

Position Paper of Japan Automobile Research Institute

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1. Explain the participant's perspective on the topic of the Workshop

Japan Automobile Research Institute (JARI) is a non profit organization supported by more than 200 organizations in auto industry, electric industry and other fields. The mission of JARI is to investigate common issue in automotive industry, such as safety, and do research on the future automobile and automotive environment, such as ITS. JARI also has a mission of exploring and spreading new technologies to member organizations and also to general public. (Detail on JARI is attached.)

Infotainment system in a vehicle cannot be upgraded or replaced after sold to a customer. As a result, users has to use outdated infotainment system for many years. This has been a cause of headache for many auto manufacturers. Web/HTML5 technology has a potential of solving this problem. People in auto industry should be interested in this. At the same time, any system integrated into automobile has to be sure that the system never affect any of the system in vehicle, otherwise a automobile could be a very dangerous vehicle.

I have been working on the development of probe vehicle information systems. I also have been working on international standardization on the probe vehicle information systems. In probe vehicle systems, personal information should not be collected or distributed, without users consent. Based on this idea, we have been working on the standardization on privacy protection in probe vehicle information systems. Through this activity, the relation between automobiles and mobile phone, especially smartphones, became one of the area I am interested in.

With these background, my main area of interest are the following;

Putting safety first

Bowser based applications

Relationship between the car and the mobile phone:

Security, Privacy and Trust

2. Viewpoint on the HTML5/WEB technology

Merit

The web technology might be a solution that fills the gap between a sold car and the latest information technology. This will enhance the attractiveness of automobiles. In addition, this will reduce the cost of vehicle information systems. I believe this is common understanding to most auto manufacturers. They, however, have their product strategies, and thus may not be able to discuss on this topics openly.

Since JARI is a neutral organization in terms of technologies, I can comment on various application ideas.

Safety first

In automotive industry, first priority is always safety. Use of web technologies or smartphones should not affect any of the vehicle system or the driver.

Security

In automobiles, until now, there is very little report on the cyber attacks so far because automobiles are isolated from the rest of the world, where cyber attacks are reported every day. Vehicles, as well as road traffic, can get into trouble if they are connected to internet without any security consideration.

Privacy issue in data collection

Un intended privacy information collection by various party are reported frequently in current mobile phones. In automotive industry, data collection (probe) has been done with special care. Probe vehicle information system is one example. Sending all information, including vehicle ID, driver name, etc. results in causing privacy problem. Therefore, existing probe vehicle information system eliminates ID, unless it is absolutely necessary or there is consent of the driver. Basic principle of privacy protection, which is based on OECD guideline and the Data protection act in various countries, has put into ISO standard, ISO 24100:2010.

In cooperative ITS systems, or Vehicle to Vehicle communication system, special care is taken in order to keep both communication security and privacy. This is achieved by frequent change of pseudonym certificate.

Appendix

Description of Japan Automobile Research Institute and its activity

Japan Automobile Research Institute was established in 1969, as Automobile High-Speed Proving Ground Foundation, expanded research area and currently conducting research on safety, energy, environment, fuel cell , electric vehicle and Intelligent Transport Systems (ITS). In some of the research areas, including ITS, JARI is actively participating in international standardization. Recent research work in ITS research division include the development of automated platooning, probe vehicle information systems and research on vehicle electronic systems. These outcomes are submitted to the Ministry of trade and industry and also distributed to ITS community (auto industry, electric industry and academia) through various symposiums, workshops as well as JARI web page.

Standardization on probe vehicle information is also carried out in cooperation with Keio University and other organizations. Recent contribution include ISO 22837:2009 probe data, ISO 24100:2010 Basic principle of privacy protection in probe vehicle information services, which are both created in ISO TC204 WG16, ITS communication. Current works include ISO NP 16461 Criteria of privacy and integrity protection in probe vehicle information systems. Service architecture for classification of probe vehicle information systems will be a new proposal in TC204 WG16. This concept might be able to be applied to the classification of web services of the car.

Activity in TC204 WG17, Nomadic device use in ITS was added two years ago. Currently, standards development which are relevant to this activity, such as 13185 vehicle interface for provisioning and support of ITS services, are in progress.