BMW AR Project

January 2025







Client Classified / Public



Agenda

01



Project Summary)2



Challenges

03



Results

Project Summary



Investigated the challenges posed by the use of **Augmented Reality** glasses in the **automotive** sector.



Included research-oriented investigations and proofs of concepts, and at the later stages, the design of a commercial product (series development).



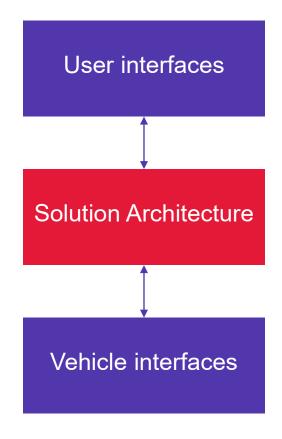
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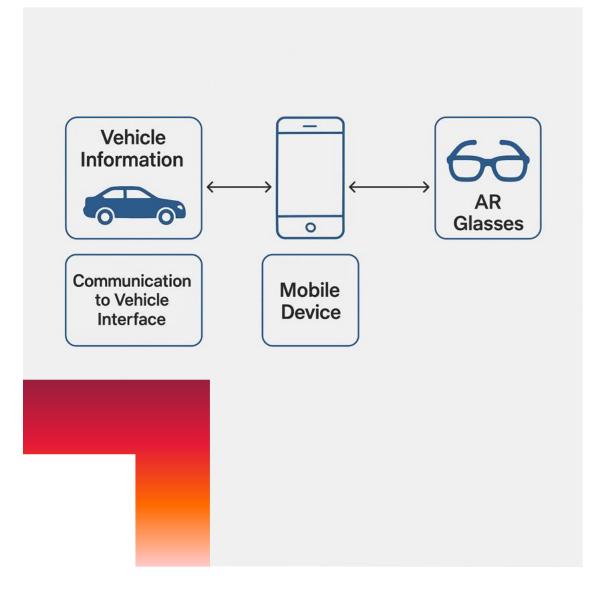
Challenges

Investigation of enhanced tracking techniques for moving vehicles	Multi-user support
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Communication with vehicle, retrieval of accurate information from vehicle and backend services	Investigation of multiple augmented reality systems with different capabilities and price points
Integration with external data sources like web	

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Results





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Results (1)

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Development of **time synchronization** algorithms.



Development and implementation of algorithms to authenticate and request information from vehicle and backend service.



Preparation of **configuration** data to map vehicle types and user preferences to **asset placements**.



Development of guidelines to develop applications which can run both in the car display and in the virtual world, and methods to let the user drag and drop an application from the car display into the virtual world and back.

Results (2)



Development and implementation of communication algorithms for **shared world** experiences.



Use of game engines and standardized augmented reality frameworks where possible to ease development and help with portability of developed solutions.



Use of **high-end**, state of the art augmented reality hardware to develop previews of the expected landscape of affordable products in a medium-scale timeframe (**5-10 years**), and showcase **usecases**.



Use of **mid-range** augmented reality hardware to showcase minimum-viable-product (**MVP**) **usecases** for currently available, affordable devices ready for **market adoption**.