Smart Cluster Design for Electric Karting ⚡🏎️🚀

Video

Overview

In this project, I developed a **QT C++** application to create a smart dashboard for an electric kart. The system gathers real-time data from the **Curtis AC F2-A motor controller** and the **Battery Management System (BMS)** using **PeakCAN** and displays it on a **custom driver interface**.

This smart cluster provides essential **motor and battery telemetry**, including:

- **Speed, RPM, and torque output** from the Curtis AC F2-A controller
- **Battery voltage, current, and temperature** from the BMS
- **Error codes and system diagnostics** for real-time monitoring

The interface is built using **Qt and QML**, ensuring a modern and responsive display optimized for high-speed karting. By leveraging **PeakCAN**, the system efficiently communicates with the motor controller and BMS over **CAN bus**, ensuring **low-latency and high-accuracy data visualization**.

This project enhances the electric karting experience by providing drivers with **critical performance insights** in real time.

🚀 Watch the video to see it in action!