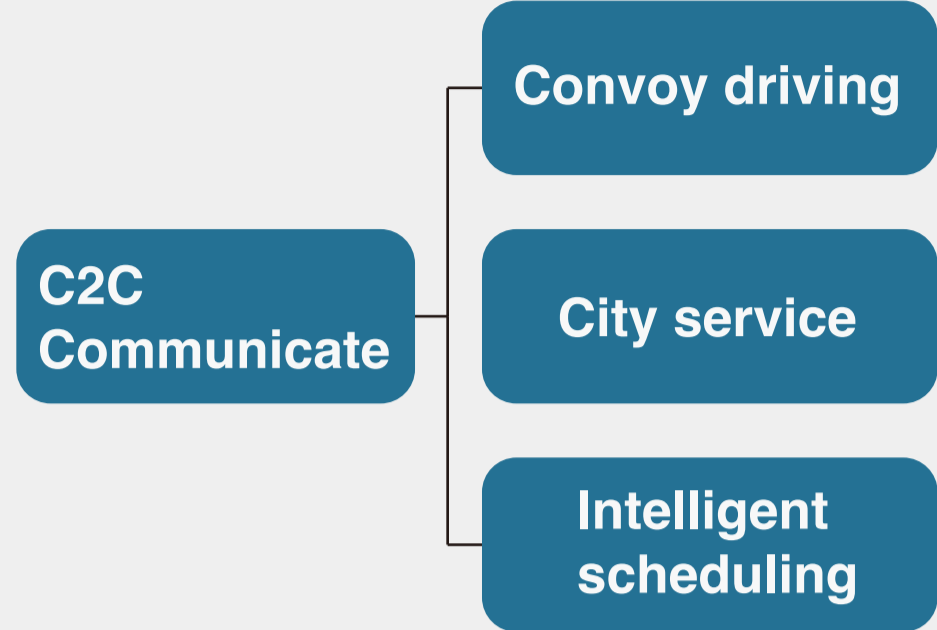


The application development and research of car to car communication technology

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Abstract

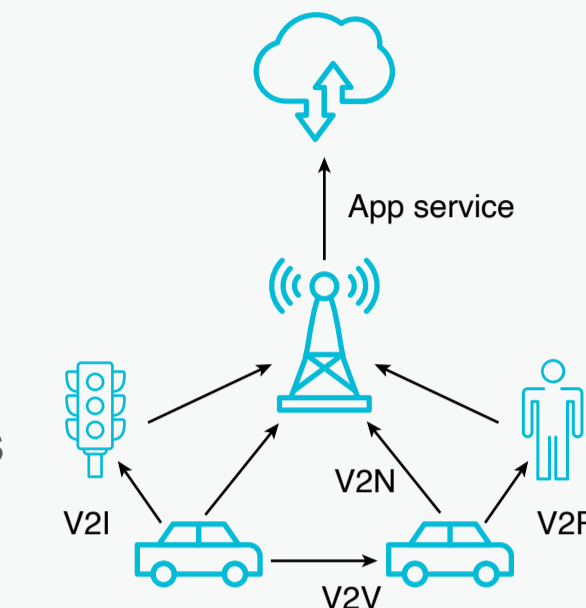
The project aims to design and implement collaborative driving services based on vehicle-to-vehicle (C2C) technology to improve the safety, efficiency and sustainability of urban transport systems. This includes fleet optimization services, real-time fleet management systems and intelligent scheduling services.



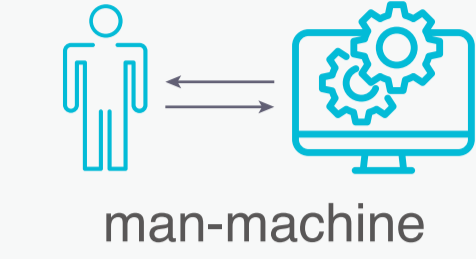
Introduction and background

C2C Technology

With the development of science and technology, autonomous driving technology has moved from the concept stage to practical application. Vehicle-to-vehicle (V2V) communication technology, C-V2X technology enables real-time communication between vehicles, vehicles and infrastructure, and vehicles and pedestrians to improve road safety, improve traffic efficiency, and provide new mobility services.



Research question

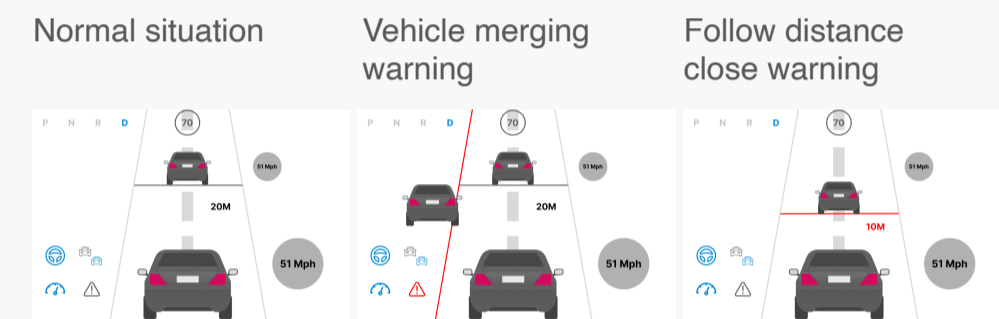


Literature review

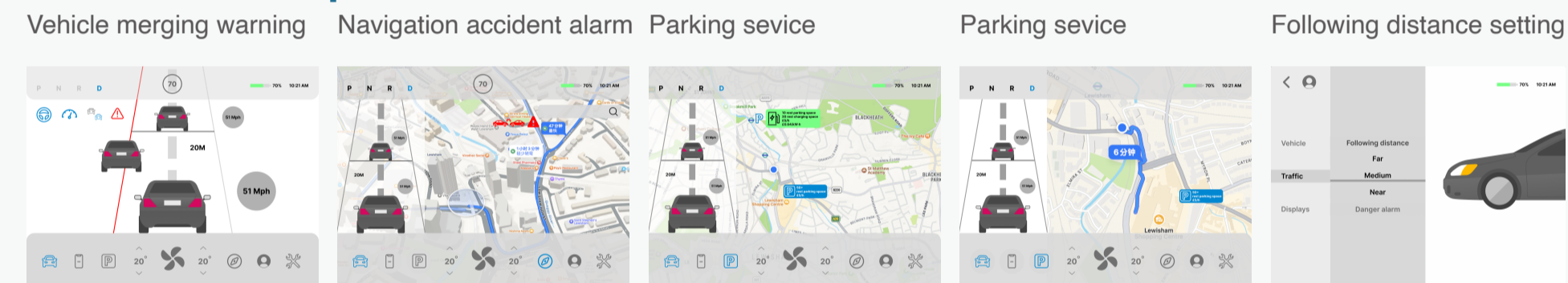
The development of autonomous driving technology and C-V2X technology is providing important support for the intelligence, safety and efficiency of road traffic. These technologies have a profound impact on vehicle communications, application design, and user experience.

Lo-fi design

The screen in front of the steering wheel



Center control panel

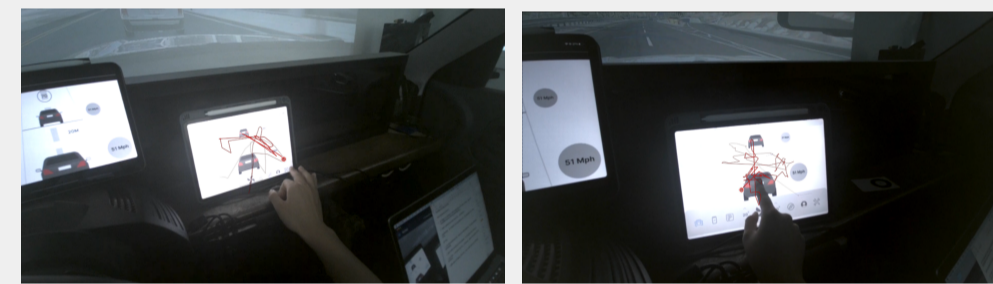


Car simulator and eye tracking experiment

Lo-fi test

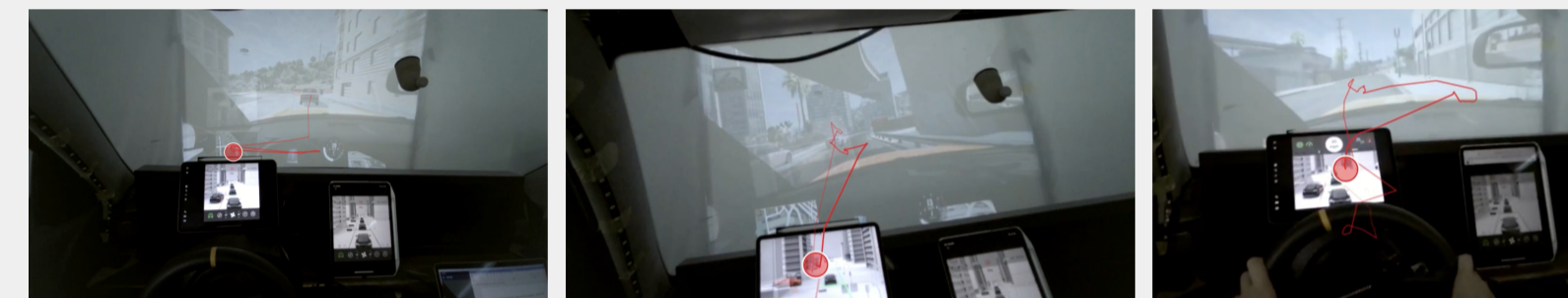


The results of the video analysis is users' visual focus is mainly locked on the road conditions and road features ahead.



users were confused and spent a lot of time trying to adjust the following distance

Hi-fi test

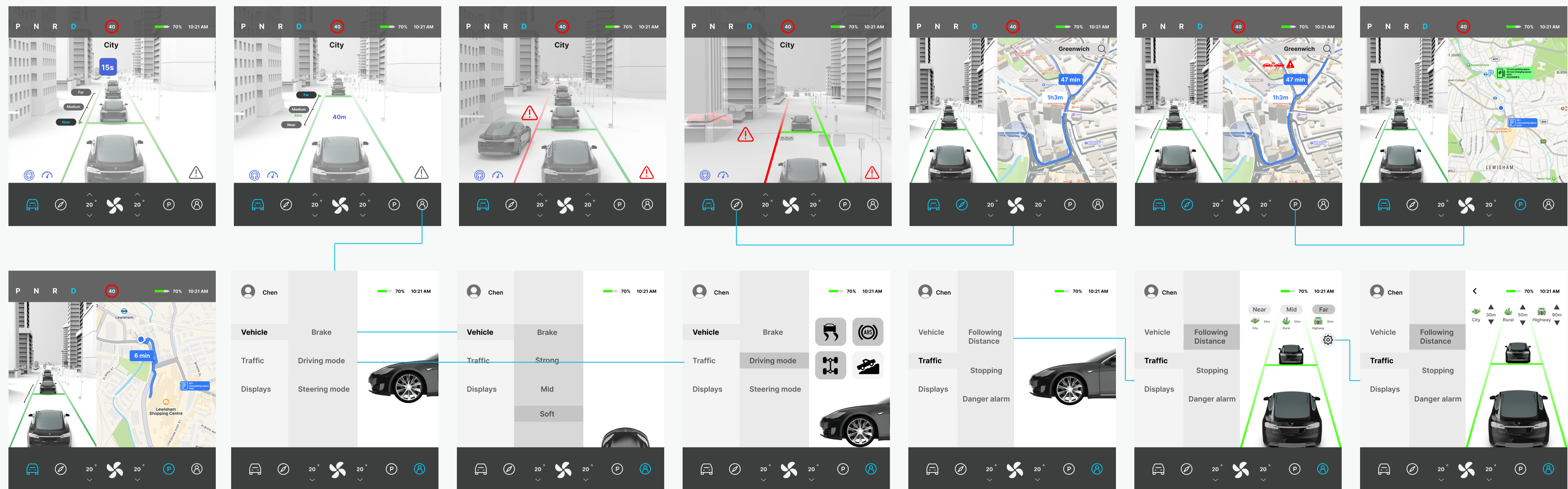


When the danger alarm occurs, the user can notice the danger in time
Users can quickly find the distance adjustment button on the home page



Hi-fi design

Center control panel



Conclusion and future work

Additional information provided
Provide additional information, such as pedestrian or bicycle information. Therefore, I will consider adding this information in future versions.

Physical control options
Let users to operate via mechanical buttons or voice controls on the steering wheel. Therefore, we can consider adding more physical control options.

Warning mode
I will consider adding more intuitive prompts, such as sound, vibration, or head-up display.

