The Art of Research

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Looking for CyberArt

• So far:
  • Edd Sewell
  • Simone Paterson
  • Dane Webster
• Today, from the perspective of science and engineering
What is the nature of research?

Inquiry? Innovation? Insight?
The 4 creative disciplines:

Art  Science

Design  Engineering
Goals, values, methods, aesthetics, personalities, language, norms

Art

Science

Design

Engineering

Steve Harrison
Goals, values, methods, aesthetics, personalities, language, norms

Art
Design
Science
Engineering

How to collaborate across these axes?

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Goals, values, methods, aesthetics, personalities, language, norms

How to collaborate across these axes?

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What forms of collaborations work? What sorts of results do these forms deliver? What sorts of knowledge is created?
A few instances

• Tom Rodden
• Bill Gaver
• Xerox PARC
• Billy Kluver
Tom Rodden

- CHI (CSCW) Professor
- Nottingham and Lancaster Universities, UK
Bill Gaver

- Interaction Design, Royal College of Art, London
- PhD. Psychology, BA PoliSci
- created feather and scent
• Xerox Palo Alto Research Center
  • bit mapped graphics editor
  • Ubiquitous computing
  • PARC Artist In Residence Program
  • XFR
Xerox PARC Research

- Industrial research lab
- Offices and documents
- Self-use
- “Best way to predict the future is to invent it”
- Two research traditions:
  - Academic-style science
  - Edison-style tinkering

**Designerly research method:**

*observe, innovate, intervene*

Steve Harrison
PARC: The first bit-mapped editor

- Bob Flegal
- Dick Shoup
- Bill Bowman
- Damon Ramey
PARC: Hole in Space and Media Space

• Hole in Space
  – *Mobile Image* (Rabinowitz and Galloway)
• 1980
• Real-time open link from Century City to Lincoln Center
• life-size images in store fronts
PARC: Hole in Space and Media Space
PARC: Hole in Space and Media Space

Using always-on video, audio, and computing to fold time and space
PARC: Hole in Space and Media Space

- Lessons learned from living in representational space
  - The architecture of communicative surfaces
  - People, events, places
  - Appropriate behavioral framing
  - Interaction managed in social space
PARC: PAIR

• Artists paired with scientists
• better artists, better scientists
• 20+ pairings
• sponsored art shows
PAIR: Sunset

- Co-producing art and research:
  - Artists Margaret Crane and Jon Winet
  - Research engineers Dale MacDonald and Scott Minneman
- **ConventionalWisdom, NightFall, Sunset**

- Interactive public soap opera
- Controlled by garage door openers and electronic car door keys
PAIR: LiveWire

- Mark Weiser (UbiComp guru / Lab Manager)
- Natalie Jeremijenko (artist, PhD, CS, BS Neuroscience & Biochem)
- Represents intranet traffic
PAIR: Park-Ing

• with Steve Harrison and Scott Minneman
• Everyday life as art
• for Atlanta Olympics
• designated parking to make patterns
• never realised
PARC: XFR:

eXperiments in the Future of Reading
Billy Kluver

Steve sez “Billy Kluver – check him out.”
A Quick Look at Billy Kluver

- Swedish
- lived in US
- engineer
- Bells Labs (Murray Hill, NJ -- near NYC)
Kluver’s Collaborators

- Jean Tinguely
- Robert Rauchenberg
  - 9 Evenings of Theater and Engineering
  - EAT (”Experiments in Art & Technology”)
- Pepsi Pavillion (Osaka Worlds Fair)
Jean Tinguely

- NY MoMA
- 1960
- Homage to NY
- aka “machine that destroys itself”
Robert Rauchenberg

- EAT c/o Bell Labs
- “Oracle”
experiments in

Art and Technology

- 9 Evenings of Theater and Engineering
- Pepsi Pavillion, Osaka Worlds Fair
Kluver On His Own

- village-oriented model of TV (India)
- “A Day With Picasso”
Steve sez “Billy Kluver – check him out.”
Finding a common language

• Do the same words used by engineers and artists mean the same thing?

• What about “beauty”?
The Meaning of “Beauty”

• Not a current term
• An example of kind of meaning
• QUESTION: is “beauty” an elemental constant with different interpretations in different contexts, or is the same word used to mean different things?
Beauty - Some Simple Comparisons

• In Math
• In Engineering
• In Art
  – Traditional European
  – Japanese
  – Contemporary
  – CyberArt
Mathematical Beauty

• Elegance
• Symmetry
• Simplicity
• Compactness
Engineering Beauty

• Optimization
• Efficiency
• Systematicity
• Repeatability (sometimes)
European (traditional)

- Transcendent
- Narrative (allegorical, etc.)
- Apprehended by the many ("Big WOW")
- Immediate
Japanese art

- Subtle
- Surface appearances
- Apprehended by the few, with patience
Contemporary Art

- (NOT “Beauty”)
- Irony (the tension of meanings)
- Abstraction
- Provocation
CyberArt

• [Distinct from other traditions?]
• Creation of Experience (derives from being time-based)
• Phenomenal Presence (as in a seance, cinema, telephone call, or even just a concept)
• Contingency (“where is the art?”)
Feather, Scent & Shaker
vs.
Mankoff’s Mobile
Tim Hawkinson