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Tools for Usability Testing and HCI Research

INFORM Workshop, Athens, 20 March 2003

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Overview

- Company profile
- Observing human behavior: tools for evaluating (mobile) applications
  - Focus groups
  - Usability testing
- Software demonstration

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Company Profile

- Developer of professional software and instrumentation for behavioral research
- Founded in 1989
- Approx. 60 employees
- Customers in 75 countries

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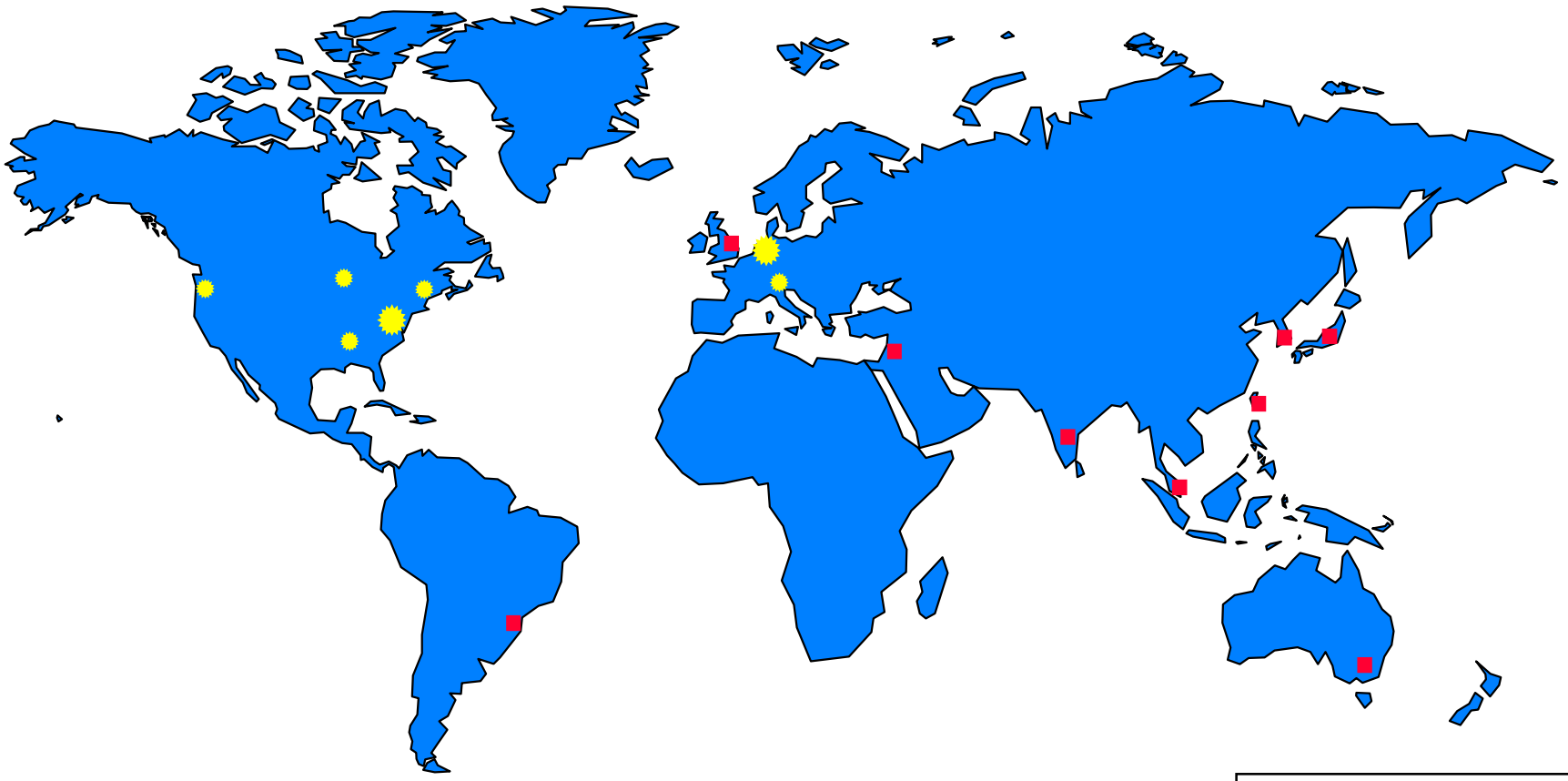
International Offices



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Corporate Clients

Electronics
- Hewlett-Packard
- Intel
- Philips
- Siemens

Software
- Ariba
- Microsoft
- Oracle
- PeopleSoft
- SAP

Telecom
- Ameritech
- AT&T
- Bell Atlantic
- Deutsche Telekom
- Ericsson
- Telenor

Automotive
- BMW
- DaimlerChrysler
- Nissan
- Rover
- Volvo

Aerospace
- BAE Systems
- Eurocontrol
- Lockheed Martin
- Matra BAe Dynamics
- NASA
- Thales

Transportation
- Alstom
- KLM
- SNCF

Consulting
- American Management Systems
- Accenture
- CURE
- Fraunhofer IAO
- System Concepts
- The Usability Company
- TNO Human Factors

Information / Finance
- America Online
- Dow Jones
- NatWest
- Rabobank
- Statistics Netherlands
- U.S. Bureau of Labor Statistics
- U.S. Bureau of the Census
- Yahoo!

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Focus Groups

Objective: to identify consumer preferences

How?

- Observe, analyze and evaluate
  - social interaction
  - (non) verbal behavior
  - content

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Usability testing

Objective: to increase effectiveness, efficiency and user satisfaction

How?

- Test software and hardware
- Analyze human-machine interaction
- Evaluate human-machine interfaces
- Monitor consumer satisfaction

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The Observer®

Professional software system for collection, management, presentation and analysis of observational data

- Flexible observations
- Collect qualitative and quantitative data
- Instant access to any point on the video
- Easy analysis
- On the spot presentations

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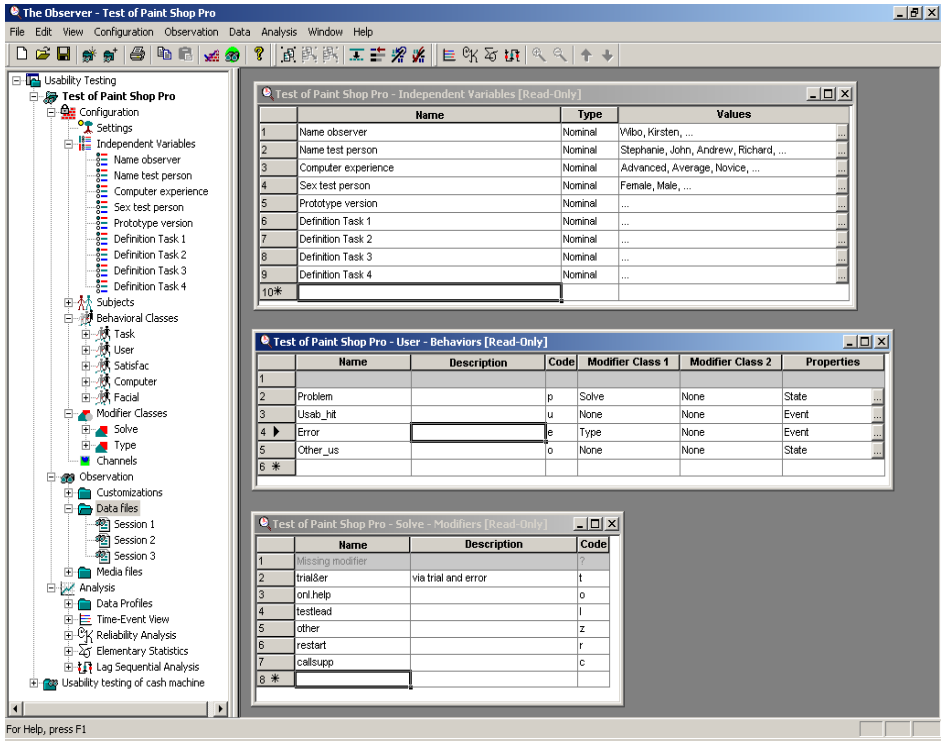
The Observer – 1. Coding scheme

Define subjects and behaviors of interest:

-Activities
-Postures
-Gestures
-Movements
-Positions in space
-Facial expressions
-Vocalizations and speech
-Social interactions
-Human-system interactions



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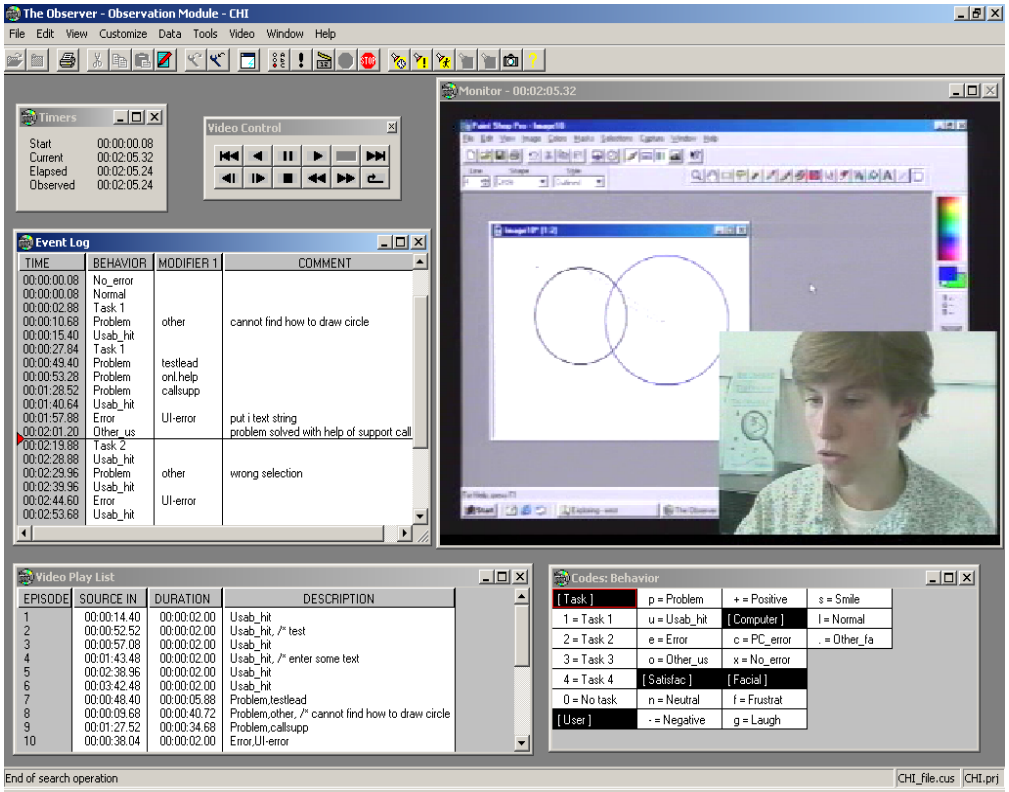
The Observer – 2. Data collection

Quick and easy coding:

- Positive and negative reactions
- Navigation times and task durations
- Usability problems
- Add comments



Based on flexible coding scheme!

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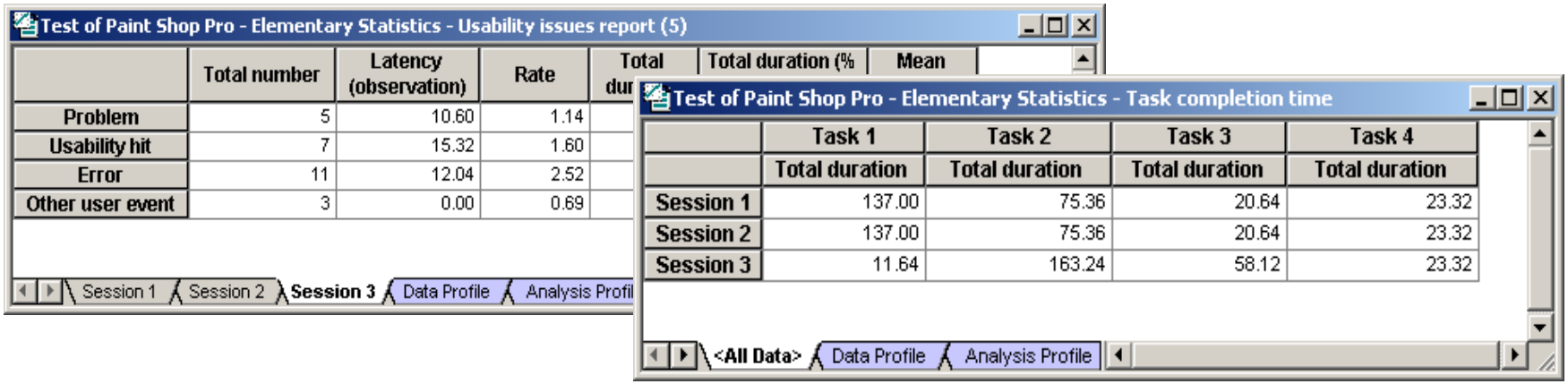
The Observer – 3. Analyze

Quantitative and qualitative analysis:

- Task times to identify design strenghts and limitations
- Identify user preferences and problems
- Determine best improvement strategy



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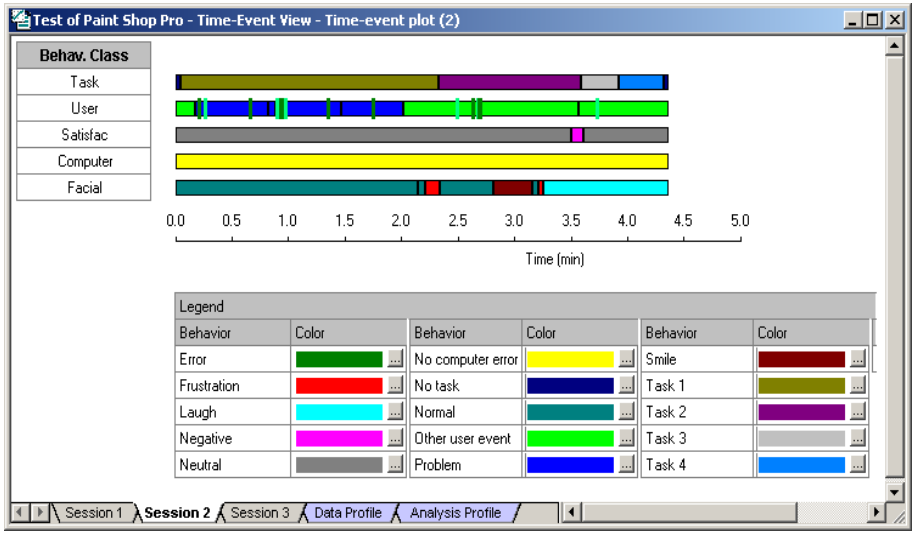
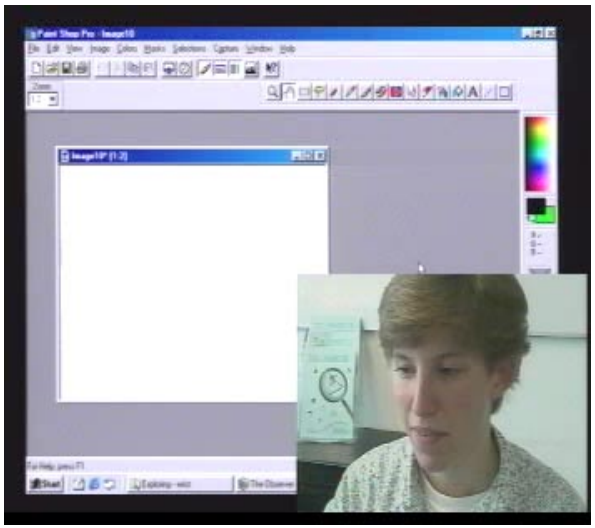
The Observer – 4. Communicate!

- Video Highlights of key moments
- Report-ready statistical and graphical data summaries





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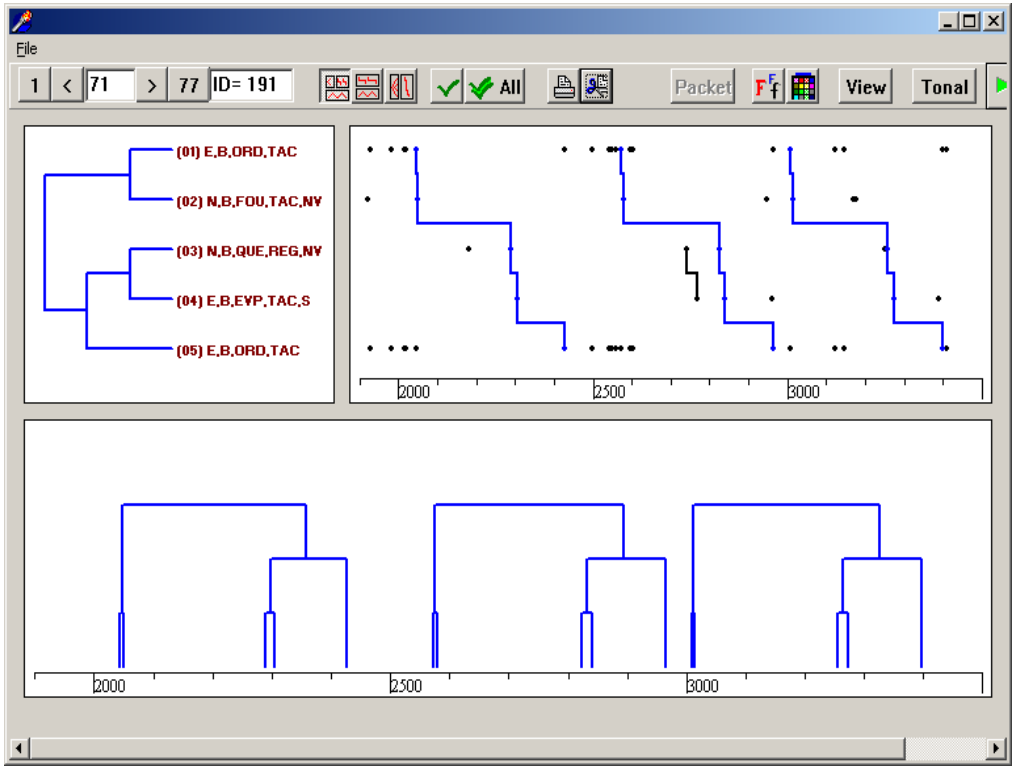
Theme™

Detect hidden repeated temporal patterns in behavior and interactions

Find patterns that are hidden to observers and very hard or impossible to detect with other available methods



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Integrated Solutions

Tailor-made observational labs and systems

System configurations

- Stationary Lab
- Portable Lab
- Mobile Data Collection Systems
- Mobile Device Camera
- Eye Tracking Systems

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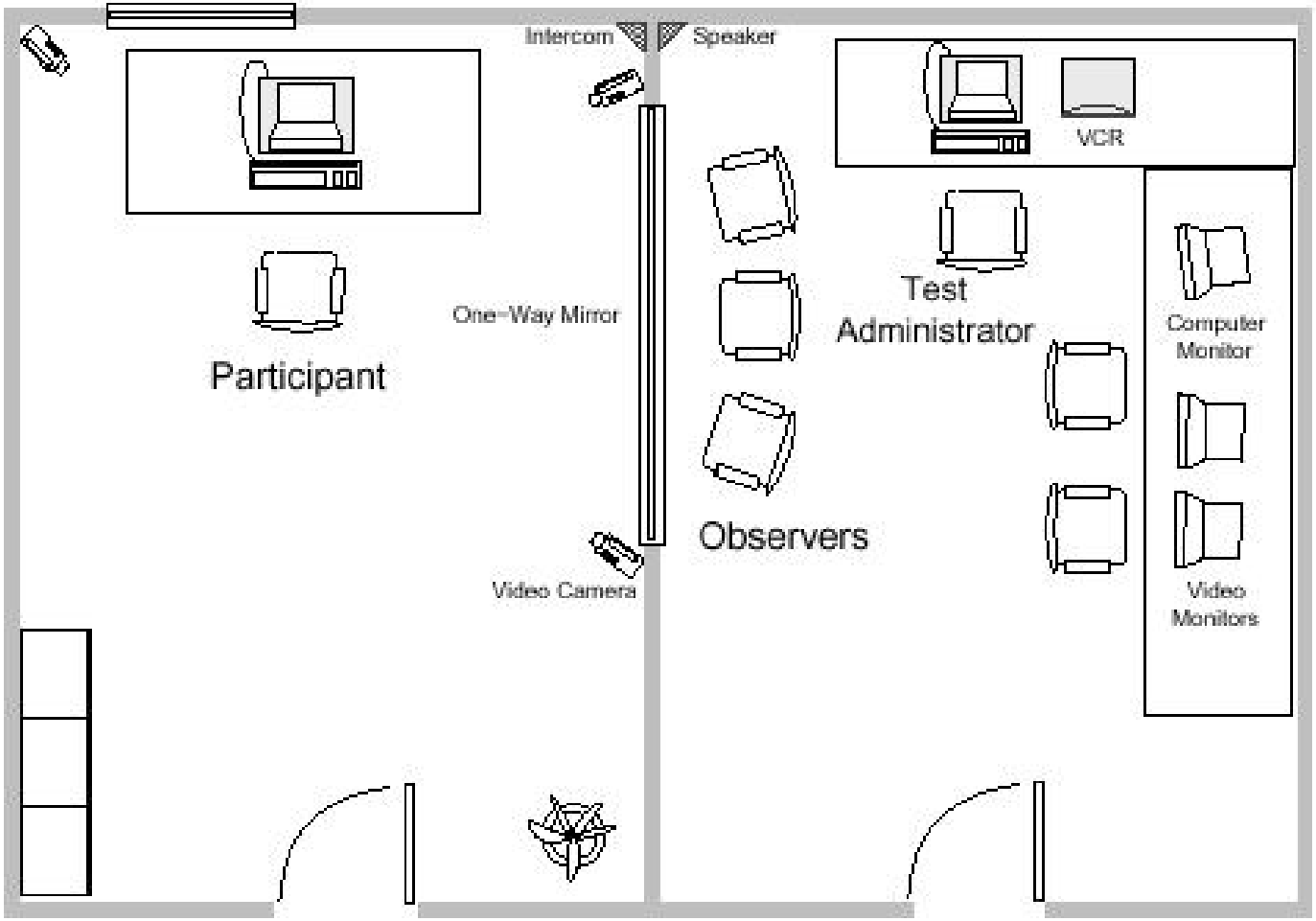
Usability lab



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Usability lab

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Portable usability lab

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Mobile Device Camera

Wireless camera for usability testing of mobile devices and applications

Mobile data collection

The Observer Mobile

- Collect observational data while on the move
- For unobtrusive observation when videotaping is not feasible
- Both keyboard- and pen-based models available

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Eye tracking

Video-based contact-free evaluation of gaze position with high accuracy and precision

Complement observational methods for usability testing of human-machine interfaces

In collaboration with SensoMotoric Instruments

Measure:

- where the subject looks
- how long and often they look for
- the path their eyes follow areas of interest (pre-defined by you)

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