

Event Information Delivery Method Using Location Information for Route Replanning in V2I Local Environment

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Abstract— We propose a new method that transmits a frame containing event location information in V2I LAN environments upon the occurrence of an event. In traditional navigation systems, external servers connected via the internet analyze traffic conditions and calculate estimated travel times based on real-time traffic information, GPS data, and user information. The results are then transmitted to the in-vehicle navigation system. However, these systems have limitations in immediately reflecting delays caused by real-time accidents in route settings. We propose an event information delivery method that quickly triggers a change to a new route by transmitting event information (such as accidents or blockages) within the local area, without communicating with servers in external networks. In addition, we describe a packet format in which location information is included in the header to reduce the delay and algorithms applied to the proposed method for transmitting event information from the AMU and replanning route based on event information in the AMU. To evaluate the performance of this new system, we calculate the end-to-end delay in the worst case and assess the effectiveness of the proposed system based on this.

Keyword— LAN, Event information delivery, Route replanning, location data, V2I



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