

## **Improve safety for pedestrians using smartphones while walking: Sri Lankan context**

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### **Abstract**

The prosperity of smartphones greatly improved the convenience of our everyday life and also increased our dependence on them. Further, free Wi-Fi and lot of data offers have been given to public in Sri Lanka such that increasing number of population are using their smartphones even on the street while walking on the roads. Thus, increasing number of pedestrian got injured or killed during texting/talking while-walking. The phenomenon that pedestrians use smartphones while walking has posed great threat to transportation safety as well. In this paper, we discuss the design of smartphone graphical user interface in safety-critical environments systematically. A preliminary questionnaire based study was conducted to collect smartphone users' opinions/attitudes towards using smartphones while walking. Some safety-critical details were also collected. A novel Walking Mode was introduced and one possible framework was proposed to improve safety for pedestrians using smartphones while walking. Our framework consists of three modules and could provide insights for smartphone designers as well as guide application designers to design safety- based context-aware GUI.

**Keywords:** Walking mode; context-aware graphical user interface; real-time scene parsing system; safety-based indicator.