

Designing a Touch-Screen SenseCam Browser to Support an Aging Population

Niamh Caprani, Aiden R. Doherty, Hyowon Lee, Alan F. Smeaton, Noel E. O'Connor & Cathal Gurrin



CLARITY: Centre for Sensor Web Technologies, Dublin City University, Ireland



Fig 1. Microsoft SenseCam

SenseCam & Reviewing the Day

SenseCam is a passively capturing wearable camera, worn via a lanyard around the neck, and takes an average of almost 5,000 images per day.

Stages of Browser Development

1. An **evaluation** of two existing SenseCam browsers
2. The **design** of a new SenseCam browser
3. The **evaluation of the new SenseCam browser** through a longitudinal field study with older users

Evaluating Existing SenseCam Browsers

Three older participants evaluated two existing SenseCam browsers:

1. Microsoft SenseCam browser

Suggested design:

Physical Characteristics

- Touch-screen device with large target buttons
- Increased text and image size, high colour contrast

Navigation

- No scrolling required, instructions provided for every task
- Images viewed as continuous slideshow at moderate speed

Information Organisation

- Consistent design and layout
- Information of images and events displayed clearly

Conceptual

- Language is generalized for novice computer users
- Feedback provided through highlighting & auditory tone



Fig 2. DCU event segmentation browser



Fig 3. Microsoft SenseCam browser



Fig 4. Our Touch-screen SenseCam browser

Evaluation of Browser

We placed a touch-screen computer with the installed application in the homes of **3 non-computer literate older participants** for **2 weeks**. Participants were asked to:

- Wear the SenseCam everyday
- Upload their photos

Measures

- Pre-trial questionnaire
- Automatic recoding of user's interactions
- Post-trial questionnaire

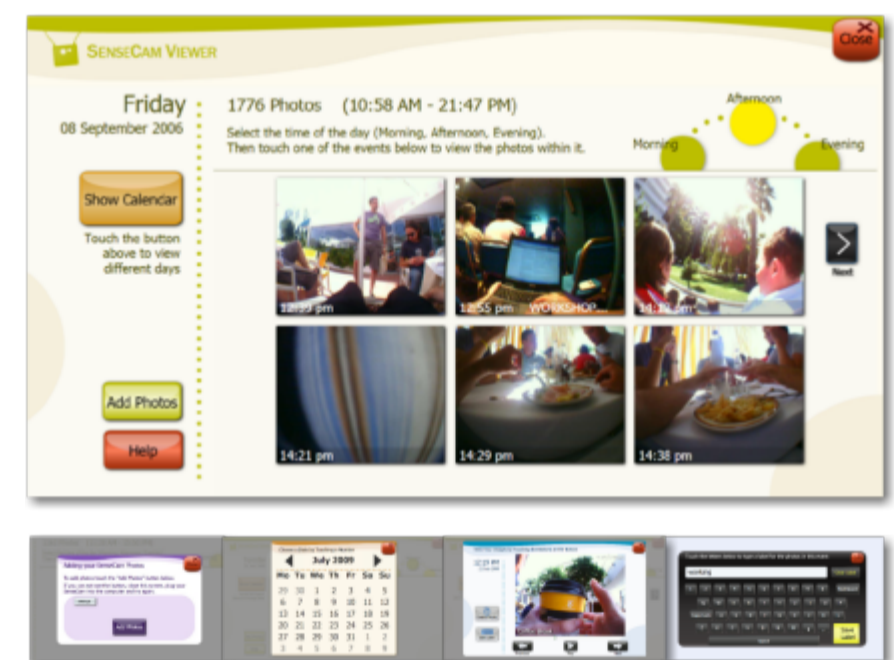


Fig 5. The main screen of our browser with thumbnails of additional screens

Findings from the Evaluation

Participants accessed the browser at least **once a day** and spent **15 minutes to 1 hour** interacting with it, altogether collecting **5 weeks** worth of SenseCam data, corresponding to **27, 212 images**. Findings included:

- Participants enjoyed the **novel experience** of reviewing their day
- Participants developed a **pattern of use**
- Our participants found the browser to be **easy to use**, to view their images and interact with various features of the browser
- The **confidence** of our participants towards the technology increased

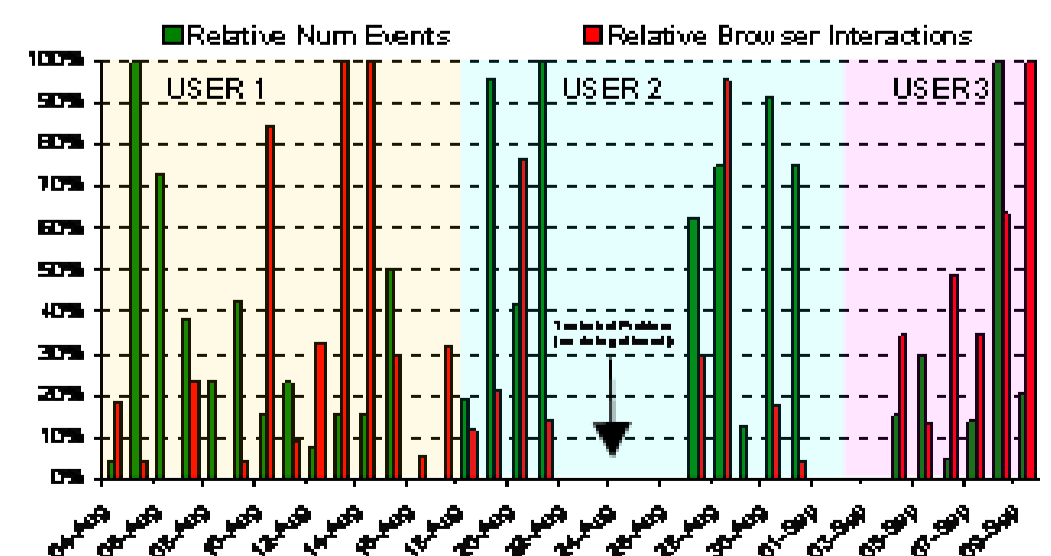


Fig 6. Usage patterns of the SenseCam and our browser by study participants