Today's topics

- Future: Lifelogging
- Memory and Emotion
- MOOCs and study tools

Future

- What if we could automatically save records of:
  - Every bit of information we touch?
  - Every event we experience?
  - Our reactions to those events?
  - > Facebook Timeline applied to everything
- How could this technology help people?
- What are the problems it raises?
- Not touch on ethics

New applications

- Facebook timeline replayed
- New apps that present our past back to us
- Timehop, MemoLane, MorningPics
The Lifelogging Vision (Bell and Gemmell, 2009)

- Never miss a thing
- A *complete and accurate digital record*
- Contrast to *fallible* organic memory (OM)

What it might look like…

SenseCam study (Kalnikaite, Whittaker et al., 2010)

Research Questions

- Does SenseCam help recall?
- *How* does it help?
  - More events, more details, reconstruct or authentically recall?
- Does user interface affect recall?
- Affective reactions, habit detection at recall
What we did

- 18 participants wore SenseCam and GPS for 2 weeks
- 5 weeks later, test recall

Recall Interfaces

Questions

- Recall: What did you do, where did you go and who did you meet on (e.g. Monday morning Dec. 16th?)
- Reconstruction rating
  - Remember = ‘see in my mind’s eye’
  - Know = ‘I must have done x’
  - Guess = ‘unsure but maybe I did x’
- Emotions, habits

Recall?

- You get as long as you like to look at your Lifelog
- How many events will you be able to recall?
Recall?

- # of events
- Event = class, driving kids to school, going out to lunch, shopping, having a meeting, visiting the gym

- Details of events: place, people, topics – had lunch with Jack and Jill

Recall (# of events)

Replicates Sellen et al., 07

Recalling Details (# event attributes)

"I found SenseCam pictures really useful for those small micro events that happened over these days..."

Authentic Recall vs. Inference

"[Snaps] usually made me remember. [SnapTracks and Tracks] made me figure out something must have happened in a particular way e.g. I must have gone home by taxi."
Sensecam summary
- Rich information doesn’t guarantee ‘total recall’
- Reconstructive (Schacter, 1996)
- Different types of lifelogs have different effects

An application of lifelogging to help emotional well-being
- Sign-up sheet
- Name, email, smartphone

Laws of Emotion and Memory: Accentuate the Positive
- Positivity bias (Walker et al. 2003)
  - Remember 2X more positive than negative events
- Fading affect bias (FAB)
  - Emotional strength drops over time
  - Negative drop faster
- Rosy view (Mitchell et al. ‘97)
  - Remember past more positively than at the time
- Memory - inaccurate but adaptive?

Recording in the Moment
Recording: Registering and evaluating events in the present
- Increases perceived well-being (Ko, 2009)
- Two ways that recording could succeed:
  - Savoring the Positive: Enhanced awareness and emotional intensity of positive aspects of life. (Jose et al., 2012)
  - Disclosing the Negative: Labeling events and emotions imposes an organization & understanding of the negative. (Pennebaker, 1997)
  - Better understanding reduces emotional intensity.
Reflection: What is it?

Reflection: Process of mentally reviewing our memories of past positive and negative experiences.

Reflecting on the Positive Past

- Increased enjoyment of life (Bryant et al., 2005)
- Subjective happiness (Lyubomirsky et al., 2005, Seligman et al., 2005)
- Positive affect (often invoked as a response to loneliness) (Wildschut et al., 2006).

Nostalgia: A ‘vacation from the Present’ Escapism

Reflecting on the Negative Past

- Meta-analysis (13 studies) revealed high effect sizes of well-being (Smyth, 1998)
- Emotional writing paradigm:
  - Pennebaker & Beall (1986)
  - Writing about past traumas transforms how people felt about those traumas.

Over 200 studies show physical and psychological benefits:

- Reduced medical visits, improved immune response
- Better grades, reemployment, reduced absenteeism
- Increased subjective well-being etc.
- Increased working memory

Exact mechanism unknown

Theories:

- Redemption Narrative: Contrasts current feelings about past situations with their past feelings about those situations. (Wildschut, 2006)
- Allows people to distance themselves from traumas (Pennebaker, 2004)
- Resolve past conflicts (Butler 1963)
Research Questions

1. Does TMR improve emotional well-being?
2. If so, through what mechanisms?

TMR study

Records (16)

Reflecters (17)

Start

1 month

Finish

Measure
Well-Being

Record

Record + Reflect

Measure
Well-Being

Collect logs

Exit interview

Well-Being Scales
1. Subjective Happiness Scale (Lyubomirsky)
2. Satisfaction With Life Scale (Deiner)
3. Psychological General Well-Being Scale (Dupuy)
4. Mindfulness (Brown & Ryan)

Predictions

1. Increased well-being for both groups
2. Greater benefit of reflecting over recording
April 1, 2009

Initial posts

Recorders analyze, discuss relationships

Emotional Well-being

LIWC Analysis of Word Content

Recorders

Initial posts

Relationships

Reflecters

Initial posts

Actions (verbs)

Drawing lessons for future (should, can, gonna) (present, future tenses)

Happiness: 3

I don’t understand men. I don’t know what they want. If I’m being honest, then I hurt their feelings. If I’m being nice, they take me for granted. If I try to be adaptive, they think I’m flakey. Maybe I’m just hard to get along with. Whatever. There is nothing wrong with me.
Reflecters learn lessons from negative experiences

Reflecters learn lessons from positive experiences

Two Mechanisms

Recorders: Analyzed their life, especially relationships, drawing lessons in the moment.

Reflecters: Reported on their activities in initial posts, but later drew lessons when they had perspective (both from positive and negative events).
Benefit of TMR

“I think it improved my well-being because it sort of forced me to think of these negative things as problems to be solved, revisit them, and think of them as a continuing process rather than some isolated, negative event. It was sort of empowering.”