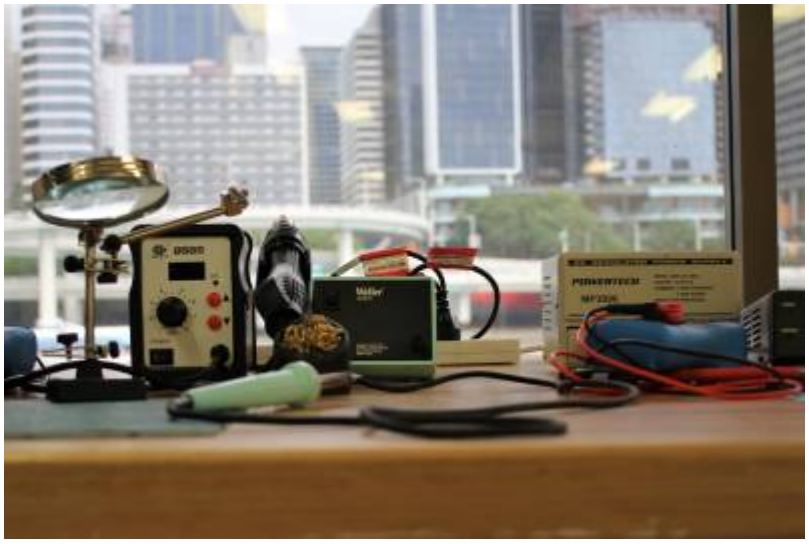
Power To the People Workshop/installation

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Power To the People Workshop/installation



Idea by Mick Byrne

Proposal

At Woodford last year i was struck by the confluence between our Joule-thief-centric activities and the lack of viable sites to charge my devices. Part of the Woodford is experience for me (and i suspect like many others) was about being forced to “switch off” from the day to day, have a chillax, reflect on the year past and to get my priorities straight for the new year. Some would say that my device(s) batteries running out is part of the deal but if you want to (need to) stay in touch for work, or you like sharing your experience on social media it can be a bummer… even stressful. I needed to stay in contact with family cause i had a funeral to attend. Sure we could go up to the green room and charge our stuff but it became a “thing”… A preoccupation that started to take away from my experience.

Judging by the long lines of punters and their preparedness to part with $10 for charge at one of the charging kiosks i was not the only one who was trying to keep my device juiced up.

When you pair this with the great focus we had placed on developing workshops that harvested electricity this was too much of coincidence for me… ever since i have been taking a second looking at anything I thought I might be able to generate power with.

Then this tuned up on the footpath just up the road from my house.



And its been sitting there for nearly a month - taunting me.

Last week I went and took this photo and had a look at the mechanism under the outer cowling and took this photo. The resistance mechanism on this particular machine is a belt driven of a flywheel that is tensioned in gradations by a jockey wheel. This belt could be easily transferred to a generator.

Last week when i mentioned it to Daniel he said i needed to submit a proposal before bringing more junk into work.

Over the weekend I had a look at some instructables and Youtube videos that used a range of electric motors to generate electricity - Fan motors, Washing machine and wiperblade motors.
http://www.instructables.com/id/Turn-an-exercise-bike-into-an-energy-bike/

http://www.instructables.com/id/Stationary-Bike-Generator-from-Washing-Machine/

http://www.instructables.com/id/Bike-Generator-Made-From-Scavenged-Parts/?ALLSTEPS/

https://www.youtube.com/watch?v=kVAZIDFMRXY

https://www.youtube.com/watch?v=oxXPZscRLIc

The main thing I took away from these was to find a motor that doesn't require a high number of reves to generate your voltage. Wiperblade motors are great for this as they are already geared down. And it just so happens that there is a milk crate full of wiper blade motors in the store room.

Today i tested the generating capacity of a windscreen wiper motor on the bench multimeter and was able to get 16V on one pin and 5v on another without too much effort(half turn). I think this as a is a reasonable first proof of concept.

As a Skill development/ Engagement activity

I've also thinking about how this could be used as an engagement opportunity. While developing a workshops to build a hand cranked wipermotor as a battery charger could sell at Woodford (Facilitation costs $35/ head and $25 for materials inc motor), the rarely seen theatrical side of this

worker see this more as an installation that could be transported around the festival by a roster of street performers. Street performers would set up the installation at a corner dressed in short shorts and sweatbands. driving the exercise machine could power flashing lights and play music https://youtu.be/ILWSp0m9G2U.

The installation could also be set up at our workshops.

Post woodford I see a new installation using the same mechanism, setup in the Breeze way or inside the Edge as a “user-pay” service where people produce the energy required for them to access a service. Exactly what the service could be could be the product of a community led process facilitated by the edge.

1st Physical Prototype

As a first working prototype i'd like to set up the windscreen wiper to trickle charge 12v battery (reclaimed from istreet). I'll use a multimeter (sourced from stock) to measure the charge i'm putting into 12 v battery. At this 1st stage this can be hooked up to drive inverter (also reclaimed from istreet). From here we can charge up a device.

This is cheating a bit, (or maybe its going overboard) this would be a quick way to test the idea and provides a wide range of power applications.

Materials

These materials are per participant if not specified otherwise.

Tools

Tools required during the workshop. It is not required that one of each is supplied for participants but one tool per two participants is preferred.

Instructions

Rename the steps as you like, use *italics* or **bold** for emphasis

Step Zero:

Step One:

Step Two:

Step Three:

Step Four:

Step Five: Troubleshooting

Step Six: References

TryIt and Feedback

1. Feedback:

Solution:

2. Feedback:

Solution:

3. Feedback:

Solution:

4. Other observations:

References

This were you put external links like LED generator

I've got one of these at home - could be a smaller prototype base.



Files