Robot Builders Night Virtual for January 6th, 2026

DPRG RBNV - Robot Builders Night Virtual - January 6, 2026 - YouTube

Key Discussion Topics

Member Project Showcases

- **Stephen's R5 D2 Robot**: Stephen introduced his robot, R5 D2, with a notable plywood frame and differential drive. The robot uses an ESC32 interface, controlled via a web browser, with potential improvements in attaching encoders for better precision. Doug offered insights from his experience using AliExpress motors.
- **Jim Phelan's Stingray and Power Supply Solutions**: Jim showcased his Stingray project replicated in acrylic, detailing his use of Raspberry Pi 5 with a power hat for efficient power supply management. Jim shared his GitHub link for more details on the project.
- **Ray Casler's Beacon System for Position Tracking**: Ray discussed a beacon system using infrared transmitters and receivers to enhance position tracking within a robot course, highlighting its innovative approach and the ongoing challenges with reliability and potential interference.
- **Mike Williamson's Mini Sumo Bot Enhancements**: Mike presented modifications to his mini sumo robot to improve traction and weight distribution. He also shared his ongoing project of a painting rotation mechanism using a lazy Susan bearing for steady wall mounting.
- **Ted Meyers' Robot Updates**: Ted updated on improvements to his robot's magnetometer, having addressed static interference issues. He showcased the robust construction and various sensors integrated into the build.

Technical Insights

- **Using Mermaid for Diagram Generation**: Doug presented Mermaid, a tool for generating diagrams such as flowcharts and state machines, particularly beneficial for those working with AI and needing to visualize coding processes.
- **Power Management for Raspberry Pi and Beacons**: Discussions included the challenges of powering Raspberry Pi 5 effectively and using power expansion options to avoid common pitfalls with USB power limits.

Community Involvement

- **VEX Robotics Judging**: Trish Cook sought volunteers for a VEX robotics tournament, emphasizing the need for judges with no direct connections to participating teams.

Conclusions and Insights

- The meeting was rich in technical exchanges, with members offering constructive critique and collaborative problem-solving approaches for ongoing projects.
- The use of acrylic and power negotiation tools is advancing the robustness and reliability of robotic systems.
- Innovative techniques, like infrared triangulation for positional awareness, showcase the group's emphasis on cutting-edge solutions.

Referenced Links

- **Doug Paradis**
    - 5A Motor Controllers
    - Dual 10A Motor Controllers
    - Mermaid JS
- **Jim Phelan**
    - Stingray GitHub Repository
    - 52pi Power Extension for Raspberry Pi 5
- **Karim Virani**
    - Neato Belt Replacement
    - Aluminium Turntable
    - YouTube Video on Neato Belt Replacement

This RBNV was both enlightening and encouraging for robot hobbyists, fostering a supportive environment for shared learning and innovation.