Situated Interaction

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Seminar format

Discovering the principles of situated interaction:
- Instrumental Interaction
  - Reification
  - Polymorphism
  - Reuse
- Substrates

Human-computer partnerships
- (Reciprocal co-adaptation)

Class activities

Lectures on key concepts		(Michel & Wendy)
Exercises: Generative Deconstruction		(All)
Deconstruct systems		
Generate novel design ideas		
Seminar presentations		(Students)
Read 3 related papers	(solo)	
Create 3 iMuseum entries	(solo)	
Create 1 iMuseum exhibit	(pair)	
Lead group discussion	(all)	

Grades

Exercises and Class participation	= 30%	(individual)
iMuseum entries	= 30%	(individual)
iMuseum exhibit & class discussion	= 40%	(pair)

Who are we?

Wendy MACKAY Research Director, Inria
Head of ExSitu research lab at Inria, member of HCC
Michel BEAUDOUIN-LAFON Professor, Univ. Paris-Sud
Head of Human-Centered Computing lab at LRI, member of ExSitu

Focus on Human-Computer Interaction
- to augment human capabilities
- to generate novel forms of interaction
- to explore the next generation of interactive systems

ex)situ

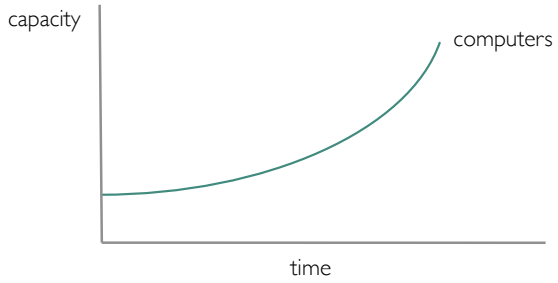
Interaction paradigms

Participatory design

Distributed comunication

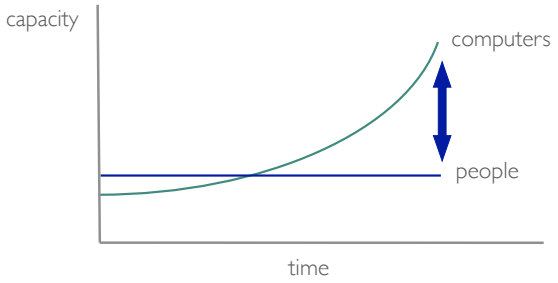
Engineering platforms

If computer capacity and functionality are increasing

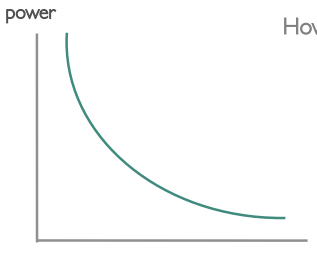


If computer capacity and functionality are increasing

… human capabilities are not



We face a major design trade-off

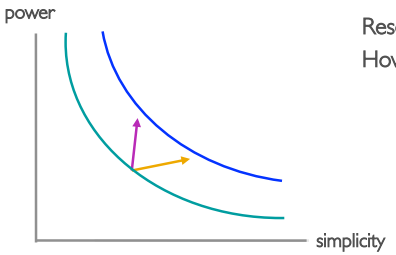


How to balance the trade-offs ?

simplicity of execution
and
power of expression

Power vs. Simplicity

Power vs. Simplicity



Research challenge:
How to shift the curve?

Simple things should be simple,
Complex things should be possible

Exercise #1 Brainstorm uses of a Pencil

Five minutes:
Write down as many uses for a pencil as you can.

Homework: send typed exercises to:
To: *mackay@lri.fr; mbl@lri.fr*
Subject: *<last name> FSI: Ex #1: Pencil Brainstorm*

Exercise #2 Situated Pencil Activities

Five minutes:
Think of four activities such as:
gardening, cooking, dressing

For each, come up with at least
five new uses for a pencil

Homework: send typed exercises to:
To: *mackay@lri.fr; mbl@lri.fr*
Subject: *<last name> FSI: Ex #2: Situated Pencil Activities*

Reflection

Was it easier the second time?

Did you find any uses *across* activities?

What can we learn from physical tools ?

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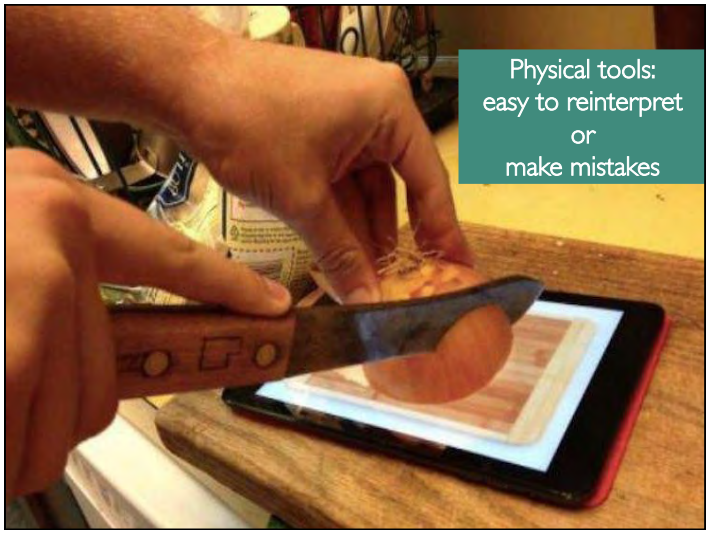


We can appropriate physical tools

18

We can appropriate physical tools

We can appropriate physical tools

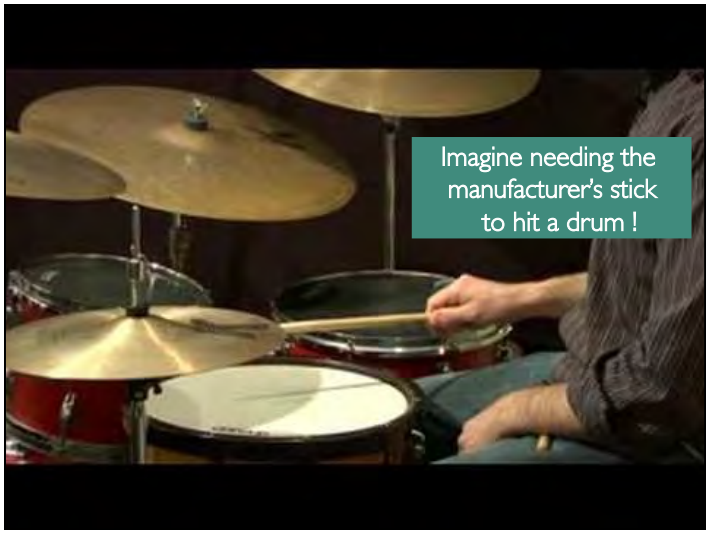
why not software ?

Exercise #3 Graphical Objects as Tools

Create a drawing with properly aligned and distributed objects without using any 'official' tools:

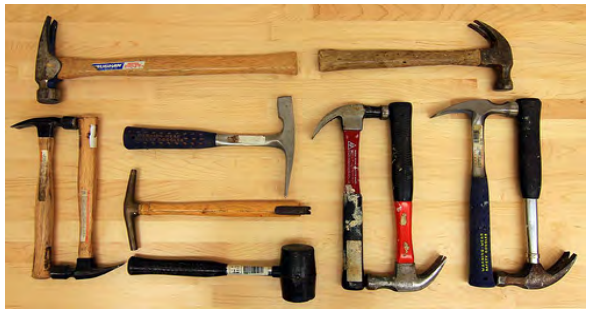
No "align" command
No "distribute" command
No "rotate" command

Just:
create, copy, paste,
move, resize, and color
circles, rectangles and text



We also choose our own physical tools

Why do software applications choose for us ?



Exercise #4 Finding Digital Tools

Choose a creative software application such as Microsoft Word

Take a screen shot of one toolbar.
Count how many discrete tools appear on the screen
Give each tool a name and a brief description of what it does, with pointers to the screenshot

Shape:
choose a shape
to insert

Homework: send typed exercises to:
To: *mackay@lri.fr; mbl@lri.fr*
Subject: *<last name> FSI: Ex #3: Finding Digital Tools*

Next Week 13h30

Send:

Exercises 1, 2, 3 and 4

Bring a printout of Exercise 3

Read:

Beaudouin-Lafon, M. (2000). Instrumental Interaction: an Interaction Model for Designing Post-WIMP User Interfaces. *Proc. ACM Human Factors in Computing Systems*, CHI 2000, The Hague (The Netherlands), CHI Letters 2(1):446-453, ACM Press.

Beaudouin-Lafon, M. & Mackay, W. (2000). Reification, Polymorphism and Reuse: Three Principles for Designing Visual Interfaces. *Proc. Advanced Visual Interfaces*, AVI 2000, Palermo (Italie), ACM Press, pp 102-109.