CheapStat: An Open-Source, DIY Potentiostat

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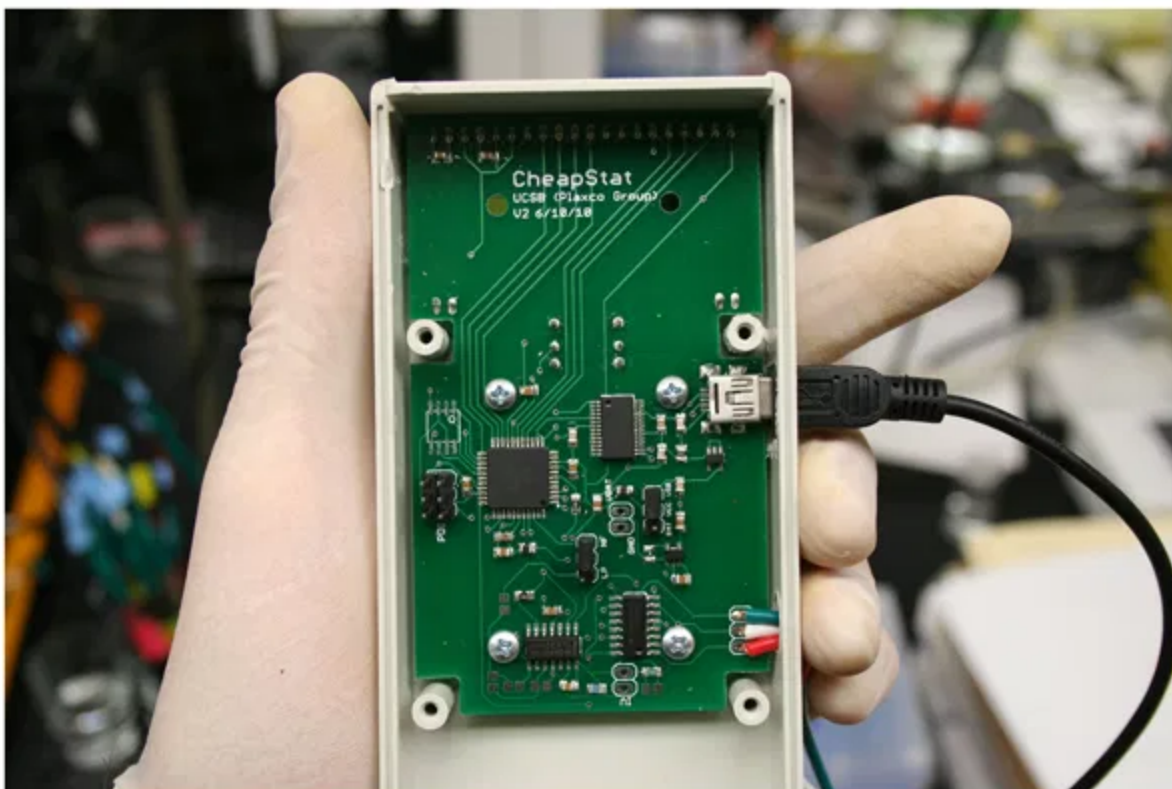
Although potentiostats are the foundation of modern electrochemical research, they have seen relatively little application in resource poor settings, such as undergraduate laboratory courses and the developing world. One reason for the low penetration of potentiostats is their cost, as even the least expensive commercially available laboratory potentiostats sell for more than one thousand dollars. An inexpensive electrochemical workstation could thus prove useful in educational labs, and increase access to electrochemistry-based analytical techniques for food, drug and environmental monitoring.

The CheapStat [is] an inexpensive (<$80), open-source (software and hardware), hand-held potentiostat that can be constructed by anyone who is proficient at assembling circuits. This device supports a number of potential waveforms necessary to perform cyclic, square wave, linear sweep and anodic stripping voltammetry. As we demonstrate, it is suitable for a wide range of applications ranging from food- and drug-quality testing to environmental monitoring, rapid DNA detection, and educational exercises. The device's schematics, parts lists, circuit board layout files, sample experiments, and detailed assembly instructions are available in the supporting information and are released under an open hardware license.

[Thanks, Aaron!]

May the 4th, the ultimate Star Wars fan's holiday may have come and gone. You don't have to put away that Star Wars themed project you worked so hard on just yet though! <u>We are running a contest that started on May the 4th</u>, where you can show off your ultimate maker skills and win big!

Together with NVidia, we want to see the most awesome AI and cosplay projects you can come up, on a Star Wars theme. Here's a little inspiration from the Hacksmith.

The contest has two main categories you can participate in, and you have to get your submissions in by June 15th.

Droids

From acting as your personal assistant, running human-cyborg relation protocols, or serving drinks, droids and AI systems can be found in all parts of life. We're searching for the best robotic-powered concepts or projects makers can assemble.

Judging criteria:

- Creativity
- Technical skill / feasibility for ideas
- Documentation (BOM (bill of materials), Code, Project outline, schematics, steps/instructions)

Cosplay & Props

Bring out your lightsabers, stormtrooper helmets, Jedi robes. This is the maker community's chance to show off our favorite Star Wars props and cosplays. Be sure to share the story on how you made your entries, as well as any patterns and models needed!

Judging criteria

- Wow factor/creativity
- Documentation (BOM, schematics, drawings, outline, steps/instructions)

Don't hesitate, we want to see it all! Go to the contest page and <u>show us what you've got</u>!