



# SITUATIONAL AWARENESS

**SOME LESSONS CAN ONLY BE LEARNED ONCE!**

# References

- See GitHub for optional papers on awareness (Dourish, Gutwin)

# Definition

*Awareness:* an understanding of the activities of others, which provides a context for your own activity (Dourish and Bellotti)

Need to consider *context* and *content* of individual contributions

# Shared workspaces

Primary issue:

- Is the information **explicitly** generated (i.e. separate from the shared object)
- Or **passively** collected and distributed, (and presented in the same shared workspace)

Some systems assign **roles** thus restricting potential activities but also increasing awareness

# Awareness as an intentional activity?

Not usually – because we often take it for  
**granted** in the everyday world

Why is it a problem with computational  
systems?

- Input/output devices do not generate as much **perceptual information** as real world

# Team Cognition -- Framework

Part 1: What *information* makes up workspace awareness?

**Who?** Presence, identity, authorship

**What?** Actions, intentions, artifacts

**Where?** Location, gaze, view and reach

(Table 1 in Gutwin's paper)

# Team Cognition – Framework (2)

Part 2: How is workspace awareness information *gathered*?

*Intentional communication:*

conversation and gesture

*Feedthrough:*

changes in artifacts (objects and tools)

*Consequential communication:*

Bodies in the workspace

# Team Cognition – Framework (3)

Part 3: How do *teams* use workspace awareness?

Management of **coupling**

Simplification of verbal communication

**Deictic references**

Visual evidence : **backchannel feedback**

**Gaze** awareness

Coordination of actions

Can be done explicitly or through workspace awareness

Awareness informs on the temporal and spatial boundaries of others' actions to track, predict, mesh

***Awareness is a two-way street!***



# Supporting awareness in software

## Embodiments:

Telepointers (additional semantics)

Avatars

Video images (video of what?)



# Supporting awareness in software

## Expressive artifacts:

- Process Feedthrough

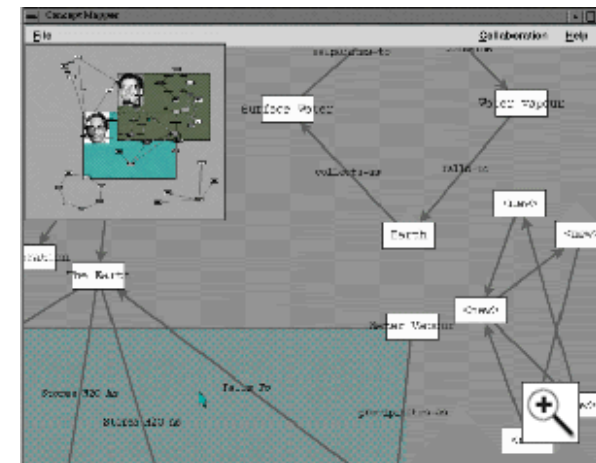
- Action indicators and animations

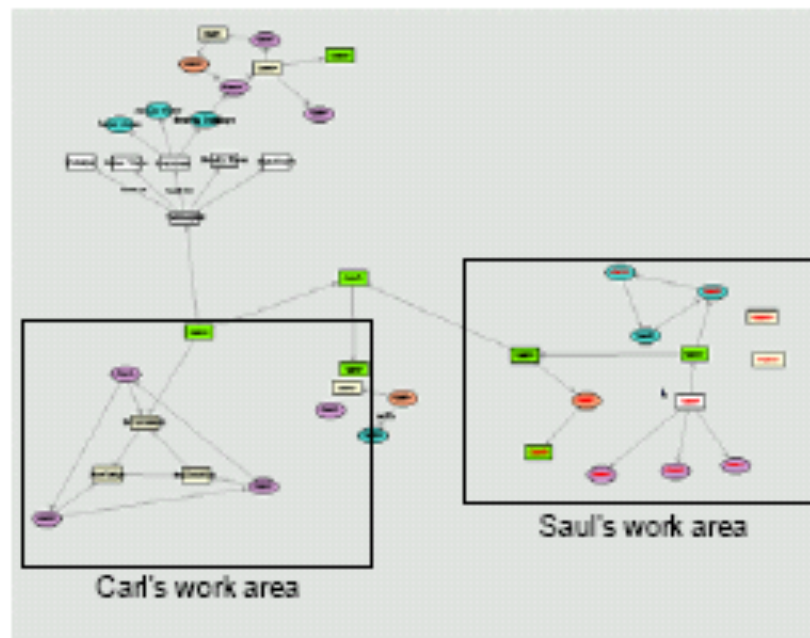
## Visibility techniques (on one display):

- Radar views

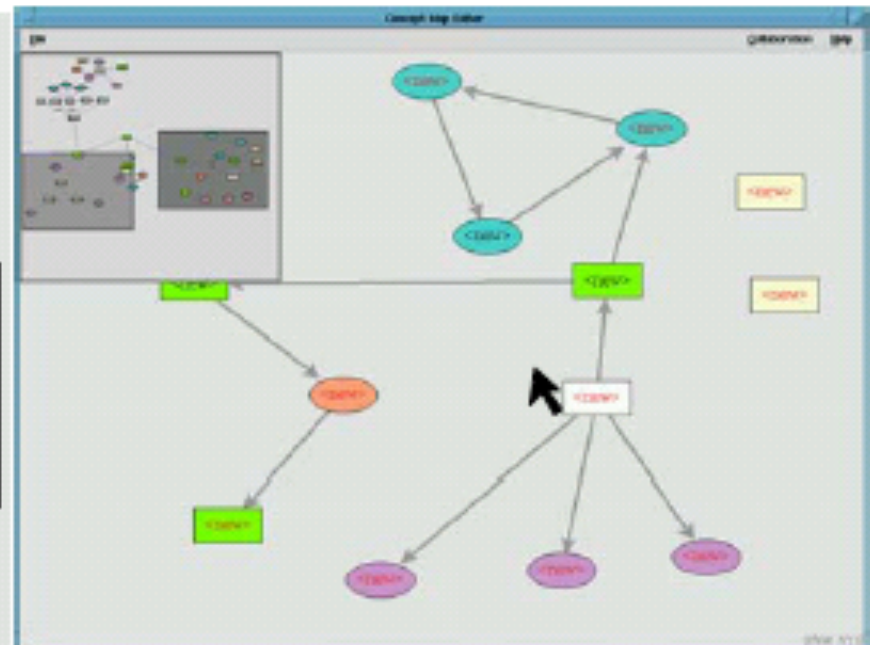
- Over the shoulder

- Cursor's eye view

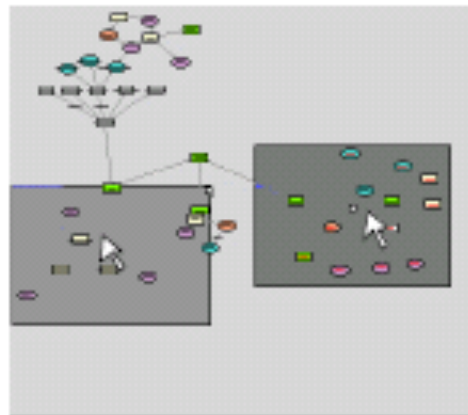




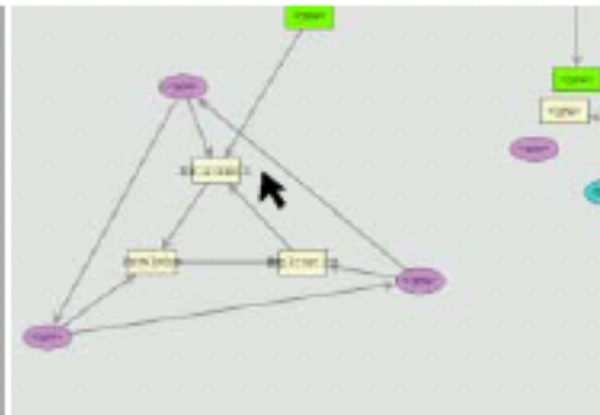
a. The entire workspace



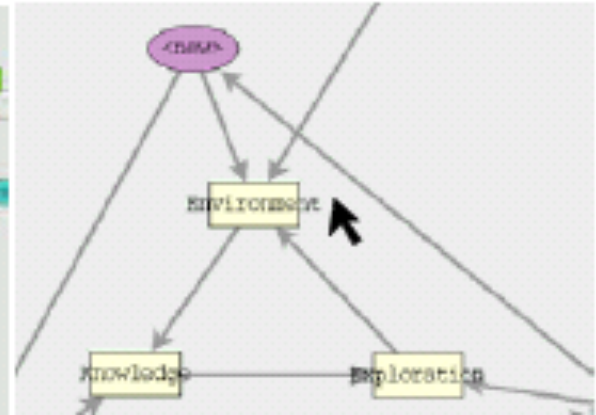
b. Saul's view with secondary window



c. the radar view



d. over-the-shoulder view of  
Carl's area



e. cursor's-eye view around  
Carl's cursor

Figure 8. Secondary views of the workspace for increased visibility.

# Awareness displays

## Awareness on primary displays

Embedded views, e.g. radar views

Tickers

## Awareness on secondary displays

InfoCanvas

## Ambient Awareness Displays

Visual awareness

Auditory awareness

## Awareness on mobile devices



# Socially translucent systems

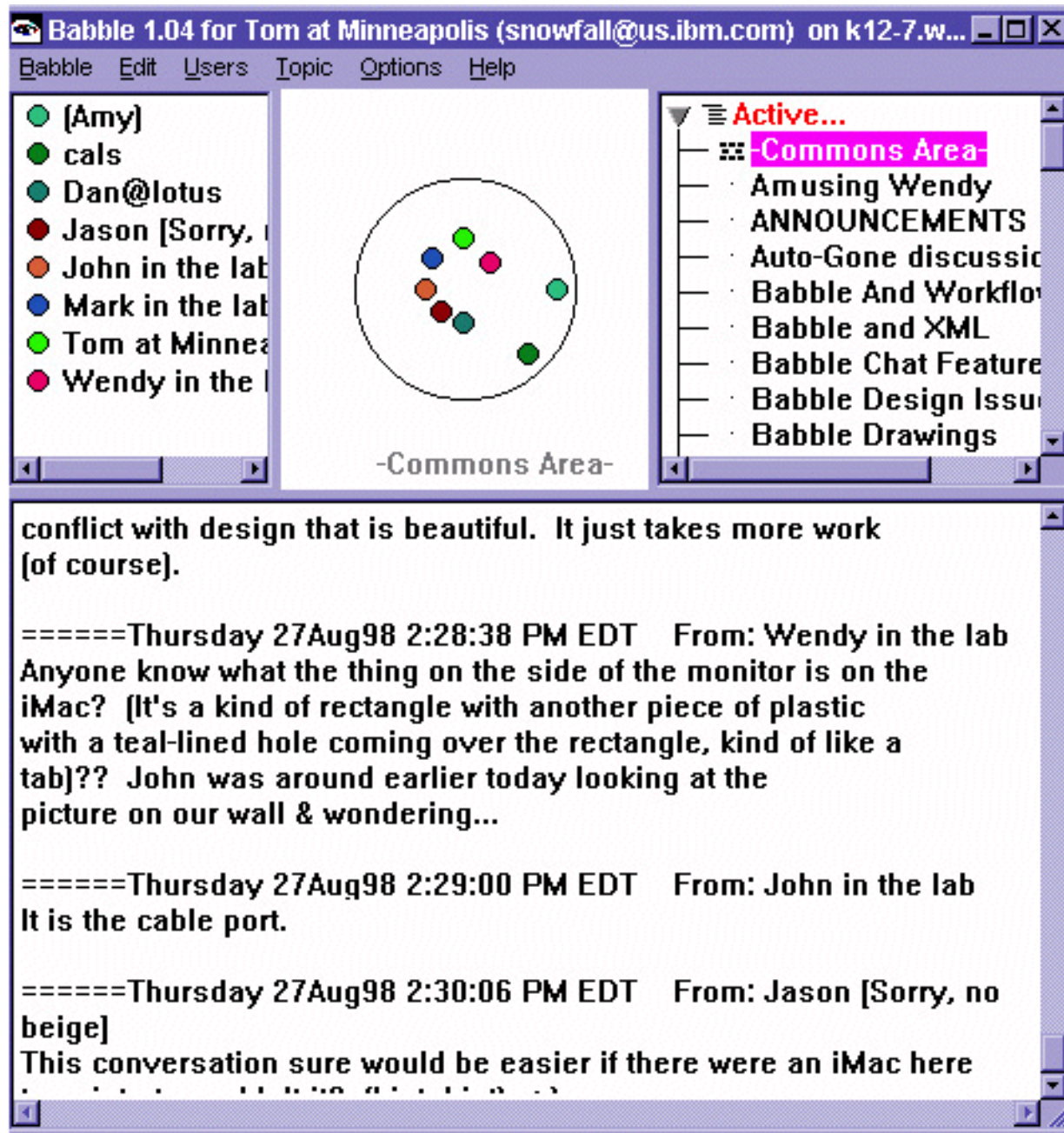
- Systems that provide perceptually based information about the **presence** and **activity** of users
- Provides **social resources** for the group and individuals to structure and enhance their online interactions
- Visibility yields **awareness** yields **accountability**

*“Social translucent systems make it easier for people to interact in purposeful ways, to observe and imitate others, to engage in peer pressure, to create, notice and conform to social conventions”*

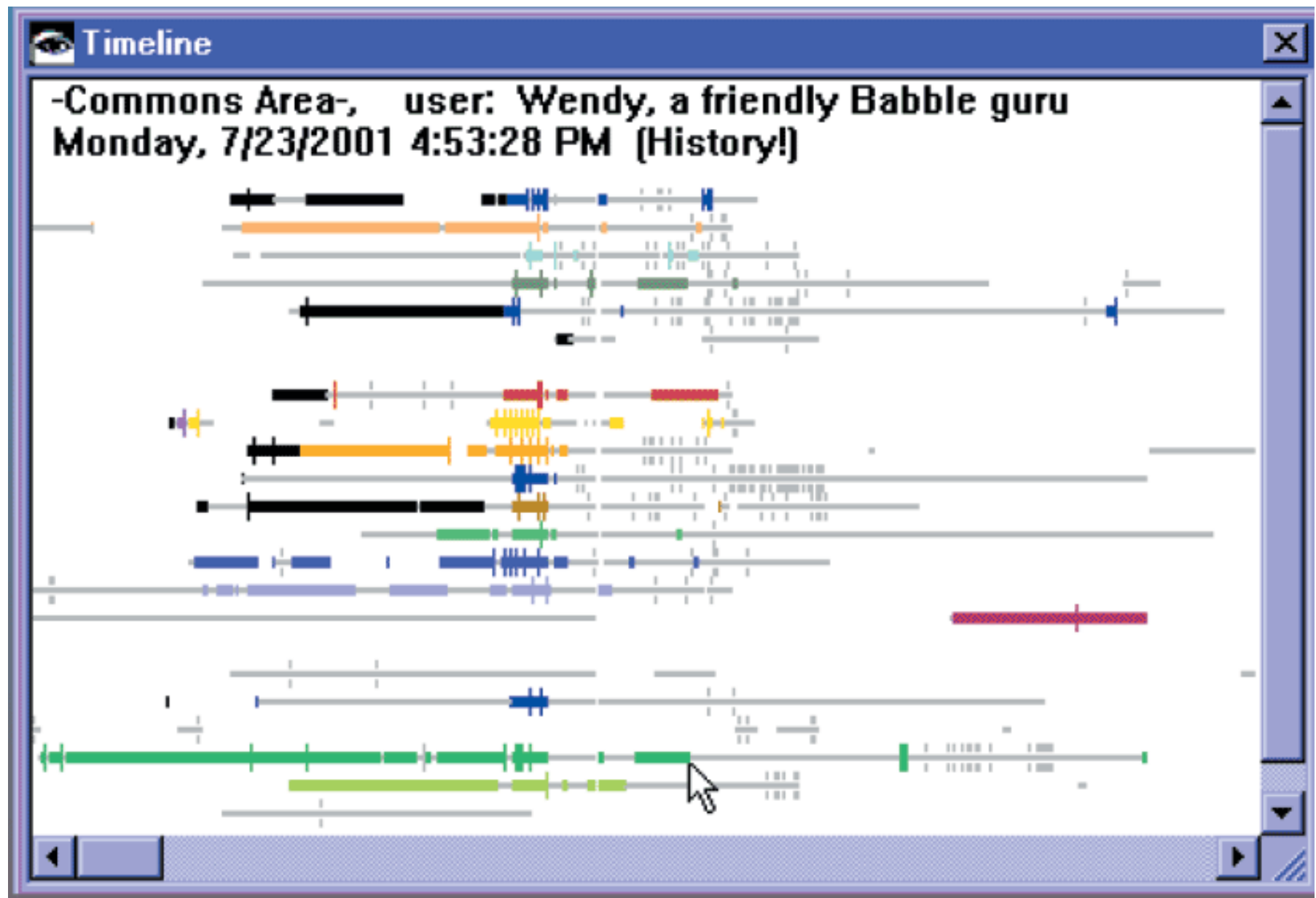
# Babble

- Babble is an infrastructure for a knowledge community
- It is an online, digital space in which knowledge can be created, discovered, shared and reused
- Provides support for expressive communication through informal conversation

# Babble's user interface



# The Timeline in Babble





# Jazz

The screenshot displays the Eclipse IDE interface with the `ActionPane.java` file open. The Package Explorer on the left shows the project structure, with `ActionPane.java` selected. The main editor shows the Java code, which includes package declarations, imports, and a class definition. Annotations 'd' and 'e' are placed on the import statements for `org.eclipse.swt.widgets.*` and `org.eclipse.swt.graphics.*` respectively. The Outline view on the right shows the class structure of `ActionPane`. A context menu is visible over the code, offering options like 'Chat with Bryan Clark', 'Share using...', 'Use this person's latest Jazz Set', 'View this person's active files', 'Make a fast view for Bryan Clark', and 'Place a phone call to Bryan Clark'. A tooltip for 'Isaac' is also visible, showing his active status and current file. At the bottom, the Coltrane social interface displays a row of user avatars, with 'Bryan' highlighted. The status bar at the bottom indicates '11 in'.

```
1 package com.ibm.research.cue.actionpane;
2
3 import org.eclipse.swt.widgets.*;
4 import org.eclipse.swt.SWT;
5 import org.eclipse.swt.events.*;
6 import org.eclipse.swt.layout.*;
7 import org.eclipse.swt.custom.StackLayout;
8 import org.eclipse.swt.graphics.*;
9 import java.util.Vector;
10 import java.util.Hashtable;
11
12 /**
13  * ActionPane - a version of Windows XP's context-sensitive task
14  * pane (a special pane that appears whenever you open a folder
15  * that shows you a bunch of right-click menu items. links to o
16  * places, and details
17  */
18
19 @author Li-Te
20 CUE, IBM Research 2002
21
22 public class ActionPane extends Composite
23 {
24     // flags for replicateSettings()
25
26     public ActionPane(Composite parent, int style)
27     {
28         super(parent, style);
29     }
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31     public void replicateSettings()
32     {
33         // ...
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1610     public void updateMargins()
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1613     }
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```

# Tradeoffs in Awareness support systems

Privacy  
and  
Visibility

Awareness  
and  
Disruption

# Discussion

How does Slack provide social translucence?