Robot Builders Night Virtual for February 24th, 2026

https://www.youtube.com/watch?v=fCulia36pt0

Houskeeping

- **2026 May Competitions**
  Quick Trip
  Line Following - Advanced
  Barrel Racing
  6-Can
  4 Square
  Sumo
- **The DPRG will hold it's February meeting** at the Dallas Makerspace this Saturday Feb 28 at 10am CST. **Will also be online!**

3D Printed Circuit Boards and Copper Tape Techniques

- Ray Casler presented a novel technique for creating printed circuit boards using a 3D printer and copper foil tape. The method involves pressing copper foil into 3D printed depressions and using sandpaper to expose the traces.
- Discussion included limitations, like the minimum trace width and potential issues with soldering due to material temperature constraints.

Robotics and Sensing Technologies

- Kyle Woolsey showcased a low-cost force sensing system for robotic arms using anti-static foam and copper plates. The system measures resistance change when compressed, providing a cost-effective force sensor for robots.
- The group discussed potential applications and challenges, including the calibration required for accuracy and environmental dependencies.

Automated Rotating Sculpture Platform

- Mike Williamson described his project for creating a precision-controlled rotating platform for art installations. The platform uses an ESP32-based system with interval rotations synchronized with video displays.
- Key technical details included motor control mechanisms, platform alignment techniques, and using web interfaces for configuration.

Robot Wheels and Differential Drive Systems

- Mark Dombrowski demonstrated his progress on developing a robot wheel system with constant RPM control using an AS5600 magnetic angle sensor. Discussion included challenges in motor control and material choices for 3D-printed components. Black star ★
- Consideration of different motor types and gear ratios for optimized performance in larger robot applications.

Personal Projects and Gadgets

- Carl Ott shared a compact, credit card-sized phone holder as an innovative gadget for convenient phone storage and usage, highlighting its design and portability.
- Tom Crawford discussed improvements to his outdoor robot, including using larger wheels and gear motors from old electric screwdrivers to enhance performance on rugged terrain.