Mobile apps may hold the key to effective cognitive assessment in the elderly

May 13 2014, by John Hannan

Credit: Peter Griffin/Public Domain

(Medical Xpress)—Mobile applications developed by two undergraduate students from the Penn State Department of Computer Science and Engineering may influence the future of assessing mild cognitive impairment (MCI).

The students, computer engineering senior Robert Dick and computer

science senior Nick Doyle, worked with Nikki Hill, a postdoctoral fellow in the College of Nursing, to translate her theories on the use of apps in MCI assessment into a testable product.

MCI, a brain function syndrome, impairs cognitive function and can interfere with normal daily activities. It is sometimes considered the stage between cognitive decline associated with normal aging and dementia or Alzheimer's disease.

Hill believes that mobile applications hold the key to maximizing common functional abilities of older adults with MCI and to helping health care professionals screen for MCI.

Dick and Doyle used Hill's specifications to create two applications: one that provides attention training, which has been shown to improve cognitive performance in older adults, and one that administers the Montreal Cognitive Assessment, which can be used as a screening tool for MCI.

Providing these apps on a mobile platform such as a smart phone or tablet would, Hill believes, make them more accessible and convenient for a wider population as well as help facilitate future community-based research with older adults experiencing, or at risk for, cognitive decline.

Development of these apps started as an application programming class project for Dick and Doyle then matured into their Schreyer Honors College senior theses, all under the mentorship of John Hannan, associate professor of computer science and engineering.

Through an iterative process of refining the design and the interface of each app, along with input and feedback from Hill and Hannan, the students built truly impressive products.

"The apps (the students) developed are fully functional and ready for initial testing by individuals within the target population. These are not simply mock-ups or prototypes," Hannan said.

The students valued being involved in a project that not only provided them with practical experience but also will be used to help people. "Having the opportunity to work on a real-world app that needed to meet someone else's expectations was an amazing experience," Dick said. "The whole process was a great learning experience."

The apps are now entering user testing where a sample group of older adults will be asked to assess the tool and provide valuable feedback.

Provided by Pennsylvania State University

Citation: Mobile apps may hold the key to effective cognitive assessment in the elderly (2014, May 13) retrieved 1 May 2024 from https://medicalxpress.com/news/2014-05-mobile-apps-key-effective-cognitive.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.