

THE STRATEGIC REQUIREMENTS OF APPLICATION SERVICES FOR NEW GENERATION CARS

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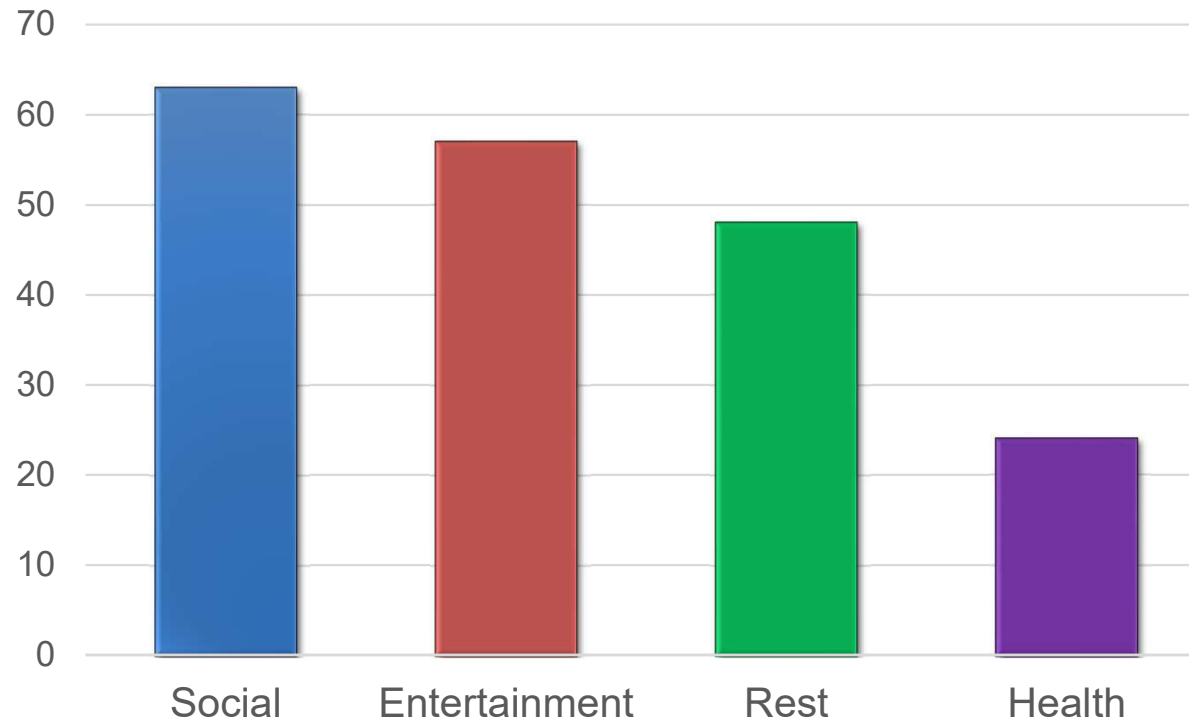
AV as a new and rich architecture

Autonomous Vehicles (AV) as a new mobile architecture providing different platforms.



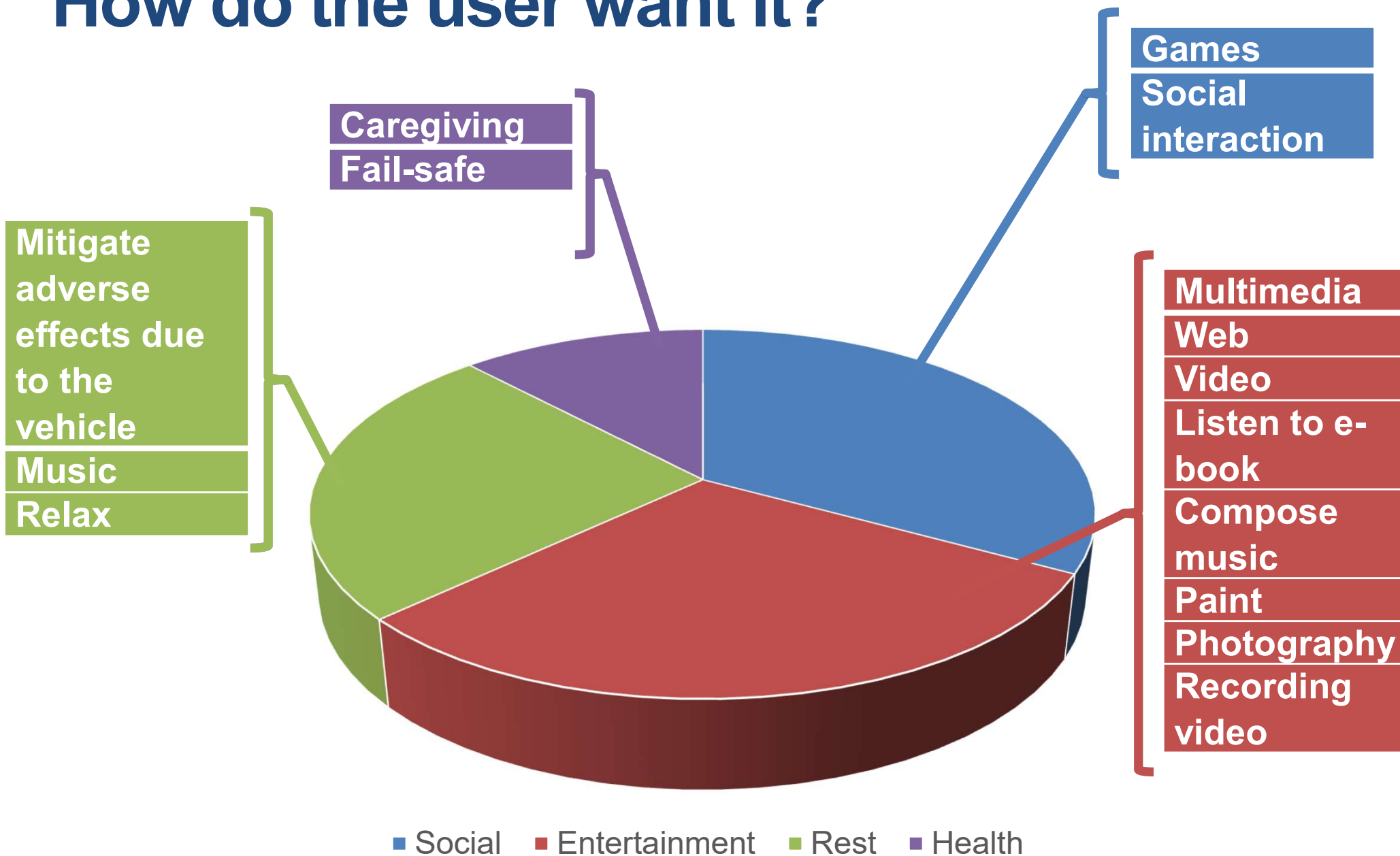
What does the user want?

Different platforms and app management services from a survey of CAPGEMINI¹.



[1] <https://www.capgemini.com/research/steering-the-future-of-the-autonomous-car/>

How do the user want it?



How useful will applications be for the user?

The mood can be used as the main element to adapt applications and services to users.

Today there are different indicators to approximate the mood:

- SERVQUAL
- Customer effort score (CES)
- Customer satisfaction score (CSAT)
- Net promoter score (NPS)
- **AI modules**



What tools to use?

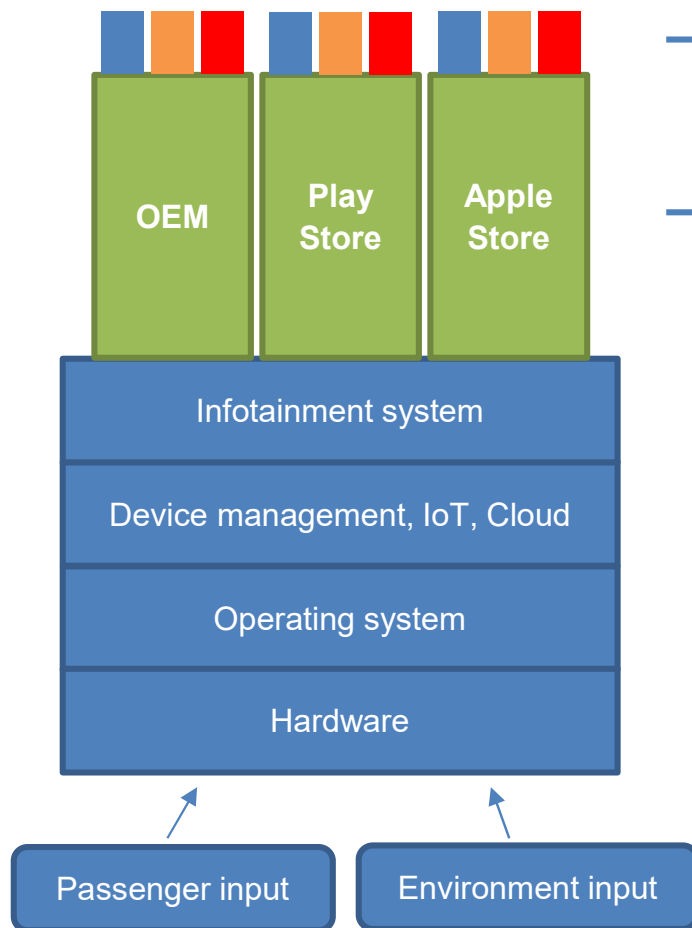
Different tools can be used inside the vehicle to do mood detection.

Some of these are:

- Camera
- Microphone
- Touch tablets and/or wearable devices



Infotainment Stack Architecture

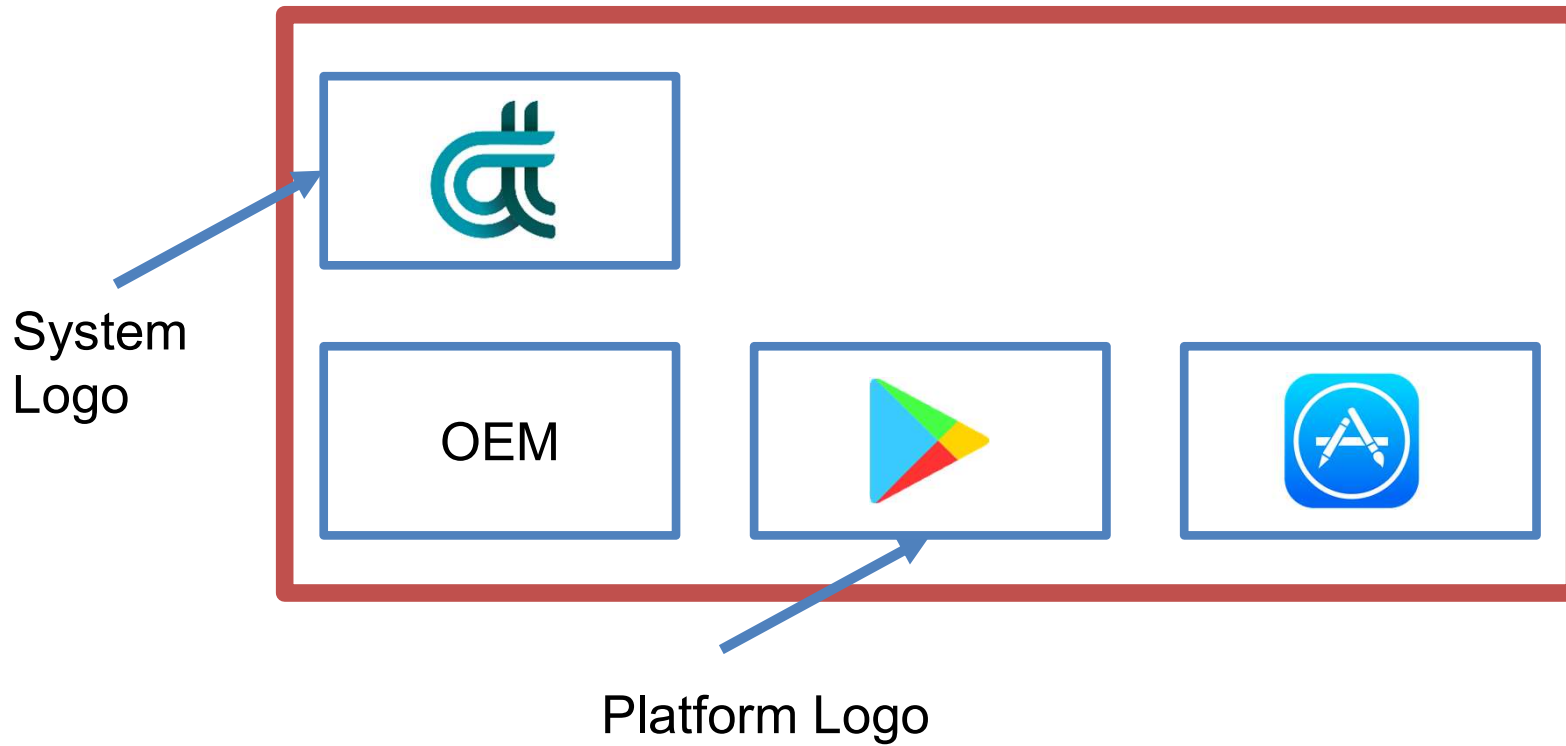


Application

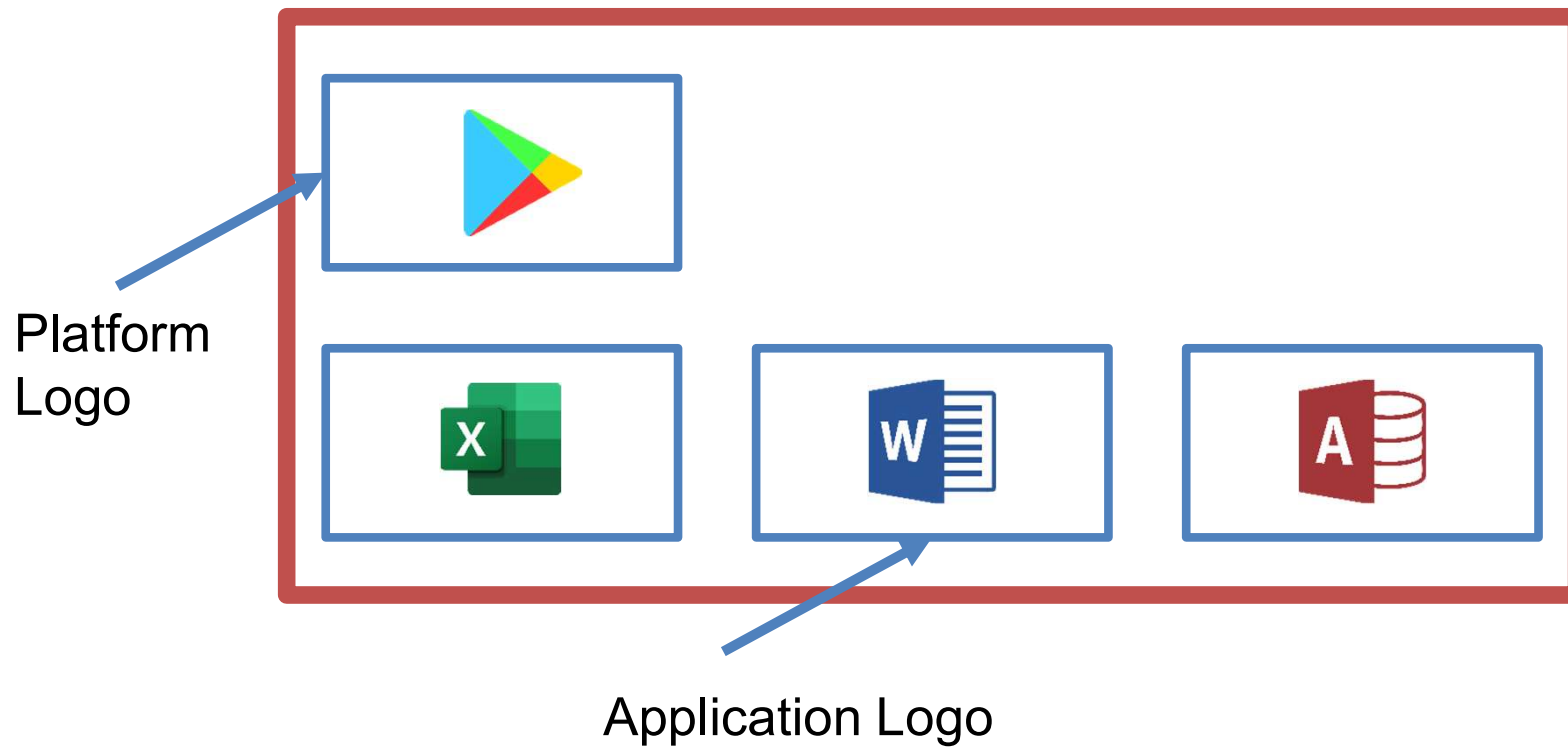
Platform:

each platform has a dedicated GUI; and must comply with a set of functional and non-functional requirements, some defined by the user, others by the platform, with the advantage of leading to the creation of new platforms.

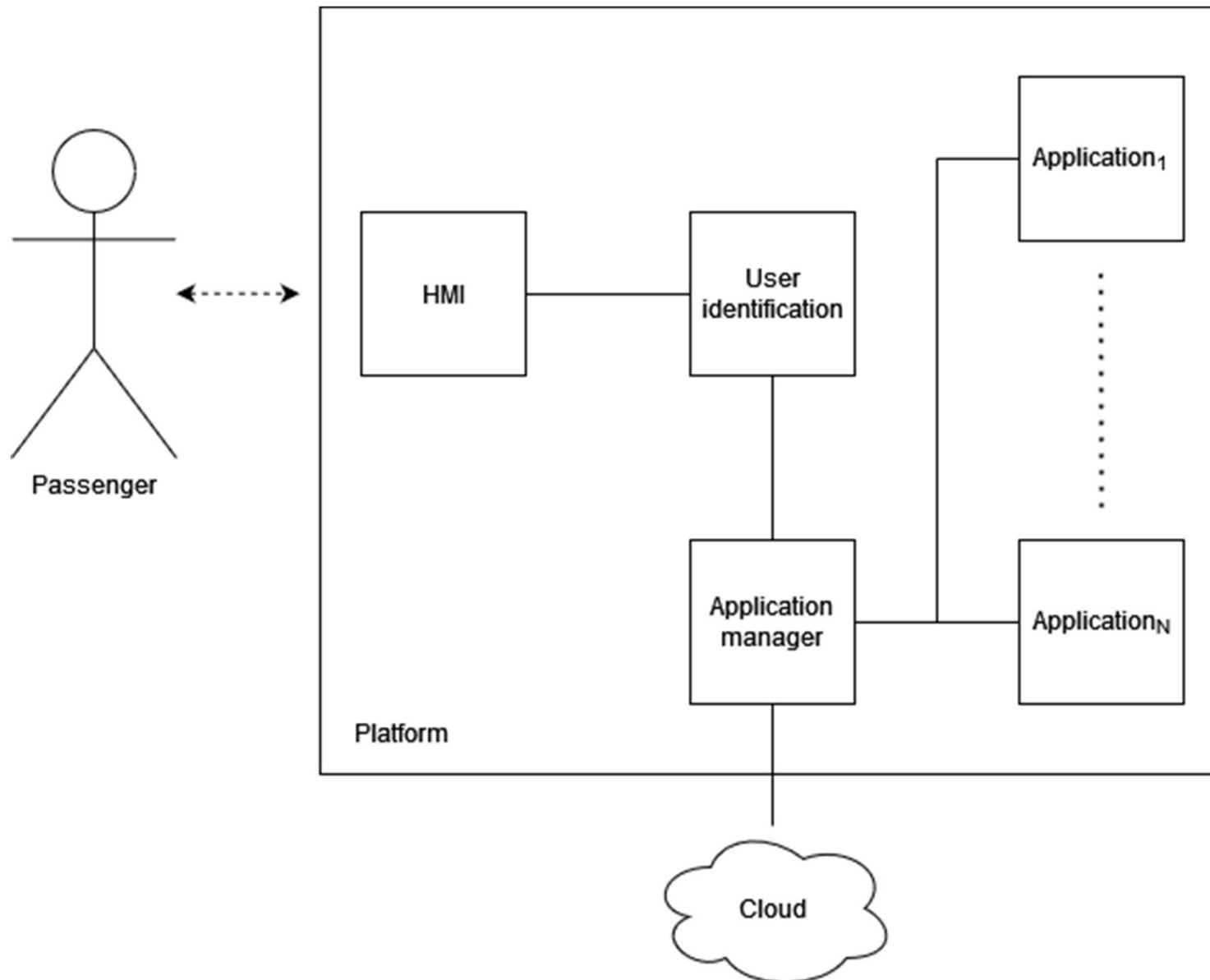
UI infotainment system



UI platform



Platform Software Architecture



Platform

Some examples of platforms in-car.



Social Environment



Augmented Reality

Application

Some examples of applications in-car.



Robotaxi



Virtual Sports Club

Conclusion

- ✓ We propose an in-car software architecture to present an infrastructure that brings great market innovations, especially in the infotainment sector.
- ✓ We offer a dedicated system that can be shared by the driver and passenger in the car.
- ✓ We propose to use the mood as an indicator to adapt the application and the service to the person's mood.
- ✓ We propose a system capable of offering applications on multiple platforms and allowing the development of new platforms not present on the market.

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