

Collected Posters from the Nectar Annual General Meeting

Greenberg, S., Brush, A.J., Carpendale, S.. Diaz-Marion, R., Elliot, K., Gutwin, C., McEwan, G., Neustaedter, C., Nunes, M., Smale,S. and Tee, K. (2007)

Cite as:

Greenberg, S., Brush, A.J., Carpendale, S.. Diaz-Marion, R., Elliot, K., Gutwin, C., McEwan, G., Neustaedter, C., Nunes, M., Smale,S. and Tee, K. (2007)
Grouplab Nectar Posters. Research report 2007-887-39, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada T2N 1N4

This report collects eight posters produced by students and associates of the Grouplab Research Group (Dept. Computer Science, University of Calgary) for the NSERC Nectar Annual General Meeting, held after the ACM CSCW Conference in November, 2006, Banff.

1. Diaz-Marino, R. and Greenberg, S.
Cambience: Constructing a Sonic Ecology for Media Spaces
2. Elliot, K., Neustaedter, C. and Greenberg, S.
The Value of Contextual Locations in the Home
3. Marquardt, N. and Greenberg, S.
Shared Phidgets: A developer's toolkit for rapid prototyping of distributed tangible user interfaces
4. McEwan, G. and Greenberg, S.
Community Bar
5. Neustaedter, C., Brush, A.J. and Greenberg, S.
LINC: A Digital Family Calendar
6. Nunes, M., Greenberg, S. Carpendale, S. and Gutwin, C.
Timeline: Video Traces for Awareness
7. Smale,S. and Greenberg, S.
Transient Life: Collecting and Sharing Personal Information
8. Tee, K., Greenberg, S. and Gutwin, C.
Screen Sharing with Community Bar

Constructing a Sonic Ecology for Media Spaces



Local Camera
Captures a Nearby Scene



Monitoring Regions
Drawn over Camera Image



Change Detection
Performed on Camera Scene



Visual Programming
Using Input from Regions



Audio Properties
Mapped from Visual Input



Local Speakers
Output a Sonic Ecology



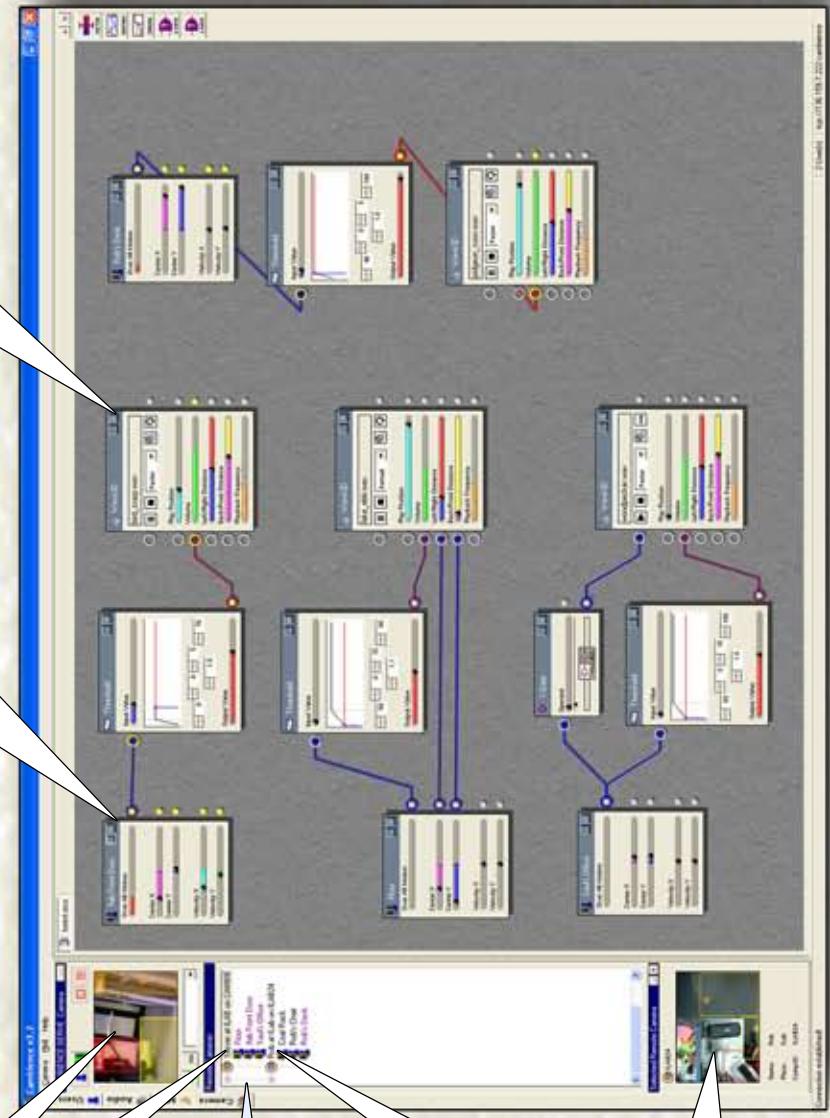
Multiple Instances of Cambience

Multiple instances of Cambience can be connected to share their regions. The **Region Pool** shows all local and remote regions that can be used in the Visual Programming Environment.

Remote Cameras
Capture Remote Scenes



Remote Regions
Broadcast Change Measurements



A Sonic Ecology is produced by mixing sounds together. The change measurements from regions can be used to affect the playback and properties of the sounds. Alterations in the sound gives an awareness of visual change.



Download Cambience and the Cambience SFX Library at
<http://grouplab.cpsc.ucalgary.ca/cookbook>

Rob Diaz-Marino and Saul Greenberg
University of Calgary, Canada
robertod@cpsc.ucalgary.ca, saul@cpsc.ucalgary.ca



The Value of Contextual Locations in the Home

Kathryn Elliot, Carman Neustaedter & Saul Greenberg, University of Calgary
elliottk@cpsc.ucalgary.ca, carman@cpsc.ucalgary.ca & saul.greenberg@ucalgary.ca

Every home has a set of locations that people use for information management. In fact, the location of a message provides household members with contextual information about it. This meta-data includes **time**, **ownership** and **awareness** information. These **Contextual Locations** establish their meaning over time through knowledge of routines, household traffic patterns and their proximity to technology.



Public Spaces



Responsibility



Personal Spaces

Contextual Locations allow information to be seen at the right time, whether it is urgent, important right now, old, new or stored. Locations also help people establish ownership over information, to know whether it is public, personal or private. This ownership may vary over time with the usage of space. It also implies responsibility for any actions to be taken on that message. Finally, locations help household members maintain awareness of each others' presence and activities, and even help them subtly monitor each other, ensuring that the household functions smoothly.



Monitoring



Owner Variation



Presence



Visit <http://grouplab.cpsc.ucalgary.ca>



Dynamics



Visibility + Privacy



Private Spaces

Space in the home is interwoven with time, ownership and awareness

Shared Phidgets

Nicolai Marquardt and Saul Greenberg

University of Calgary, Canada

nmarquar@cpsc.ucalgary.ca, saul.greenberg@ucalgary.ca

A developers' toolkit for rapid prototyping of distributed tangible user interfaces.



1 Introduction: What are Phidgets?

Phidgets are hardware building blocks to create tangible interfaces:



They can for example ...

... provide buttons/sliders for interaction



Servo Motor



RFID Reader



Text Display

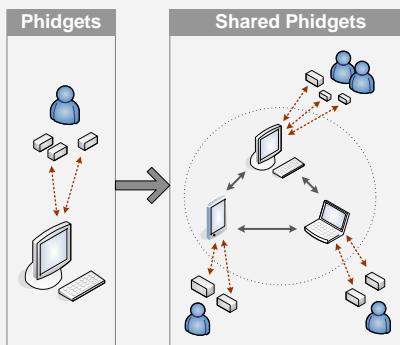
... identify objects

... display messages

2 Motivation: Why do we need this toolkit?

The objective:

Build interactive systems that involve multiple locations and various input/output devices



The problems:

- Access to hardware very difficult
- Network programming is a pain
- Synchronizing software and hardware
- Often difficult to get overview of devices

3 Solution: What does *Shared Phidgets* provide?

Easy to use API

Manages all networking aspects

Custom 'abstract devices'

Graphical 'skins'

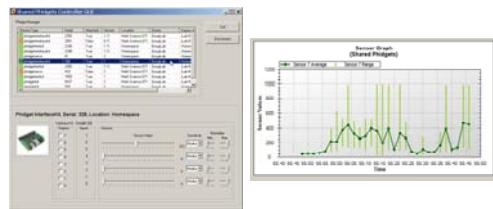
Observer and control tools

Metadata

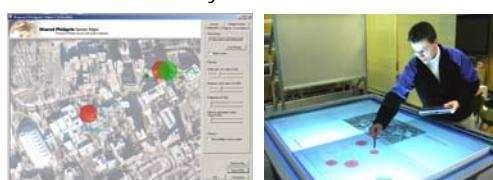
Many different sensors and actuators

5 Tools

Device Explorer: See all connected devices, control them, and simulate devices



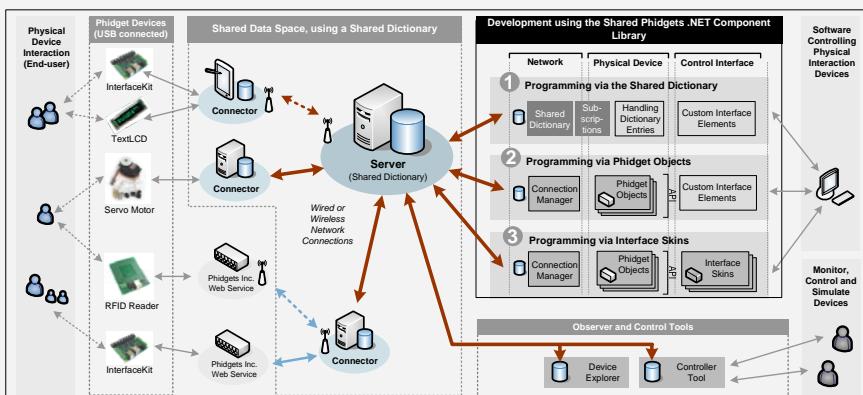
Sensor Maps: Visualization of all devices and sensors around you



Mobile Explorer: Use your TabletPC to explore embedded devices in the environment



4 Implementation: How does it work?



6 Summary

"The Shared Phidgets toolkit makes it very easy to develop distributed physical and tangible user interfaces."

Download and Tutorials:

<http://grouplab.cpsc.ucalgary.ca/cookbook>

Community Bar

Gregor McEwan and Saul Greenberg

Peripheral display of **awareness**
information with quick and easy
transition to **interaction**.

Ad hoc Groups

Create new groups using a single text entry.

Join and Leave groups using the checkboxes

Invite other people to your new group

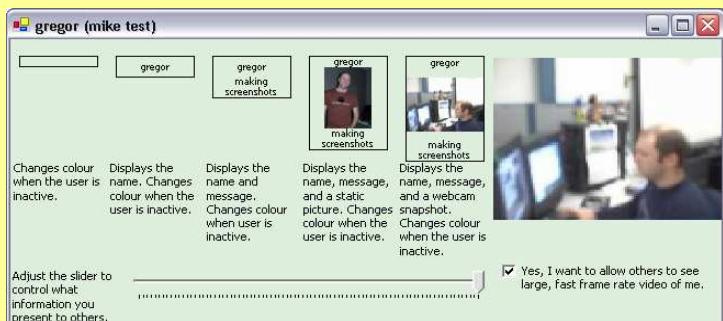
Focus control

Each person can control how they view items within the Community Bar



Presence control

Each person can control how others can view them within each Place

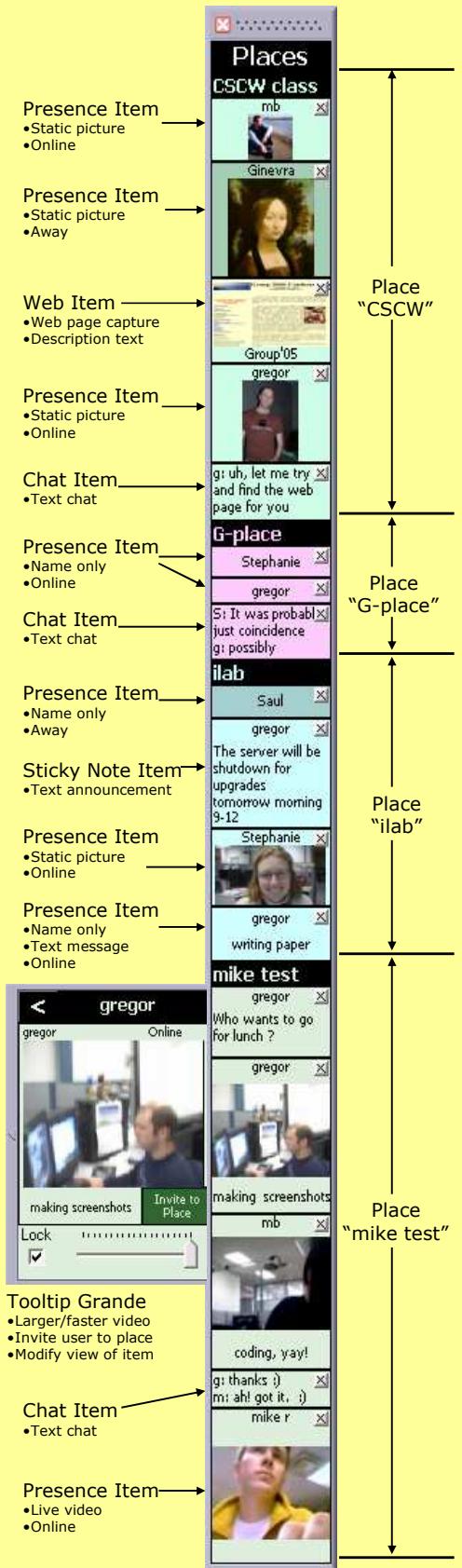


Lightweight transition from awareness to interaction

In the bar

Tooltip Grande

Full view in separate window



Download and use Community Bar!
grouplab.cpsc.ucalgary.ca/cookbook/

LINC: A Digital Family Calendar

Carman Neustaedter¹, A.J. Brush², and Saul Greenberg¹

1: University of Calgary, Canada, and 2: Microsoft Research, USA

carman@cpsc.ucalgary.ca, ajbrush@microsoft.com, saul.greenberg@ucalgary.ca

A digital calendar that is as easy to use as a paper calendar and available where families need it: home, work, or on the go.

New Events

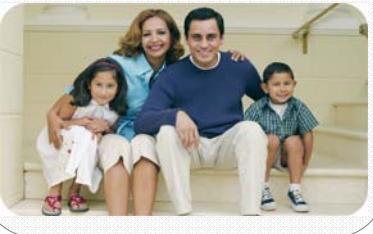
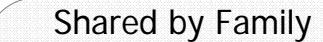
Changes
Moved Laundry from 2/17/2006 at 1:19 PM more

Messages
Jeff - Brush Your Teeth!

Online: synchronized at 1:15 PM

Month Day February 2006 Today

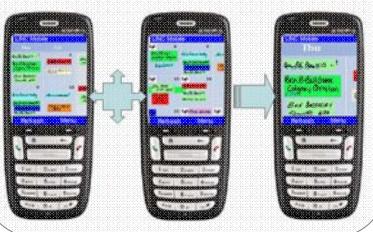
Sun	Mon	Tue	Wed	Thu	Fri	Sat
Jan 29	30	31	1	2	3	4
10:15 WarmUp 11:00 Services	Laundry 1:00 Donates 2:00 Staples copies	7:00 Jason Basketball	call Mom Group Photo Day	5:00 CIW meg bells	10:00 Hair Cut 9:00 Walk w/ Monica	10:30 Team Photos 9:30 Aaron's birthday
15 16 17 18 19 20 21	22 23 24 25 26 27 28	29 30 31				
5	6 8:30 Jason Faces 11:30 Health Room 3:15 Book Sale Meeting	9:00 CIW Son Basketball	9:00 Walk w/ Monica	6:30pm AJ	10:30 PTA 6: Laundry	11:30am Jason Basketball
	FrostCakes		7:00 Homeowners Meeting		11:30pm AJ 4:30pm 30	11:30pm AJ 4:30pm 30
12	9:00 Bake Cookies Handbell Plant Sale Begins	Laundry 2:00 Class Parties	6:00 Handbells	CIW	13	14
	Jason + Jeff Series Game	9:00 Pickup General mail	7:00 Jason Basketball	10:30 Treats to A Class	Laundry	15
		6:10 GNO-movie	10:30 Handbells	10:30 Treats to A Class	16	17
19	18 Duane's Birthday	9:00 Trevor 3:30 CIW 2:00 Kids to MR Break! 6:30 AJ	9:00 Jeff Dental Apppt	10:30 Reading Recs	17	18
		11:30 WarmUp 8:30 Services	10:30 Book Fair	10:30 Reading Recs	Laundry	19
26	27	28	29	CIW	20:30 Baseball game	20
		7:30 PTA Board Mtg	3:30 Book Fair	3:30 Book Fair	7:00 Party for Judy	21
5	6	7	8	9	10	22
		Rockwell McDonalds	Book Re-pairs DUE	4:30 Baseball Practice	No School!	
		4:00 Food Security Pym	6:00 Handbells	4:30 Baseball Practice	10:30 Baseball Practice	
		5:30 CIW-Tours		5:30 CIW-Tour	10:30 Baseball Practice	



Always-on and Inkable



Mobile Access



Design: LINC was designed using a participatory design process involving twenty primary schedulers. Design stages included: low-fidelity paper prototype design sessions, the design of a medium-fidelity digital prototype, and a formative evaluation. Findings guided the design of a high-fidelity prototype of LINC.

Evaluation: Four families were given LINC running on a slate tablet for our month long field study. All adopted LINC and used it extensively as their primary family calendar. They valued the portability of the tablet, the ability to access their calendar from multiple locations, and the ease in which they could personalize their calendar with ink and color.



Microsoft®
Research

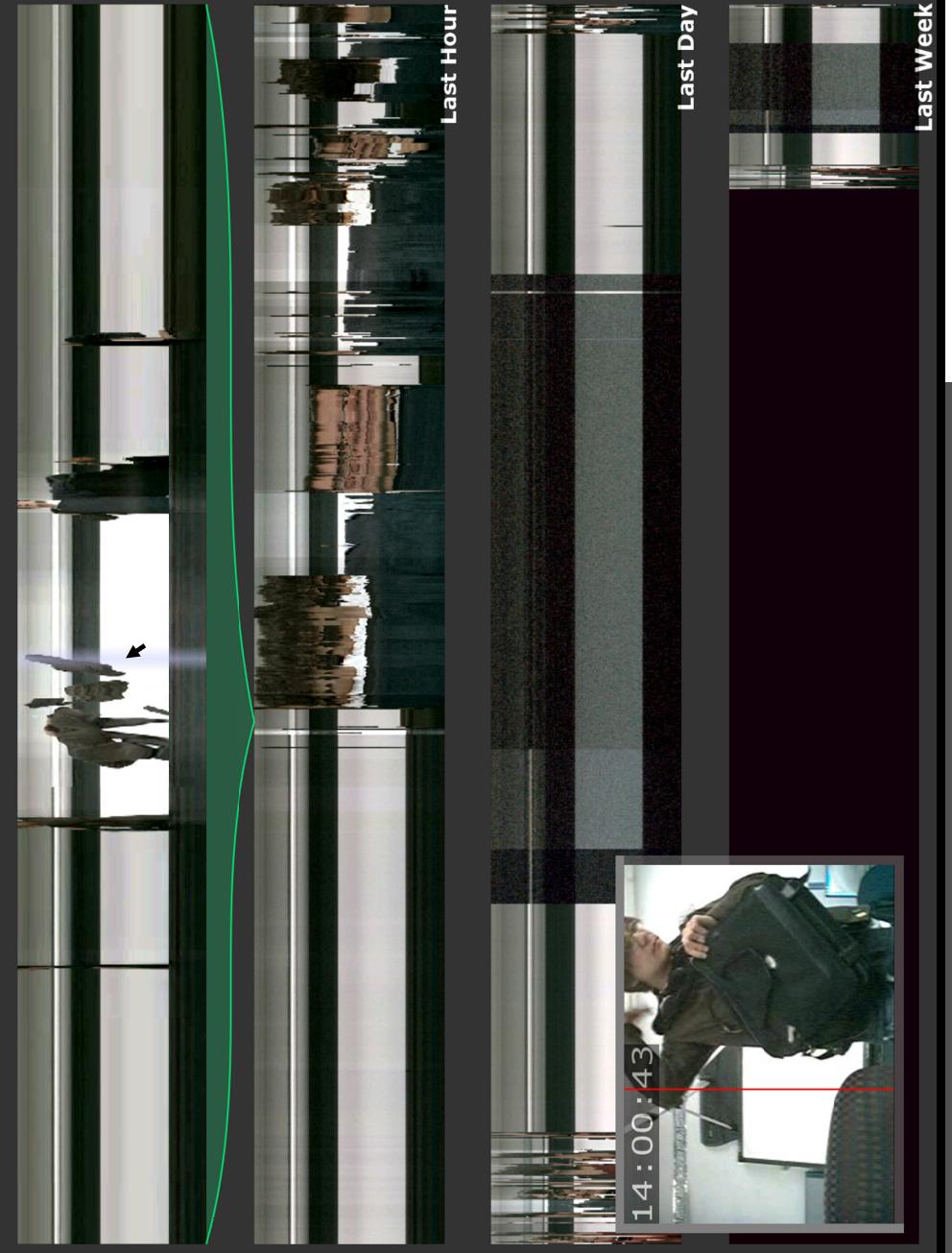
Timeline: Video Traces for Awareness

Michael N. Nunes¹, Saul Greenberg¹, Sheelagh Carpendale¹, Carl Gutwin²

¹ University of Calgary, ² University of Saskatchewan

[nunes, saul, sheelagh]@cpsc.ucalgary.ca, carl.gutwin@usask.ca

Timeline is a visualization system allowing rapid exploration of the history of a video stream from a media space



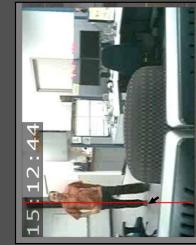
Video cubism
Visualizations created by sampling and abutting single-pixel columns from the video frames



Multiple Views
Minute, day, hour, and week lines allow visualization of a long video stream



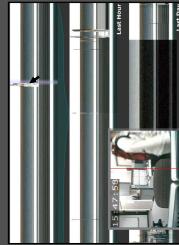
Refocus
The visualization can interactively be refocused on different areas of the frame by moving the sampled column



Replay
The visualization can be used to rapidly replay the recorded video by scrubbing over it



Refine
Playback in the longer visualization lines is coarse - sections can be selected for finer grain viewing in the shorter lines



Software at: <http://groupplab.ucalgary.ca/cookbook>



Transient Life

Collecting and sharing personal information
Stephanie Smale and Saul Greenberg
University of Calgary



A single interface to collect, consolidate and publish personal information and daily tidbits of interest

Collect

Record personal status information as it changes

Mood	Location	Personal Comments
------	----------	-------------------

Activity

Gather information tidbits as they catch your interest

Drag and drop web links and photos

Consolidate

Today I ...

- Cursed internet provider
- Read a few more papers on Info Night
- Received my Crocs in the mail - finally

Cool Links

OZCHI 2006
Piled Higher and Deeper
what's in rebecca's pocket?
Moments

Thinking Australia to Round 2!

Today I Photos



Publish

Publish personal status information to the display name field in MSN Messenger

About me today...

June 23, 2006

Mood(s)

sun deprived (3:21 PM)
frustrated (8:27 PM)

Location(s)

home (9:16 AM)

Activity(s)

writing on paper (3:08 PM)

Comment(s)

Australia to Round 2!
(9:17 AM)

Links I thought were interesting:

- OZCHI 2006
- Piled Higher and Deeper
- what's in rebecca's pocket?
- Moments

Pictures I ran across today:

Generate and send a Today Message

Gathering all the information collected throughout the day, a rich, consolidated email is generated for sharing with contacts and collaborators.

Today I ...

- Worked on paper submission!
- Cursed internet provider
- Read a few more papers on Info Night
- Received my Crocs in the mail - finally

On my ToDo list ...

- submit OZCHI paper
- send version to Saul
- work on Thesis - Chapter 2
- email Kathryn T.

To Do List

Add new item

submit OZCHI paper
send version to Saul
work on Thesis - Chapter 2
email Kathryn T.

Send Today Message

Blog Bits

Create Blog Entry

Launch Blog Page

History Calendar

June, 2006

Mon	Tue	Wed	Thu	Fri	Sat	Sun
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2
3	4	5	6	7	8	9

Today: 2006-06-23

Today messages are really nothing more than a summary of the day. This catching messaging not only provides details on what has been done throughout the day, but also provides details of information and tidbits about interesting things that are worth sharing



Screen Sharing within the Community Bar

Kimberly Tee, Saul Greenberg, and Carl Gutwin

Screen sharing helps people maintain **awareness** of what others are working on.

Community Bar

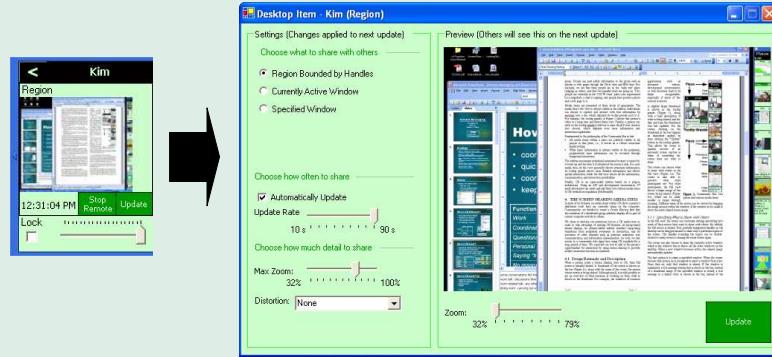
Groupware supporting awareness and interaction



- Group-based public display
- Always visible
- Transitions from awareness to interaction
- Various channels for communication and information
- Plugin architecture

What the person sharing sees

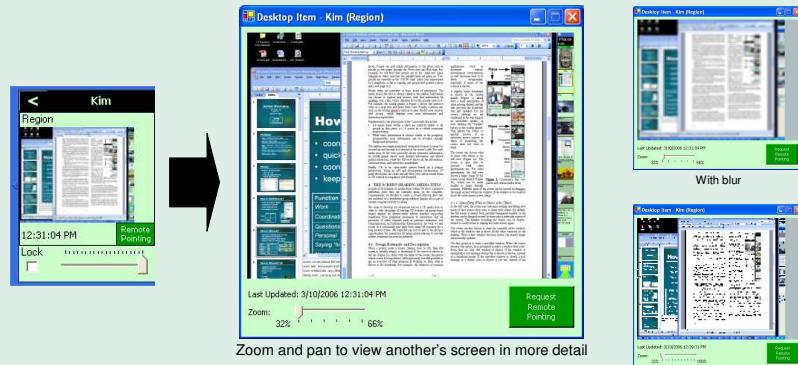
Each person sharing their screen can control how much others see



Specify what to share, how often to update the shared screen image, and how much detail to share

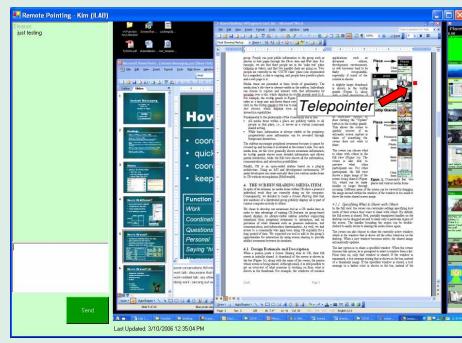
What others see

Others can see shared screens in miniature or raise the larger view to see more detail

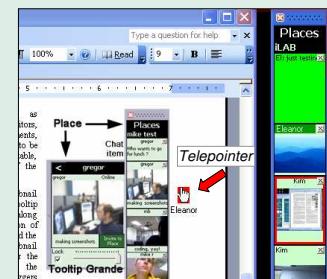


Moving to interaction

Telepointers can be used to remotely point at an artifact on another's screen



What the viewer sees



What the person sharing sees

Initial experiences

Ten co-located and distributed Community Bar users from our research group shared their screens on Community Bar.

They used our tool to:

- maintain awareness of what others were doing
- monitor progress and coordinate joint tasks
- determine when others could be interrupted
- engage in serendipitous collaboration
- project a certain image of themselves

People balanced awareness with privacy by using our built-in privacy protection strategies.