

## Road-Weather application to Android Automotive OS

### 1. Introduction

Vaisala Digital is a major source of weather data for OEM's, such as BMW, Mercedes-Benz, etc. With this project, Vaisala Digital is aiming to create an app running on the Android Automotive OS that would show-case the road weather information delivered to the driver of the vehicle. Vaisala Digital is already delivering destination weather services to multiple car manufacturers (infotainment app that displays the weather and forecast at present location and at destination). With this project, the aim is to provide driver relevant information on road state at current location and 1-5 km ahead.

### 2. Project goals

- Build an app for Android Automotive OS that tells the driver current weather and nowcast information few kilometers ahead.
- To minimize driver distraction, the app could leverage Google Assistant to summon and report the same information via voice, while the information card is also displayed on the head unit.
- Project should include working app (in emulator and a google device) including application wireframing, HMI UI design, storyboard, UX design to fit the selected target vehicle (team can select between Mercedes, BMW, Audi and Volvo), architecture and interaction with the weather API, Road Weather API and as required, Weather Map API and testing for main use case (driver is informed about changes in road-weather before the situation changes).
- Destination weather services typically give information about
  - Current day weather overview & detailed view
  - 7-14 days weather forecast
  - Precipitation map

### 3. Technologies

Team can select appropriate development framework as long as app meets the Google Play guideline for car apps, by default we recommend Android Studio + Java/Flutter/Kotlin etc.

More information about Android Automotive OS can be found from:

[https://source.android.com/devices/automotive/start/what\\_automotive](https://source.android.com/devices/automotive/start/what_automotive)  
<https://developer.android.com/training/cars>

Vaisala digital API's will be explained separately to the team.

### 4. Requirements for the students

- Ability to understand required UX in a vehicle environment, opportunities with different screens

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## 5. Legal Issues

Intellectual Property Rights (IPR):

1. The client gets all IPRs to the results.

Confidentiality:

1. The client will share some confidential information with the students.
- Any other legal issues, e.g. if the default contract template does not cover something that needs to be agreed

## 6. Client

- [www.vaisala.com/digital/](http://www.vaisala.com/digital/)
- Client is represented by Miao Luo, Head of Transportation team. Miao comes with vast SW development experience from Automotive industry.
- Team will be provided sufficient computing resources from AWS cloud.

### Client representative(s)

- Product Owner
- Miao Luo
- Miao.luo@vaisala.com
- +358 xxxxxxx
- Keilaranta 19, 02150 Espoo

### Preselected Student Team Members

- N/A

## 7. Additional information

- All documentation must be in English.
- Motivational images from current infotainment systems:

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