

DPRG RBNV Summary – Jan 28, 2025

- The group decided on the location for RoboRama, opting for the **larger, interactive room** without windows. The date for RoboRama was confirmed to be **May 24th**.
- A KeyCAD tech talk by Doug is planned for the February 22nd meeting.
- A **sumo competition** using standard mini sumo rules was discussed. The group discussed robot and ring sizes but there was no decision what format to use. Further research is needed to determine what potential competitors might want. So far, Scott is the only known entry.
- There was a discussion about the **tabletop demonstration and possible Roborama competition**. There may be a demonstration of capability with certificates of achievement, and potential for remote participation. The group discussed the table dimensions and robot navigation, with a focus on drop sensors and odometry.
- Michael shared his experience using **ChatGPT to code a motor speed ramp algorithm** and asked for input on his motor issues.
- John presented a **polar graph plotter design** he found online: <https://www.instructables.com/Polargraph-Plotter/>. A similar one was previously used by the group <https://brandonagr.github.io/gocupi/>. Another similar design is located here: <https://github.com/MarginallyClever/Makelangelo-software>.
- Ray showed his **parallax-based range-finder** for finding cones, using a laser with a line lens and an OpenMV camera. He later provided links to the laser and lens supplier aixiz.com, a line lens <https://www.aixiz.com/product-page/aixiz-89-line-generator-for-12x30mm-housing-ah-l89-9> and possible lasers <https://www.aixiz.com/780-nm-lasers>. Paul shared an article about parallax range sensors <https://archive.seattlerobotics.org/encoder/200110/vision.htm>.
- F3r214, a member of Iron Reign, provided an update on the custom Iron Reign PCB, detailing issues with RJ45 connectors and the solutions implemented. The group discussed using twisted pairs for I2C communication. An NXP app note about long line i2c with RJ45 was shared <https://www.nxp.com/docs/en/application-note/AN10658.pdf>.
- Tom shared his experience using a **Ublox 10M GNSS receiver** that received signals in his basement, noting most of the signals came from Chinese satellites. He provided a link to the

receiver https://www.aliexpress.com/item/1005008030181385.html?spm=a2g0o.order_list.order_list_main.27.eec91802v0xFJm

- A “build-a-bot” class series was discussed, aimed at beginners, with a plan to build a tabletop robot.
- There was a discussion about laser safety after Ray shared his laser range finding project, including concerns about the power of different laser types and the potential for eye damage.