes to manufacture the battery.

1. Selection Criteria:
   * + Laptop is thin.
     + Laptop needs to be light
     + Battery life last 8hrs
     + Laptop has a reasonable cost (less than $1000)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria | Lenovo  (Reference) | Asus | MacBook Pro | HP Envy 15t | Samsung Notebook |
| Thin | 0 | + | + | + | + |
| Light | 0 | + | + | + | + |
| 8hr battery life | 0 | + | + | - | + |
| cost | 0 | + | - | + | - |
| Net Score | 0 | 4 | 2 | 2 | 2 |

1. The net score can help determine which concepts can become optional or essential. It can also help determine if features can be combined. It can also lead to a more refined concept scoring system.
2. A way concept can turn into a commercial failure is not enough time was put into the concept scoring. Along with the scoring it is important to determine if the results make sense and can be refined in further development. If the group fails to determine that, then the concept can turn into a commercial failure.