

SUNDAY DRIVE

A mobile game for assessing skills indicative of driving ability in seniors

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Heather Terry Maryam Jeanne
Instructor: Wayne G.

PURPOSE

- Provide seniors with accurate information about their driving ability, which may predict likelihood of success in driver's license renewal
- Perform requirements gathering and analysis for a mobile game-based assessment tool examining perceptive, cognitive, and motor skills associated with driving

LITERATURE REVIEW

Driving and Seniors

- By 2021, almost 20% of Canadians will be 65 years old or more (Government of Canada, 2006).
- Crash rates for older drivers are higher than for all other age groups, with the exception of the youngest drivers (e.g., McKenzie & Peck, 1998; NHTSA, 2000).

Technology Usage in Seniors

- Older adults (65+) are increasingly adoptive of technology with 59% online users and 27% owners of a tablet or e-book (Pew Research Report, 2013).
- Designing technology with age-related changes in mind increases adoption and usage (e.g. Rogers et al., 2005).

Gaming among Seniors

- Seniors do enjoy and can be motivated by digital game play.
- 29% of computer game users are aged 50+ (Entertainment Software Association, 2011)

Research Methodology and Seniors

- Qualitative research methods are effective in exploring driving and driving cessation issues with seniors (e.g. Johnson, 1995).
- Involvement of seniors in prototyping and usability studies is critical (Kwahk et al., 2001).



FINISH



- Wizard of Oz technique will be conducted using paper prototypes of mini-games to specify game elements, e.g. font size, colour scheme, icon placement, level of instructional detail.
- Fifteen participants (70+) in one-hour sessions

DISCUSSION

Sunday Drive will have the exciting capability to:

- **support seniors** as they go through the process of recognizing and accepting changes in their driving-related abilities
- **enhance seniors' self-awareness** and self-regulatory behaviour concerning their own driving ability
- **decrease levels of stress and anxiety** in advance of upcoming bi-annual road tests
- **open lines of communication** between seniors and their friends and family regarding driving concerns, if they play the game together, by providing assessment data in a low-stakes format
- **provide an enjoyable experience** for seniors using game elements such as narrative, points, rewards, immediate feedback, replayability, and challenge

RESEARCH METHODS

Stage 1. Requirement Identification

- Semi-structured interview approach will be used to gain understanding of seniors' needs and concerns regarding driving, and current assessment tools
- Thirty participants (70+) with valid driver's license and some digital game experience

Stage 2. Persona Development

- Two fictional characters, Betty and Don, will be created using data from Stage 1 to facilitate understanding of views and attitudes of seniors toward their identity as drivers and how assessment games may inform that identity.

Stage 3. Usability Testing

- *Open card sort* (two separate) will be conducted on architecture of the game and feedback and reward mechanisms
- Fifteen participants (70+) in one-hour sessions

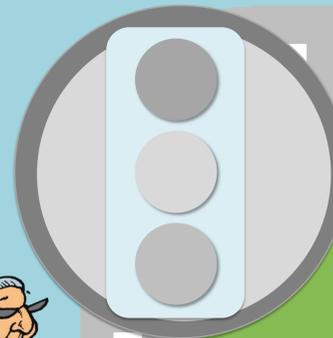
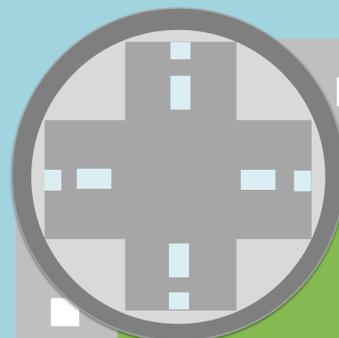
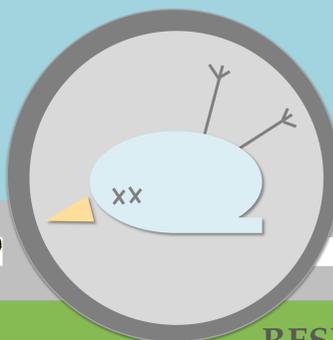
RESEARCH DESIGN

Knowledge Claim

- Advocacy approach will be employed to improve quality of life for senior drivers.
- Focus is increase seniors' self-awareness of driving skills, thereby empower them with accurate and realistic information for making decisions related to driving, driving cessation, and license renewal.

Strategies of Inquiry

- Mixed methods strategy
- Interview and involve participants in usability testing



KNOWLEDGE
MEDIA
DESIGN
INSTITUTE