Effective Interface Design on Touchpad for In-vehicle’s Input device

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\textbf{ABSTRACT:}

In the vehicle, many controls mounted on steering wheel as driving information function increased. However, the more applied function means the more needed control and the more needed control means the more increased the driver workload. So, this study is focused on the interface with steering wheel control type and the function that decrease the driver workload, especially the interface with touchpad steering wheel control and a gauge cluster display. A touchpad control has been applied in the lap-top by means of the mouse.

In the computer environment, the operational method of a touchpad is “pointing & dragging” that required accuracy. However, in the vehicle environment, these methods may be avoided since the performance is more important. According to these conditions, it is important to consider the relationship between the quantity of touchpad movement and display menu size such as height and width. Therefore, in this study we provided the different menu height with the touchpad upward or downward movement and display menu (or icon) width with the touchpad right or left movement, respectively. Then, we compared the preference and error rate with each menu height and width.

\textbf{Keywords:} Interface Design, Menu or Icon Design, Touchpad, Visual Feedback

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