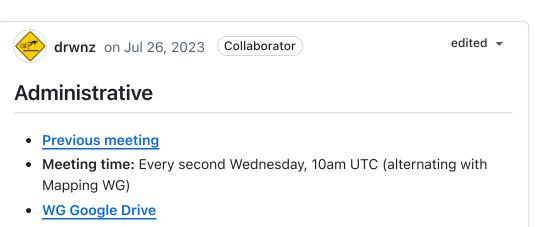


Perception and Sensing WG Meeting 26/07/2023 #3695

drwnz started this conversation in Working group meetings



Attendees

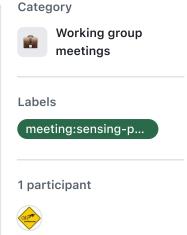
► Chaired by David

Agenda

- · Introduction of new attendees
- Progress report on Cache-optimizing ring outlier filter from Max
- Progress report on PointPainting from Shunsuke
- Review of Project Board and assignment

Discussion topics

- Announcement from Mitsudome-san
 - Update from the Software Working Group: change in CI/CD due to memory requirements
 - When reviewing PRs, please refer to: link
- Introduction of new attendees
 - Welcome to Max working as an intern at TIER IV for the next 6 months, for the meantime in Sensing team on optimization of Nebula
- Progress report on Cache-optimizing ring outlier filter
 - Addressing <u>ring_outlier_filter</u> <u>blows up my cache (and yours too)</u> autoware.universe#3269
 - Slides
 - Mitsudome: Any target duration times?
 - Max: Vincent ran this on a cache limited CPU and saw it was causing 20% CPU usage, so there was no target performance



- usage
- These results are on an X1 extreme laptop
- David: would be interesting to test on ARM CPU
- David: how about elevation filtering as well as azimuth?
 - Max: we can check vertically as well almost for free as the elevation points are next to each other in memory
- David Walmorth: How wide a bar will be filtered? What about an angled thin bar?
 - Max: Yes will be filtered out
 - David: ring outlier filter is about speed, but has limitations as identified - 2D convolution would be better for comprehensive filtering
- Fatih: How long does it take for the intire pointcloud to be processed?
 - Max: 5ms to 3.5ms for entire pointcloud
- Progress report on PointPainting
 - Video link
 - Video link
 - Video link
 - Fatih: how is it different from ROI cluster fusion?
 - Miura: Point Painting is ML based rather than deterministic
 - Semantic segmentaiton head to YOLOX may be released next month
 - PointPainting adds projected Yolox class label to each point
 - Merged into Autoware Universe

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 KINDLE Michelin Romania Map 738 (Maps/Country (Michelin)) by
 Michelin
 #4314
 - Model is also released (JapanTaxi)
- Project board

Action items

- []
- []
- []



0 comments