Reading about metamodels, and seeing different examples of such, enabled me to improve on my driverless car system design. This is because I was able to develop a smart model equivalent, which is more appropriate since autonomous vehicles are smart objects, after all.

Fortino et al. (2015) mention several strengths and weaknesses of Metamodels. According to them, its strengths include their ability to demonstrate their features and interactions, aid in the design stage, be utilised in smart objects, and make high-level concepts feasible. This is supported by Heinrich et. al (2021), who claim that metamodels make sure to use only the best instruments.

On the other hand, the weaknesses Fortino et al. (2015) mention include the lack of formal analysis, design, and implementation of smart object systems, functions and behaviours being executed again in order to make smart objects work, lack of value given to interaction, and no discussion regarding resources and security management. In fact, Kashmert et al. (2022) mentions that currently available metamodels need to catch up with the development of present technology.

Considering both the strengths and weaknesses of metamodels, I can conclude that creating them is useful when designing the architecture of smart model softwares. They give an overall picture of how they would run. They also give an overview of whether system implementation is possible. To overcome their weaknesses, it is crucial to continue researching about the feasibility, development, and security of metamodels.

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: https://doi.org/10.1109/tse.2019.2903797.

Kashmar, N., Adda, M. & Ibrahim, H. (2022) HEAD Access Control Metamodel: Distinct Design, Advanced Features, and New Opportunities. *J Cybersecur. Priv.* 2(1): 42-64. DOI: https://doi.org/10.3390/jcp2010004.