Unified Configuration File for Lanelet and PCD Maps: Streamlining Map Data Management #3574

Answered by mitsudome-r **Tanishq30052002** asked this question in **Feature requests**

Tanishq30052002 on Jun 13, 2023

Solution Proposal: Consolidating Configuration Files for Lanelet and PCD Maps into a Single Location

Summary:
To address the confusion and inconvenience caused by having separate configuration files for lanelet maps and PCD maps, this proposal suggests consolidating the configuration files into a single location. By modifying the existing PCD map config file to accommodate both lanelet and PCD maps, we can streamline map data management and simplify the onboarding process for new users.

Description:
Currently, there are separate configuration files for lanelet maps and PCD maps, which are stored in different locations. This setup can be confusing and inconvenient for new users who need to access and modify these files. To resolve this issue, we propose merging the lanelet map configuration file and the existing PCD map config file into a single, comprehensive configuration file.

By modifying the existing PCD map config file to incorporate the necessary parameters for both lanelet and PCD maps, we can create a unified configuration file that caters to both types of maps. This approach eliminates the need for users to search for and modify multiple files in different locations, reducing confusion and making map data management more efficient.

Benefits:

1. **Simplified management:** With a single configuration file, users can easily access and modify all relevant parameters for both lanelet and PCD maps in one place. This streamlines the map data management process and reduces the chances of errors or inconsistencies.

2. **Improved onboarding experience:** New users will no longer need to search for separate configuration files, reducing the learning curve and making it easier for them to understand and work with the map data. The unified configuration file provides a more straightforward and intuitive approach to configuring both types of maps.

Category

🙏 Feature requests

Labels

None yet

2 participants

3. **Enhanced collaboration:** By consolidating the configuration files, team members working on different aspects of the project can easily access and modify the required parameters without having to navigate through multiple files and directories. This fosters smoother collaboration and improves overall project efficiency.

Implementation Steps:

1. **Identify the common parameters:** Evaluate the existing configuration files for lanelet and PCD maps to identify the parameters that are common to both map types.
2. **Modify the PCD map config file:** Expand the existing PCD map config file to include the necessary parameters for lanelet maps. This could involve adding sections or fields specific to lanelet map configurations.
3. **Update documentation:** Revise the documentation to reflect the changes made to the configuration file. Provide clear instructions on how to modify and use the unified configuration file for both lanelet and PCD maps.
4. **Communicate the change:** Announce the modification to the community through a GitHub discussion, documentation updates, or any other relevant communication channels. Encourage users to provide feedback and report any issues they encounter during the transition.

By implementing this proposal, we can simplify the map data management process, improve the onboarding experience for new users, and foster better collaboration among team members.

↑ 1

Answered by **mitsudome-r** on Jun 14, 2023

I see.
To me, the map files and parameter files for the loaders doesn't have to be in the same folder.
This is because map_config.yaml explains how maps are defined in pcd and osm, whereas ROS parameter files for the loaders explain how they are

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mitsudome-r on Jun 13, 2023 Maintainer edited

Do you have any specific idea on how you want to configure them?(perhaps with images to show data structure)
Here's my understanding of the current map data management:

Map Files

autoware_launch expects Lanelet2 and PCD to be in the same directory. e.g., If you check the tutorial you specify a directory that contains map files:

```
ros2 launch autoware_launch planning_simulator.launch.xml
map_path:=<directory-to-map-files> vehicle_model:=sample_vehicle
sensor_model:=sample_sensor_kit
```

The structure of map directory is explained in here.

Map loading configuration

Also, the map_loader configuration files are placed in map config folder.

↑ 1 3 replies

Tanishq30052002 on Jun 13, 2023 Author

Hi **@mitsudome-r**,

In the case of autoware_launch, we run the command as follows:

`ros2 launch autoware_launch planning_simulator.launch.xml map_path:= vehicle_model:=sample_vehicle sensor_model:=sample_sensor_kit'

This command requires us to provide the path to the map folder, which should contain the following three files:

1. pointcloud_map.pcd
2. lanelet2_map.osm
3. map_config.yaml

Even with the inclusion of the map_config file, we still need to modify some configuration files to view maps in RViz. These files can be found in the following folder: Link

In this folder, you will find two parameter files for the lanelet and PCD maps.

To clarify, my previous question was about whether we should keep all three configuration files separate within the map folder or merge them, considering that some of the data contents are the same

mitsudome-r on Jun 14, 2023 Maintainer edited

I see.
To me, the map files and parameter files for the loaders doesn't have to be in the same folder.
This is because map_config.yaml explains how maps are defined in pcd and osm, whereas ROS parameter files for the loaders explain how they are loaded in Autoware at runtime, which could be specifying different origin from how maps are defined in the file.

But this is just my opinion, and I'm open to hear different thoughts.

Marked as answer

Answer selected by **Tanishq30052002**

Tanishq30052002 on Jun 14, 2023 Author

I get it, thanks for your support😄
I hope to contribute someday.