

Cell Phone Software to Aid Senior Citizens in Recalling Names

Ronald M. Baecker¹, Kent Fenwick¹, Michael Massimi¹,
Sandra Black², Elizabeth Rochon³, David Ryan²

University of Toronto¹ | Department of Computer Science and Knowledge Media Design Institute
²Sunnybrook Health Sciences Centre, ³Toronto Rehabilitation Institute



Research Framework and Design Space

What cognitive process?
Reminding, reminiscing, recognizing, communicating, ...

For whom?
Individuals with AD or MCI, "normally aging" senior citizens

Who is actually the "user"?
Person with cognitive impairment, caregiver, family member

What design approach?
User-centered design (UCD)
Participatory design (PD)
Patient-centered design

What technology to employ?
Mobile computing, ubiquitous computing, streaming media, ...

What Goals for Technology?
Diagnostic: detecting decline
Prosthetic: compensating for loss
Rehabilitative: improving cognition
Preventative: delaying decline

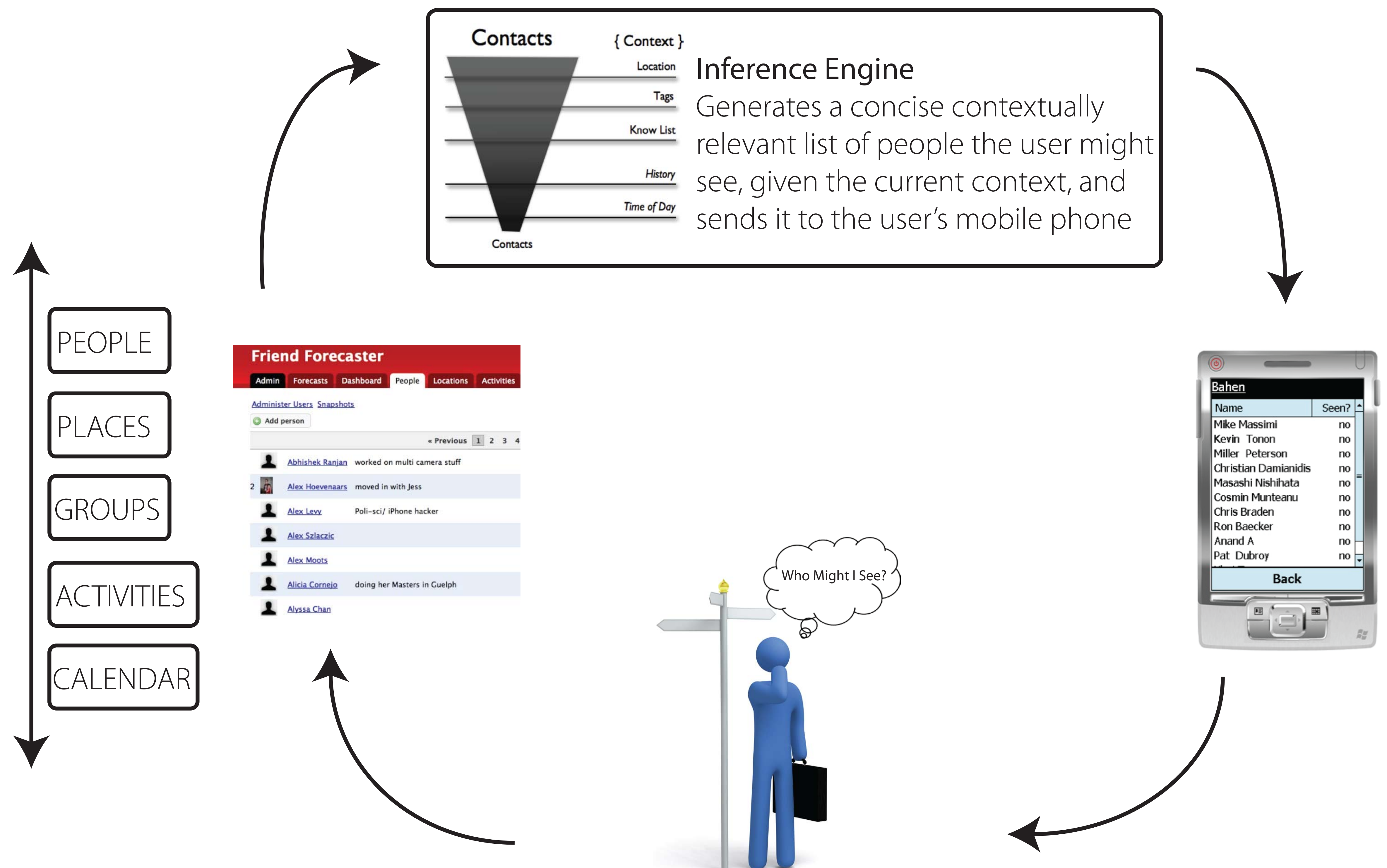
What have we learned?
"Cognitive prosthetics" are also psychosocial interventions — identity, communication, social stimulation

Other Collaborators
Drs. Adam Brickman, Thecla Damianakis, Elsa Marziali, Yaakov Stern, Joshua Steinerman, Brian Richards

Other Students and Staff
Fady Akladios, Ian Chan, Masashi Crete-Nishihata, Deb Ptak, Thariq Shhipar, Nick Shim, Karen Smith, Kevin Tonin, Mark Watson, Mike Wu

Research Supported by
Alzheimer's Association, Bell University Labs, Intel Corporation, Microsoft Research, NSERC.

For more information contact
Ron Baecker
rmb@kmdi.utoronto.ca



Challenge: Recalling names
Technology: Mobile phones with location-sensing inference engine – elicit social network, use tags to compute a list of people most likely to be encountered by the user
Participants: "Normally aging seniors" and MCI patients

Conjectured Outcomes: Improved ability to recall names, more confidence in one's abilities in social situations
Extension: Forecast words and other information other than names
Sponsor: Bell University Labs and NSERC

Other Related Research Projects

Multimedia Biographies

DVDs for 6 AD and 6 MCI patients + family members
Outcomes: Engagement, reminiscing, enjoyment, family interaction, legacy for family, increased caregiver understanding/empathy
Results at Marziali Poster 1275 (Wednesday)

Re-experiencing with SenseCam

For patients with AD or MCI:
1) Image streams from Microsoft SenseCam vs.
2) Authored slide shows
Conjectured Outcomes:
1) Improved ability to recall personal experiences,
2) More family interactions
In Progress

Cognitive Gaming Website

Cognitive/social stimulation via competitive/collaborative gaming for normally aging seniors, and a research tool for mental fitness studies
Conjectured Outcomes: Increased cognitive reserve, and social stimulation
New Project!

Tech for Isolated Individuals

Social TV with text and voice communications
Seniors living alone, home-bound caregivers, patients in long hospitalized stays
Conjectured Outcomes: Increased social interaction, decreased loneliness
New Project!