

# README

## dreamview-plus

### Introduction

Dreamview or Apollo's HMI module provides a web application that helps developers visualize the output of other relevant autonomous driving modules, e.g. the vehicle's planning trajectory, car localization, chassis status etc.

### Directory Structure

```
modules/dreamview_plus
├── backend           // dreamview-plus backend
├── BUILD
├── conf
├── cyberfile.xml
├── frontend         // dreamview-plus frontend
├── launch
├── main.cc
├── proto
└── README.md
```

### Input

Currently dreamview-plus monitors the following messages:

- Localization, defined by Protobuf message `LocalizationEstimate`, which can be found in file `modules/common_msgs/localization_msgs/localization.proto`.
- Chassis, defined by Protobuf message `Chassis`, which can be found in file `modules/common_msgs/chassis_msgs/chassis.proto`.
- Planning, defined by Protobuf message `ADCTrajectory`, which can be found in file `modules/common_msgs/planning_msgs/planning.proto`.

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- Monitor, defined by Protobuf message `MonitorMessage`, which can be found in file `modules/common_msgs/monitor_msgs/monitor.proto`.
- Perception Obstacles, defined by Protobuf message `PerceptionObstacles`, which can be found in file `modules/common_msgs/perception_msgs/perception_obstacle.proto`.
- Prediction, defined by Protobuf message `PredictionObstacles`, which can be found in file `modules/common_msgs/prediction_msgs/prediction_obstacle.proto`.
- Routing, defined by Protobuf message `RoutingResponse`, which can be found in file `modules/common_msgs/routing_msgs/routing.proto`.

## Output

A web-based dynamic 3D rendering of the monitored messages in a simulated world.

## configs

file path	
<code>modules/dreamview_plus/conf/camera_to_lidar_preprocess_table.pb.txt</code>	<code>apollo::dream</code>
<code>modules/dreamview_plus/conf/data_collection_table.pb.txt</code>	<code>apollo::dream</code>
<code>modules/dreamview_plus/conf/lidar_to_gnss_preprocess_table.pb.txt</code>	<code>apollo::dream</code>
<code>modules/dreamview_plus/conf/hmi_modes</code>	<code>apollo::dream</code>
<code>modules/dreamview_plus/conf/dreamview.conf</code>	<code>gflags</code>

## Flags

flagfile	type	Description
<code>modules/dreamview_plus/backend/common/dreamview_gflags.h</code>	h	dreamview-plus flags header
<code>modules/dreamview_plus/backend/common/dreamview_gflags.cc</code>	cc	dreamview-plus flags define

## How to use

1. Build apollo in source env or install `dreamview-plus` and `monitor` package in package management env
2. in source env:

```
bash scripts/bootstrap.sh --plus
```

in package management env:

```
aem bootstrap start --plus
```

## Related Paper

1. Xu, J., Luo, Q., Xu, K., Xiao, X., Yu, S., Hu, J., Miao, J. and Wang, J., 2019, November. An Automated Learning-Based Procedure for Large-scale Vehicle Dynamics Modeling on Baidu Apollo Platform. In *2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (pp. 5049-5056). IEEE.
2. Jiang, S., Wang, Y., Lin, L., Lin, W., Cao, Y., Miao, J. and Luo, Q., 2020, November. DRF: A Framework for High-Accuracy Autonomous Driving Vehicle Modeling, *arXiv preprint arXiv:2011.00646*.

## 文档意见反馈

如果您在使用文档的过程中，遇到任何问题，请到我们在【开发者社区】建立的 [反馈意见收集问答页面](#)，反馈相关的问题。我们会根据反馈意见对文档进行迭代优化。