

Basic Ideas in Human Technology Interaction

Cato A. Bjørkli

Basic Ideas in HTI

- Aim of this lecture
 - Explore some basic ideas and perspectives of HTI
 - Examples
 - Models
 - Perspectives

What is art ?

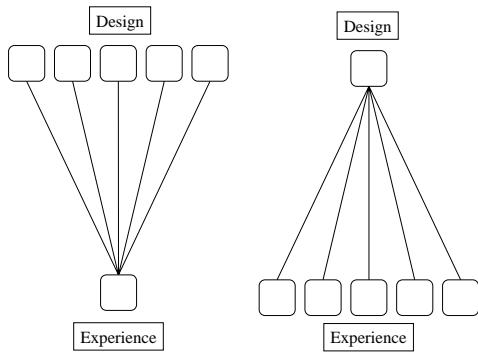
Tommy Sørbø - *Søppel* (2007)

... So, a thing is a thing ...
or is it the context of the thing?

The problem of objects being
both the mental and material

– *Jeg er jo essensialist. Jeg mener at kvalitet er, eller bør være, en iboende egenskap i verket. Hvis du tar urinalet til Marcel Duchamp, plasserer det på et urinal, og visker ut signaturen, så er det bare et urinal. Det er jo totalt uinteressant som kunstgjenstand, mener Sørbø. (fra NRK.NO/kunst - hentet sept 2007)*

Ways to hit nails



Knobology: The art of turning a knob



Turn on the lights, please ,-




... How to lock a door ...

(The keys, please)

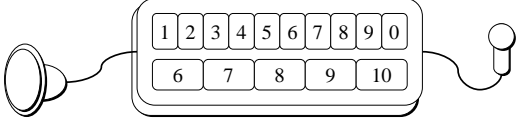
Consider the functions of a basic telephone ...

1. Numbers from 0 to 9
2. Speaker
3. Microphone
4. Speaker
5. Microphone
6. Activate speaker
7. Activate microphone
8. Accept incoming call
9. Send request for outgoing call
10. On/off



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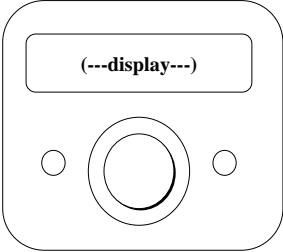
Necessary functions for telephone

1. Numbers from 0 to 9
2. Speaker
3. Microphone
4. Speaker
5. Microphone
6. Activate speaker
7. Activate microphone
8. Accept incoming call
9. Send request for outgoing call
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Lisa Krohn: Phonebook



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Durell Bishop: Marble answering machine



Postal Delivery System: Invehicle interface

Kristian Sandvik: Eyes-free



Kristian Sandvik: Eyes-free



BMW iDrive

"The iDrive concept and the Control Display enable easy operation of, and convenient access to, the myriad of features at the drivers disposal, including the navigation, telephone, climate control and entertainment systems."

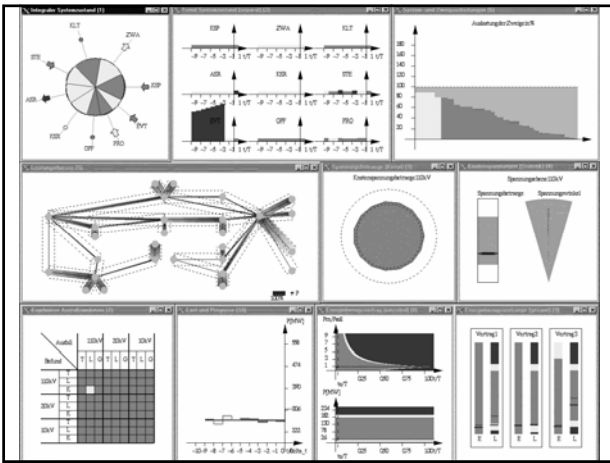


Complex systems:
More people,
More technology,
More resources at stake

Electronical charts aboard ships



NIMA raster charts can now be downloaded to a Windows based navigation program for free.



Electrical Grid Control Oslo, Norway

(... the videos, please)

**Electrical Grid Control:
The Power Desk (Hoff, 2004)**



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Microsoft Surface: Touch Table (2007)

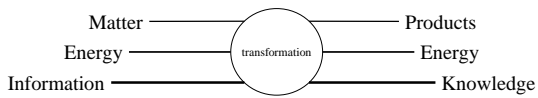


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Models, Perspectives, Reflections

... the problem starts when ...

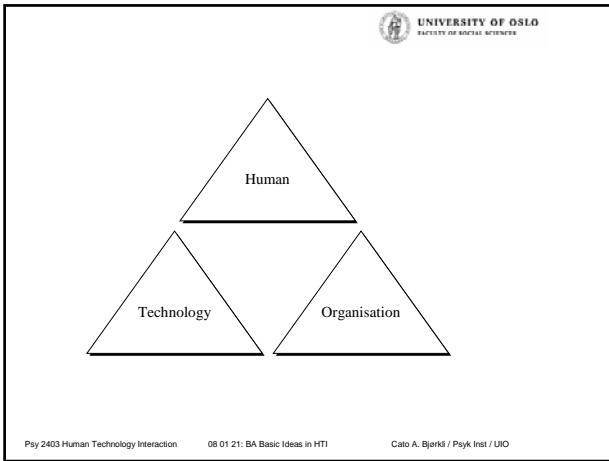
Controllers
Functions

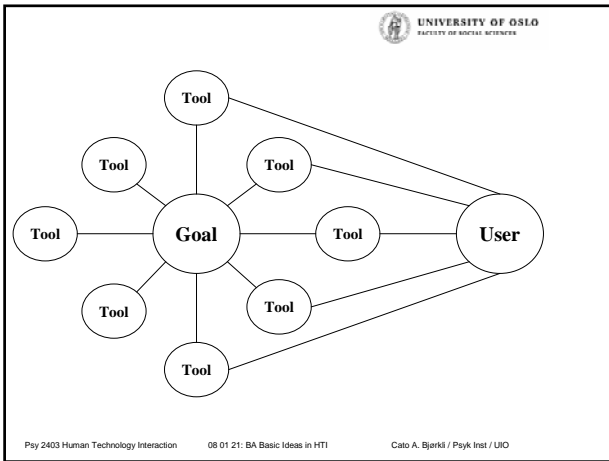


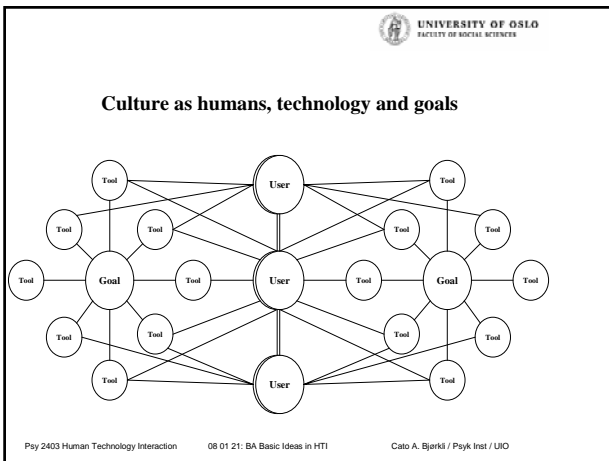
A system is a set of elements, the relations between these elements and the boundary around them.


What is the key feature of transformation in human-technology interaction?

1. The human --> cognitive psychology
2. The technology --> Engineering & Mechanics
3. The interaction --> ?

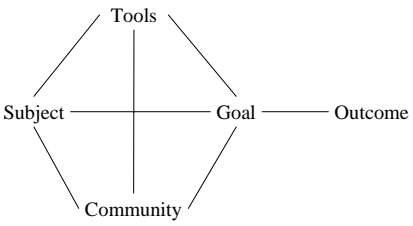








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A new unit of analysis: Activity




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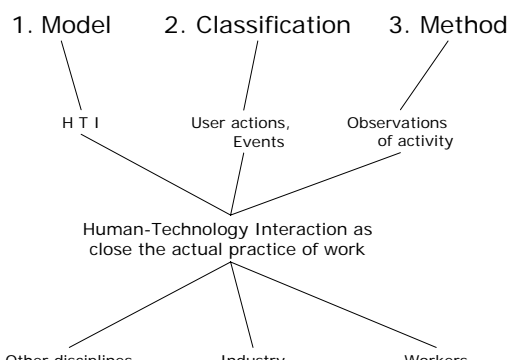

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How to work with H T I ?

1. **Basic research**
2. **Applied research**
3. **Design & Engineering**
4. **Innovation**
5. **Policy making**

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Designers assumption

User expectations

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... to define design ...

"Design is provide what the user wants and needs"
"Design is to facilitate human performance"
"Design is to ensure usability"

- Use-centered approach (alternatives?)
- Where do we enter the design-cycle?
- What kind of knowledge and info do we need?

"Before the system can be built it must be specified"
 Faulkner, p.90

"Human-centred research (and design) is problem driven"
 Woods and Sarter (2000), p.339

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User Centred Design Process

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The physical separateness of objects and users do not necessarily imply an analytical separateness of functions and performance
