ELECTROGYM!

03-07-2013

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Problem Definition

- Energy is very expensive, and in very high demand. This term our team decided to investigate the power that could be generated by the human body.
- Our idea was to have a bunch of stationary bikes in an exercise club all hooked up to generators, and when the patrons of the gym used the equipment they would be generating power that we could then funnel back into the power grid for a profit.
- To encourage use of the gym, and more power for us to sell. We could offer free memberships.

Proposed Solution

- In 2008 Portland General Electric paid back $.0.97 per Kilowatt hour of energy fed back into the power grid. The average human rides a bike at around 15 miles per hour. If you rode your bike 15 miles per hour you would have to ride for 5 hours to generate $0.97. Our Electrogym idea would work, but it would need to be on a very large scale to be profitable.
- But, you could easily hook your electrobike up to your TV and personal gaming system for some exercise while you play. Just make sure you don't ride too slow without saving!

Research/Analysis

- You will need: 1 bike, a 12 volt DC motor, a battery, and a charge controller. Too feed the power back into the grid you will need a power inverter to change the DC to AC, and an interval meter to measure the amount your putting back in.
- Two big hurdles we need to overcome are: 1. People to ride the bikes. 2. Those people need to ride at a constant speed so they're generating a steady flow of power.

Potential Applications

- I think that the main use of this technology would be in a large fitness club, preferably a spin class..
- The electrobike idea could be a good thing to introduce to kids who don't want to go outside and play. They could stay inside and play video games, while still getting some exercise.
- Adult could also use the bike for exercise, while watching TV or playing video games.

Instructions:

1) Use the previous page as a template to create a 11”x17” page Project Proposal and name the file the same as the project title (I.e great project proposal.pdf).
2) upload data sheet in pdf format (remove this instruction sheet) to moodle by the due date
3) Prepare to present in class and in club by due date.