How a Tier 1 Automotive Software Provider Creates Smarter, More Natural In-Car Infotainment Systems

The Company

A leading provider of vehicle electronics software approached Appen to collect audio and linguistic data to help develop automatic speech recognition (ASR) capabilities for its in-car infotainment system.

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The Situation

For an in-car infotainment system — or any ASR system — to recognize and correctly process voice commands, it must be trained on speech data that accounts for a broad range of inputs and all possible variation in how people speak. There are countless different verbal commands a driver might use to adjust the climate control, radio, navigation, phone, and other settings in an automobile. Training these systems to understand multiple dialects and various speaker categories poses an even bigger challenge, requiring many thousands of utterances in each of the targeted languages.

The Solution

Appen provides services to collect natural language data and text data, covering all the scenarios and variation that the system might encounter in the real world. Working with in-market, on-demand crowds of native speakers, Appen is able to rapidly expand ASR capabilities in new locations and languages, for

any given scenario. And because the company has strict standards for audio recording quality, Appen replicates the same advanced recording procedures across different locations and studios, and supervises them to comply with quality standards for a range of languages used in the automotive industry.

Services included:

Spontaneous, unscripted speech data collection in which native speakers are given a set of scenarios (i.e., How do you ask for temp lowered? Put your favorite music on? Change the radio station?), and must generate various responses

Text data collection using similar scenarios as for speech, but aimed to obtain larger volumes of data and a broader variety of speakers

Scripted speech data collection for short, fixed utterances

Test driving simulation to mimic the cognitive load of driving, so speakers come up with more natural, real-world responses

Country-specific studio data collection with specialist equipment to ensure that different studios are calibrated for precision and compliance to strict audio standards

The Outcome

Working with Appen for more than six years, the company has created a smarter, more connected and more natural in-car experience — with systems that are able to recognize natural spontaneous responses. With Appen's data collection and annotation services, the company has rapidly expanded the system in over 20 new languages. And because Appen's linguists have deep expertise in both creating and localising scenarios that mimic real-world driving conditions, the Tier 1 provider knows that it is receiving the high-quality speech and language data it needs to train its ASR systems.

Benefits

Spontaneous speech data that fits users' natural behaviour

Rapid deployment in new languages and locations

Strict audio quality compliance across a range of over 40 languages

Contact us at hello@appen.com to speak with one of our local experts today!