LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN

LFE Medieninformatik ● Silvia Peter

Project Thesis

TravelDiary: Route-based Organization and Browsing of Personal Travel Photo Collections
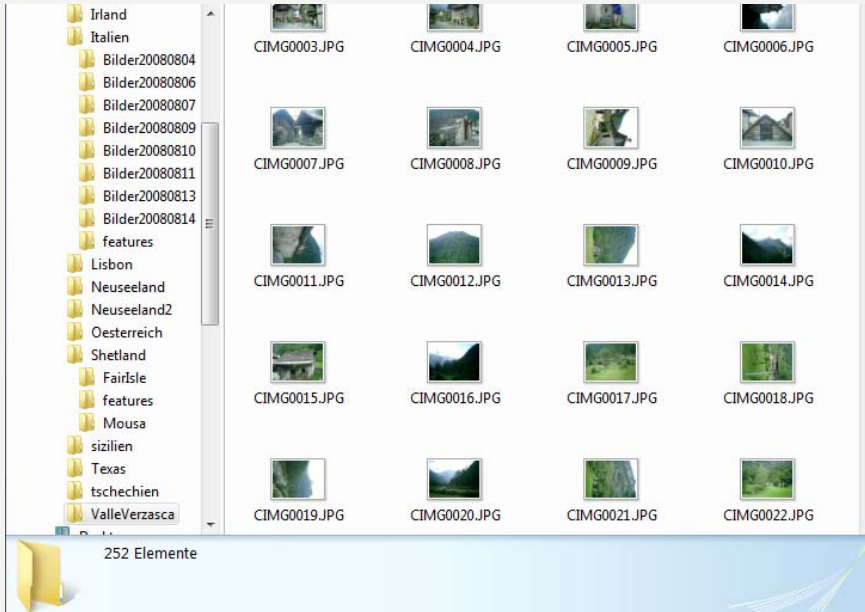
09.06.2009

Contents

- Introduction ⬅
- Related Work
- Implementation
- Evaluation
- Conclusion and Future Work

Motivation

Folder structure in Windows Explorer

Map with pins

Existing Systems

iPhoto [1]

Picasa [2]

Contents

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Related Work

- Prototypes for event-based organization
  - TimeQuilt [3]
  - PhotoTOC [4]
- Prototyp for organization based on GPS-information
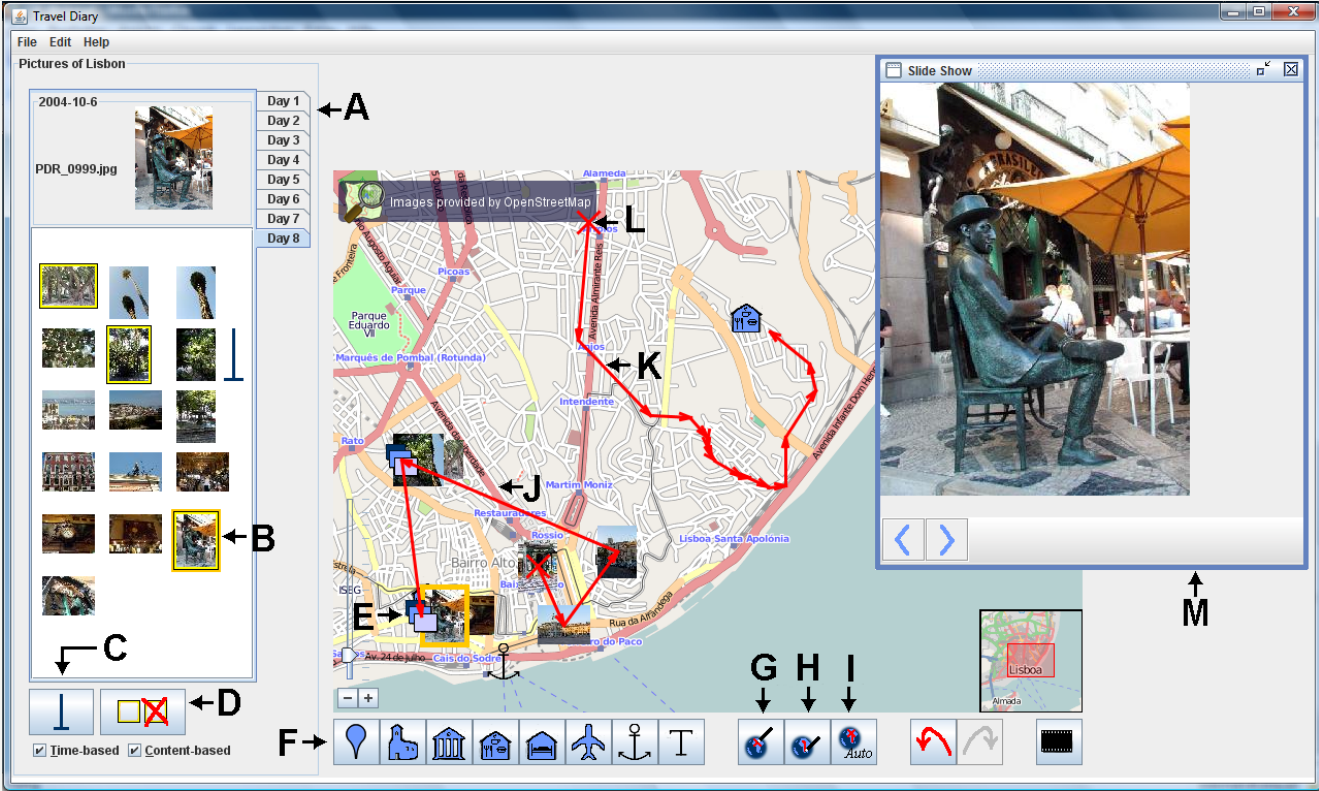 - PhotoCompas [5]

Contents

- Introduction
- Related Work
- TravelDiary ⬅
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- Conclusion and Future Work

Design Concepts

- Chronological structure
- Route-based representation
- Automatic organization + manual override

User Interface

TravelDiary's user interface

Contents

- Introduction
- Related Work
- TravelDiary
- Evaluation ⬅
- Conclusion and Future Work

Settings and Procedure

- 12 Participants
- Pre-questionnaire, Interview, Post-questionnaire
- Comparative study between Picasa and TravelDiary
- 4 tasks
    - Create an album for one trip
    - Reorganize photos in this album
    - Build this trip on the map
    - Storytelling of this trip based on the created map
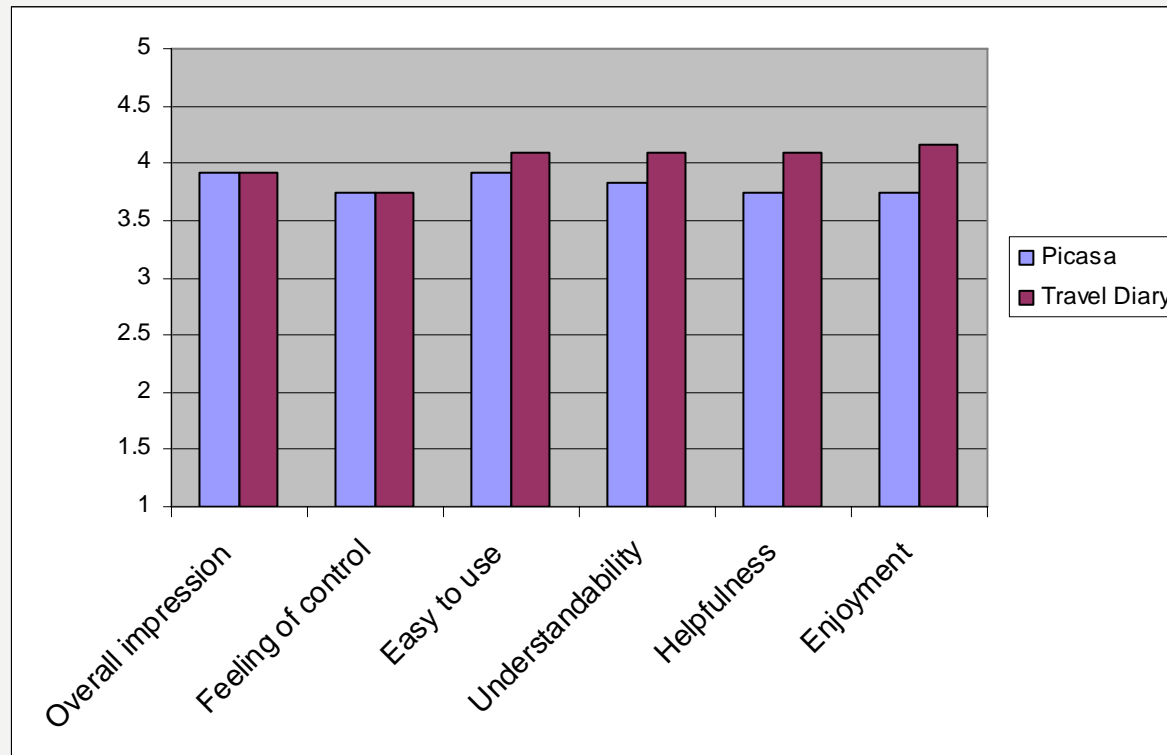- Think-Aloud protocol, record of screen activities

Results

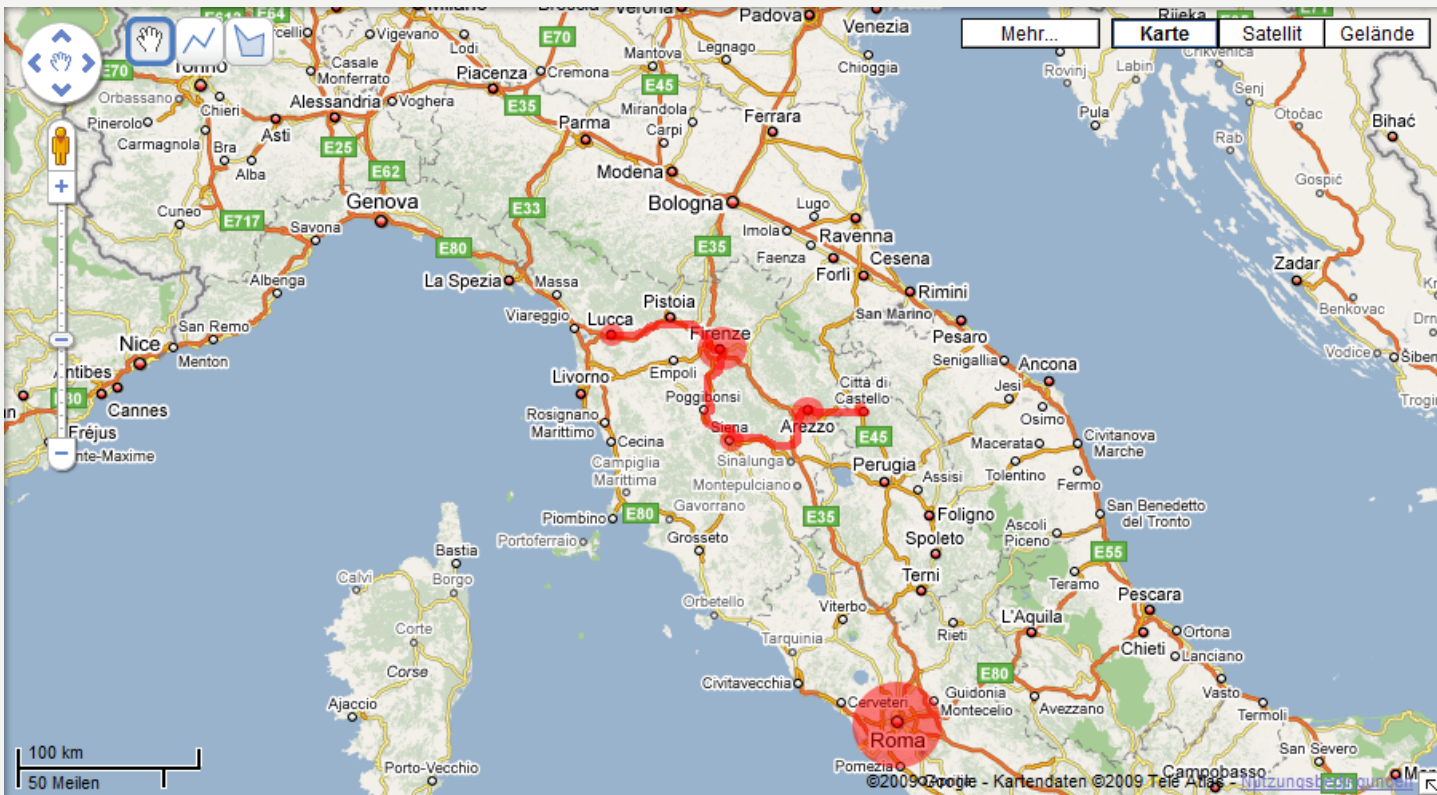| Task	Functionality		Picasa	Travel Diary
1	Create new album		3.58	4.42
	Indicate location of album		4.83	2.41
2	Reordering of photos		2.75	/
	Photos grouped in different days		/	4.67
	Photos in each day grouped in event-clusters		/	3.67
	Merge/split cluster		/	3.42
	Select/deselect RP photos		/	3.75
3	Single photo on the map	Add	4.67	4.91
		Move	4.67	5.00
		Delete	3.92	4.85
	Batch of photos on the map	Add	4.58	4.42
		Display	2.25	3.92
		Move	/	4.67
		Delete	/	4.67
4	Storytelling		3.80	4.50
	Slideshow		2.75	4.30

Average scores for
the main functionalities

Results

Overall impression of the two systems

Implications

Map in country level
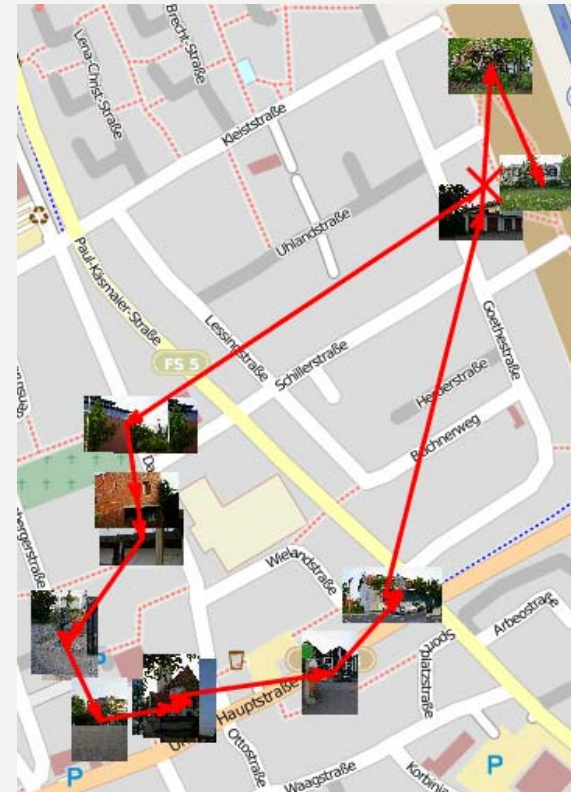
Implications

Clutter problem with many photos

Implications

Manually created route

Automatically created route

Contents

- Introduction
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- TravelDiary
- Evaluation
- Conclusion and Future Work ⬅

TravelDiary

Route-based Organization and Browsing of Personal Travel Photo Collections

Future Work

- User-centered design
  - Investigate users' practical requirements
  - Paperprototyping
  - Test and redefine
  - …

References

- [1] iPhoto: http://www.apple.com/ilife/iphoto/ (08.06.2009)

- [2] Picasa: http://picasaweb.google.com (08.06.2009)

- [3] Huynh, D., Drucker, S., Baudisch, p., Wong, C. Time quilt: Scaling up Zoomable Photo Browsers for Large, Unstructured Photo Collections. SIGCHI conference on Human factors in computing systems (Prtland, Oregon, USA). CHI '05.

- [4] Platt, J., Czerwinski, M., Field, B. PhotoTOC: Automatic Clustering for Browsing Personal Photographs. Microsoft Research Technical Report MSR-TR-2002-17, 2002.

- [5] Naaman M., Song Y.J., Paepcke A., Garcia-Molina H. Automatic organization for digital photographs with geo-graphic coordinates. Proc. of the 2nd ACM/IEEE-CS joint conference on Digital libraries (Portland, Oregon, USA). JCDL '02.

Thank you for your attention!
Any questions?

Implementation

- Supporting tools
  - Piccolo framework
  - JXMapViewer
  - OpenStreetMap
- Underlying algorithms
  - Event detection:

$$\log(g_N) \geq K + \frac{1}{2d+1} \sum_{i=-d}^{d} \log(g_{N+i})$$

  - Representative photo selection