incidental interaction
when machines do what they want

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other things

- situated displays, eCampus, small device – large display interactions
- fun and games, artistic performance, slow time
- physicality, creativity, bad ideas
- intelligent internet interfaces open search, etc.
the plan

- beyond intention
  - examples at the edge
- incidental interaction
  - definitions and relations
- pushing the boundaries
  - remoulding our models

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car courtesy lights

- turn on
  - when doors unlocked/open
- turned off
  - after time period
  - when engine turned on

driver’s *purpose* is to get into the car

*incidentally* the lights come on
Pepys
• Xerox Cambridge (RIP)
• active badges
• automatic diaries

Allan’s purpose to visit Paul’s office
  incidentally diary entry created

MediaCup
• cup has sensors
  – heat, movement, pressure
• broadcasts state (IR)
• used for awareness
  – user is moving, drinking, ...

Han’s purpose to drink coffee
  incidentally colleagues are aware

shopping cart
• goods in shopping cart analysed
  – e.g. Amazon books
• used to build knowledge about books
  – people who like X also like Y
• used to give you suggestions
  – “you might like to look at...”, “special offer...”

my purpose to buy a book
  incidentally shown related titles
onCue

• ‘intelligent’ toolbar
  – appropriate intelligence
  • make it good when it works
  • don’t make it hard if it doesn’t
• analyses clipboard contents
• suggests things to do with it

user’s *purpose* to copy text elsewhere
*incidentally* alternative things to do

beyond intention

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**definition**

where actions performed
for some other purpose,
or unconscious signs,
are interpreted in order to
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the actors’ future interaction
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where actions performed for some other purpose, or unconscious signs, are interpreted *in order to influence/improve/facilitate the actors' future interaction or day-to-day life.*
continuum of purpose

intentional
press light switch

expected
walk into room expecting lights to switch on

incidental
walk into room ... unbeknown to you
... air conditioning increases

fluidity

intentional
co-option

expected

incidental

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interaction models

- intentional cycle
  - Norman execution/evaluation loop
- some exceptions
  - multiple goals, displays, opportunistic
- guidelines
  - feedback, transparency

![Diagram of intentional cycle]

task analysis

- need richer representations
  - of the world, of devices, of artefacts
  - wider ecological concerns
- two tasks
  - purposeful task – for interpretation
  - supported task – for actions

cognition

- physical things (inanimate)
  - directness of effect
  - locality of effect
  - visibility of state
- computational things (also animate)
  - complex effects
  - non locality of effect
    - distance – networks; time – delays, memory
  - large hidden state
cognition

- understanding
  - innate intelligences
    - physical, natural/animal, social, physiological
    - rational thought
    - imagination
- interfaces
  - GUI, VR, AR, tangible
  - ubicomp, ambient, incidental
  - homunculi, haunted houses

system architecture

- open, standardised
  - e.g. onCue
  - clipboard
  - beyond

So?

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low intention

low attention

breaking assumptions of HCI

rewriting the book