Skyler Booth
Technology Innovation
Travis Brown
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Leveraging Resources to Technologically Innovate

Bodily Resource

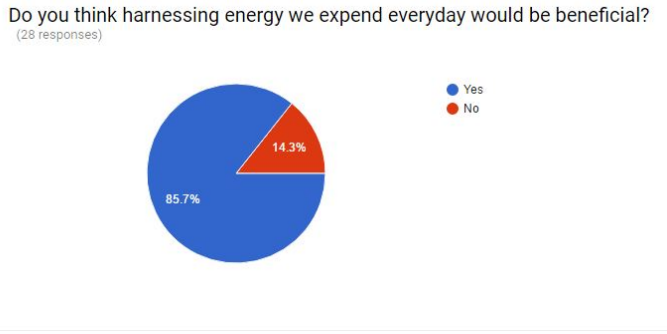
- My bodily resource is the energy our muscles expend doing everyday things, such as walking, running, lifting things, etc.

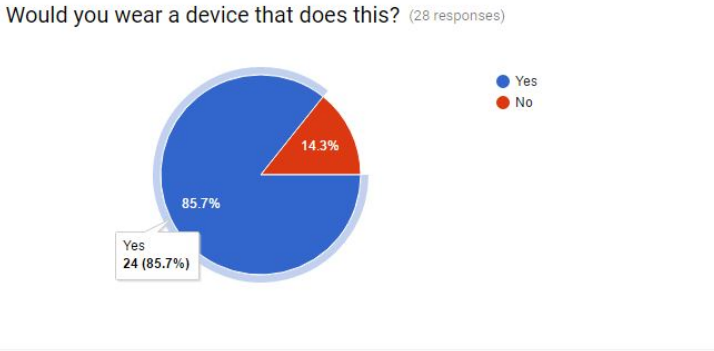
Predispositions

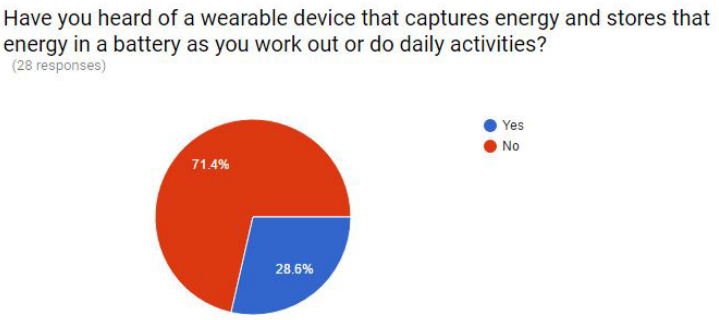
- I think this bodily resource could be more leveraged because right now it isn't being leveraged at all. Our bodies exert energy every day to make us work, but we don't utilize that energy other than in our muscles and other bodily functions. Take walking down the road for example, your body exerts energy, why aren't we harnessing this energy for other things? Since energy isn't created nor destroyed only transferred, why don't we capture this energy while it is transferred? I think there are ways in which we can capture the energy we use every day and put it into another use.

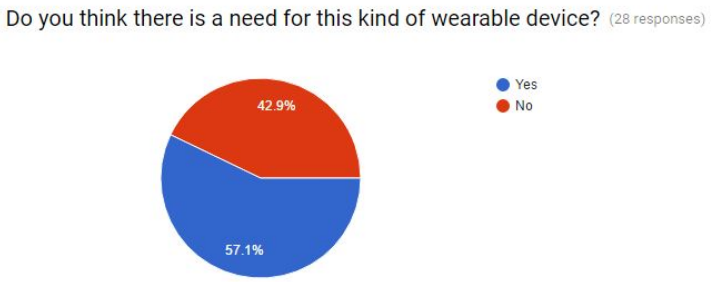
Research

- The research I conducted was a survey through Goggle forms. I started off by asking question about the existence of the technology that captures the energy we expend every day. I also asked other questions such as if this sort of technology would be beneficial or if this was even necessary. Finally, I asked if respondents would wear a technology that would capture their energy that they expend. The results are as follows:









Insights

- First off, my research showed me that there aren't many companies, if any, that are creating devices that help capture the energy you exert every day. My research also showed that this idea, if done correctly, would be used by people. 85.7% of the respondents said they would wear a device that harnessed their everyday energy they exert in order to use it another way, i.e. charge mobile devices. The research also showed not everyone thinks there is a need for it, but most believe that it would be beneficial.

Innovation

- The innovation I came up with is a backpack that has a small solar panel as well as a turbine built into it. This allows a user to capture energy that they are using when they're moving, i.e. running, walking, skateboarding, etc. It also allows for the user to capture sunlight, another resource that I believe is underutilized. This energy is stored in a battery within the backpack that a user can use to charger their phones, tablets, and laptops through ports on the

backpack. There is also an LCD display that notifies the user of how much charge the battery pack has.

- Another solution I thought of was a spinoff of the original idea. Instead of using a solar panel and wind turbine, the backpack would have a housing in it that fits a magnet and a coil. According to Feraday's Law, "any change in the magnetic environment of a coil of wire will cause a voltage (emf) to be "induced" in the coil." So a coil and magnet would move whenever the person moved which would cause the same thing, electricity to be produced.

Sketches


Solar panel for capturing sunlight
Ports for charging
Battery compartment


Turbine for capturing energy exertion