Unobtrusive Mobile Push Technology in Location Broadcasting

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Abstract: An efficient vehicle tracking system using Android-based application and web-based platform for monitoring and viewing dispatching buses in real-time. Global Positioning System (GPS) identifies the location of the vehicle, while maps through web GIS permits the commuters to monitor routing fleet. We developed the mobile application for two different users: (a) within the dispatching bus and (b) for the riding public to search or locate the bus. The mobile application used by the conductor within the bus transmits signal and locations unobtrusively into the server establishing a push technology communication that makes the commuters able to grab the possible estimated time of arrival (ETA) of a bus in designated stations or terminals. Riding public without the mobile application can also use the web-based application to view any of the routing buses. The methodology used in the development follows the Iterative Life Cycle Model that is the best fitting for this study for its simplified implementation towards progressing cycle. Also, the integration of a business model into the system allows any passenger to book tickets and reserve a seat. By this, the riding public has easy access for monitoring bus's arrivals and departures that aids travelers in any possible preparation and other travel options in case the bus does not suit the commuter's travel preferences. We conduct Survey using System Usability Scale (SUS) to test the usability of the system, and the point average of 124 respondents is 70. 01. This result within the range of 60.0 – 80.30 showed that the system is suitable for use.

Keywords: location broadcasting, mobile push technology, vehicle tracking system, SUS