

Foundation of the Information Model for Connected-Cars

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Abstract : Recent progress in the next generation of automobile technology is geared towards incorporating information technology into cars. Collectively called smart cars are bringing intelligence to cars that provides comfort, convenience and safety. A branch of smart cars is connected-car system. The key concept in connected-cars is the sharing of driving information among cars through decentralized manner enabling collective intelligence. This paper proposes a foundation of the information model that is necessary to define the driving information for smart-cars. Road conditions are modeled through a unique data structure that unambiguously represent the time variant traffics in the streets. Additionally, the modeled data structure is exemplified in a navigational scenario and usage using UML. Optimal driving route searching is also discussed using the proposed data structure in a dynamically changing road conditions.

Keywords : connected-car, data modeling, route planning, navigation system

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