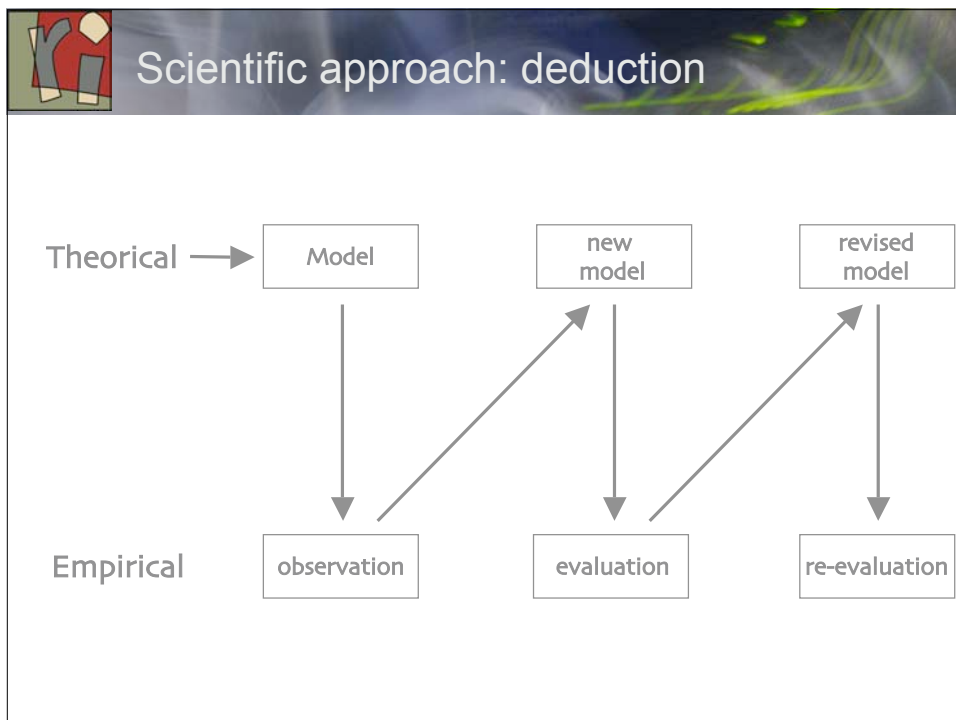

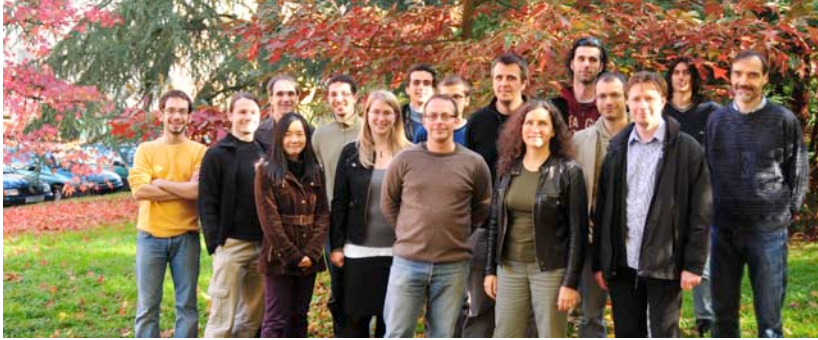
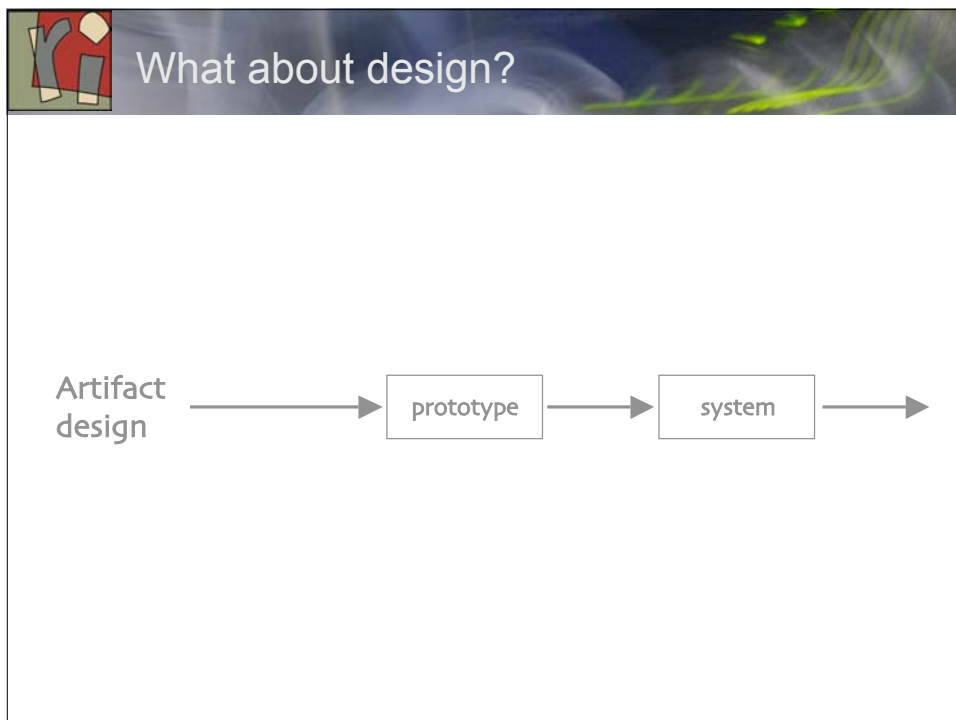
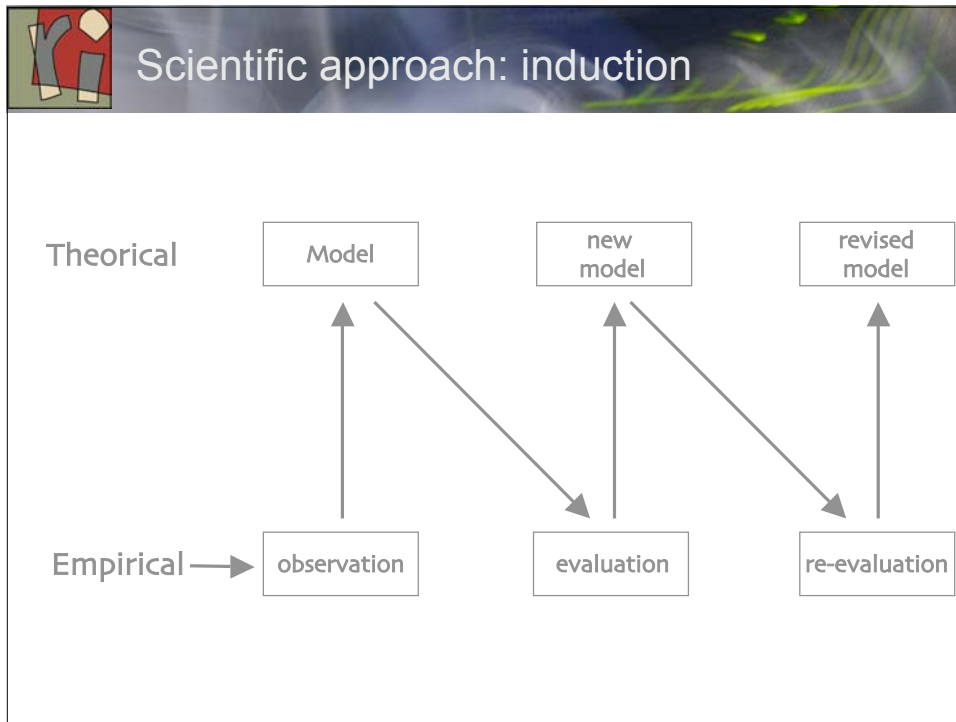
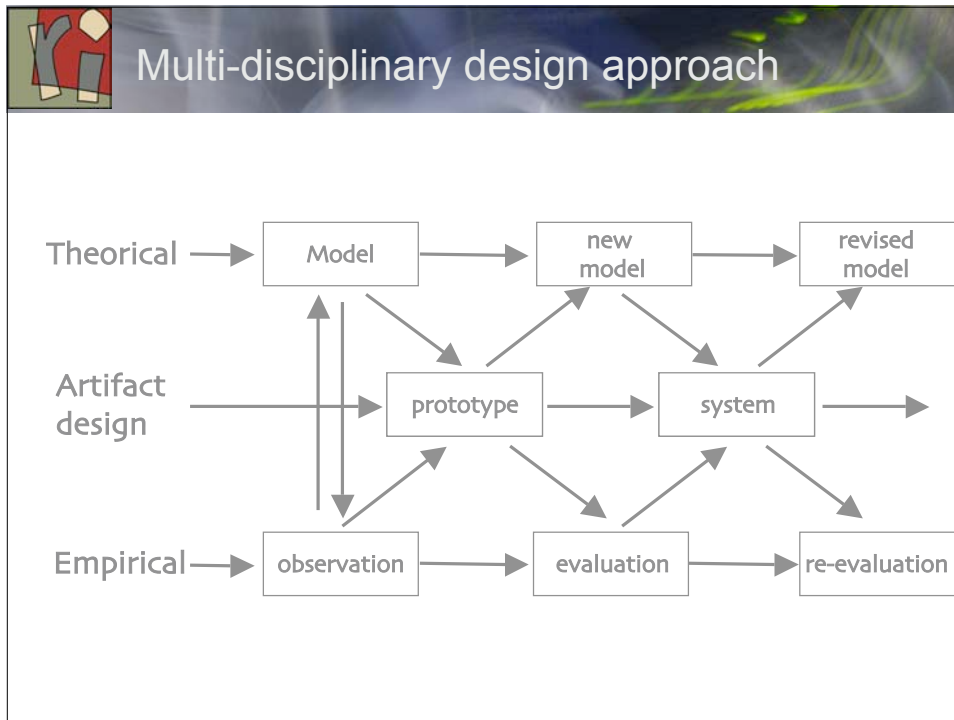


Situated Interaction (InSitu)

Head: Wendy Mackay


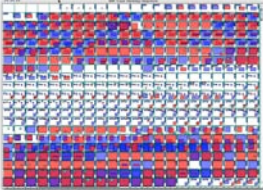







Interaction & Visualization Paradigms

- Multi-scale interaction: navigation & pointing**
 - Fitts' law with very high indices of difficulty (+30 bits) [IJHCS'04]
 - Orthozoom [CHI'06], Dynaspot [CHI'09]
- Interactive information visualization**
 - Matrix visualization [IHM'06], ZUIST [UIST'07]
 - Semantic Web Data Visualisation [VLHCC'05], StreamLiner [KAM'08]
- Tangible interaction**
 - TangiCam [IDC'05], Sketchcam [IDC'06], Paperoles [CoPADD'07], Prism [CSCW'08], A20 [NIME'08]
- Mixed-initiative interaction**
 - Object Tracker [CHI'06], OctoPocus [UIST'08]

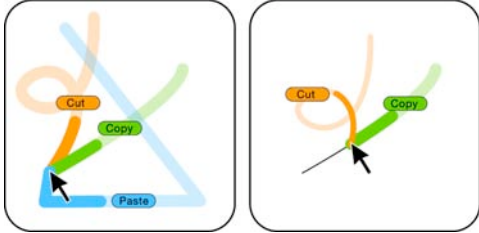
Focus: Octopocus

How to help learn, execute and remember new gesture sets?
 Create a partnership between the user and the system

A dynamic guide that combines
feedforward how to draw a gesture and its associated command
feedback how has the current feedback been interpreted

Novice - expert
Press-then-Wait
 Adaptable
 +/- incremental algorithms
 Theoretical framework
Applicable to multiple recognition types

One-Laptop-Per-Child



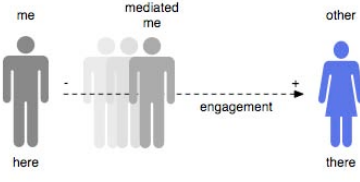
Bau & Mackay, UIST 2008

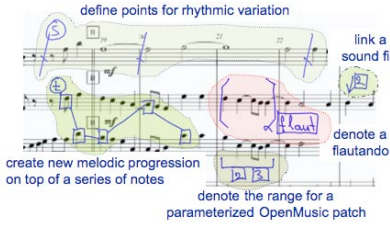
Mediated communication

Communication appliances
 FamilyNet [Soups'06, patent], Nightboard [Stage],
 Marker Clock [REF], WeMe [HCI International 2009],

Multi-scale communication
 Pêle-Mêle [CSCW'06], Miss-U [CHI'09], ICI-TV (CEA startup)


Reflective interfaces
 PageLinker [CHI'07], Prism [CSCW'08], Musink [CHI'09]






Focus: ICI-TV

Praesto (startup) :
Services for the elderly
via settop box




Marker
Clock
(2006)




ICI-TV
Aging in place
communication, not monitoring
Multi-scale interaction at a distance
with family & care-takers
Easy transition from peripheral
to focused communication

Video
Probe
(2003)



Technology transfer:
Communication Appliances

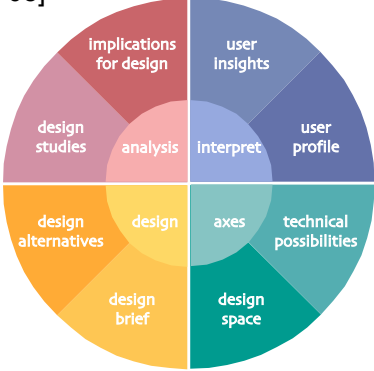
FamilyNet
(2005)
MirrorSpace
(2003)



Research methods

Multi-disciplinary design
Interactive thread [UIST'07]
Generative Walkthroughs
Sketching Design Spaces [CSCW'08]
Interactive Thread [UIST'07]

**Comparative models
of interactive systems**
CIS [SP&E 2008]
Touchstone [CHI'07]
Interaction Museum [3 Symposia]



Focus: Touchstone

- Create a common database of interaction techniques
- Design common experimental protocols for testing them
- Replicate results / extend understanding of interaction techniques
- Improve scientific foundation of HCI research

```

    graph TD
      scripts((scripts)) --> idp[interactive design platform]
      idp --> rs[runnable script]
      idp --> sdl[sample data log]
      rs --> es[experiment summary]
      techniques((techniques)) --> rp[run platform]
      corpuses((corpuses)) --> rp
      measures((measures)) --> rp
      criteria((criteria)) --> rp
      rp --> tl[table log]
      rp --> cd[cinematic data]
      tl --> as[analysis scripts]
      cd --> as
      as --> ap[analysis platform]
      ap --> jmp[jmp]
      ap --> R[R]
  
```

Engineering of interactive systems

Exploratory toolkits: platforms for exploration

HsmTk	hierarchical state machines	[AVI'06]
InfoVis	support for information visualisation	[InfoVis'04]
IsaVis	visual authoring tool for RDF models	[WWW'02]
Metisse	facilitates design of novel window managers	[UIST'05]
Núcleo	new uses of video and image streams	[CLIHCC 2003]
Shakespeare	tests multi-scale interaction techniques	[Beliv 2006]
SwingStates	state machine-based interaction	[UIST'06, SP&E]
Touchstone	multi-platform wiki server	[CHI'07]
wmtrace	log & visualisation of user activity	[stage]
ZVTM	structured graphics editors	[VL/HCC'05]

Focus: Façades

Metisse Window System
 design, implementation of advanced interaction techniques
 Distinguishes between rendering & compositing processes
 Supports both input and output redirection

Façades
 Adapt, reconfigure or re-combine existing graphical interfaces

Advanced Interaction

Wall-sized Interaction with Large Data Sets
 Wall-Sized displays (WILD, 10 U Paris-Sud labs)
 Interacting with temporal data (ReActivity, MSR)
 Instrumental interaction (iStar, ENAC)