

DPRG RBNV Meeting Summary for 4/7/2026

Video

https://www.youtube.com/watch?v=3jgM_k5QDbo

DPRG News

- **Robo Rama Competition:** Scheduled for Saturday, May 23rd at the Dallas Maker Space, featuring events like line following, advanced barrel racing, six-can foursquare, and sumo.
- **Line Following Parade:** Hosted by the Dallas College Eastfield campus on Saturday, April 11th.

Presenters

Mike W: - Barrel Racing Robot and Hardware Updates Mike demonstrated his barrel racing robot, which uses ROS Humble for its operating system. To navigate the course, the robot uses odometry to head in the general direction of the barrels, a camera to get closer, and a LIDAR to navigate around the barrel because the LIDAR can see the sides better than the camera. He noted that the robot goes slowly to compensate for sensor lag while spinning. Mike also mentioned he is testing a new, smaller Wi-Fi repeater router to replace the larger retail box router currently on his robot to improve footprint and signal strength.

Paul Bouchier: - Sailing Adventure and Lena Robot 2 Documentation Paul returned to the group after a three-month sailing trip from Thailand to Egypt, during which he sailed 4,600 nautical miles. He shared a story about successfully fixing a broken injector pump belt on the boat's diesel engine while at sea. Regarding robotics, Paul presented his extensive work generating GitHub Pages documentation for the Lena Robot 2. His documentation covers system architecture, supported system configurations (like onboard computers vs. Wi-Fi), and running simulations using Docker and cloud compute nodes. He also mentioned upcoming collaborative projects, including working on UTD chess bots and autonomous Robo Mowers.

Pat Caron: - Testing the Arduino Uno Q Pat shared his latest hardware acquisition, the Arduino Uno Q, which he hopes will shrink the controller footprint of his robot by replacing a Raspberry Pi 4 and an RP2040. He successfully loaded OpenCV and Python libraries onto the board and achieved around 7.5 frames per second during image processing tests. However, Pat expressed frustration with the Arduino app software, noting that it is full of bugs, lacks error reporting, and runs slowly when accessing the desktop environment. To power the setup, he modified a 38-watt USB PD car adapter.

Ray Casler: - Mecanum Wheel Platform Navigation Ray presented his mecanum wheel platform, which is equipped with a camera, an IMU, and forward and side-facing distance sensors. His goal is to have the robot record its initial angular orientation, find a can, and then use the IMU to return to that initial heading. From there, the robot uses distance sensors to center itself in the course and moves forward until it detects a large distance change, indicating the goal wall. Ray noted that he still needs to tune the steering adjustment, as the robot currently lags and gets thrown off course when navigating corners.

Mark R and Doug P: - Line Following Float Mark and Doug demonstrated a highly creative "float" designed for the upcoming April 11th Line Following Parade. Built under strict size constraints, the float uses a custom 3D-printed chain system called "Magna Rail" to pull a tiny line-following robot mouse and a six-can scan robot around a track. The diorama is illuminated by NeoPixels and features a small OLED screen displaying a scrolling terminal message for the upcoming Robo Rama event. The members noted they were dealing with some technical difficulties during the meeting due to Doug's computer hard drive failing.