

# THE iCLIPS ALBUM —

## BROWSING A LIFE-TIME SENSECAM ARCHIVE USING ASSOCIATIVE EPISODIC CONTEXT

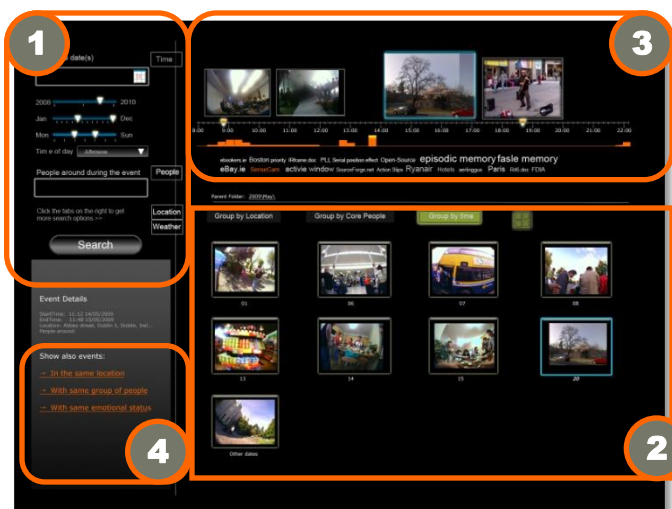
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The **iCLIPS** project focuses on combining content and contextual data to retrieve useful information from personal lifelogs by utilizing what people may remember.

The **iCLIPS Album** application enables users to search and browse SenseCam photos from personal lifelogs. It is designed to cater for *human memory* features and *personal information management (PIM) habits*. It not only assists users in finding what they are actively looking for with less effort, but also *recommends* potentially interesting related events.

### LIFELOGS - OUR DATA COLLECTION

- SenseCam images, digital photos
- Location - GPS
- Surrounding people - Bluetooth
- Personal emails, SMS, and other accessed (encountered) information on computers (e.g. documents, web pages)



### 1. SEARCH WITH REMEMBERED CONTEXT

- This panel initially displays only the search fields which have been recently used most frequently.
  - avoids information overload and the effort required to browse to the desired search fields.
- The remaining search fields are hidden, but a tab for these field remains easily visible
  - provides some cues, to remind users - "Ah, yes, I can remember this".

#### Current search options include:

- **Time:** consecutive & non consecutive periods
  - we don't always remember time in a hierarchical way
- **People:** suggestion of names of people who occurred frequently during the above defined period (if period is not given, it will suggest recently used names)
- **Location:** as for People above
- **Others:** Weather, and to be expanded.

### 4. FIND RELATED EVENTS

- Same location
- Similar group of people
- Similar emotional status [ref: study 1]

#### Preliminary User Studies

1. Participant group of 3 life loggers free recalled the last year's significant events and reported the relation between each event and its previous one. To some extent, this indicates what people may want to see next.
2. The participants rated the distinctiveness, personal effort on each event, and also reported other reasons that make them feel an event to be important, and the features that make it distinctive.
3. Three groups of events were selected based on GSR (max, average, min). The participants rated the importance of the events 9 months after data collection.

### 3. PREVIEWING HIGH LEVEL FOLDERS

To help them decide which folder to navigate into, users can click the folder and preview its key contents on the top panel, where the representative memory cues are given:

- Key images representing important events in the folder
- Keywords extracted from personal emails, SMS, and other sources of accessed digital textual information (e.g. documents, tweets)

**Keyframes:** selected based on content, SenseCam sensor

**important events :** selected based on a combined score:

- Galvanic Skin Response (GSR) [ref: study 3]
- Distinctiveness and Novelty of events, including an event's:
  - Location
  - People present
- Personal efforts involved [ref: study 2]

❖ More important (with higher score) events/items are displayed in bigger size (images or texts)

❖ Frequency Bars indicates frequency of given keywords

### 2. BROWSING RESULTS

#### - Navigating through Hierarchical Folders

**PIM studies:** People tend to use orienteering approach, navigating through hierarchically structured folders until they reach the target location.

#### Hierarchical Structure:

Photos— Low level events (short time, consecutive)---- Group (Folders) of events, structured like in autobiographical memory

#### Events Grouping Options:

**Time:** day→ month →year

(folders are named after the name of the dates, months and years, e.g. under the folder named 2009, there may be folders named "Jan" if there are results falling into this month in 2009)
 

- Reviewing lifelogs in this way may also reinforce a user's memory about an event's date and time

**Location:** street name→ city→country.

Due to the inaccuracy of geo-location (around 1 km), there are overlaps at street level, one event can exist in two 'street level folders'. (Folders are named after the location, e.g. name of the city, name of the street)

**People:** the core people appearing in an event; there will also be duplicated events in different folders. (Folders are named after the core people)

These folders may also contain events people have forgotten about, but they might be interested in seeing again, e.g. if they want to see other events that happened in this place.