Making reference to the article by Fortino et al. (2015), consider the strengths and weaknesses of designing a metamodel to support object-oriented design of the IoT. Design a smart model equivalent to that presented in Figure 6 which would instead support operation of a driverless car.

Metamodels relay system features, and they are particular with using high-standard instruments, model development, and attributes (Heinrich et al., 2021). In the article of Fortino et al. (2015), they discussed some strengths and weaknesses of designing a metamodel to support IoT object-oriented design. I would be presenting them in a table:

Strengths	Weaknesses
1.) Used to prototype both the basic features and high-level interactions during analysis (p.1297).	1.) Formal analysis, design, and implementation of Smart Object (SO) systems were unavailable at the time of publication (p.1297)
2.) Aids during the design stage (p.1297).	2.) Certain components need its functions and behaviours executed once more in order for new SOs to work (p.1300)
3.) SOs are desigated in various Smart areas such as Smart Homes (p. 1298).	3) No emphasis is placed on interaction (p. 1301).
4) High-level concepts become feasible (p.1300)	4 Security and resources management of SOs are not discussed (p. 1302).

Figure 1: Considered strengths and weaknesses of designing a metamodel to support object-oriented design from Fortino et al. (2015).

I have designed a smart model equivalent that would support the operation of a driverless car. This is slightly patterned after my submission for Assignment 1, the System Design Proposal for a Driverless Car.
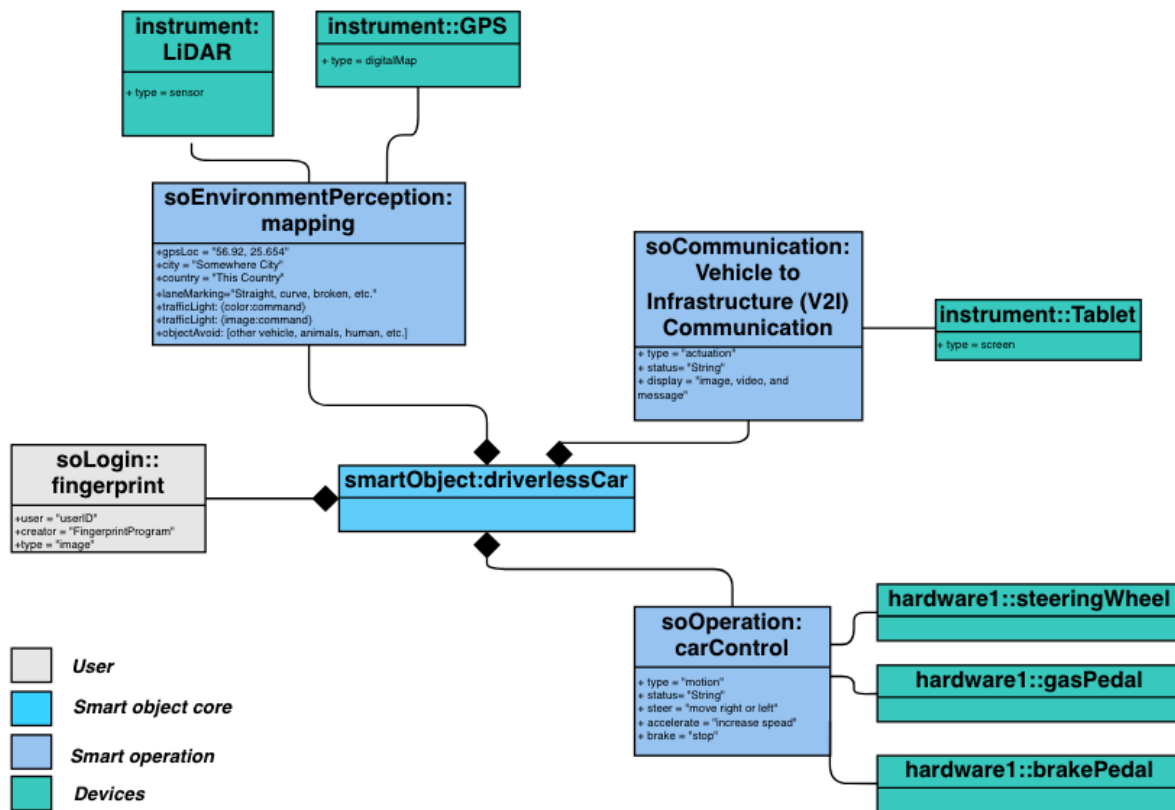
Figure 2: Smart model equivalent design for a driverless car

Although the operations are based on my submitted proposal, I made it more specific based on the smart model in Figure 6 of Fortino et al. (2015). The diagram has colors to differentiate the classes, and the attributes are more specific. Another difference is that the instruments/devices are associated with their corresponding operation.

References:

Fortino, G., Guerrieri, A., Russo, W. & Savaglio, C. (2015) Towards a Development Methodology for Smart Object-Oriented IoT Systems: a Metamodel Approach. *2015 IEEE International Conference on Systems, Man, and Cybernetics*: 1297-1302. DOI: https://doi.org/10.1109/SMC.2015.231.

Heinrich, R., Strittmatter, M. & Reussner, R. (2021) A Layered Reference Architecture for Metamodels to Tailor Quality Modeling Analysis. *IEEE Transactions on Software Engineering* 47(4): 775-800. DOI: 10.1109/TSE.2019.2903797.