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R.O.S.T.A.

Drift Teleoperatio Interface

OUR TEAM

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THE PROBLEM ADDRESSED

No drift control for custom cars in Gazebo

Gazebo does not provide a ready-made solution for realistic drifting on custom car models.

Additionally, there is no default joystick support, making it difficult to control such cars in simulation.

We aim to create our own drift controller with joystick integration to achieve realistic drift behavior.

Final Approach & Implementation Details

1. Used an Audi car model for ROS 2
2. Implemented a controller with joystick support and a custom control method
3. Modified car physics for easier drifting (mass, friction, inertia)
4. Created a CarStatus Node to publish car state
5. Fixed bugs and built a single launch file for running the whole simulation

Summary of Completed Tasks

01 TASK Working car in simulation	02 TASK Realistic drifting behavior
03 TASK Added IMU sensor	04 TASK Integrated CarStatus Node
05 TASK PS3-type joystick support	06 TASK Single launch file for car, controller, and CarStatus Node

KEY TAKEAWAYS & OUTCOMES

Successfully developed a drift controller for a custom Gazebo car

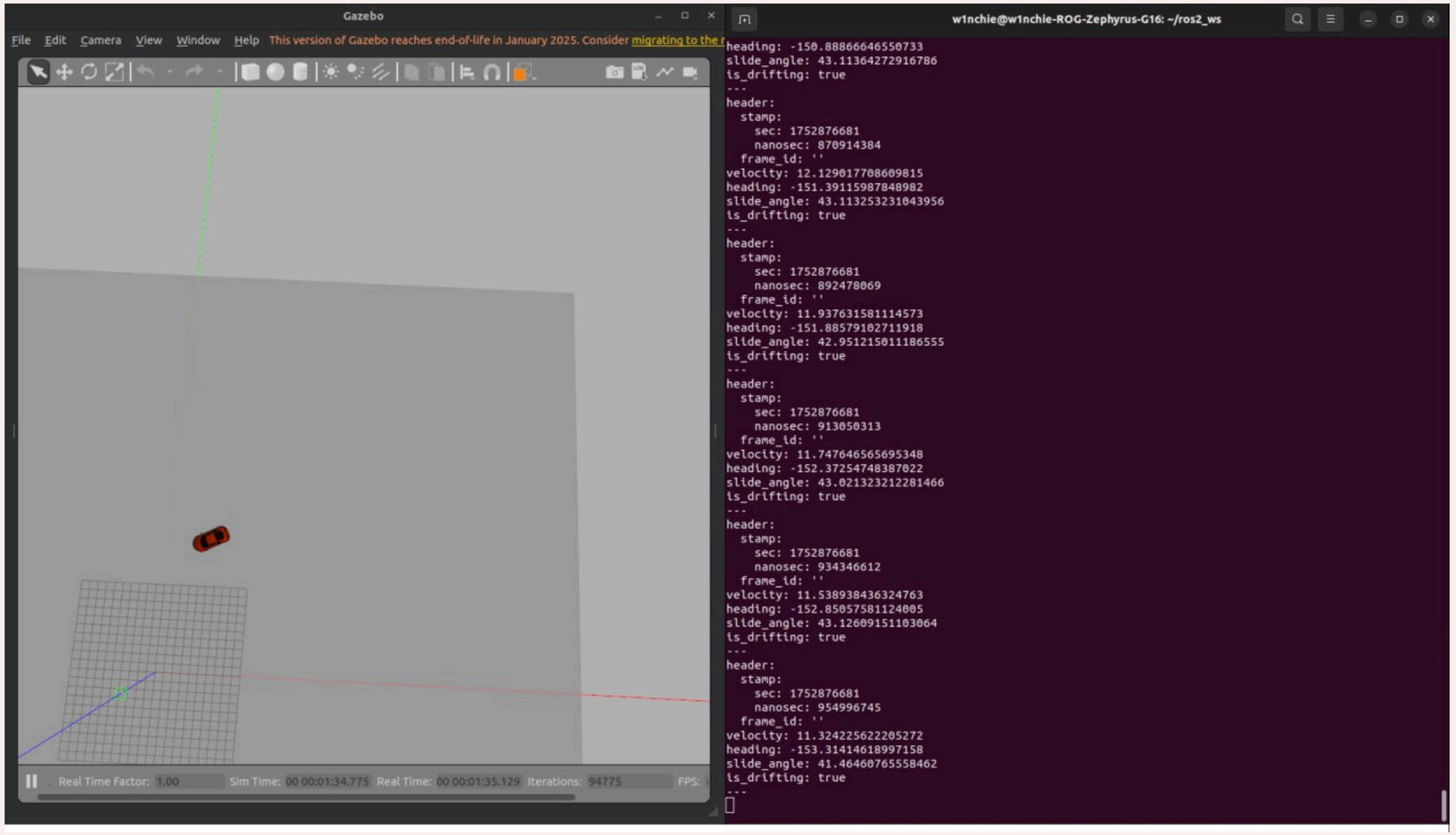
Joystick support and CarStatus Node make the project reusable for other simulations

Single launch file improves usability and testing

NEXT STEP

Improve drift physics and add car state visualization

DEMO



Working in Gazebo x ROS 2

THANK YOU!