Human-Computer Interaction in the early 21st century:

a stable discipline, a nascent science, and the growth of the long tail

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SIGCHI Ireland Inaugural Lecture, Trinity College Dublin — Tuesday 2 December 2008

wot I'll say

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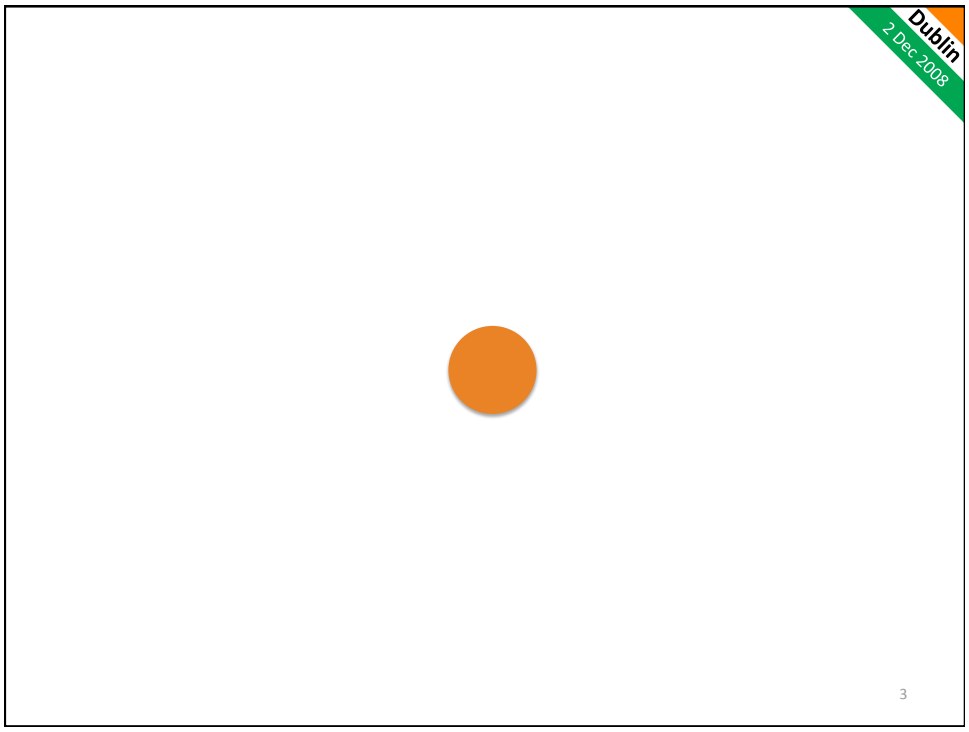
"state of the nation"

where is HCI
how can it develop

bit of my own stuff

and how they fit together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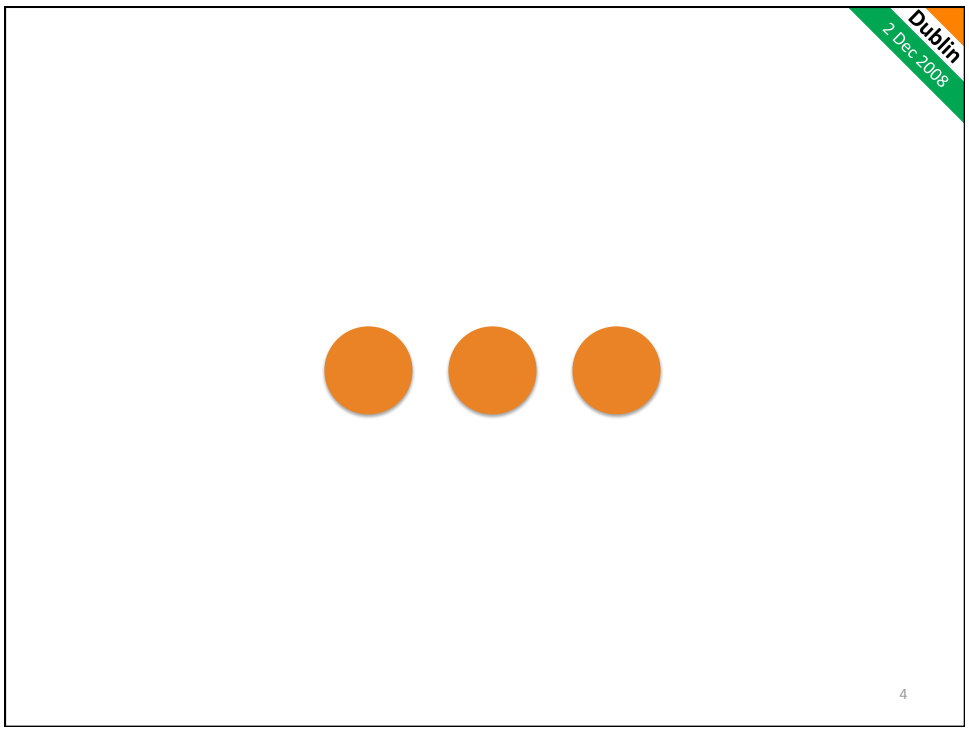
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today I am not talking about …

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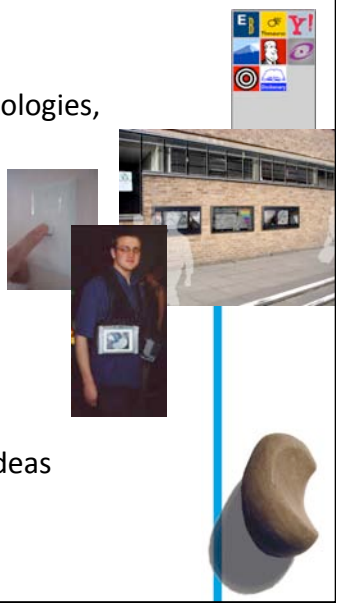
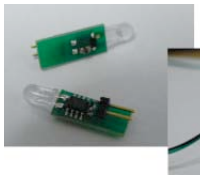
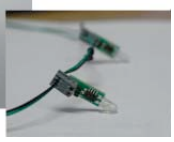
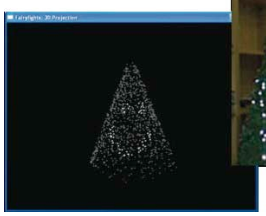
- intelligent internet interfaces, personal ontologies, structure from folksonomies
- situated displays, eCampus,
  small device – large display interactions
- fun and games, artistic performance, slow time
- physicality and design, creativity and bad ideas
  + modelling dreams and regret!!

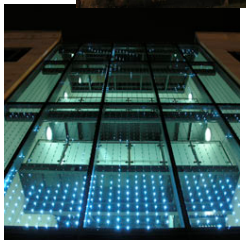


… or even lots of lights

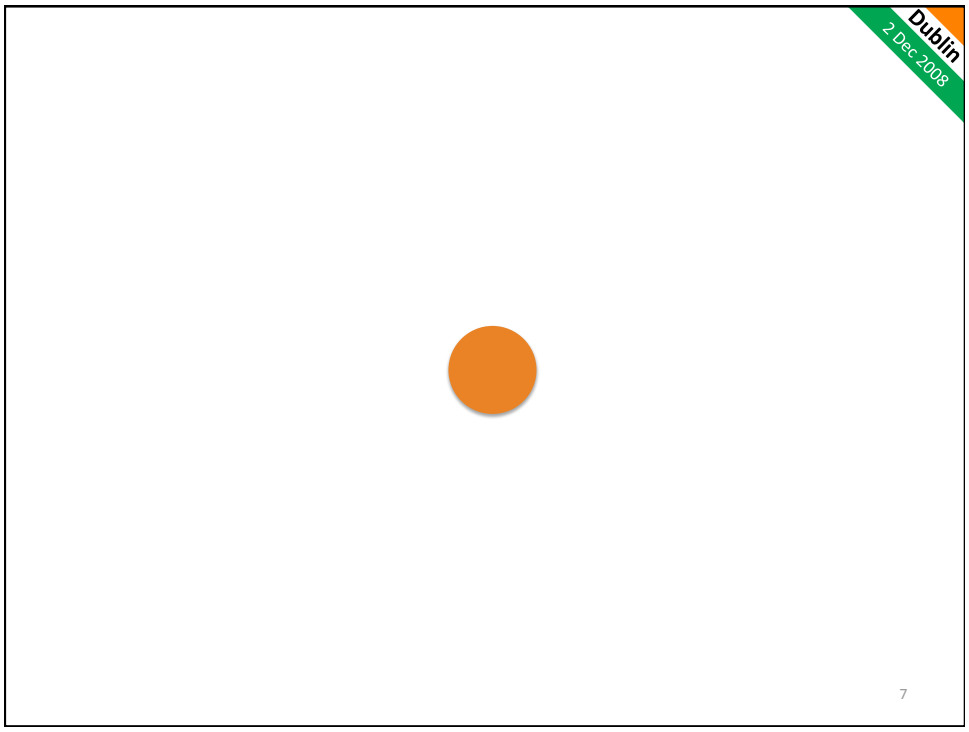








http:/www.hcibook.com/alan/projects/firefly/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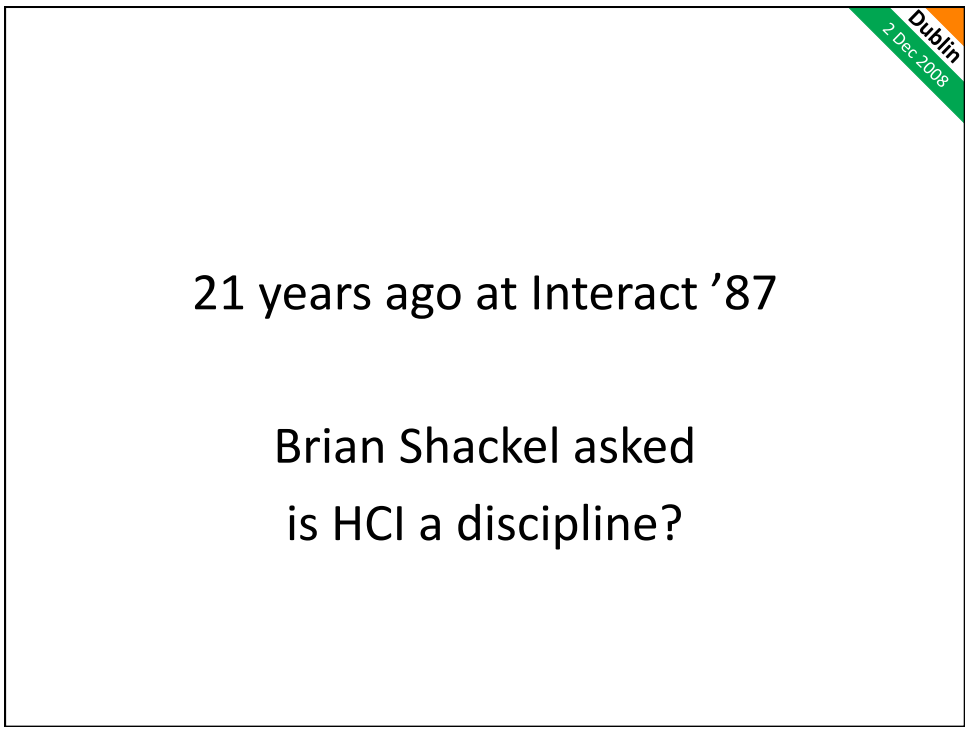
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21 years ago at Interact ’87
Brian Shackel asked
is HCI a discipline?

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yes!

a community
defines a discipline

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but science goes beyond community

or academic discipline

from acceptance of knowledge
to assurance of truth

(c.f. John Long craft, engineering or science)

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are we getting there?

2nd generation HCI researchers, teachers & practitioners

good for community ...

but maybe loosing disciplinary roots
have we found our own?

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strength of HCI
research and practice close

danger
we confuse the two

evident in papers, reviews etc.

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three challenges to develop
the academic discipline of HCI

methodology

knowledge

rôles

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new roots need new methods

need to think methodologically

not just adopting methods
but understanding why
but it is hard!

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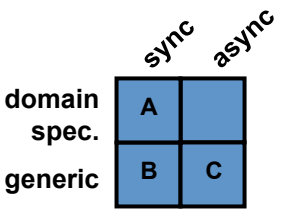
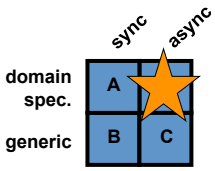
a little story …

- BIG ACM sponsored conference
- 'good' empirical paper
- looking at collaborative support for a task X
- three pieces of software:
  - A – domain specific software, synchronous
  - B – generic software, synchronous
  - C – generic software, asynchronous



experiment



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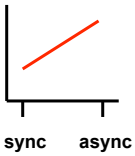
- reasonable nos. subjects in each condition
- quality measures
- significant results p<0.05
  - domain spec. > generic
  - asynchronous > synchronous



- so really want asynchronous domain specific

what's wrong with that?

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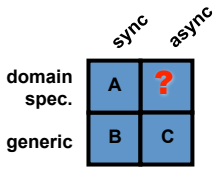
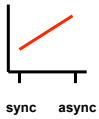
interaction effects
- gap is interesting to study
- not necessarily good to implement



more important …
if you blinked at the wrong moment …

NOT independent variables
- three different pieces of software
- like experiment on 3 people!
- say system B was just bad

B < A



B < C

can we fix it?

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- borrowed psych method
  - … but method embodies assumptions
  - single simple cause, controlled environment
- HCI needs ecologically valid exp.
  - multiple causes, open situations
- what to do?
  - understand assumptions and modify
- both and …
  - quantitative – what is true end to end – phenomena
  - qualitative and anecdotal – why – **mechanism**

three challenges to develop the academic discipline of HCI

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methodology

knowledge

rôles

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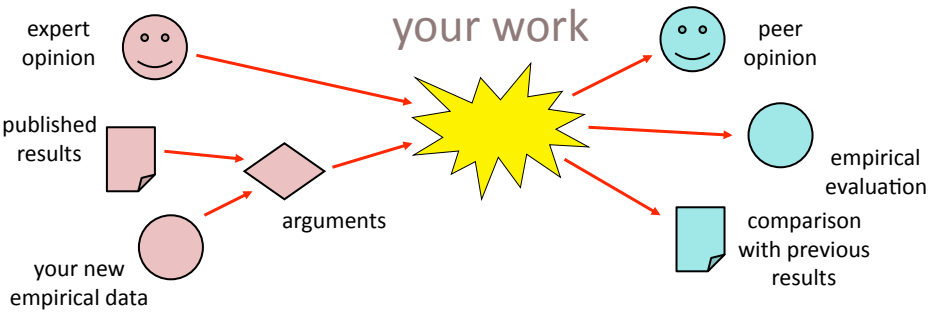
validity



justification evaluation

conflict: publication vs. science

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three challenges to develop the academic discipline of HCI

methodology

knowledge

rôles

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HCI is a diverse discipline

different genres of work
  need different criteria of judgment
    ✔recent CHI sub-committees

different rôles for people
  we don't all need to do everything

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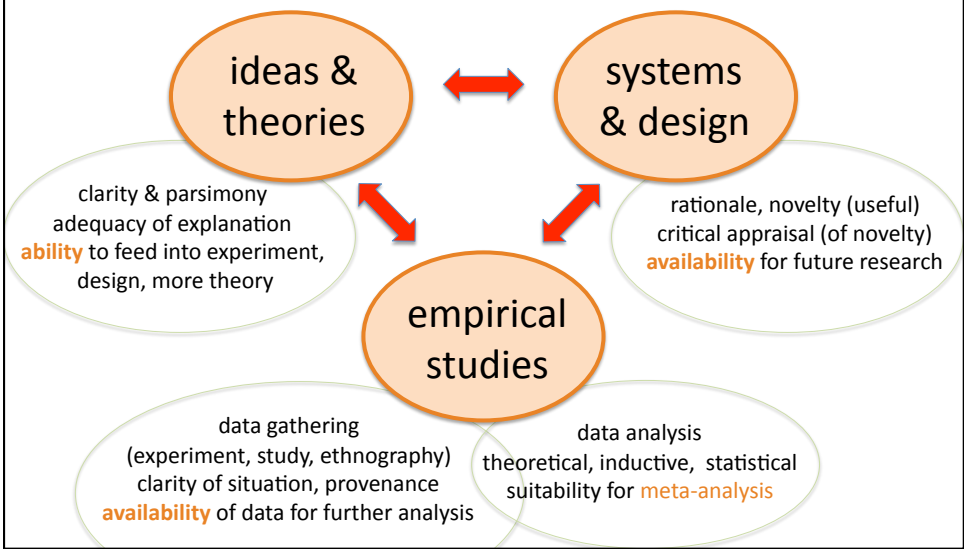
(some) rôles



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plus...

HCI is changing!

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for nearly 20 years shackled to the office desk desktop ...

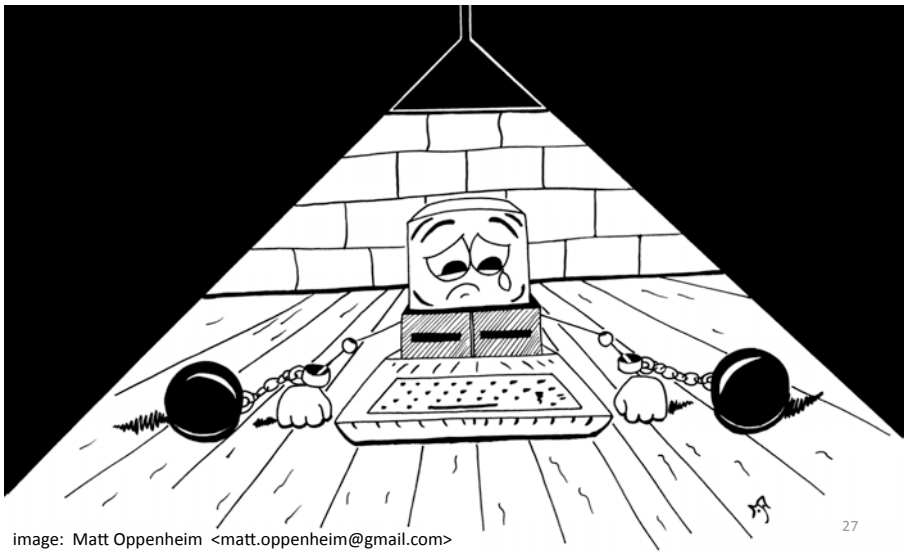

image: Matt Oppenheim <matt.oppenheim@gmail.com>

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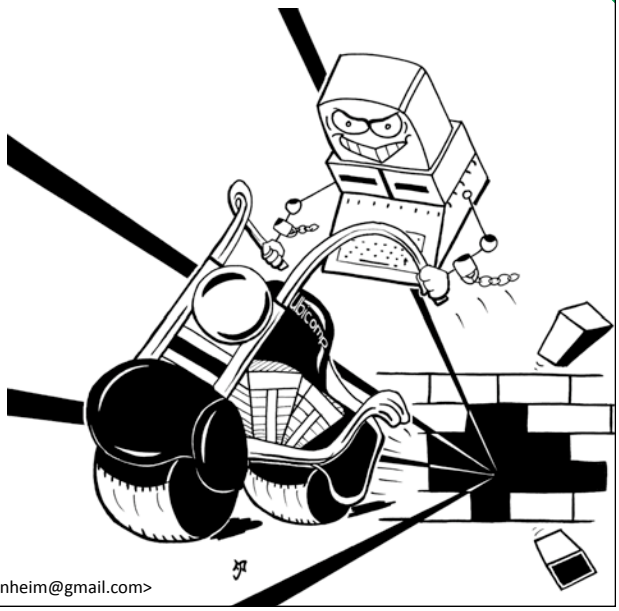
... the computer now breaks free!



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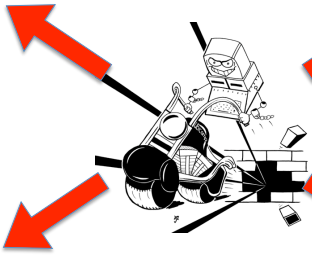
into the world
ubiquitous
tangible
mobile



onto the net
collaboration
information
service

choice

not just work
home
leisure
experience

from the people
web 2.0
photo sharing
social networking

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PhD student, Fariza Hanis Abdul Razak
looking at mobile experience

initial study – one user was 'odd'
... so looked further at just her

learning from the extremes

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studying a single person
... initial diary study

the first text ...

Dear God Don't need lots of frens! As long as real ones stay with me, so bless them all, especially the sweetest one reading this.

and subject's comment:

this SMS MADE MY DAY!

John Rooksby: messages that need no reply

changed our view of use of mobile

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research

- very rich empirical data reveals new issues
  - using personal understanding
- novelty only needs one example (e.g. new species)
  - different person different place would find different phenomena
  - equally explorer in different place would find different species
- generalisation through reasoning
  - abduction and deduction rather than induction

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generalisation

never comes (solely) from data

always through understanding

design & practice

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design for a single person
not even five users!

get to know him/her intimately
what would be perfect for that person

designing for peak experience ...

baked bean vs. mars bar design

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en.wikipedia.org/wiki/Image:MBar_700.jpg

freefoto.com

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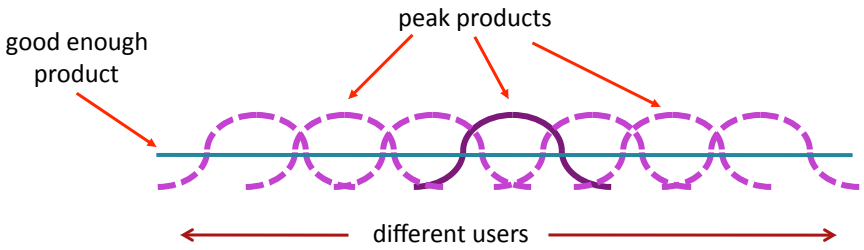
designing for peak experience
who wins?



good enough products never win

for any user, some peak product always better

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designing for peak experience

how to do it:

- traditional interface design
  - user profiles, central personas, average and typical, process and methods, from need to solution
- design for peak experience
  - individual user, niches, extreme personas, specific and eclectic ideas and inspiration, from concept to use

when to do it:

- individual choice, user experience, the long tail: many applications for smaller groups

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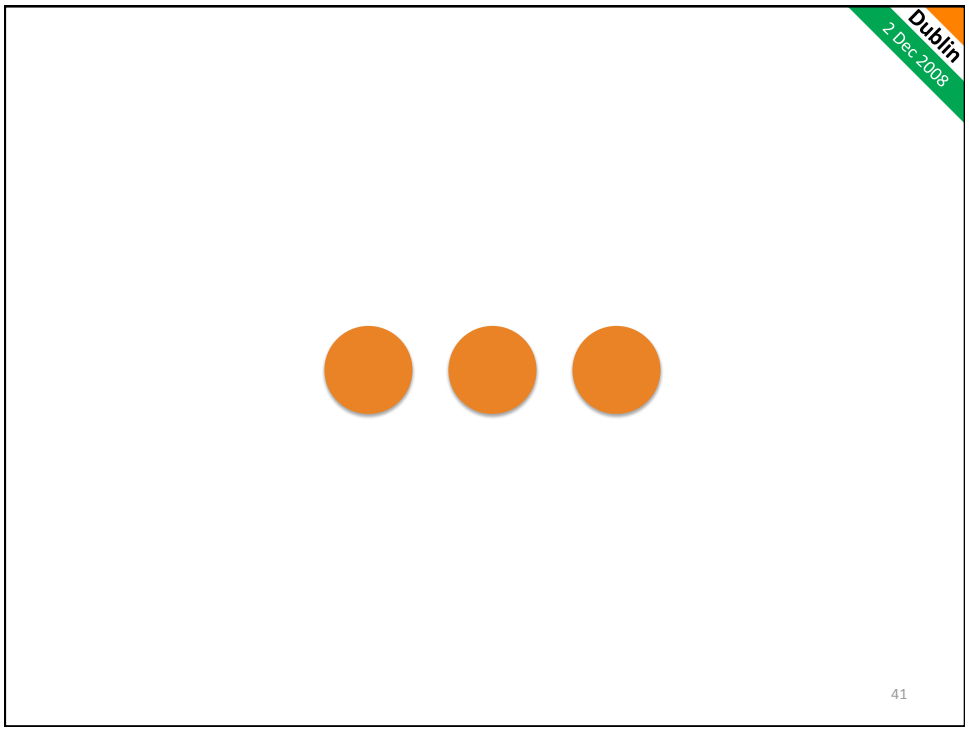
single person study
- flouting community conventions
- but understanding methodology

prompted by changes in HCI
- what is the same and what changes

the lens of unfamiliarity helps us explore the heart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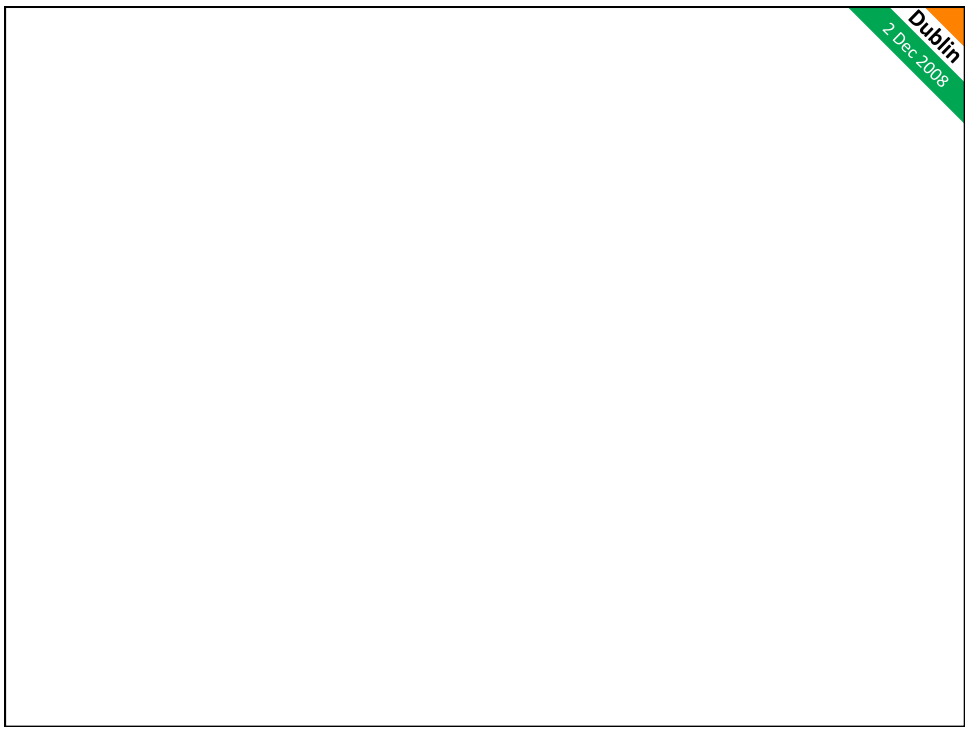
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