

DPRG RBNV Summary – May 26, 2026

Video at <https://youtu.be/6N8v3DxKQBc>

Event Reviews and Upcoming Schedule The meeting began with a recap of the recent Roboama 2026 event. While the competition featured successful runs in Quick Trip, Mini Sumo, Six Can, and barrel racing, overall attendance was lower than the previous year. The group attributed this to the Memorial Day weekend and proposed scheduling future events in June to improve turnout. Upcoming local events were also announced, including a Texas Robot Combat rodeo on May 30 and Moonday 2026 on July 18.

Outdoor Robot Chassis and 3D Printing Tom Crawford shared updates on his large outdoor robot chassis. To fix wheel wobbling, he implemented a timing belt drive using 3D-printed pulleys. After initial print failures and alignment issues, Tom used an AI tool to realize he had the wrong belt profile (HTD 5M) and needed to add printing tolerances for the belt to fit. The group also discussed 3D printing techniques, such as using PrusaSlicer for advanced wall generator settings, adding bicycle inner tubes to 3D-printed wheels for tire traction, and the importance of using a filament dryer when printing with PETG materials.

Competition Strategies Several members detailed their winning robot strategies:

- **Six Can Contest:** Ray Casler achieved a winning time of 1 minute and 13.68 seconds using a mecanum wheel platform, which allowed the robot to strafe sideways for efficient positioning. He used a Max Cam for blob detection to target the closest can (identifying the blob with the largest pixel count) and distance sensors to slow the robot down right before grabbing the can so it wouldn't be knocked over.
- **Barrel Racing:** Mike Williamson won with a time of 43.8 seconds by using LiDAR to maintain a specific angle and distance from the barrels, a feedback loop approach that proved much more accurate than relying purely on odometry.

Microcontrollers and Networking Mike Williamson demonstrated an automated sculpture platform utilizing an ESP32 microcontroller to synchronize its physical rotation with video playback. He noted plans to add a "station mode" so the device could easily connect to venue Wi-Fi. This led to a broader discussion on the rising costs of microcontrollers and hardware preferences, such as various ESP32 boards and the Raspberry Pi Pico. Additionally, Harold Pulcher shared a GitHub repository for configuring microcontrollers to fall back as Wi-Fi access points if a known network is unavailable. He strongly advised the group to store Wi-Fi credentials securely in EEPROM rather than hardcoding them into the device's source code.

Event Broadcasting Mark R addressed the technical difficulties remote viewers experienced during the Roboama livestream, noting that background noise resulted in garbled audio. He plans to improve future event broadcasts by incorporating multiple microphones and video streams.