

Medium fidelity automotive interface prototype testing: a comparison between existing and new designs

ABSTRACT

The main objective of this study was to evaluate the usability of a newly developed automotive navigation interface design and the existing automotive navigation interface design. Professional and non-professional Malaysian drivers were recruited (N=60). Participants evaluated two types of automotive navigation interface prototypes (new and existing design), using the Kansei usability survey, modified System Usability Scale (SUS) in a driving simulator. Task completion time and number of driving errors were also measured. In the Kansei usability survey, the participants rated the existing and new designs as 3.456 and 3.893, respectively, on a 5-point scale. The SUS scores were 62.625 (existing) and 66.625 (new) and errors made while navigating were 12.85 errors (existing) and 8.15 (new). The task completion time for the new design was less than the existing design (2.34 min vs. 2.59 min). Overall, the new automotive navigation interface design prototype demonstrated higher levels of usability compared to the existing design.

Keyword: Automotive navigation; GPS; Usability; Driver distraction; Kansei; Malaysia