Evalution of Interface Design of In-Vehicle Control and Display Devices

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ABSTRACT

Because of continual and rapid development of technology, more and more electronic devices have been used in automobiles. While technology brings in the convenience they also may increase driver ’ s visual and mental demands. Therefore, appropriate operation interface needs to be carefully studied and designed. This study aims to investigate how positions of control and display influence drivers ’ visual demand. Twenty participants participated in a simulated-driving test with changing radio station as additional task. Two positions for control button and two for display were paired for study. Two digital cameras were used to record drivers ’ eye glance and hand operation. Mean single glance time, time to complete task, total glance time and mean number of glances, were analyzed to evaluate the difference. The results show that compared to display in the central console, putting the display in the instrument panel directly in front of the driver can effectively reduce driver ’ s visual demand. Changing position of control button from central console to steering wheel can have similar advantage.

Keywords : Vehicle, Interface, Visual Demand

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