The Design of Interactive Digital Life Histories of Individuals with Alzheimer’s Disease

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DGP Friday Talk

Alzheimer’s Disease

- Degenerative brain disease
- Diminished cognitive abilities
- Questionable causes, cure unknown
- Early, mid, and late stages
- 1/10 over 65 yrs, 1/2 over 85
- Frequency x3 by 2050

Intervention Methods

- Therapy, support, education, activities
- Few technological interventions
  - Memory Training (Savion Program, 2004)
  - Tele/Video Conferencing support groups (LoPresti et al., 2002, Marziali et al., 2002)
  - Communication Support (Alm et al., 2003)

AD Symptoms

- Memory loss
- Problems with reasoning and judgement
- Disorientation
- Difficulty learning
- Loss of language skills
- Decline in ability to perform routine tasks

Life Histories

- Stimulating reminiscence activity
- Range of benefits
- Marziali et al., 2002
  - Baycrest Centre for Geriatric Care, Toronto CA
  - Study on stimulation and sense of self
  - One participant in prelim study
  - Need more data

Current Project

- Extend Marziali to multimedia platform
- Include historic footage, new footage, photographs, music, audio, etc.
- Interactive component
- 2 participating families
- 3 researchers: Social Work, HCI, and an assistant
- 3 month study in the winter
Needs Analysis

• Ethnographic work
  • Bingo, crafts, performances, holiday activities, meals
  • Reminiscing with families and individual
• Extensive Interviews
  • With families, caregivers, social workers, recreational therapists
• Participatory brainstorming activities

Effective Communication

• Address by name
• Present simple options
• Prefer Yes/No questions (or closed ended questions)
• Common terminology
• Patience and repetition
• Use pictures/Multiple modalities
• Minimize distractions and overstimulation
• Consistency
• Physical interaction

Design Goals

• Stimulating
• Pleasant (avoid unpleasant reactions)
• Failure free
• Sustainable over time
• Minimal technical requirements
• Low cost to family
• Effective communication

Prototypes:
Storyboard, HTML, and Various DVD authoring applications

My Research Questions

• Will the AD participants interact?
• Will they understand the instructions?
• Will they learn to respond to the instructions?
• Will they understand the consequence of the interaction?
• What factors will facilitate/inhibit their interaction?
Discussion Questions

• Possible interaction instructions
  – Direct instruction
    • “Press the button if you would like to see related events.”
  – Yes/No question with instruction
    • “Did you enjoy that? Press the button if you did.”
    • “Would you like to hear more about [this]? Press…”

• Possible input methods
  – Remote control
  – Touch sensitive books
  – Fidgets