2024-08-29 Racing Working Group Meeting #5151

pojenwang started this conversation in **Working group meetings**

pojenwang on Aug 29 Collaborator edited

Administrative

Previous Meeting Minutes

Attendees

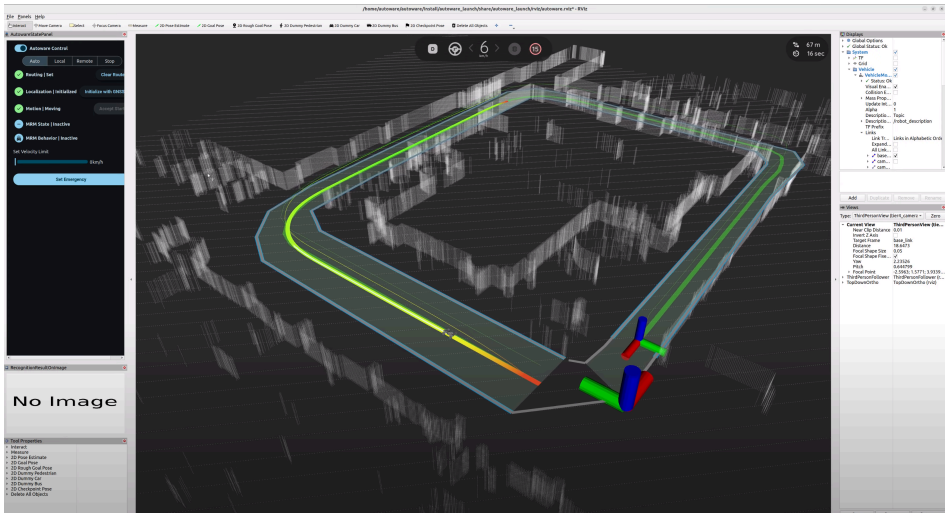
- Po-Jen Wang (AWF)
- Mitsudome-san (Tier.IV)
- David Walmroth (Open AD Kit / Pix-Moving)
- Atanasko

Minutes: Po-Jen Wang

Topics

Improved Autoware on F1tenth

- Successfully ran Autoware's planning simulation using pointcloud and vector map generated from F1tenth's 2D occupancy map



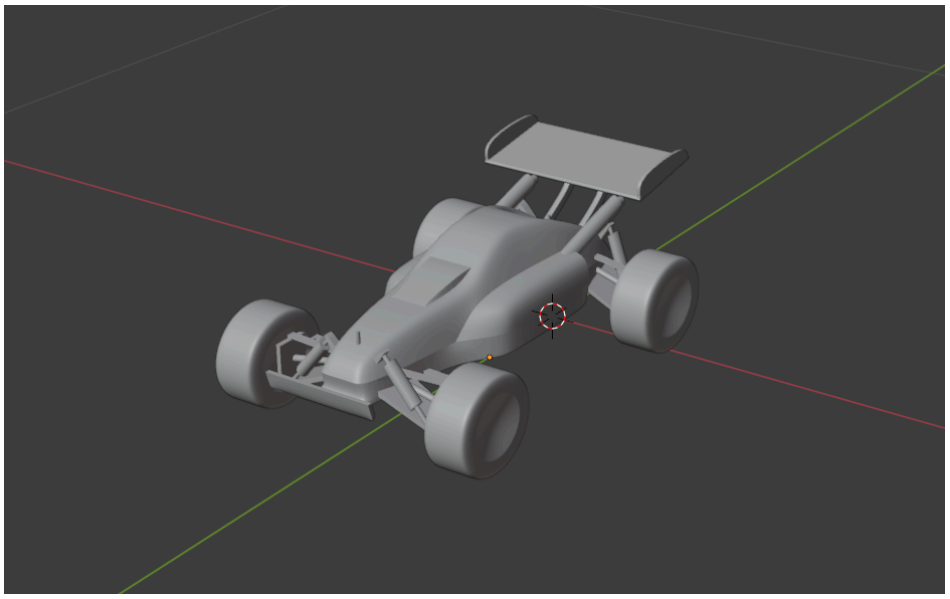
- Demo video
- Created the F1tenth model with two new packages(modified from sample_vehicle_description and sample_vehicle_launch):
  -- f1tenth_vehicle_description
  -- f1tenth_vehicle_launch
- Tutorial on how to create a customized model

Category
Working group meetings

Labels
meeting:racing-wg

1 participant

- The F1tenth vehicle packages include vehicle parameters such as vehicle dimensions and control parameters for simulation. The mirror parameter values were set to 0 since f1tenth does not come with mirrors.
- An RC car model for Rviz display was also added to replace the full-scale Lexus car model. The model was resized to the F1tenth dimension.



- The Rviz UI was updated to reflect the F1tenth's smaller vehicle size
  -- pointcloud size was made larger so walls are more apparent
  -- Drivable boundary was made thinner
  -- Need to remove sensor links from the original Lexus model
- There's a bug that once the car reaches the goal, it can not set a new goal pose and determine a new trajectory.

Next Steps

- Currently, everything was tested on an x86 PC, will test the planning simulation on a Jetson Orin Nano to check its performance
- Update and include Lidar sensing and localization stacks for the simulation.
- 2D Lidar simulation can be done manually (we did this on the gokart) or merge this function from the f1tenth_gym simulator
- Use f1tenth's particle_filter and the original 2D map for localization
- Update the F1tenth car model to include sensors (Lidar) and rear tower

Other topics:

- AWF Work Group overview: https://autoware.org/join-a-work-group/

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0 comments