Personal Photo Browser that can Classify Photos by Participants and Situations
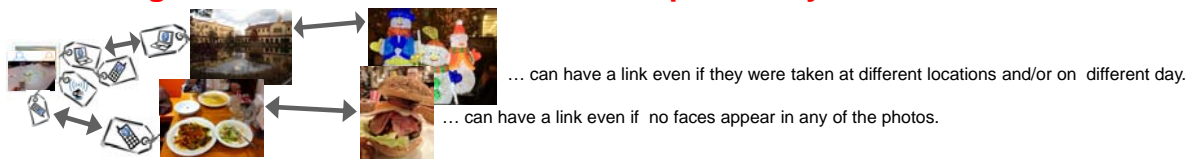
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Our idea

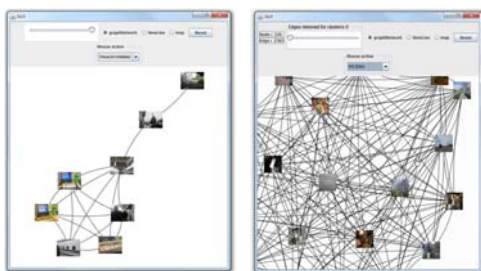**1.   Tags each photo with Bluetooth device-IDs detected around the moment when it was taken.**

…the tag reflects the "context".

2.   Links photos whose tags have intersection and clusters photos by context.

… can have a link even if they were taken at different locations and/or on different day.

… can have a link even if no faces appear in any of the photos.

3.   The user browses in her photo archive by switching among three view modes and retrieves/finds photo(s) by exploring cluster tree(s) and/or cluster(s) on a map or a timeline.
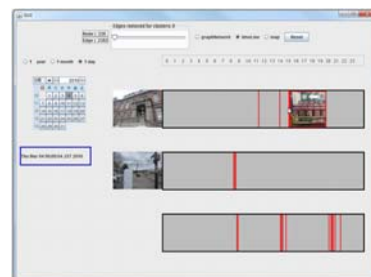
Three Views

Graph Network View

◆Layered cluster tree built by applying multiple "betweeness" threshold of the Girvan-Newman algorithm.
◆Each thumbnail is the representative image of a cluster chosen by applying the PageRank algorithm (left).
◆Jump into a more detailed layer by clicking a thumbnail.
◆Each thumbnail corresponds to a photo at the bottom layer (right).

Map View

◆Layouts the cluster selected in Graph Network View on a map.
◆Each thumbnail/photo is settled on the location where it was taken.

Timeline View

◆Layouts photos of the selected period of time, i.e., year, month, week, or day.
◆Layouts photos in either of the whole archive or the selected cluster in order of their timestamps.
◆Displays a thumbnail by moving the mouse cursor over a red line.

Discussions

Need to incorporate Wi-Fi detection information

Wireless devices and photos pooled by a subject

Year	Bluetooth ID		Wi-Fi ID		
	# unique	# record	# unique	# record	# photo
2009 (Apr.-)	34,604	1,078,067	8,523	838,951	4,563
2010	34,063	1,325,123	33,659	2,878,434	6,125
2011	17,356	1,386,228	39,771	1,587,977	7,743

Increasing: tethering / pocket Wi-Fi?

Drastically decreasing!: security?

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