



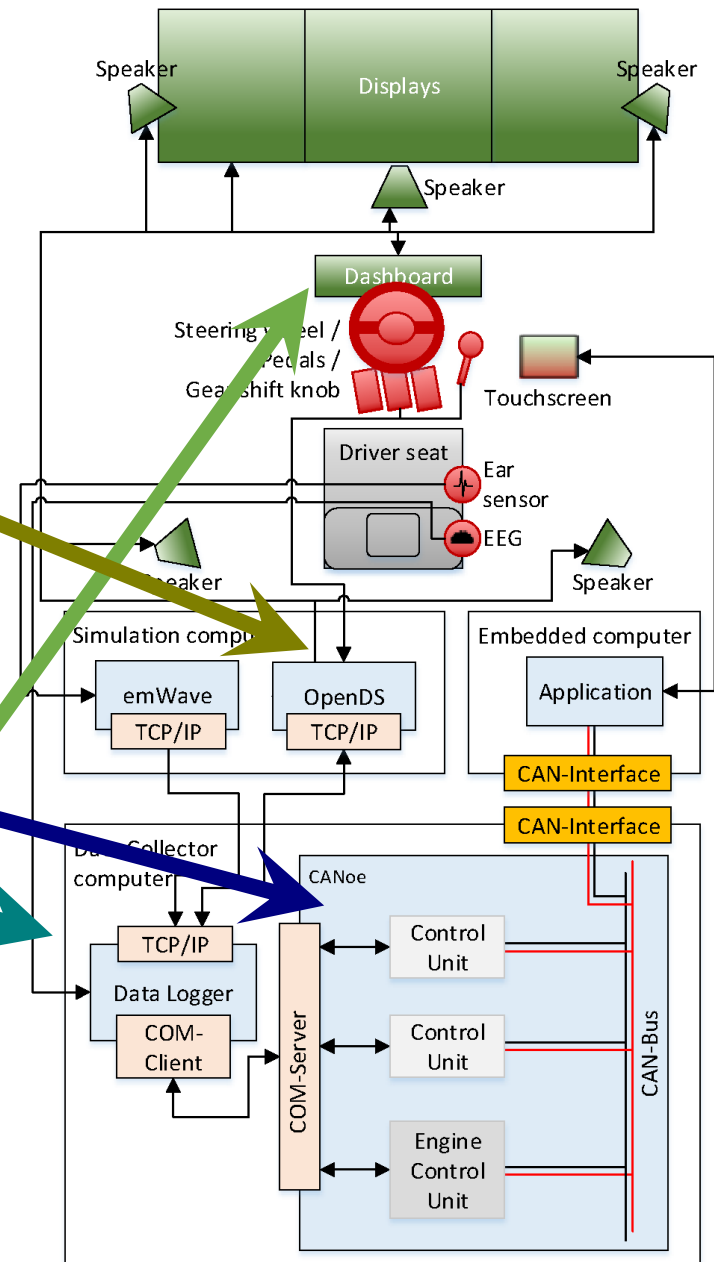
DrivingSimulator

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Driving Simulator

Was developed / constructed for a Ph.D.

- Driving Simulation with OpenDS (<https://opens.dfkf.de/>)
- CAN-Network + Messages
- Simulation2CAN Connector (Data logger)
- Instrument Cluster with CAN-Connection (python + javascript)



CAN Messages

- Powertrain + Gear already used
- Interior was planned + simply implemented
- Example Messages in the image

Control Unit Name	Information
Environment	Speedlimit
Engine	Speed
	Acceleration
	State
Engine Information	Milage
	Maximum Speed
EEG	Low Alpha
	High Alpha
	Beta
	Gamma
	Theta
	Meditation
	Excitement
Fuel	Fuel Consumption
	Optimal Fuel Consumption
	Petrol Level
Gear	Position
GPS	Heading
	Longitude
	Latitude
Powertrain	Brake
	Engine speed
	Throttle
	Engine Power
Steering	Steeringwheel Angle
	Horn
Stress Monitor	Stress
	IBI
	Accumulated Stress

Example Messages

Name	Leng...	Byte Order	Value Type	Initial Value	Factor	Offset	Mini...	Ma
x ~ Engine_Petrol_Level	8	Intel	Signed	0	1	0	0	0
x ~ Engine_PetrolLevel	8	Intel	Signed	0	1	0	0	0
x ~ Engine_Power	8	Intel	Signed	0	1	0	0	0
x ~ Engine_Torque	8	Intel	Signed	0	1	0	0	0
x ~ Gear_Direction	2	Intel	Signed	0	1	0	-1	1
x ~ Gear_Position_Automatic	3	Intel	Signed	0	1	0	0	7
~ Gear_Position_Manual	3	Intel	Unsigned	0	1	0	0	7
x ~ Gear_Power	8	Intel	Signed	0	1	0	0	0
x ~ Gear_Torque	8	Intel	Signed	0	1	0	0	0

- Made in CANoe
- already converted with canmatrix to kcd

What to do? Installation

- Download OpenDS
- Update OpenDS (CAN sources + driving task)
- Download pySIM2CAN
- Create VCAN device on linux (or other)
- Update IP adress in OpenDS
- Start both