Reference Design WG Meeting (11/08/2023) #3971

chishengshih started this conversation in **Working group meetings**

chishengshih on Nov 8, 2023 Collaborator edited

Date: 2023-11-08

Time: 14:00 (UTC)

Administrative

- Previous meeting minutes
- Reference Design project board
- Reference Design Roadmap

Participants:

- [x] Daniel Shih (Tier4/NTU)
- [ ] Stephen Li (AutoCore)
- [ ] Rahul Razdan (Razdan Research Institute)
- [ ] Mahesh Menase
- [ ] Eddie Liu (ADLink)
- [x] ChenYing Kuo (ADLink):
- [ ] Yoshihito Takashima (Tier IV)
- [x] Paul Yeh (Tier IV)
- [ ] Armagan Arslan (Hardware/Opening AD Kit WG)
- [x] David Walmroth (Opening AD Kit WG)
- [ ] Chetan (Marvel)
- [x] David Cole (DanLaw)
- [x] Ryohsuke Mitsudome (Tier4)
- [ ] William Yuankai He: (Detrio, MI, Uni. of Delaware (soon))
- [ ] Markus Schratter (Virtual Vehicles Research, Austria)
- [ ] Abinesh L (DanLaw)
- [ ] Lucaus Xingang Liu (Autocore)
- [ ] Gernot Heiser (seL4)
- [ ] Nilay Sener
- [ ] Mark Jin (PixMoving)

Category
Working group meetings

Labels
meeting:reference-...

1 participant

- [x] Rohit Damodar (DanLaw)
- [x] Tomonori Kaneko (eSol)
- [ ] Akihiko Tsukuda (eSol)
- [x] Christ John (Tier4)
- [ ] Bonolo (AWF)
- [ ] Hei-Reu Tseng (ITRI)
- [ ] Samet Kutuk
- [ ] oguz
- [x] Ziri

Agenda:

- Review the schematic overview for reference design:
  - Radar Chart
  - Radar Chart for F1 Tenth
  - Radar Chart for Go Kart
- Template for the design document (Daniel)
- Review the reference design for F1Tenth (Daniel)
- Present and review the reference design for Go-Kart (Daniel)
- Reference Design from LeoDrive: link

Action items:

↑ 1

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chishengshih on Nov 8, 2023 Collaborator Author

Mechanical requirement

- What is the vehicle?
- Design information for the readers
- Development environment
- Schematic chart available or not.
- Remove Vehicle size/passengers
- Price:
- Payload: 10/50 tons, few pounds.
-

CJ: Software Requirements: remove 0

- SOAFEE
- Open AD Kit

CJ: Drive-by-Wire
CJ: ECU for Level 4

David: Safety and Reliability

Certificated or not.

Vector for Support:

Rahul: meta information related to this project

- Two sets of radar charts:
  - one for technical features
    - Drive-By-Wire (Propriety or open), features in auto-ware world
  - one for meta-information
    - Supportability, Open Source, Size, Sensors

Mitsudome-san:
For section "ODD", it might be better to break it down to measurable metrics to express the complexity of ODD, such as "operation velocity", "traffic density", "travel distance", etc..., instead of naming the use cases.

Mitsudome-san:
For Hardware Requirement, it might be better have clear definition of what is "low-end" and "high-end". We can also consider putting total power consumption of ECU instead.

For software requirement, maybe we can have something like this
0: Embedded OS / Proprietary OS
1: Linux (including ROS 1, Autoware.ai)
2: Linux + ROS 2 (including Autoware.auto)
3: Linux + ROS 2 + Autoware.core/universe
4: Linux + ROS 2 + Autoware.core/universe + Containerization
5: Linux + ROS 2 + Autoware.core/universe + Containerization + SOAFEE

Rahul:

- Sensors:

David:

- Trade-off from the charts

CJ: public road ready/prototyping/flexibility

- Automation level
- Divide the charts to into multiple charts:
  - Software arch for SDV/SOAFEE
  - Sensors at high speed on public road

One chart for sensors.