Innovative UI Design in the Area of Tangible Media
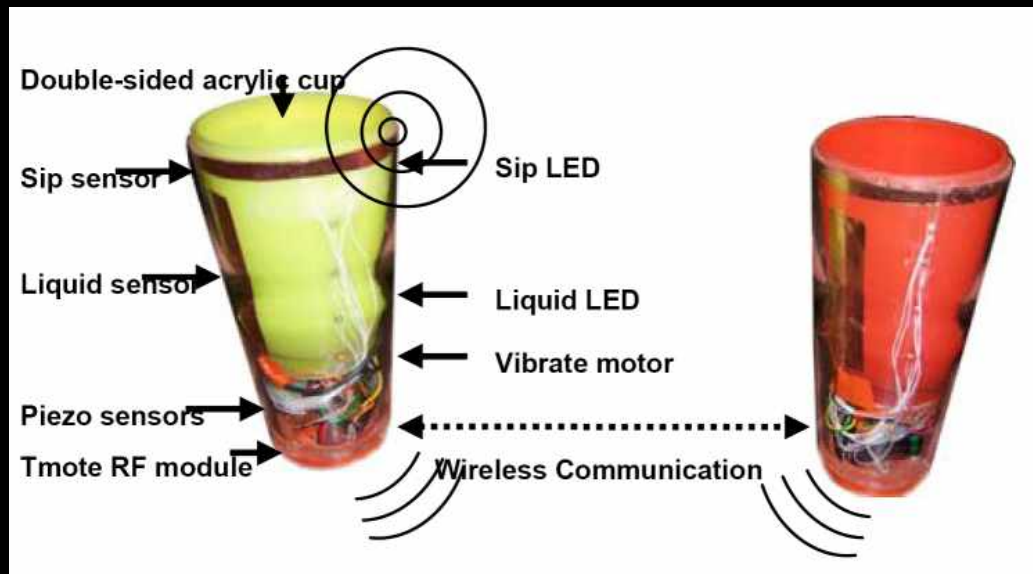
Jörn Loviscach

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UGLY
LO-BANDWIDTH
VERSION

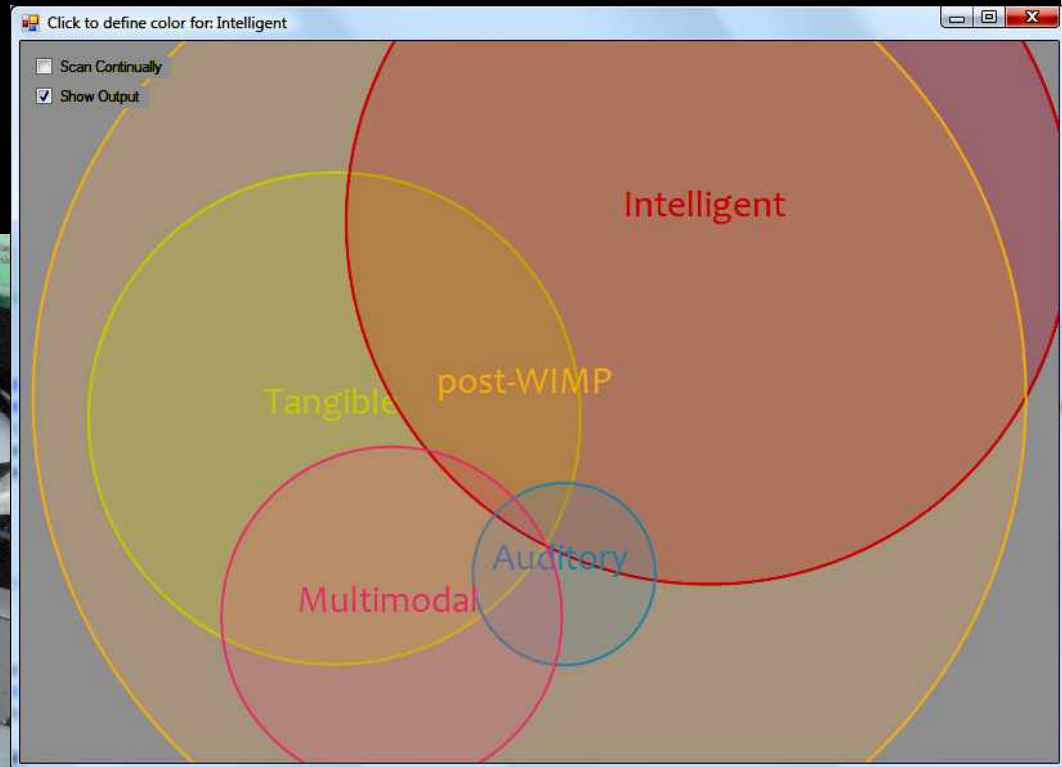# What are tangible media?

Media with a tangible interface!

H. Chung, C.-H. J. Lee, T. Selker.
Lover's cups: drinking interfaces
as new communication channels.
CHI 2006

User Interfaces for Tangible Media

Tangible User Interfaces for Media

Playing with Buzzwords
on an Image Scanner

Agenda

- Definition? Taxonomy?
- Hot topics, examples
- Vital issues to address

Original Definition

"TUIs will augment
the real physical world
by coupling digital information
to everyday physical objects
and environments."

Too narrow?!

H. Ishii, B. Ullmer.
Tangible bits: towards seamless interfaces
between people, bits, and atoms. CHI 1997
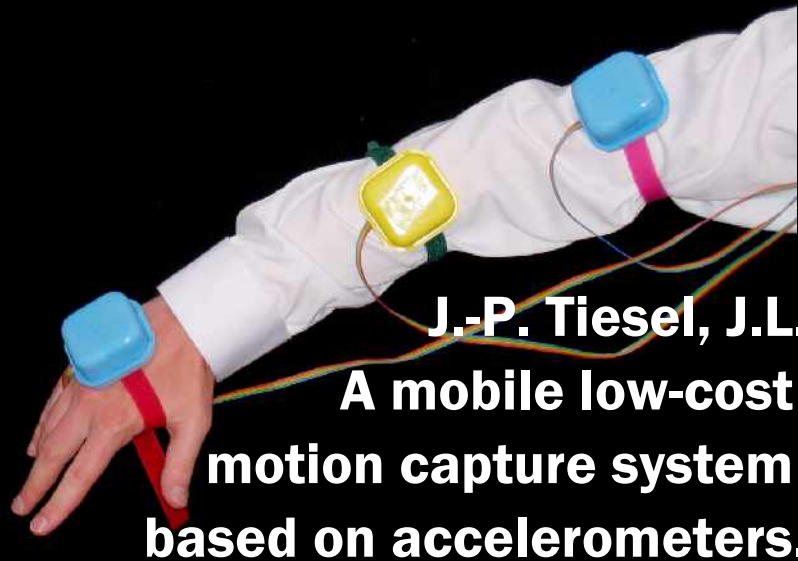
Charting the Terrain of TUIs

Nominal scale?!

Metaphor Embodiment	None	Noun	Verb	Noun and Verb	Full
Full					
Nearby					?
Env.					?
Distant					?

K. P. Fishkin.

**A taxonomy for [design] and analysis
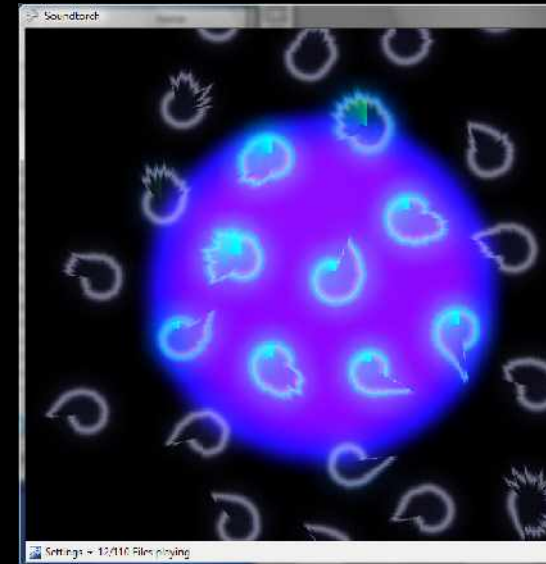of tangible interfaces. Pers Ubiquit Comput 2004**

Hot Topics, Examples

Wii Remote: a Key Enabler

J.-P. Tiesel, J.L.
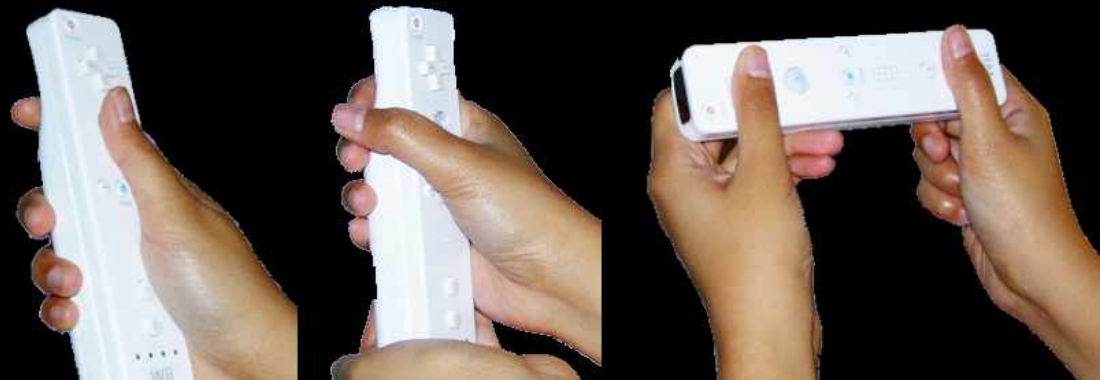A mobile low-cost
motion capture system
based on accelerometers.
ISVC 2006

S. Heise, M. Hlatky, J.L.
SoundTorch: quick
browsing in large
audio collections.
125th AES Conv. 2008

I.A. Suhardi, J.L.
How to steer characters in group games.
GDTW 2008

S. Heise, J.L.
A versatile expressive
percussion instrument
with game technology.
IEEE ICME 2008

Multi-Touch

Tangible Game Technology

tngames.com

www.philips.com/
AmBX

home.novint.com/
products/
novint_falcon.php

J.L.

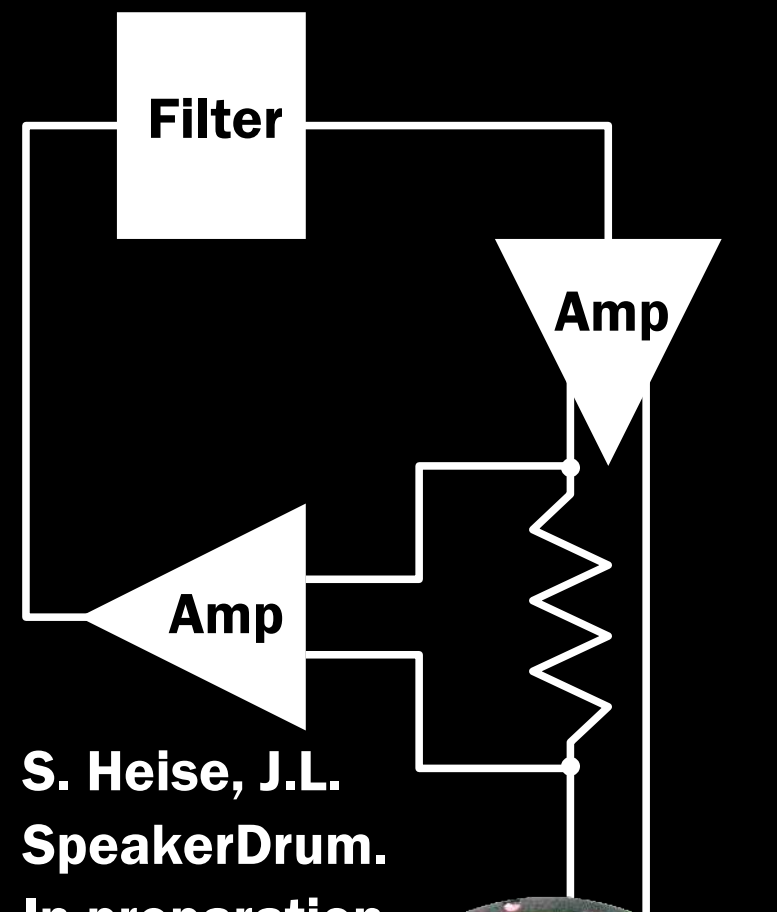**Two-finger input
with a standard touch panel.
ACM UIST 2007**

J.L.

**Playing with all senses: human-
computer interface devices for games.
Advances in Computers, in print**

Musical Instruments

Filter

Amp

Amp

S. Heise, J.L.
SpeakerDrum.
In preparation

C. v. Tycowicz, J.L.
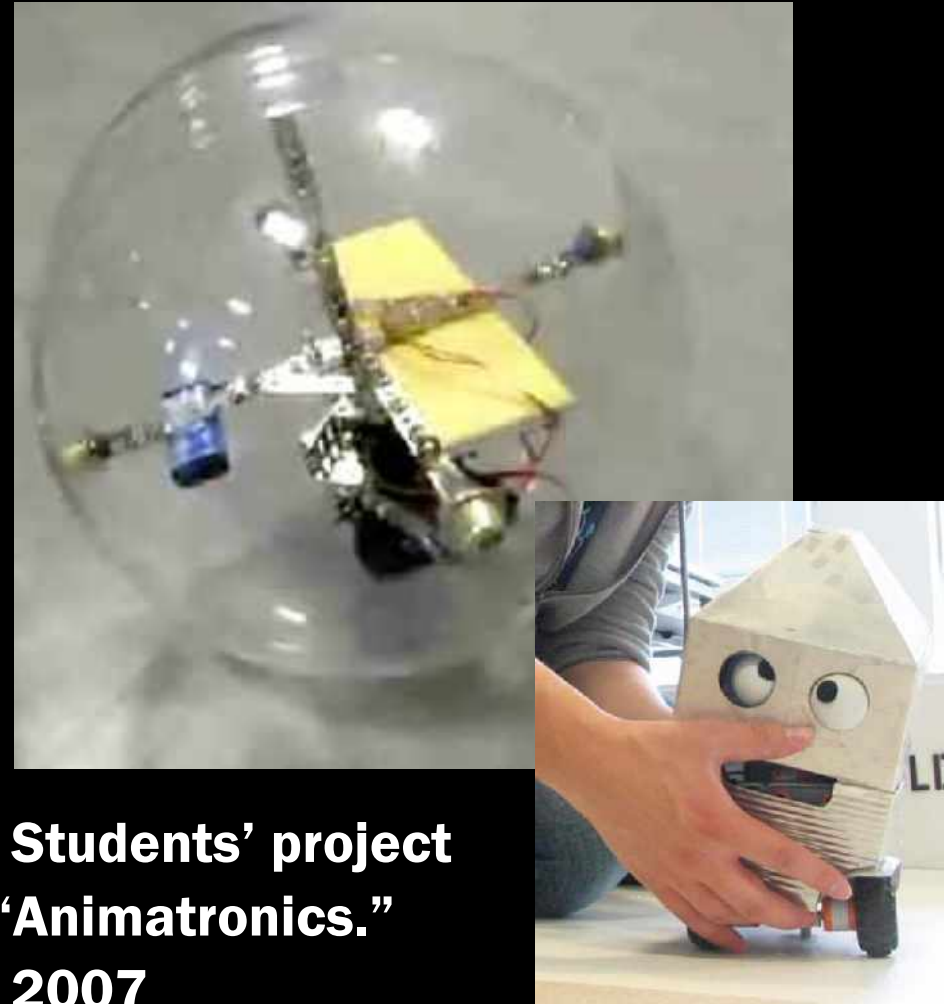A malleable drum.
SIGGRAPH 2008
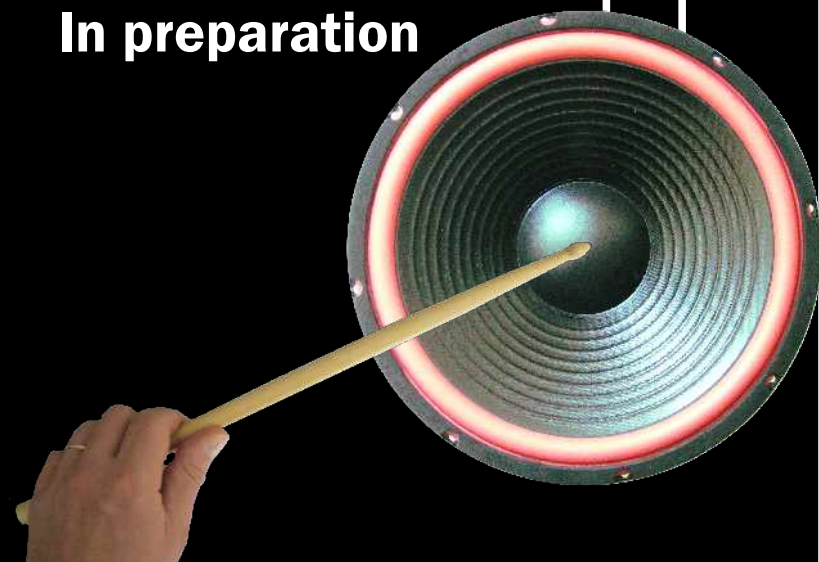
Location Awareness

D. Black, K. Gohlke, J.L. EarMarkIt: an audio-only game for mobile platforms. Audio Mostly 2008

Robots, Kinetic Devices

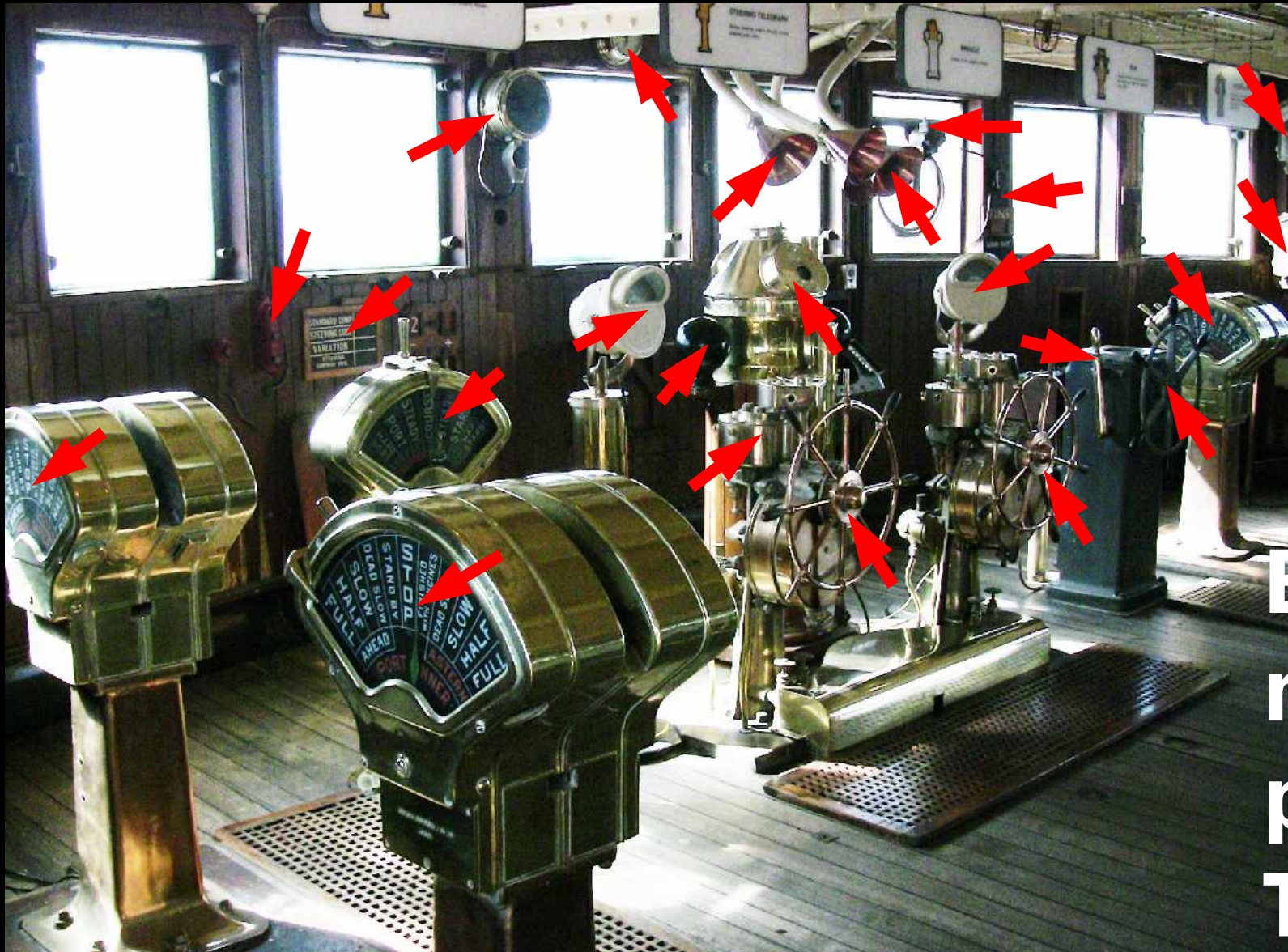**Students' project "Animatronics." 2007**

Vital Issues
to Address

... well, some of them, at least

Each task demands
yet another gadget?
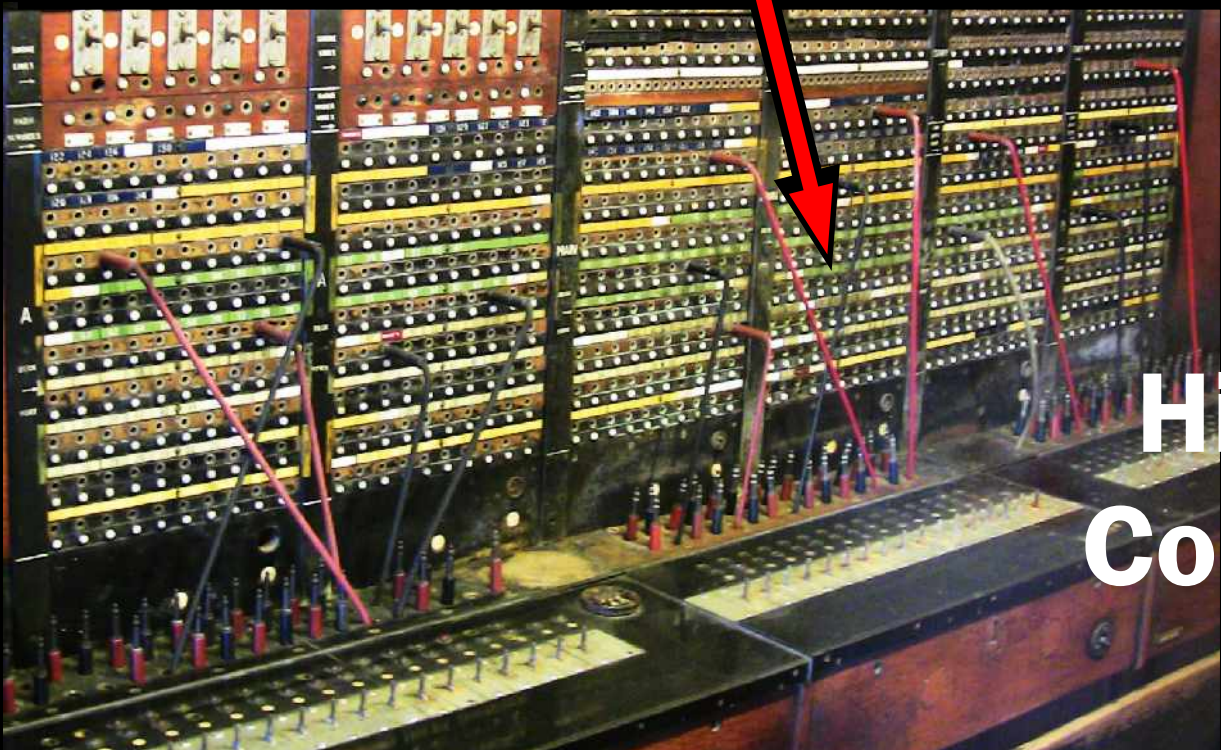
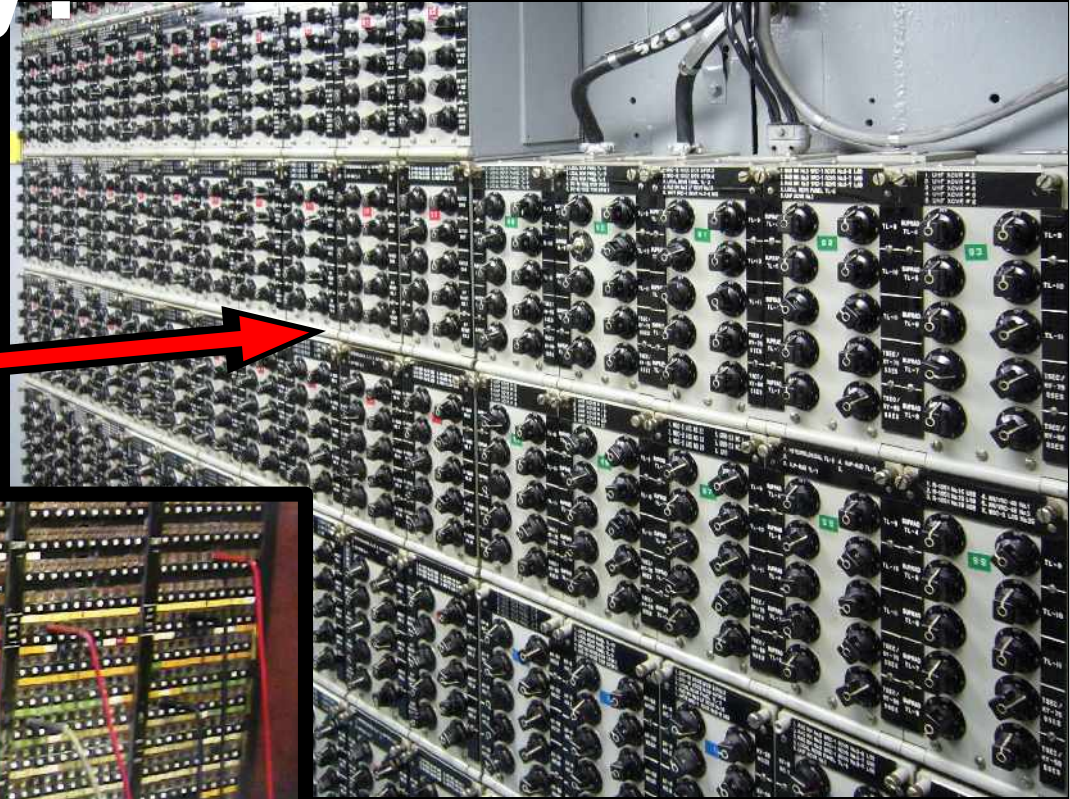Each task demands yet another gadget?

Build multi-purpose TUIs?

More complexity through tangibility?

More complexity through tangibility?

TUIs for media!?

Hide complexity: Combination with intelligent UIs!

Tons of demos, but no master plan

"

"

And how to test if these really work?

Thanks for your attention!

Any questions, suggestions, ideas, ...?

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