Gerontechnology I

Psych 485 / CptS 485

Fall 2017
Dr. Diane J. Cook
Dr. Maureen Schmitter-Edgecombe
Nearly 45% of individuals age 85 and older are estimated to have Alzheimer’s disease.
The Field

- Interdisciplinary academic and professional field
  - Gerontology
  - Technology

- Use technology to study aging
- Design technology to provide solutions to deal with the challenges of aging
1. Understand challenges of aging

- Aging, senses, and health care
- Aging, mobility, and falls
- Aging, cognition and everyday function
- Simulation devices
- Service learning
2. Understand opportunities of technology

- Smart homes / sensors
- Smart watches / phones
- Activity recognition
- Estimote beacons
- Robot navigation / mapping
- Object detection
- Machine learning
- Augmented reality
3. Understand external research

• **Guest speakers**
  - Lorraine Evangelista, UCI Irvine, intervention compliance
  - Shelly Fritz, WSU Vancouver, clinician in the loop
  - Kathleen Insel, University of Arizona, medication monitoring
  - Keith Diaz Moore, University of Utah, design for older adults
  - Ka’imi Sinclair, WSU Spokane, interventions in rural communities / tribes
  - Matt Taylor, WSU, assistive robotics
  - Doug Weeks, STRL, rehabilitation technologies
  - Don McMahon, WSU, training adults with disabilities

• **Youtube channel: wsu serc**
• **Playlist: NIH Distinguished Speaker Series**
4. Put it into practice

• Multidisciplinary research projects
  – Grad / undergrad
  – Multidisciplinary team
  – Steps
    • IRB
    • Define hypothesis
    • Define methods
    • Recruit participants
    • Collect data
    • Analyze data
    • Poster presentation
      – Posters due 12/11 9am
      – Poster session 12/12 10am
Gerontechnology II

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Spring 2018
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Wednesdays (8:00-) 9:00-11:00 (-12:00)
EME 130
1-2. Understand challenges of aging & opportunities of technology

- Lectures
  - Mild cognitive impairment
  - Ethics
  - Aging in place
  - Compensatory strategies
  - Socialization and caregiver issues

- App design
  - Mobile health
  - Behavioral change detection
  - Audience-adapted visualization
  - Medication adherence
1-2. Understand challenges of aging & opportunities of technology

- Experience
  - Homework assignment
  - Paper presentation
  - Caregiver panel
3. Understand external research

**Guest speakers**

- **David Kutzik**, Drexel University
  - Transitioning assistive technologies to the marketplace
- **Adri Seelye**, University of Minnesota
  - Mobile health assessment and intervention
- **David Sprott**, WSU
  - Marketing
- **Tanseem Choudhury**, Cornell University
  - Mobile health technologies
- **Momotaz Begum**, University of New Hampshire
  - Assistive robotics
- **Steve Woods**, University of Houston
  - Bringing technologies into health testing
- **Troy McDaniel**, Arizona State University
  - Ubiquitous computing for rehabilitation
- **Naomi Chaytor**, WSU Spokane
  - Mobile technologies for nutrition monitoring
4. Put it into practice

- Finish off those research projects!
- Research paper
Weekly Team Meetings

- **Mondays (Johnson Tower)**
  - 9:00 Estimotes (Taite, Lisa, Cat, Chance)

- **Wednesdays (EME 130)**
  - 8:00 AL (Nathan, Mark)
  - 8:20 Clinician (Beiyu, Ali, Katie, Kylie)
  - 8:40 Assess (Mahdi, Katelyn)
  - 9:00 – 11:00 Class
  - 11:10 RAS (Nisha, Garrett, Chris)