# 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?)

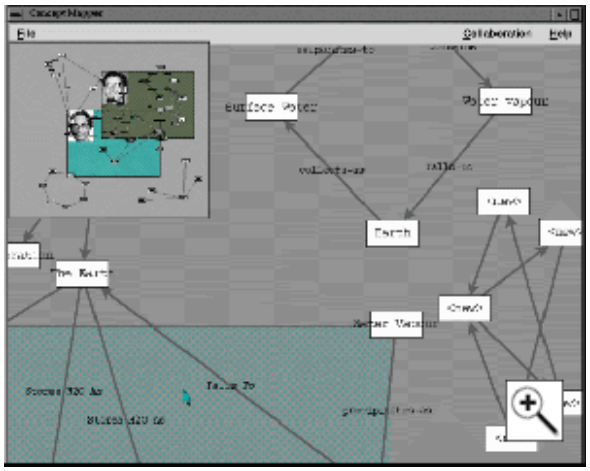
# Supporting awareness in software

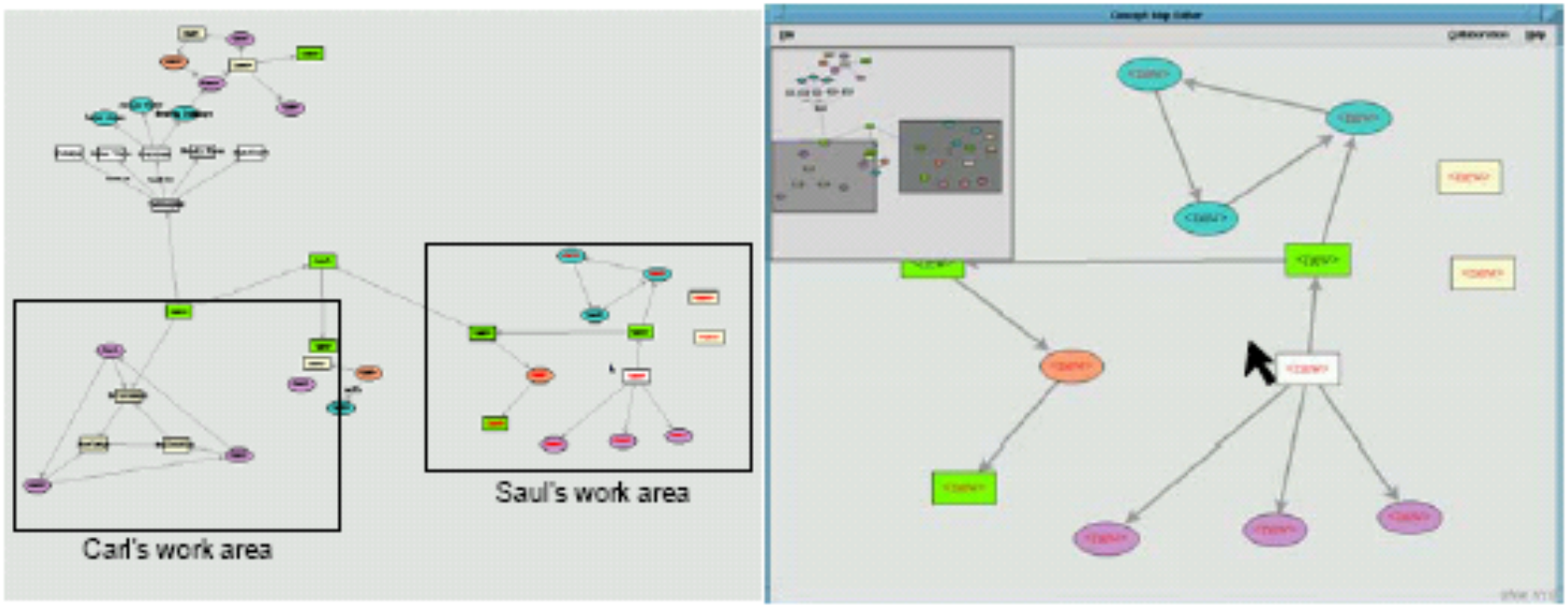
Expressive artifacts:

- Process Feedthrough
- Action indicators and animations

Visibility techniques (on one display):

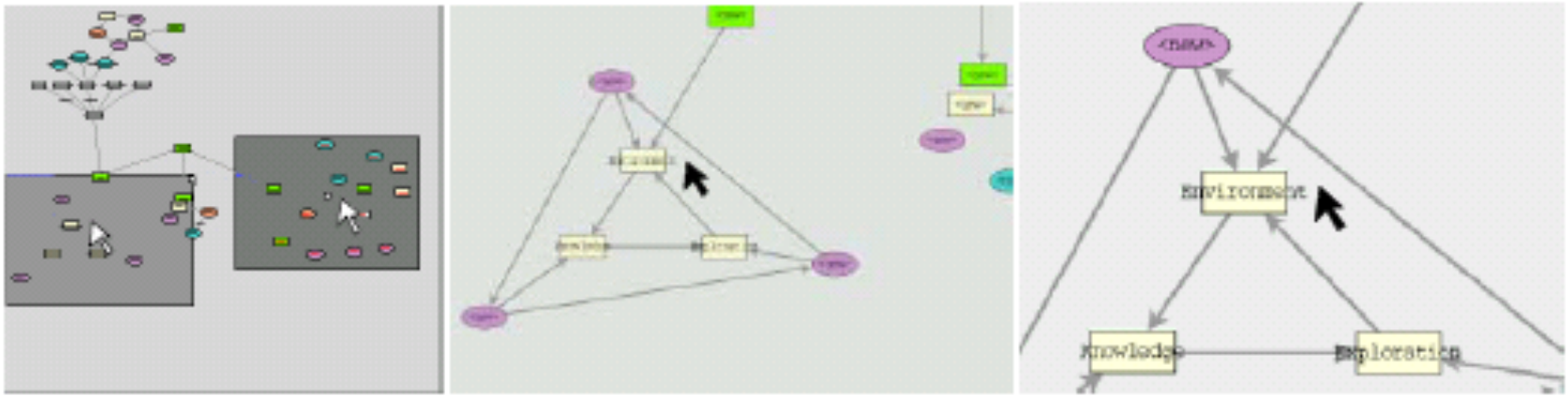
- Radar views
- Over the shoulder
- Cursor's eye view






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

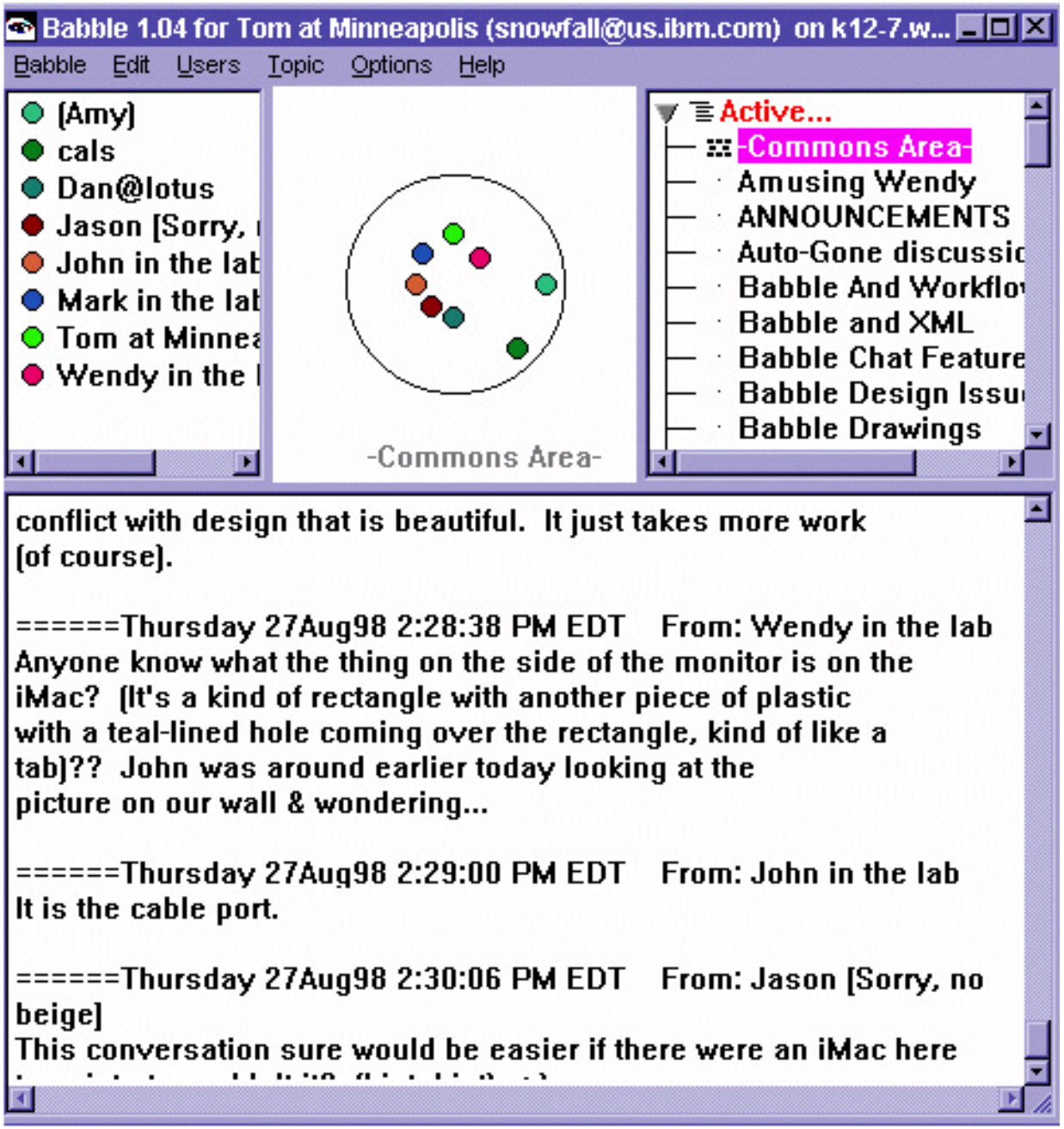
- Systems that provide perceptually based information about the presence and activity of users
- Provides social resources for the group and individuals to structure and enhance their online interactions
- Visibility yields awareness yields accountability

"*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*"

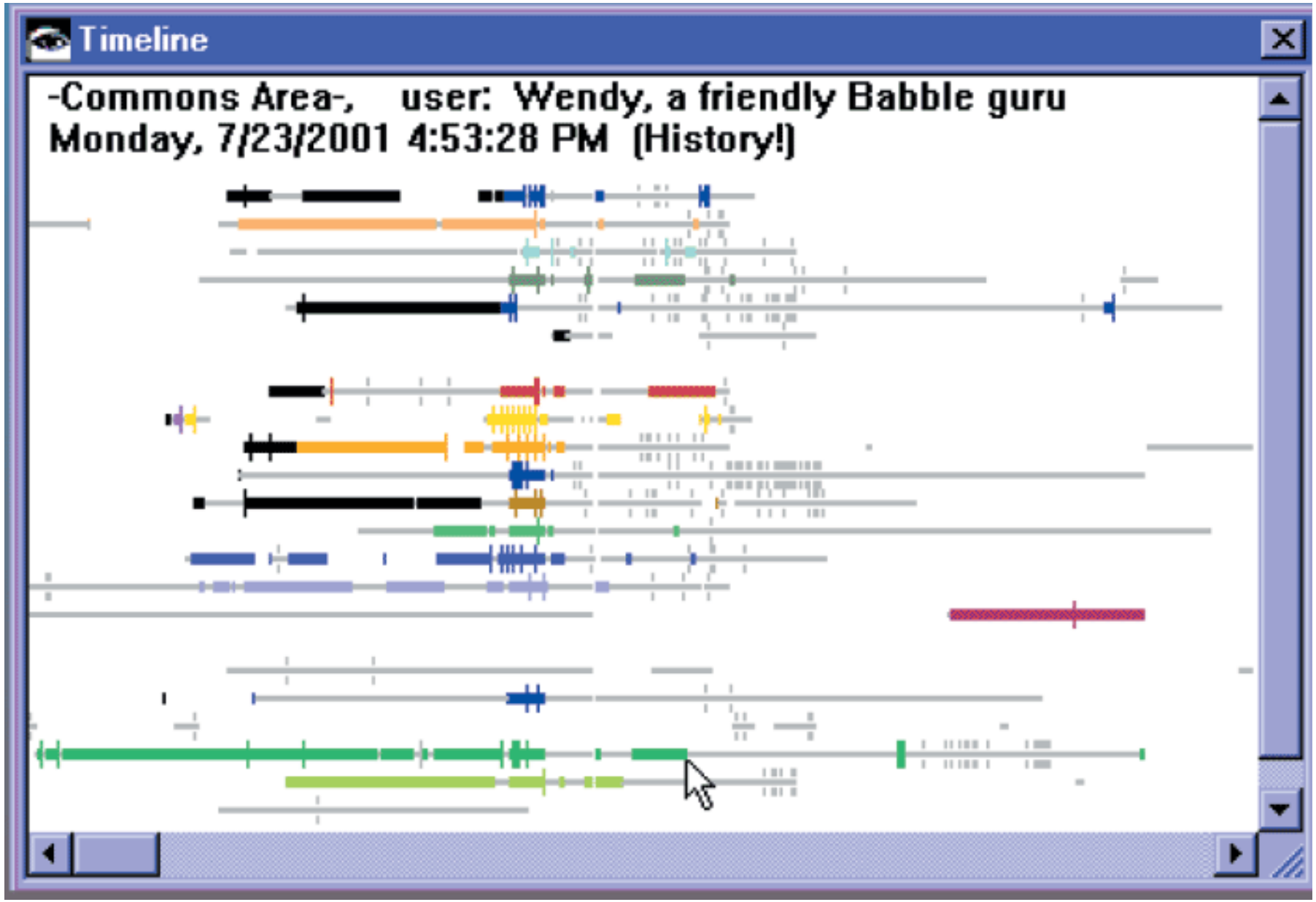
# Babble

- 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

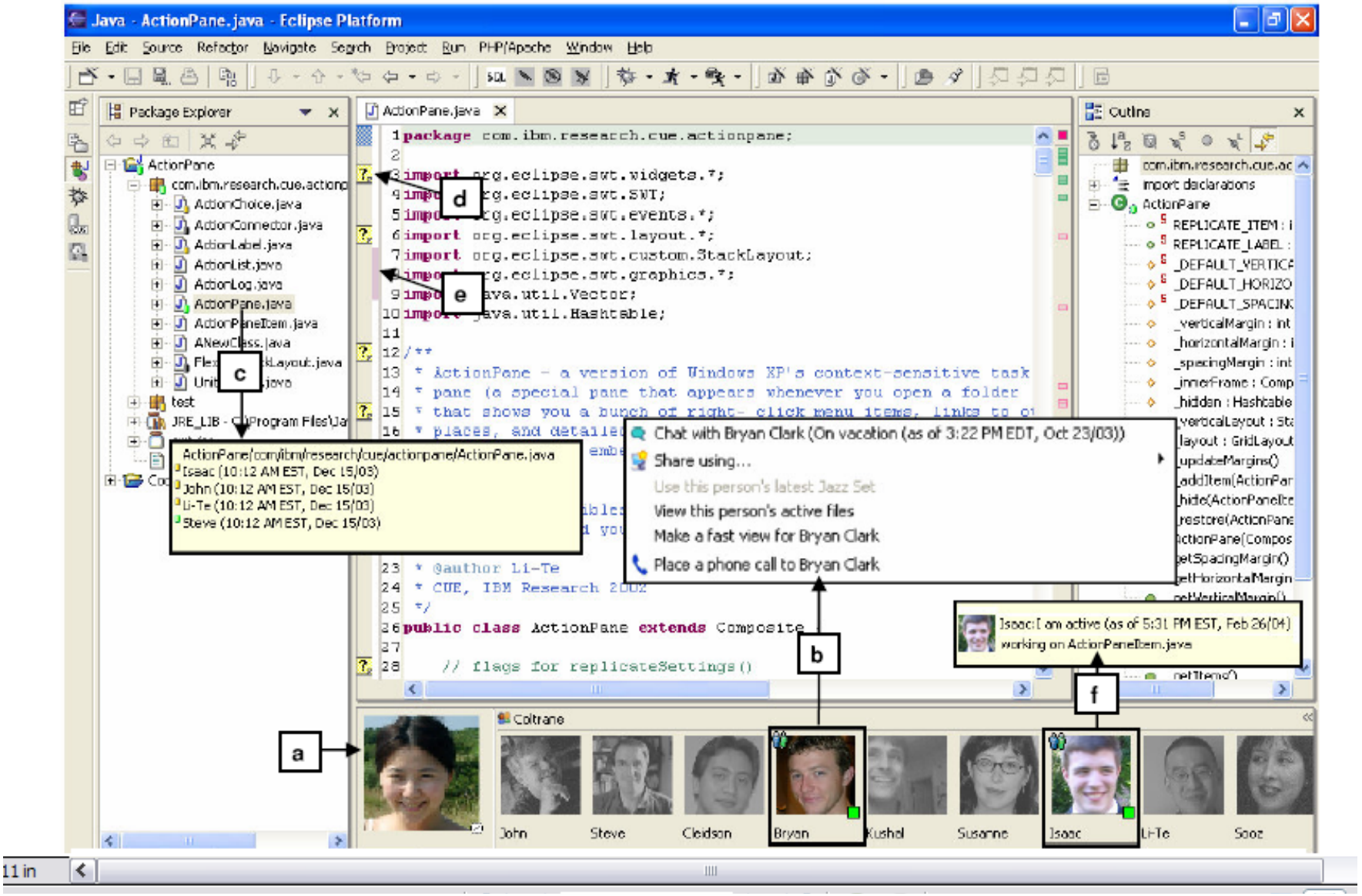
# Babble's user interface



# The Timeline in Babble



# Jazz


Java - ActionPane.java - Eclipse Platform
Package Explorer
ActionPane.java
Outline
Chat with Bryan Clark (On vacation (as of 3:22 PM EDT, Oct 23/03))
Share using...
Use this person's latest Jazz Set
View this person's active files
Make a fast view for Bryan Clark
Place a phone call to Bryan Clark
Isaac: I am active (as of 5:31 PM EST, Feb 26/04)
working on ActionPaneItem.java
Coltrane
John
Steve
Cleidson
Bryan
Kushal
Susanne
Isaac
Li-Te
Saoc
a
b
c
d
e
f

# Tradeoffs in Awareness support systems

Privacy

and

Visibility

Awareness

and

Disruption

# Discussion

How does Slack provide social translucence?