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Home-Based 'ClockMe' Software Can Detect Early Dementia

Researchers at the Georgia Institute of Technology are developing new software, called ClockMe, to be used as a screening tool for home use to detect early signs of dementia. ClockMe automates a previously paper-based Clock Drawing Test, which is a commonly used screening exam to detect cognitive impairment. The ClockMe system computerizes the test into two components; the ClockReader Application, which is the actual test; and the ClockAnalyzer Application used by a physician or health care professional to score the test. Although the test is not yet commercially available, the researchers are working toward that goal. They anticipate that the automated test will help older adults identify early signs of impairment, and allow their health care professionals to quickly analyze the test results.

ClockReader requires the use of a stylus and computer or tablet mobile device to draw a clock with numbers and the correct minute and hour hands. Once completed, the sketch is emailed to a physician or health care professional for scoring. The ClockAnalyzer Application checks for 13 traits such as correct placement of numbers and hands without extra markings. Previous research on the paper-and-pencil Clock Drawing Test found that people with cognitive impairment frequently draw clocks with missing or extra numbers, digits are sometimes drawn outside of the clock and the time is often incorrect. The ClockAnalyzer also records the duration of the test and the time between each stroke.

The accuracy of the ClockMe system was reported in "Home-Based Computerized Cognitive Assessment Tool For Dementia Screening" by Hyungsin Kim, Chih-Pin Hsiao, and Ellen Yi-Luen Do. The system was tested at the Emory Alzheimer's Disease Research Center. The researchers plan to commercialize the system in the future.

The full text of "Home-Based Computerized Cognitive Assessment Tool For Dementia Screening " was published in September 2012 by *Journal of Ambient Intelligence and Smart Environments*. A free abstract is available online at http://iospress.metapress.com/content/b0841g7827151q34/?p=c9eaaa2fda5d4f3586d0999c296787a8&pi=0 (accessed November 1, 2012).

A video of the ClockMe system is available online at http://www.gatech.edu/newsroom/inc/mediaOverlay.php?id=158311&nid=158301&autoplay=1 (accessed November 1, 2012).

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