Developing a framework to support the identification of accessible touchscreen apps for people living with dementia

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AcTo Dementia

Background

- Facilitating independent activities would benefit people living with dementia and their caregivers (Alm et al. 2009)
- Touchscreen tablet computers are accessible for people with dementia (Armstrong et al. 2010)
- Identification of suitable apps is required to maximise the potential of touchscreen computers for people living with dementia (Astell et al. 2016)

Project Aims

The AcTo Dementia project is investigating the accessibility of touchscreen apps for people living with dementia, with four key aims:

- Identify design features that increase accessibility
- Develop an evidence-based framework to find apps
- Collaborate with developers to improve their apps
- Share app recommendations with people living with dementia and caregivers

App Identification Framework

The framework is separated into two stages, presented below as an example in practice:

Stage 1: App Selection

Following a discussion with a service user, it is revealed that they have an interest in playing chess. The keyword 'chess' is searched for in the app store, and the first ten results that are judged by their title and logo to be standard representations of the game are downloaded.

Stage 2: App Review

Each app is reviewed against an evidence based criteria and given a total score. The app with the highest score is selected as being the most dementia-friendly version of chess available, and this is introduced to the service user.

App Review Criteria

The criteria contains 48 items divided between eight categories:

1. Control
2. Feedback
3. Visual design
4. App features
5. Customisation
6. Obstacles
7. Age appropriateness
8. Game specific (if applicable)

Four researchers in Sheffield and Toronto applied the review standards to the same selection of apps and their scores were found to be highly reliable (12 apps: $\alpha = .82$).

Conclusions

The applied use of the app identification framework to date indicates that it has the potential to be a reliable and valid method of finding accessible apps for people living with dementia. It will soon be made available for public use via the AcTo Dementia website.