

DPRG Annual Members meeting, 25 Jan 2025

The DPRG (Dallas Personal Robotics Group) held its annual meeting on January 25, 2025. The meeting covered a variety of topics, including a review of the past year, officer elections, proposed bylaw changes, and a smart camera panel.

2024 Review

- The club's 2024 theme was a "post-covid reboot" focused on rejuvenating, revitalizing, and re-invigorating the club.
- Monthly in-person meetings were reinstated with remote attendee support, and technical talks were frequent.

Tech Talks

- Kabam Robotics presented their security robots.
- Brady Pamplan showed how to design a PCB and get 5 boards for \$2 from JLCPCB.
- Bob Cook, the RoboMagellan champion, presented on AI for cone finding.
- Doug and Jon showed how to do 3D CAD design - Doug using DesignSpark and Jon using Onshape. Doug reviewed the state of 3D printers.
- Scott showed how to use VisualGDB and JTAG debugging.
- Mike showed the smallest possible implementation of ROS2 on a Raspberry Pi Zero 2W.
- The meeting time was changed to 10:00 a.m. with a pizza lunch.
- Videos, pictures, and slides for events were posted on the club website.
- The Roborama competition was held in May. It was the first ever co-located competition, staged in Dallas and Ottawa, Canada.
- A "Roborama" video was produced by the DMS (Dallas Maker Space) media group: [Dallas Makerspace 2024 DPRG's Roborama - Indoor Autonomous Robot Contest](#)
- The Robocolumbus competition was held in November
- A holiday robot power lunch was held in December. Members expressed a desire to hold this event quarterly.

- RBNV meetings had 12-20 people attending for 2-3 hours, about 50 times a year, and get 50-100 YouTube views per RBNV.
- **Social events dominated club activity, but infrastructure improvements were also made.**
 - The comms team was successful in improving communication channels.
 - Google Groups was implemented for email distribution and archival.
 - Discord was implemented as a chat server for technical and organizational discussions.
 - The board authorized a Google Workspace subscription, which enabled meeting recordings with transcription and AI-generated meeting summaries.
- The number of paid DPRG members increased from 27 the previous year to 38 currently.
- The Facebook account was reactivated and is getting engagement.
- The club has multiple channels, including monthly meetings, RBNV (Tuesday Night Meetings Online) video calls, Discord, an email list, a website, a YouTube channel, a Facebook page, and Meetup.com.

Officer Elections

- The following officer candidates were up for election: Paul Bouchier for President, Carl Ott Jr for Vice President, Doug Paradis for Secretary, Steve Edwards for Treasurer, and John Kuhlenschmidt for Librarian.
- This is Paul and Carl's last term due to term limits.
- The elections officer, Ron Grant, announced that quorum for a valid vote had been met and all respondents voted to approve the slate of officers. The 2025 board was declared elected.

Proposed Bylaw Change

- A proposed bylaw change was introduced to replace the Librarian board position with an IT Officer position.

- The duties of the IT officer would include implementing policies and procedures for online systems and ensuring system maintenance.
- The role of the secretary, which includes recording meeting minutes, handling corporation correspondence, and safekeeping of legal documents, is different from the proposed IT officer role.
- The bylaw change was not voted on at the meeting because a quorum was not present. A Google Form will be used to complete the vote. The elections officer, Ron Grant, will receive votes on the bylaw change and report the results.

Brainstorming ideas for 2025

Brainstorming ideas were collected about tech talk topics, building a robot program, infrastructure, outreach.

Some specific suggestions included:

- A walk-through of major ML (machine learning) frameworks/platforms like Edge Impulse, TensorFlow Lite for Microprocessors, and RoboFlow.
- A presentation about an AI pipeline that could go from gathering pictures to putting a model on a camera and how to integrate the results from the network into robot control SW.
- Doug P offered to do a KiCad tech talk
- It was decided to hold a build-a-robot series class, open to DPRG and DMS members, similar to one done in 2018. Details are to be worked out in RBNV
- It was decided to run a mini sumo competition at Roborama. The standard mini sumo rules will be used, and the club's sumo ring will be the competition platform
- A tabletop competition that could be run remotely, perhaps in the manner of the Homebrew Robotics Club, which awards certificates for various levels of accomplishment: 1. Able to drive to the end of the table and back, 2. Able to push a can off the table, 3. Able to push a can into a goal.
<https://www.hrobotics.org/index.php/challenges>
- The club discussed the idea of a sample retrieval competition with AI based object recognition, where robots retrieve specific objects in a room and bring them back to a home base.

Smart Camera Panel

- The panel discussed various smart cameras with edge AI built in.
- **Tom C gave a market overview and discussed his experience with the ESP32 cam.** He noted the ESP32 cam's limitations and recommended that new roboticists purchase the Grove Vision AI version two.
- **Doug Paradis presented the PiNsite camera,** which is a Raspberry Pi base and the same vision ASIC as used in OAK-D from Luxonis. Doug uses Rooflow to develop his models.
- **Ray presented the MaixCam,** a camera and processor with a touch screen.
- **Paul presented the OAK-D Lite,** a camera with stereoscopic and color cameras which has a vision ASIC that operates at high speeds.
- The panelists discussed the trade-offs between price and performance of smart cameras.

Show'n'tell

Several members brought Show'n'tell demos.

- A demonstration of a web-based app that can play PacMan all by itself, was given by Eric Chaney. The app is written in AutoCad!
- Mark Dombrowski showed a couple of Raspberry Pi Pico 2 boards communicating over serial.