

Introducing the use of SD Maps in Autoware

#5113

mitsudome-r started this conversation in **Design**



mitsudome-r on Aug 21 Maintainer

Background

We are discussing about the current architectural limitations in the following discussion.

<https://github.com/orgs/autowarefoundation/discussions/5032>

I'm creating a separate thread to start discussion about potential approaches to solve issues around introduction of route level maps (SD Maps) in Autoware.

Issue

Currently, Autoware requires Lanelet2 map to drive in an environment. Although Lanelet2 map has been a good format to provide very detailed information with all lane geometries and traffic rule regulations to Autoware up until now. However, we also have rising demands to support the following usecases:

- More efficient global planning done in a more abstracted map
- Driving in a large scale environment without detailed maps
 - There is already a post about driving in a locally generate maps <https://github.com/orgs/autowarefoundation/discussions/4545>

Of course, there could be a user who might want to have everything predefined as Lanelet2 format for their safety requirements so I think we should come up with an architecture where detailed HD Maps, locally generated maps, and abstracted SD maps could co-exists, and we should also design the abstract API for client modules of these maps, including planning modules, so that the modules won't have to be aware of the underlying map formats.

I'm still brainstorming the architecture and the interface, and I will post in this thread once they are ready. However, if there are anyone who already has an architecture in their mind, feel free to use this thread to share your thoughts.

Category



Design

Labels

None yet

3 participants



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armaganarsln on Aug 29

Collaborator

edited ▼

I am researching this topic but haven't had any success so far. I will be pleased if the planner uses a map SDK with traffic information for mission planning but I couldn't find a successful implementation or paper so if you have anything could you please share?

The only thing I came across was this solution:

<https://www.mapbox.com/autopilot-map>

And a format called Adasis v3 (which mapbox uses and tomtom is a data provider) which supposedly created for adas and AVs. Here :

<https://adasis.org/>.

I was planning to ask tomtom this week but they didn't join the meeting.

↑ 1

1 reply



Intsh854 on Sep 14

Local map Construction Methods with SD map: A Novel Survey

<https://arxiv.org/abs/2409.02415>