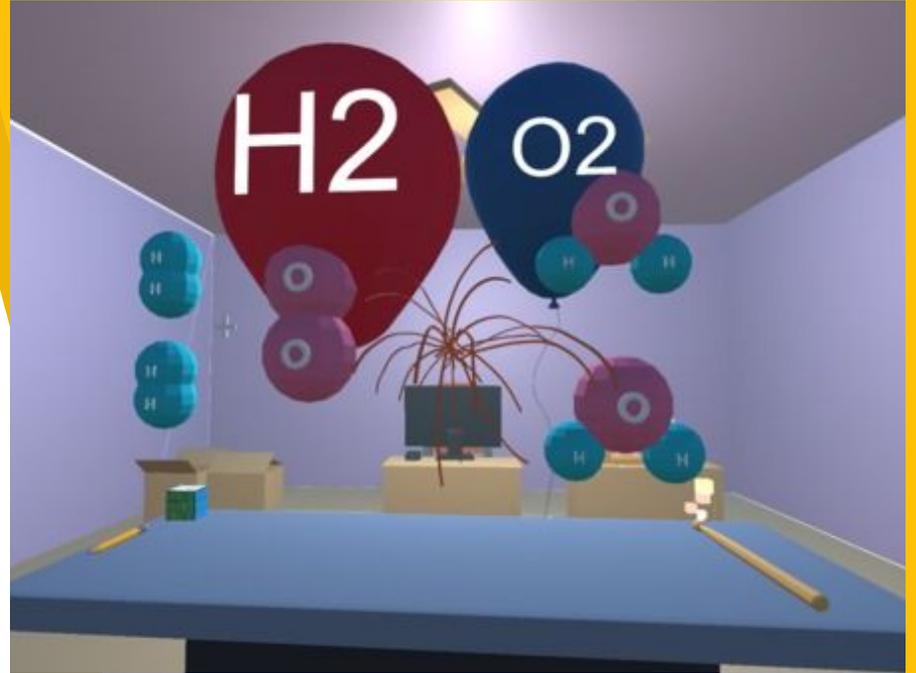




DAVID HICKOX:
PORTFOLIO

VR EDUCATION TOOL KIT

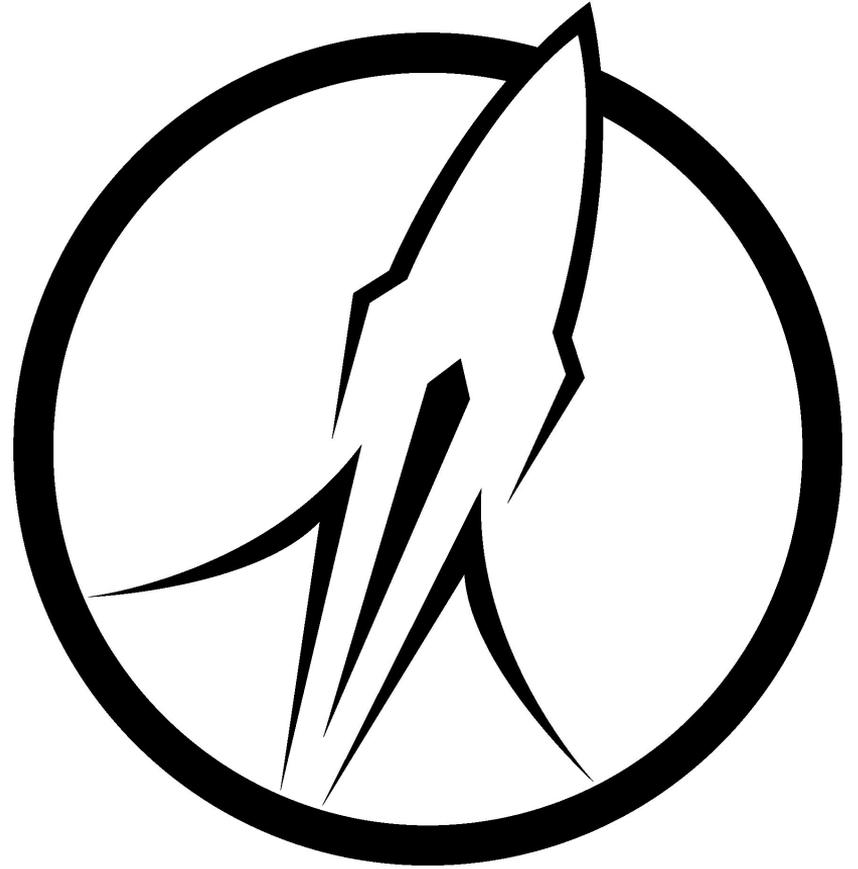


More about **VRETK**:

- ▶ Helps online content creators teach more effectively
- ▶ Demo things that are prohibitively expensive, dangerous, etc.
- ▶ Teach in a friendly environment
- ▶ Winner of HackIllinois 2018 and received a purchase offer from Fulcrum GT
- ▶ devpost.com/software/vr-education-toolkit

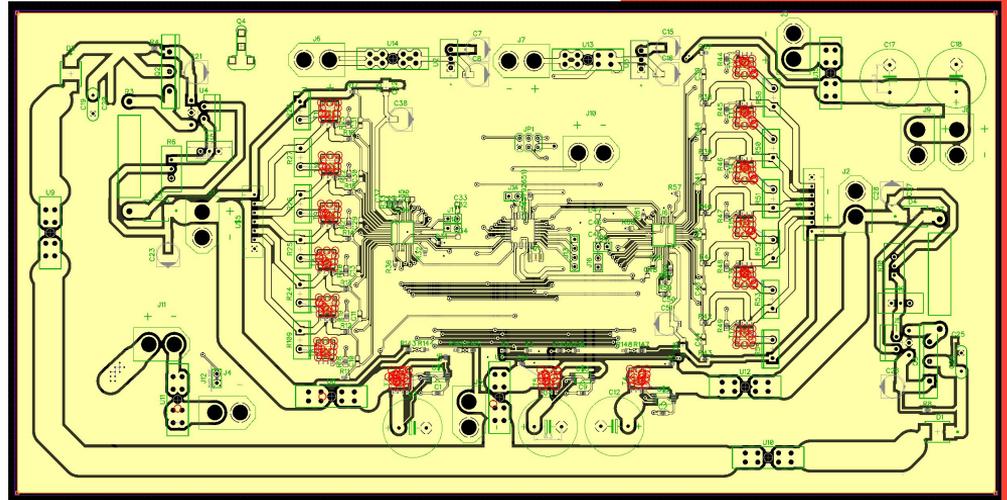


STUDENT **SPACE**
SYSTEMS



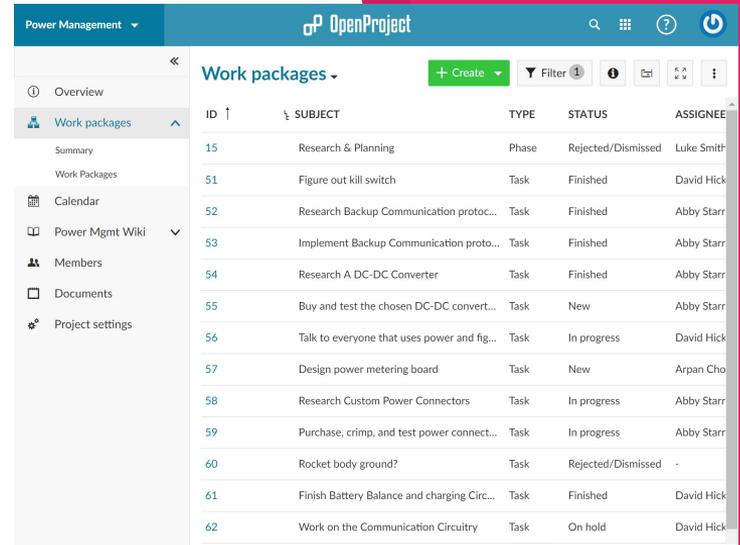
Battery Board

- ▶ Lipo Charging, balancing, and discharging
- ▶ Full redundant failover with a maximum voltage dip of 0.35V
- ▶ Health monitoring



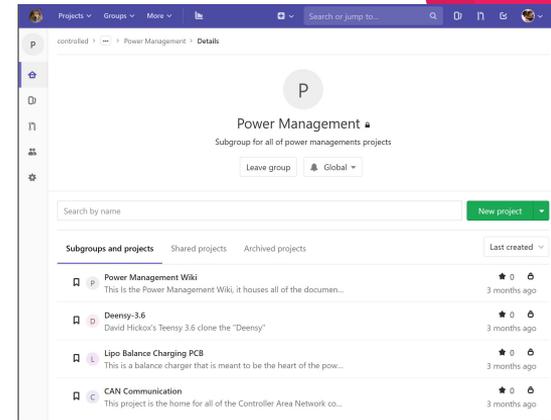
Project Management and Documentation

- ▶ Agile/Scrum workflow to track work, progress, and members
- ▶ Documentation informing other members and keeping the club alive.
- ▶ Git integration for all projects, not just software
- ▶ DevOps allowing teams to develop quickly without concern for failure



The screenshot shows the OpenProject interface for 'Work packages'. The left sidebar contains navigation options: Overview, Work packages (selected), Summary, Work Packages, Calendar, Power Mgmt Wiki, Members, Documents, and Project settings. The main area displays a table of work packages with columns for ID, SUBJECT, TYPE, STATUS, and ASSIGNEE.

ID	SUBJECT	TYPE	STATUS	ASSIGNEE
15	Research & Planning	Phase	Rejected/Dismissed	Luke Smith
51	Figure out kill switch	Task	Finished	David Hick
52	Research Backup Communication proto...	Task	Finished	Abby Starr
53	Implement Backup Communication proto...	Task	Finished	Abby Starr
54	Research A DC-DC Converter	Task	Finished	Abby Starr
55	Buy and test the chosen DC-DC convert...	Task	New	Abby Starr
56	Talk to everyone that uses power and fig...	Task	In progress	David Hick
57	Design power metering board	Task	New	Arpan Cho
58	Research Custom Power Connectors	Task	In progress	Abby Starr
59	Purchase, crimp, and test power connect...	Task	In progress	Abby Starr
60	Rocket body ground?	Task	Rejected/Dismissed	-
61	Finish Battery Balance and charging Circ...	Task	Finished	David Hick
62	Work on the Communication Circuitry	Task	On hold	David Hick



ECE OpenLab

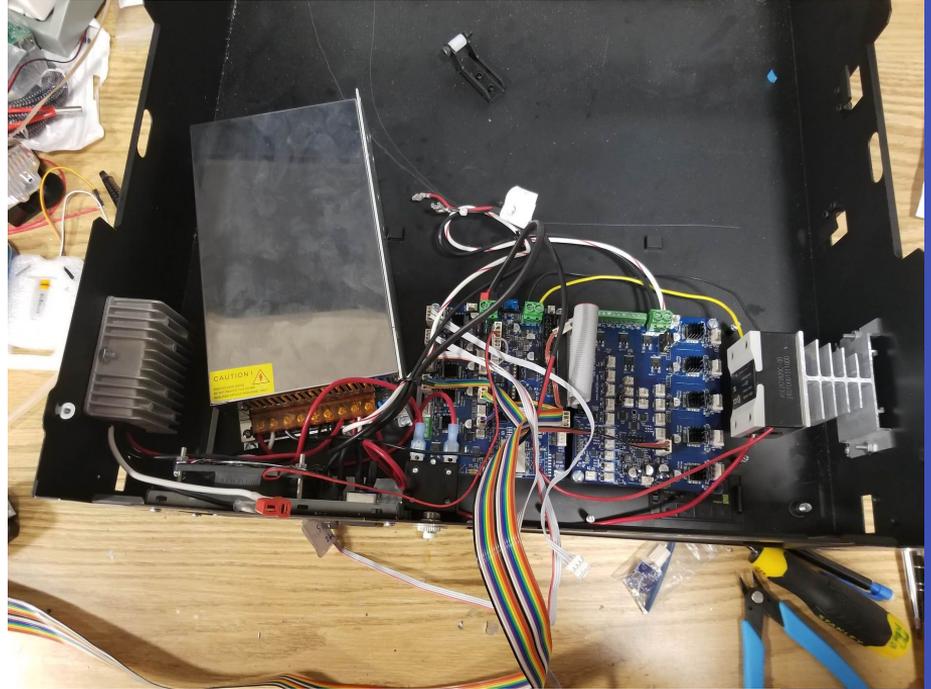


ECE Open Lab

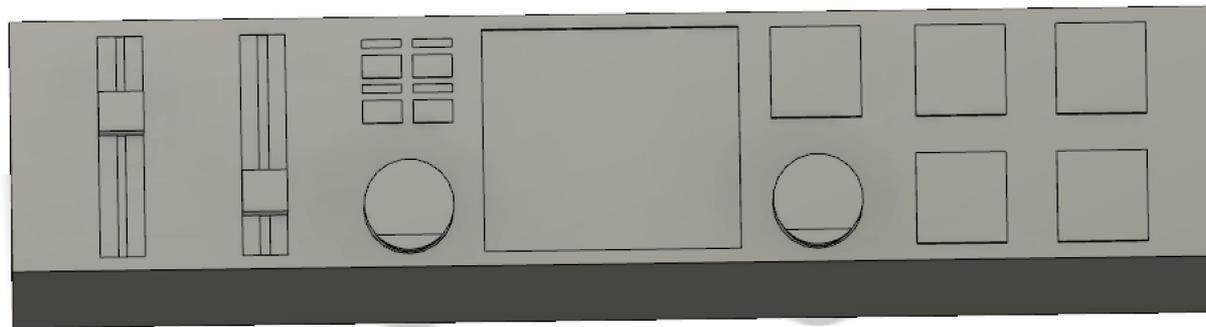
There will be extended hours during EOH.

MakerBot

- ▶ New Custom Electronics
- ▶ Complete rewiring
- ▶ Camera Installation
- ▶ Custom software
- ▶ Fusing and temperature monitoring



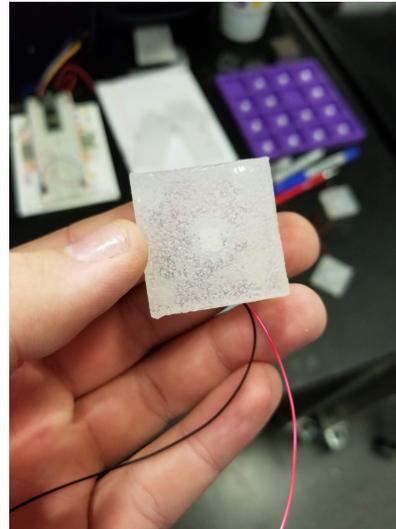
Continuum Controlluur





More on the [Controlluur](#)

- ▶ E-Paper Display for easy use on stage
- ▶ Midi, USB, and I2C Connectivity for native and advanced communication with many devices
- ▶ Stand alone, small, and portable



A large teal graphic element consisting of a diagonal line that divides the page into two sections: a white section on the left and a teal section on the right.

OTHER FUN PROJECTS

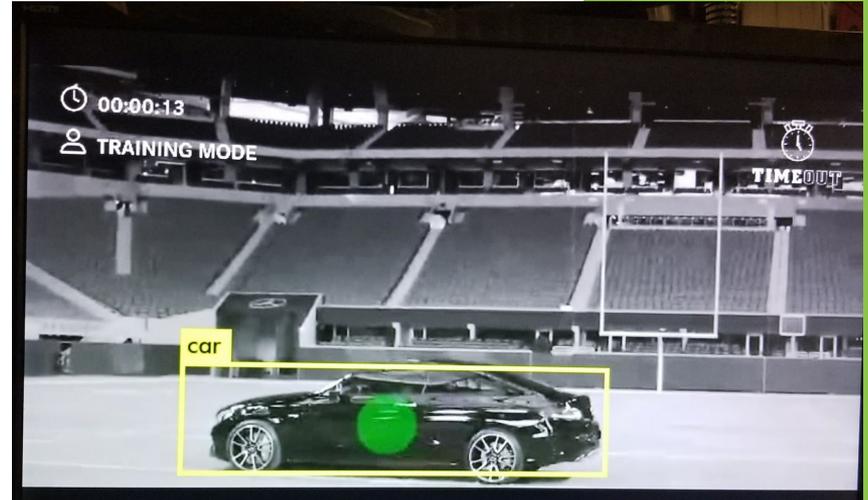
ISR ILLINI LEDS

- ▶ Multithreaded Code
- ▶ Collaboration across 4 rooms



Mercedes Super Bowl Challenge

- ▶ Machine learning/AI vision
- ▶ Robotic interaction with phone
- ▶ Free Car?!



Electric Skateboard Project

- ▶ Developed a kit for a group of people to buy and build
- ▶ Built company relations
- ▶ Some custom hardware and software for safety and ease of use



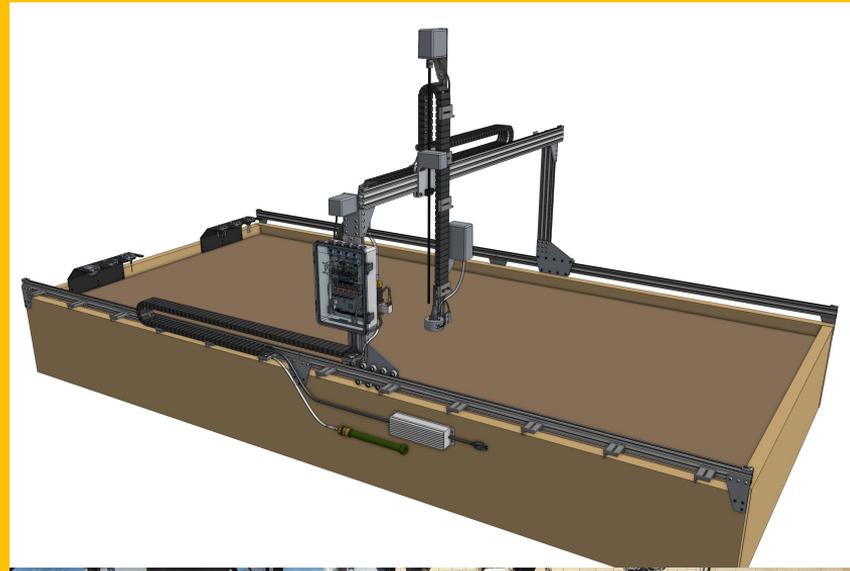
Psyonic

- ▶ Assembled Boards
- ▶ Reviewed and help implement design changes
- ▶ Tested designs



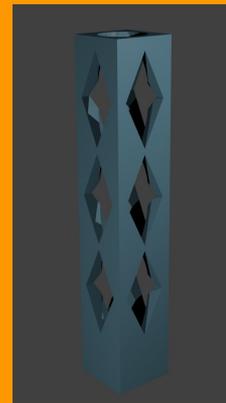
FarmBot

- ▶ QA tested
- ▶ Worked with the team before the initial product release
- ▶ Developed a low cost version
- ▶ Made design choices that are reflected on the production machine



Blender

- ▶ Modeling, Animation, and Physics experience
- ▶ Sales of several models



THANKS!

Any questions?

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