Could branding influence user interface interaction on emergency medical devices?

Using eye-tracking technology to assess user's visual attention when viewing public access defibrillators

Hannah Torney [1,2] Adam Harvey [2] Justin Magee [1] Dewar Finlay [1] Raymond Bond [1]

[1] Ulster University, Newtownabbey, UK [2] HeartSine Technologies Ltd., Stryker Belfast, UK

INTRODUCTION

Public access defibrillators (PADs) are commonly used by untrained lay-rescuers who require user interfaces which enable rapid navigation to critical tasks. Branding may help with familiarisation of the PADs, but whether it induces unnecessary additional cognitive processing and becomes a distraction is unknown.

OBJECTIVE

To assess whether branding on PADs distracts the user from the power and shock buttons, which are critical Areas-of-Interest (AoI) on the GUI.

METHODS

Forty participants were recruited, mean(SD) 31(10) years, 52.5% male.

Images of 10 PADs were displayed on an LCD monitor. Participants viewed each image for 30 seconds.

Tobii X60 captured eye-gaze data. AoIs were defined as power button, shock button, company name, logo or device name. Tobii Studio analysis software to was used to compute eye-gaze metrics within each region.

RESULTS

Seven PADs had some form of branding on their user interface.

Mean time-to-first-fixation (TFF) on the branding and total fixation duration (TFD) were calculated and box plots produced (Figure 1).

Importantly, no participants fixated on the branding of any PAD before the power and shock buttons.

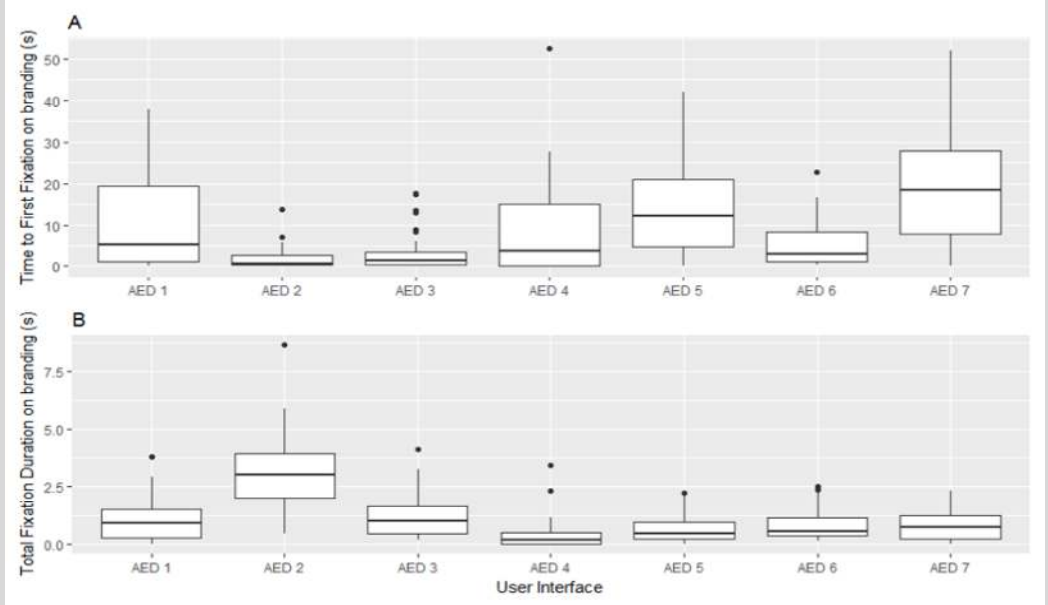

Figure 1: Boxplots displaying the (A) time to first fixation, and (B) total fixation duration in seconds on the branding on each graphic user interface

CONCLUSION

Branding occupies a proportion of the user's visual attention, but fixation duration is short and occurs after fixation on power and shock buttons suggesting that it may not affect device use. The effects of brand familiarity are yet to be determined.