Robot Builder’s Night Virtual
April 22nd, 2025

Introduction

The Robot Builders Night Virtual meeting on April 22nd, 2025, was a gathering of robotics enthusiasts discussing various projects, insights, and technical challenges. Attendees shared updates on ongoing projects, explored innovative ideas, and leveraged AI tools to enhance robotics capabilities.

Main Discussion Points

DPRG Updates and Gathering of Robots

- Paul Bouchier announced the upcoming Gathering of Robots event coinciding with the Dallas Maker Space open house, inviting participants to showcase their robots and participate in contests.
- Members discussed preparations for the event, including setting up contest courses.

GPS Antenna Cable Modification

- Ted Meyers shared experiences in modifying GPS antenna cables for better length management. He described the process of shortening cables and improving connections using a cable crimper.
- Scott Gibson provided insights on the importance of correct torque specifications for SMA connectors to improve signal performance.

Robotics Projects and Demonstrations

- Scott Gibson's Robot Innovations: Scott introduced his new robot "Number Nine," equipped with Beagle Bone Blue and new hardware for improved can collection and localization using lidar and sensors.

- Mike Williamson's ROS Advances: Mike showcased methods to toggle ROS lidar localization for navigation tasks, highlighting its use in various competition courses.

AI and Code Generation

- Mark R's Animatronic Eye Mechanism: Mark used an AI tool, Aider, to develop an Arduino sketch controlling animatronic eyes without manually writing code, demonstrating the automation potential in robotics programming.
- AI Tools for Programming: Paul Bouchier shared insights on different AI tools like Aider, Copilot, and Cursor, comparing their effectiveness in assisting programming tasks. The tools aid in generating, modifying, and optimizing code.

Harold Pulcher's Mobile Mr. Big Head

- Harold introduced his project "Mobile Mr. Big Head," a setup using Raspberry Pi computers named Colossus and Guardian. These systems run local LLMs (Large Language Models) for AI-driven interactions, aiming for immersive user experiences during streams and events.

Conclusions and Insights

- Robotics enthusiasts actively integrate AI technologies to enhance robot performance and programming efficiency.
- Practical demonstrations provided valuable insights into real-world applications and challenges in robotics.
- Collaboration within the builder community fosters innovation and the sharing of technical advancements.

Referenced Links

- Mark R. contributed the following resources for further exploration:
    - Ollama - A platform for running LLMs.
    - Will Cogley's Animatronics - Designs for animatronic components like eyes and hands.
- Paul Bouchier shared a comparative study of code generation tools:
    - Copilot vs Cursor vs Cody vs Supermaven vs Aider.