

# Support full functions of g30esli\_interface #2139

New issue

Merged

gbiggs merged 37 commits into `autowarefoundation:master` from `aohsato:feature/improve_ymc_interface` on May 24, 2019

Conversation 29

Commits 37

Checks 0

Files changed 2 +1,072 -418



aohsato commented on Mar 20, 2019 • edited

## New feature implementation

### Implemented feature

This PR provides the new version of `g30esli_interface` for supporting full functions of Yamaha Golfcar.  
[autowarefoundation/autoware\\_ai#544](#)  
`ds4` package is included as submodule in this modification to manually control a vehicle by using joystick.

NOTE: The previous PR is [#1962](#).

### Implementation description


Yamaha Golfcar [Academic Pack](#) version of [G30Es-Li](#) has the By-wire ECU based on CAN communication.

`g30esli_interface` has the following features.

- A golfcar can be control by CAN communication. The source of the command can be selected from either `vehicle_cmd` or joystick input.
- A current status of golfcar, speed, steering, gear and more, are also obtained by CAN communication and provided to `vehicle_status`.
- A override function is implemented in this node by checking the press of throttle/brake pedals. You can experiment safely.

CAN message format is private, so we provide CAN communication and parsing functions as a binary `g30esli.a` in ymc package and use it in `g30esli_inteface`.

#### Reviewers

-  yn-mrse ✓
-  gbiggs ✓
-  wep21

#### Assignees

No one assigned

#### Labels

type:new-feature

version:autoware-ai

#### Projects

None yet

#### Milestone

No milestone

#### Development

Successfully merging this pull request may close these issues.

#### 5 participants



Please see [README](#) to know how to setup, parameters, and other details.

## Steps to Test or Reproduce

### Offline Test

#### 1. Setup VCAN

```
$ sudo ip link add dev vcan type vcan  
$ sudo ip link set up vcan
```



#### 2. Launch `g30esli_interface` with VCAN port

```
$ roslaunch ymc g30esli_interface.launch  
device:=vcan
```



#### 3. Play CAN log ([example](#)) by `can_utils` and check `/vehicle_status`

```
$ canplayer vcan=can0 -I test_can.log
```



```
$ rostopic echo /vehicle_status  
---  
header:  
  seq: 3874  
  stamp:  
    secs: 1558060705  
    nsecs: 935375765  
  frame_id: "base_link"  
tm: ''  
drivemode: 1  
steeringmode: 1  
gearshift: 1  
speed: 0.0  
drivepedal: 0  
brakepedal: 0  
angle: 6.69999980927  
lamp: 0  
light: 0
```



On the terminal launching `g30esli_interface`, you can see CAN level vehicle status under Debug verbose

```
$ rosservice call  
/g30esli_interface/set_logger_level ros.ymc Debug
```



```
Status[181]  
speed.target = 0  
speed.actual = 0  
speed.desired = 0  
steer.target = -4
```





4-2. If you want to use [DS4 joystick](#), launch with `use_ds4` option and connect your joystick controller.

```
$ roslaunch ymc g30esli_interface.launch  
device:=canX use_ds4:=true ds4_wired:=true #...  
USB
```



or

```
$ roslaunch ymc g30esli_interface.launch  
device:=canX use_ds4:=true ds4_wired:=false #...  
Bluetooth
```



And then, your car should move by joystick controller. For controlling by `vehicle_cmd`, press PS button. Please see [README](#) to know DS4 button binding



**aohsato** requested review from **yn-mrse** and **wep21**  
5 years ago



**aohsato** mentioned this pull request on Mar 20, 2019

**[Feature] Support full functions of g30esli\_interface #1962**

**❗ Closed**

📋 2 tasks



**gbiggs** added `type:new-feature` `in progress` and removed `in progress` labels on Mar 21, 2019



**aohsato** changed the base branch from `develop` to `master` 5 years ago



**wep21** requested changes on May 14, 2019

[View reviewed changes](#)

**wep21** left a comment

**Contributor**

Could you add install directives for script directory and ds4 submodule to build with colcon?



**aohsato** commented on May 14, 2019 • edited ▼

**Author**

[@wep21](#) I fixed that by adding "catkin\_install\_python" in 873379b.



**gbiggs** commented on May 14, 2019

Please add the sign-off line to your commits.



**yn-mrse** commented on May 14, 2019

I tested the operation until [94760dc](#) , but had the following problems.

Have these problems been solved?

- It takes longer to brake than previous versions.
- I can not start again after braking.



**aohsato** force-pushed the [feature/improve\\_ymc\\_interface](#) branch from **e1b57a8** to **42f4281** 5 years ago [Compare](#)



**aohsato** commented on May 15, 2019

Author

[@gbiggs](#) Thanks. I added using cherry-pick.



**aohsato** commented on May 15, 2019

Author

[@yn-mrse](#) Since you said those problems, I added braking logic in [cfd3f58](#) and restating logic in [7bf69ad](#). Thanks for your review.



**gbiggs** commented on May 15, 2019

[@yn-mrse](#) Please confirm if the problem you found has been fixed.



**wep21** requested changes on May 16, 2019

[View reviewed changes](#)

ros/src/actuation/vehicles/packages/ymc/README.md

Outdated

Show resolved



**yn-mrse** reviewed on May 16, 2019

[View reviewed changes](#)

ros/src/actuation/vehicles/packages/ymc/

Outdated

Show resolved

```
node/g30esli_interfa
ce/g30esli_ros.cpp
```



yn-mrse reviewed  
on May 16, 2019

[View reviewed changes](#)

```
ros/src/actuation/ve  
hicles/packages/ymc/  
node/g30esli_interfa  
ce/g30esli_ros.cpp
```

Outdated

 Show resolved



**aohsato** commented on May 17, 2019

Author

@wep21 @yn-mrse Thanks for your code review. I updated this PR with the more detailed testing process, please check if you can.



wep21 commented on May 17, 2019

Contributor

**@aohsato** I tried offline test as described above. I could obtain a desired result as following.

```
usr/bin/zsh % /usr/bin/zsh %
# /home/daisuke/autoware_ymc/ros/install/ymc/share/ymc/launch/g30esll_interface.launch http://localhost:11311 112x28
[status[24]]
speed.target = 5
speed.actual = 5.4
speed.desired = 5
steer.target = -1.6
steer.actual = -2.4
battery.charge = 62
battery.voltage = 76.9
battery.amperage = -45.1
override.steer = 534
override.accel = 0
override.brake = 0
override.flasher = 0
mode = 8
shift = 0
brake = 0
turn = 0
warning = [ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 ]
command[24]]
speed = 3.8363
steer = -2.98569
mode = 8
brake = 0
shift = 0
alive = 241
turn = 0
flasher = 4

usr/bin/zsh 58x30
frame_id: "base_Link"
in: " "
drivemode: 1
steeringmode: 1
gearshift: 1
speed: 5.5
driv pedal: 0
brake pedal: 0
angle: 2.40000009537
lamp: 0
light: 0
---
header:
  seq: 3568
  stamp:
    secs: 1558069766
    nsecs: 793290441
  frame_id: "base_Link"
in: " "
drivemode: 1
steeringmode: 1
gearshift: 1
speed: 5.40000009537
driv pedal: 0
brake pedal: 0
angle: 2.40000009537
lamp: 0
light: 0
---
```



wep21 reviewed  
on May 17, 2019

[View reviewed changes](#)

```
ros/src/actuation/vehicles/packages/ymc/node/g30esli_interface/g30esli_ros.cpp
```

Outdated

 Show resolved



**yn-mrse** reviewed  
on May 17, 2019

[View reviewed changes](#)

```
ros/src/actuation/vehicles/packages/ymc/node/g30esli_interface/g30esli_ros.cpp
```

Outdated

Show resolved



**yn-mrse** reviewed  
on May 17, 2019

[View reviewed changes](#)

```
ros/src/actuation/vehicles/packages/ymc/node/g30esli_interface/g30esli_ros.cpp
```

Outdated

Show resolved



**yn-mrse** commented on May 17, 2019

[#2139 \(comment\)](#)

[@aohsato](#) [@gbiggs](#) The corresponding part has been verified at the code level.



**yn-mrse** commented on May 17, 2019

[@aohsato](#) Conducted an online test and confirmed the operation.

The parts necessary for the correction are as described above. It has been confirmed that it works without any problems if these patches are added.



**gbiggs** changed the title ~~[Feature] Support full functions of g30esli\_interface~~ Support full functions of g30esli\_interface on May 19, 2019



**gbiggs** commented on May 19, 2019

[@yn-mrse](#) [@wep21](#) Please confirm if your review comments have been dealt with satisfactorially, and if they have please set your review to "approved".

[@aohsato](#) Some of your commits are missing the DCO sign-off line.



**wep21** previously approved  
these changes on May 19, 2019

[View reviewed changes](#)

[@aohsato](#) Thank you for your modification. I checked the modification I pointed out.

23 hidden items


[Load more...](#)




**aohsato** added 18 commits 5 years ago

- Refactor code, separated to g30esli\_ros/interface ... e4e6897
- Move headers to include ... a75401c
- Add battery charge [%] topic -> /vehicle/battery ... a0b6784
- Fix names ... e88d8ac
- Apply clang-format ... c1301b4
- Add engaging topic and mutex for engage command ... 25a25f9
- Update LICENSE ... c06dda5
- Fix re-engage problem by adding 300ms wait ... 37c1273
- Add brake control (G30ESLI\_BRAKE\_SMOOTH) ... 5f9a018
- Fix CMake for colcon ... 7a39b57
- Add the command resetting logic for restart ... 161699d
- Add README ... c5e2fe4
- Fix README ... 0dcc799
- Fix bug of restarting condition and debug message ... 849615a
- Fix time initialization ... bc2f1da
- Fix unit in README ... fd3bf25
- Add engage condition to speed command by joystick ... 8785fbc
- Modify stop\_keep\_secs according to real vehicle test ... 714c7f5



 **aohsato** dismissed stale reviews from **wep21** and **yn-mrse** via 714c7f5 5 years ago



 **aohsato** force-pushed the `feature/improve_ymc_interface` branch from **6494016** to **714c7f5** 5 years ago [Compare](#)



**aohsato** commented on May 20, 2019

[Author](#)

[@yn-mrse](#) [@wep21](#) Thanks for your review!  
[@gbiggs](#) I forgot that, pushed again by using cherry-pick.



**yn-mrse** approved these changes on May 20, 2019 [View reviewed changes](#)



**gbiggs** approved these changes on May 23, 2019 [View reviewed changes](#)



Merge branch 'master' into `feature/improve_ymc_interface` b5e2b1d




**gbiggs** commented on May 24, 2019

The GitLab CI is failing because the binary format does not work in cross compilation (obviously), so I'm going to override the CI requirement and merge. The non-cross CI run compiles.




1



 **gbiggs** merged commit **56c9e17** into `autowarefoundation:master` on May 24, 2019



 **aohsato** deleted the `feature/improve_ymc_interface` branch 5 years ago



**anubhavashok** pushed a commit to NuronLabs/autoware.ai that referenced this pull request on Sep 7, 2021



Support full functions of g30esli\_interface 85c235c  
([autowarefoundation#2139](#)) ...



**mitsudome-r** added the **version:autoware-ai** label  
on Jun 14, 2022