

Design with Intent

101 patterns for influencing
behaviour through design

Dan Lockton
with
David Harrison
& Neville A. Stanton



Requisite Variety



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ISBN 978-0-9565421-0-6 (printed cards); ISBN 978-0-9565421-1-3 (eBook). First published online April 2010; printed version May 2010. Minor revisions 2011, 2012.
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Published by Equifine, an imprint of Requisite Variety, St Margaret's, Middlesex, UK



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Many thanks to everyone who has helped with the development of the Design with Intent toolkit, including taking part in workshops, commenting on the research as it has progressed, and reading the blog. Thanks too to the Ormsby Trust and the Thomas Gerald Gray Charitable Trust who have enabled me to pursue my PhD at Brunel. And thank you to Harriet, for her endless patience.

You can download these cards, free of charge, let us know how you used them, and complete a survey to improve future versions, at:

designwithintent.co.uk

Dan Lockton specialises in interaction design for behaviour change, persuasive technology and sustainable design. He does consultancy, workshop facilitation and research as Requisite Variety, and is currently a research fellow at WMG, University of Warwick and a research assistant at Brunel University in London, working with startup CarbonCulture on reducing workplace energy use through user-centred design for behaviour change. He is also a visiting practitioner at Central Saint Martins School of Art & Design.

Dan has a BSc in Industrial Design Engineering from Brunel's former Runnymede design school, a Cambridge-MIT Institute Master's in Technology Policy from the University of Cambridge's Judge Institute, and is completing his PhD at Brunel currently. Before returning to Brunel, he worked on a range of design and product development projects, including ultra-light bike design for Sinclair Research.

Since 2005, the Design with Intent blog (danlockton.co.uk), originally titled Architectures of Control in Design, has looked at the interface between designed systems and human behaviour.

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Professor David Harrison is Head of Design Research at Brunel University, and specialises in reducing the environmental impact of technology via novel manufacturing methods and design process innovation.

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Introduction

All design influences our behaviour, but as designers we don't always consciously consider the power this gives us to help people (and, sometimes, to manipulate them). Whether we mean to do it or not, it's going to happen, so we might as well get good at it — and understand when it's being done to us. There's a huge opportunity for design for behaviour change to address social and environmental issues, but as yet little in the way of a guide for designers and other stakeholders, bringing together knowledge from different disciplines, and drawing parallels which can allow concepts to be transposed. The Design with Intent toolkit (these cards and the accompanying wiki, at <http://designwithintention.co.uk>) aims to make a start on this task.

I use *Design with Intent* to mean *design that's intended to influence or result in certain user behaviour* — it's an attempt to describe systems (products, services, interfaces, environments) that have been strategically designed with the intent to influence how people use them. The toolkit has evolved from an attempt at a very structured method for prescribing particular design features, to a loose concept generation tool, provoking design ideas by asking questions and giving examples of particular principles in action. This evolution is a result of running workshops with designers and students, and seeing what works and what doesn't. But the process isn't finished, and your feedback on how you've used these cards, and how to improve them, is very much appreciated — please see the card 'How you can help'.

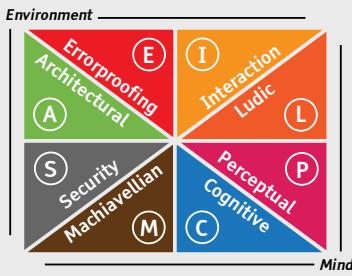
Structure of the toolkit

The cards are grouped into eight 'lenses' representing different disciplinary 'worldviews' or fields of research. Each lens has an introduction card which explains a bit more of the background. It's a loose taxonomy and many cards would fit happily in other lenses: the point really is to encourage designers to think about behaviour change from different perspectives.

Equally, the dividing lines between lenses are relatively fuzzy: if arranged as a series of segments as shown here, moving from each lens to the next clockwise or anti-clockwise only requires a small shift in thinking. The 'environment' and 'mind' labels are tentative but reflect the general focus of the lenses, with those at the opposite corners involving most overlap.

Is this a design pattern library? Sort of. The idea of design patterns, drawn from Christopher Alexander's work in architecture, has been adopted throughout programming and human-computer interaction. This latter context has influenced the form of Dwi, with a large dose of both TRIZ and IDEO's Method Cards. However, the Dwi cards are more like provocations — 'Can you do this with your design?' — than the established 'Use this when...' style of the design pattern structure. At present we just don't have enough evidence about what works and what doesn't in different situations to be able to be that specific, although in time this will change.

Bryan Lawson has used the term 'gambit' to describe the 'repertoire of tricks' that experienced designers can bring to bear on a problem; the key is pattern recognition of the problem and quick matching to possible moves to address it, and is hoped that the Dwi cards fit this approach. So, for the moment, I'm using both 'gambit' and 'pattern' to describe each Dwi card.



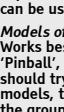
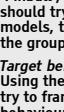
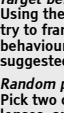
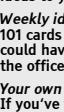
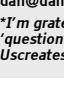
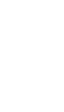
The eight lenses of the toolkit

How to use the cards

Each pattern / gambit is phrased as a question — a provocation to invite discussion about the behaviour change question or brief you're considering*. The landscape format means it is easier for two people to look at a card together.

Lens-by-lens

Lay out all the cards, grouped by lens, and go through each lens seeing whether the questions inspire any concepts for addressing your problem. In groups it often works well for one or two people to take a lens each and discuss together, then all 'report back' to everyone else.

Analyse existing idea spaces Try using the cards to draw out some of the behaviour-influencing principles behind products, services or environments you're familiar with, and see if there are gaps or opportunities to explore further. Printing the cards onto sticker paper can be useful here for 'annotating' real items.

Models of the user

Works best with three or more people. Using the 'Pinball', 'Shortcut' and 'Thoughtful' cards, each person should try to generate ideas sticking to one of the models, then explain (and defend) them to the rest of the group.

Target behaviours

Using the 'Target behaviours' card as a starting point, try to frame your problem in terms of a target behaviour, and keeping this in mind, look at the cards suggested as most applicable.

Random pairings

Pick two cards at random, perhaps from different lenses, and think about the possibilities of applying the ideas to your problem, both individually and together.

Weekly idea

101 cards means that every week for two years you could have a new card 'on show' as a talking point in the office to inspire creative thinking**.

Your own way

If you've found your own way to make use of the cards, let everyone know! Write about it, or email me: dan@danlockton.co.uk

*I'm grateful to Nedra Weinreich for suggesting the 'question' approach. **Hat tip to Zoe Stanton of Uscreates for this idea.

Modelling users: Pinballs

In *Designing for Interaction*, Dan Saffer notes “designers have to give up control (or, really, the myth of control) when designing a service process.” Nevertheless, many products, services and environments have aspects where a degree of control is desired, often for safety or security reasons. If a bank has a row of ATMs, it doesn’t want customers at adjacent machines to stand too close together, so it spaces them far enough apart for this not to happen: *the actual affordances of the system are designed so that only certain behaviours occur*. In 2009 Nepal’s Tribhuvan Airport issued staff with trousers without pockets, to reduce bribery by making it harder to hide cash.

This approach models users as ‘pinballs’, simple components of your system, to be shunted and pushed and pulled around by what you design, whether it’s physical, digital or service architecture. This view basically doesn’t assume that the user thinks at all, beyond basic reflex responses: there is no requirement for understanding. The interlock on a microwave door prevents using the oven with the door open, yet does not try to educate users as to why it is safer. It just silently structures behaviour: users follow the designers’ behaviour specification without necessarily being aware of it.

This view can lead to poor user experience, when the priorities of the designer and users conflict. Disabling the fast-forward button on your DVD player, to force you to sit through trailers and copyright threats, provokes significant discontent. However, where interests align, better experience can result. A hospital which fits medical gas bottles and hoses with errorproofed ‘indexed pin’ connectors — keyed to fit together only in the right combinations — is restricting nurses’ behaviour, but making the job easier and providing a safer patient experience. So, the pinball approach is not always as user-unfriendly as it might initially seem, but does risk challenging people’s autonomy, and potentially reducing their engagement in the process.



Some ‘pinball’ patterns

These are not definitive by any means.
Note that only some lenses are included.

- (A) Converging & diverging
 - Conveyor belts
 - Feature deletion
 - Hiding things
 - Positioning
 - Roadblock
 - Segmentation & spacing
- (E) Choice editing
 - Interlock
 - Matched affordances
 - Task lock-in/out
- (M) Bundling
 - Degrading performance
 - Forced dichotomy
- (S) Coercive atmospherics
 - Threat of injury
 - Threat to property
 - What you can do
 - What you have
 - What you know
 - What you’ve done
 - Where you are
 - Who or what you are

Modelling users: Shortcuts

While people are not fully predictable, there is enough psychological evidence that we are, at least, *predictably irrational* (Dan Ariely's term). There are recurring patterns of decision-making *heuristics* and *biases*, and designers with an understanding of these have a powerful tool for influencing behaviour. In an economic context, this is the premise behind Richard Thaler and Cass Sunstein's bestseller *Nudge*, but designers can apply many of the same insights, with the benefit of a wealth of user-centred research methods to test our assumptions.

People take *shortcuts*. We make decisions based on how choices are presented to us, and can't devote the same mental effort to engage with every decision (we *satisfice*, to use Herbert Simon's term). If something is the default, whether print quality or presumed consent for organ donation, most people probably stick with it.

Individually these acts might not bear analytical scrutiny – and none of us acts like this *all* the time – but shortcut decisions do determine how many people behave when interacting with systems, whether products, services or environments. We can design *choice architecture* to help people navigate the options available in a mutually beneficial way: e.g., if your research shows that your customers make purchasing decisions based purely on price, it makes sense to present your choices in a way which makes it easy to determine which is cheapest. On the other hand, we can also use design to help users *overcome* the biases which are preventing them getting the best result, e.g. re-framing food choices to make healthier options more appealing.

Of course, modelling users like this risks the designer becoming part of a 'nanny state', making moral decisions about 'what's best' for users. To some extent this is inevitable: we just have to be more mindful of how the choices we make affect the lives of others, and, perhaps, bear "first, do no harm" in mind when planning to influence behaviour.



Some 'shortcut' patterns

These are not definitive by any means.

A	Mazes Simplicity	C	Decoys Do as you're told Expert choice Framing Scarcity Social proof
E	Defaults Opt-outs Portions		
I	Partial completion Tunnelling & wizards		
L	Make it a meme Rewards Unpredictable reinforcement		
P	Colour associations Contrast Implied sequences Mood Perceived affordances Prominence Proximity & grouping Similarity	M	Anchoring Serving suggestion Style obsolescence Worry resolution

Photograph by
Dan Lockton

Modelling users: Thoughtful

This is the most optimistic view of ‘what users are like’: engaged, motivated, *thoughtful* people who will take every opportunity to learn more about the world around them and their impacts on it. Thoughtful users are assumed to think about what they are doing, and why, and change their attitudes and behaviour in response to reasoned arguments, weight of evidence, education and persuasive rhetoric. If you model your users this way, you’ll be looking to provide them with reasons why some behaviours are ‘better’ than others, maybe motivating them to change their attitudes about a subject as a precursor to changing their behaviour mindfully. From a design perspective, you’ll probably be giving your system plenty of information displays and feedback which allow users to explore the implications of what they’re doing, and understand the world around them better.

Most of us like to model ourselves as thoughtful users, even though we know (if we’re honest) that we don’t always fit the model. It’s probably the same with most people: so knowing when it’s appropriate to assume that users are being mindful of their behaviour, and when they’re not, will be important for the ‘success’ of a design.

It may be that the best (and least naïve) way to look at this is to appreciate that designers working on behaviour change have the opportunity to *move* people from a less engaged (pinball or shortcut) mindset, towards a more reflective, motivated, thoughtful relationship with a product, service or environment. Many of the patterns which I’ve listed here as being relevant to the ‘thoughtful’ model are really about trying to get people involved or interested in their own effects on a system, rather than assuming that everyone already cares.



Some ‘thoughtful’ patterns
These are not definitive by any means.

- E Conditional warnings
Did you mean?
Are you sure?
- I Feedback through form
Kairos
Peer feedback
Real-time feedback
Simulation & feedforward
Summary feedback
- L Leave gaps to fill
Role-playing
Storytelling
- P Nakedness
Watermarking
- C Emotional engagement
Provoke empathy
- M I cut, you choose
- S Surveillance
Peervillance
Sousveillance

Target behaviours

These are an attempt to introduce a more formal ‘prescription’ mode to the DwI toolkit: matching patterns to particular kinds of behaviour change. Inspired by the TRIZ problem-solving method, the target behaviours are ‘ideal’ intended outcomes: particular behaviours which a designer (or client) wants to achieve through design. They’re an abstract classification for behaviours, expressed as goals — the 11 example target behaviours in the table below have been identified by deconstructing real situations, but this is only scratching the surface of what could be done with a more wide-ranging analysis.

I’m not entirely convinced that this is a way forward for DwI, primarily because in the workshop trials I’ve run, designers really don’t seem to enjoy using this kind of prescription method, at least in comparison to using the cards for free-form inspiration. But I felt I should include it in this pack anyway. At <http://behaviorgrid.org>, BJ Fogg has a different take on target behaviours, based on schedules of occurrence, which is sufficiently general to be more scaleable than those I’ve outlined here.

User–system interaction: influencing interactions between a user and the system		
	Examples	Some relevant patterns
S1 The user follows a process or path, doing things in a sequence chosen by the designer	Customer places order via website without missing out any steps	Mazes, Positioning, Interlock, Tunnelling & wizards, Implied sequences, Serving suggestion
S2 The user follows a process or path that’s optimised for those particular circumstances	User only spends as much time as really needed in the shower	Conditional warnings, Did you mean?, Are you sure? Task lock-in/out, Tailoring, Possibility trees
S3 Decision among alternatives: a user’s choice is guided	Diners choose healthier meal in office canteen	Defaults, Opt-outs, Kairos, Simulation & feedforward, Colour associations, Prominence, Proximity & grouping, Similarity, Decoys, Do as you’re told, Expert choice, Framing, Scarcity, Anchoring, Forced dichotomy
S4 Only certain users/groups of users can use something	Only users who know PIN can access bank account via ATM	Coercive atmospherics, Who or what you are, What you know, What you have
S5 Only users already behaving in a certain way get to use something	If a driver’s travelling below the speed limit, the next set of traffic lights turn green, otherwise they stay red	Degrading performance, Threat of injury, Threat to property, What you can do, What you’ve done
S6 No users can use something in a particular way, regardless of who they are or what they’ve done before	Park bench fitted with central armrest to prevent anyone lying down	Feature deletion, Hiding things, Choice editing, Matched affordances, Coercive atmospherics
S7 Users only get functionality when environmental criteria are satisfied	Office lighting cannot be switched on if ambient daylight adequate	Interlock, Where you are
User–user interaction: influencing interaction between users and other users, mediated by the system		
	Examples	Some relevant patterns
U1 Multiple users are kept separate so they don’t affect each other while using a system	Traffic follows one-way system into/out of car park	Material properties, Converging & diverging
U2 Users (and groups of users) do interact with, and affect each other while using a system	Staff from different departments mix socially in a building’s atrium	Converging & diverging, Make it a meme, Provoke empathy, Reciprocal, Social proof, Peerveillance
U3 Users can’t block or dominate a system to the exclusion of others	Wide pedestrian concourses prevent groups blocking passage for others	Segmentation & spacing, Peer feedback
U4 Controlled rate of flow or passage of users	Visitors to popular museum exhibit routed past it slowly on moving walkway	Conveyor belts, Roadblock, Slow/no response

Architectural Lens



The Architectural Lens draws on techniques used to influence user behaviour in architecture, urban planning, traffic management and crime prevention through environmental design (see also the Security Lens).

While most techniques have been developed in the built environment, many can also be applied in interaction and product design, even in software or services; they are effectively about using the *structure of systems* to influence behaviour, while some of the patterns, such as *Simplicity*, *Feature deletion* and *Hiding things* are really fundamental to design itself.

Image for Pave the Cowpaths is a screenshot of an annotated Google Map on Kittelson & Associates' website (<http://prj.kittelson.com/tigardtrails>).

All other photos by Dan Lockton

For references & further reading, please see 3.ly/archi



Angles



Can you slant or angle things so some actions are easier than others?

Some cigarette bins are sold to authorities using the sloping top as a feature, discouraging people leaving litter on top

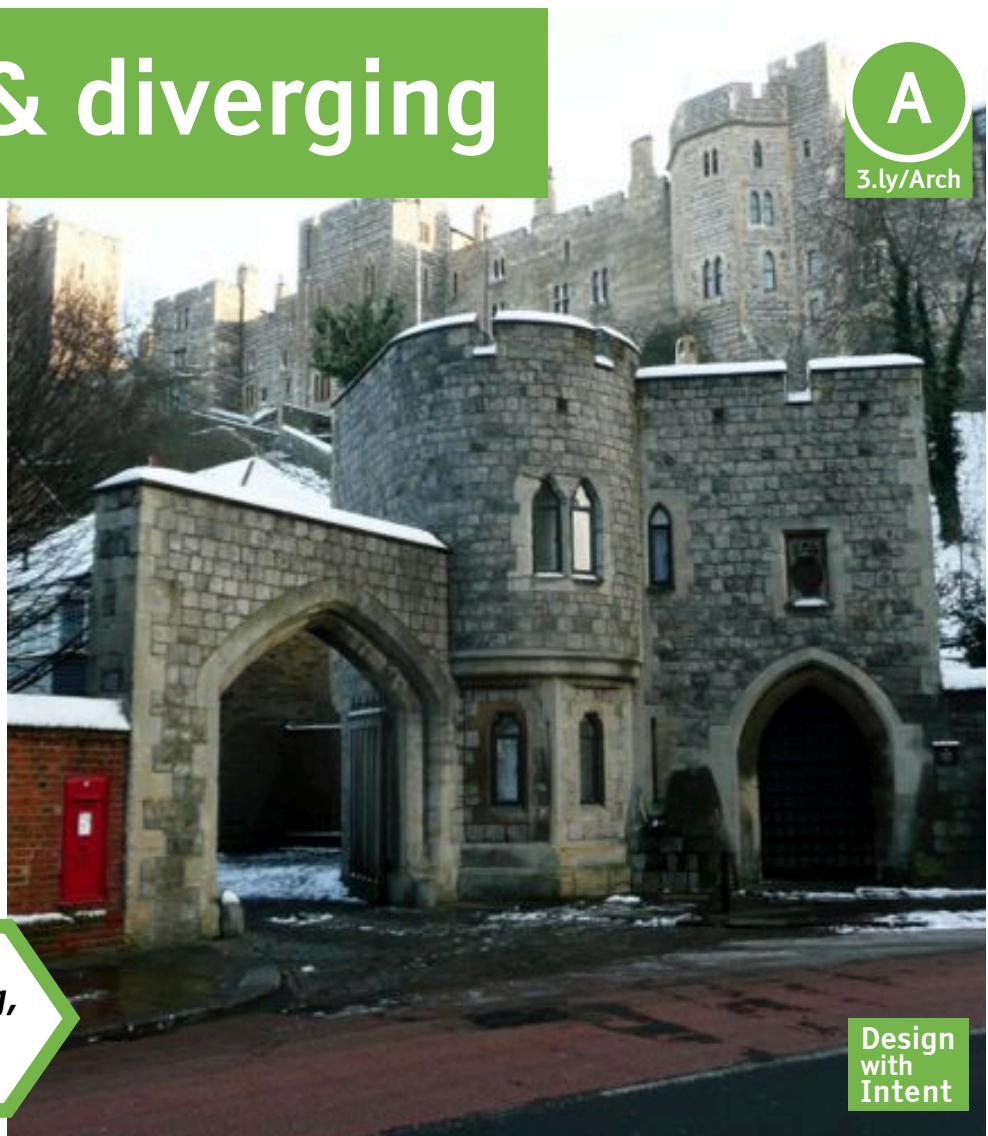


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Converging & diverging



Can you channel people so they come together (or split up)?



Gates (and gatehouses) channel visitors through a narrow opening, allowing a toll to be levied, or to help control potential threats

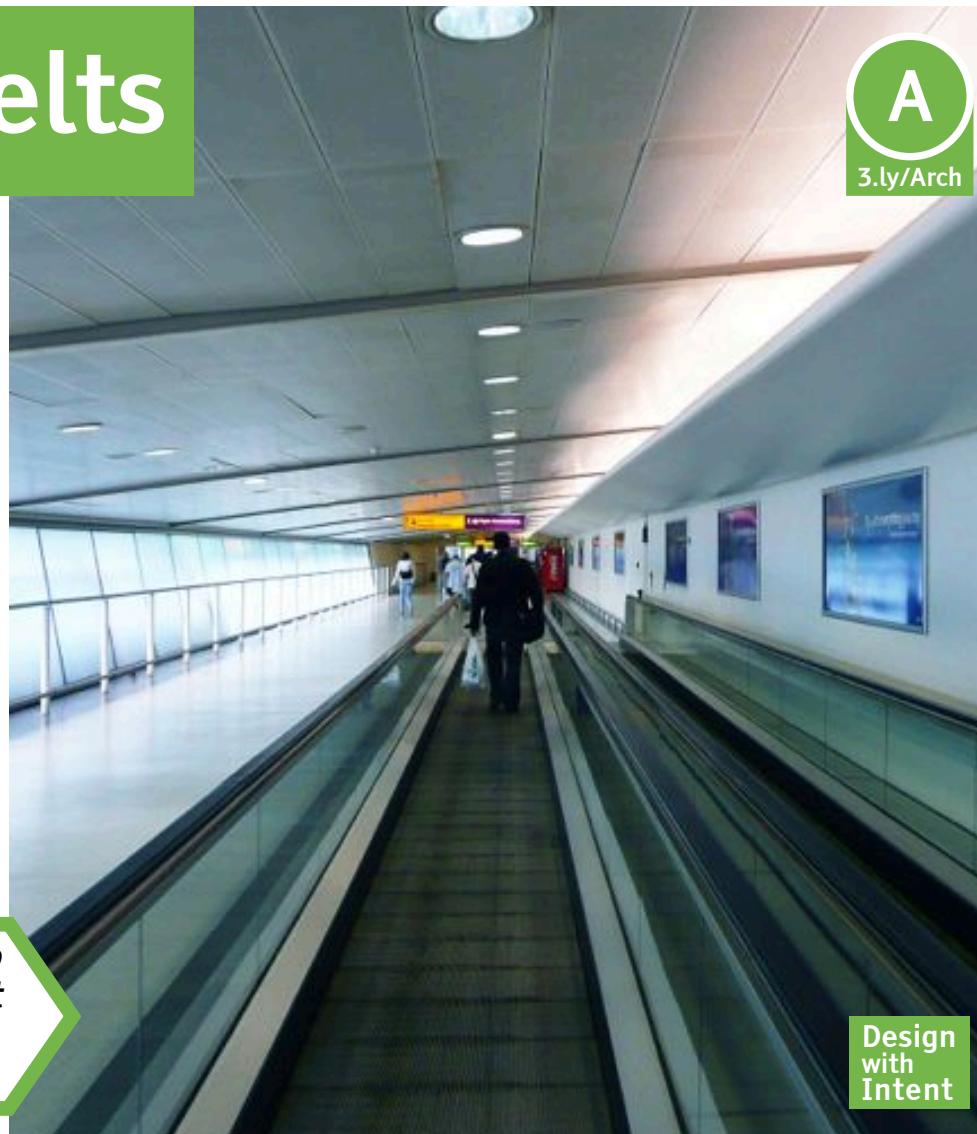
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Conveyor belts



Can you bring a feature to the users, or move the users to where you want them to be?

Moving walkways in airports help travellers move more quickly, but also prevent people blocking corridors, especially in groups

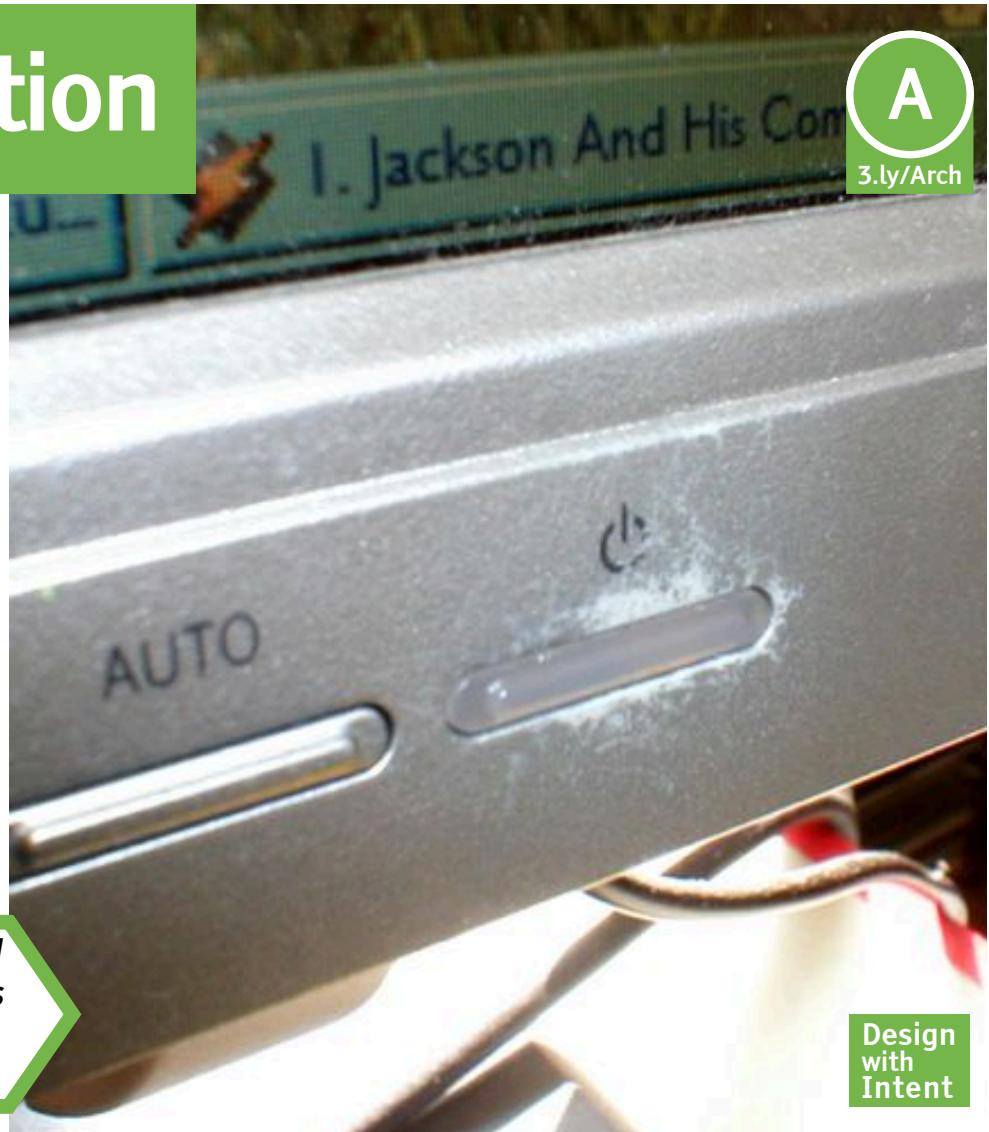


Feature deletion



What would happen if you simply took away features you don't want people to use?

Various politicians have proposed simply removing standby buttons from consumer electronic products, to reduce energy use



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Hiding things

Can you hide functions or elements you'd prefer people didn't use?

These church hall heating controls have been hidden (leaving only the timer accessible) to reduce errors by users unfamiliar with them



Material properties



Can you use the properties of different materials to make some actions more comfortable than others?

Rough-textured paving can act as a subtle barrier between cycle and pedestrian tracks: stray over the line on a bike and you'll feel it



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Mazes

A

3.ly/Arch

Can get people to follow the path *you* want them to, on the way to reaching something *they* want?

Some store layouts route or channel shoppers past 'impulse purchase' items—often snacks—on their way to the checkouts

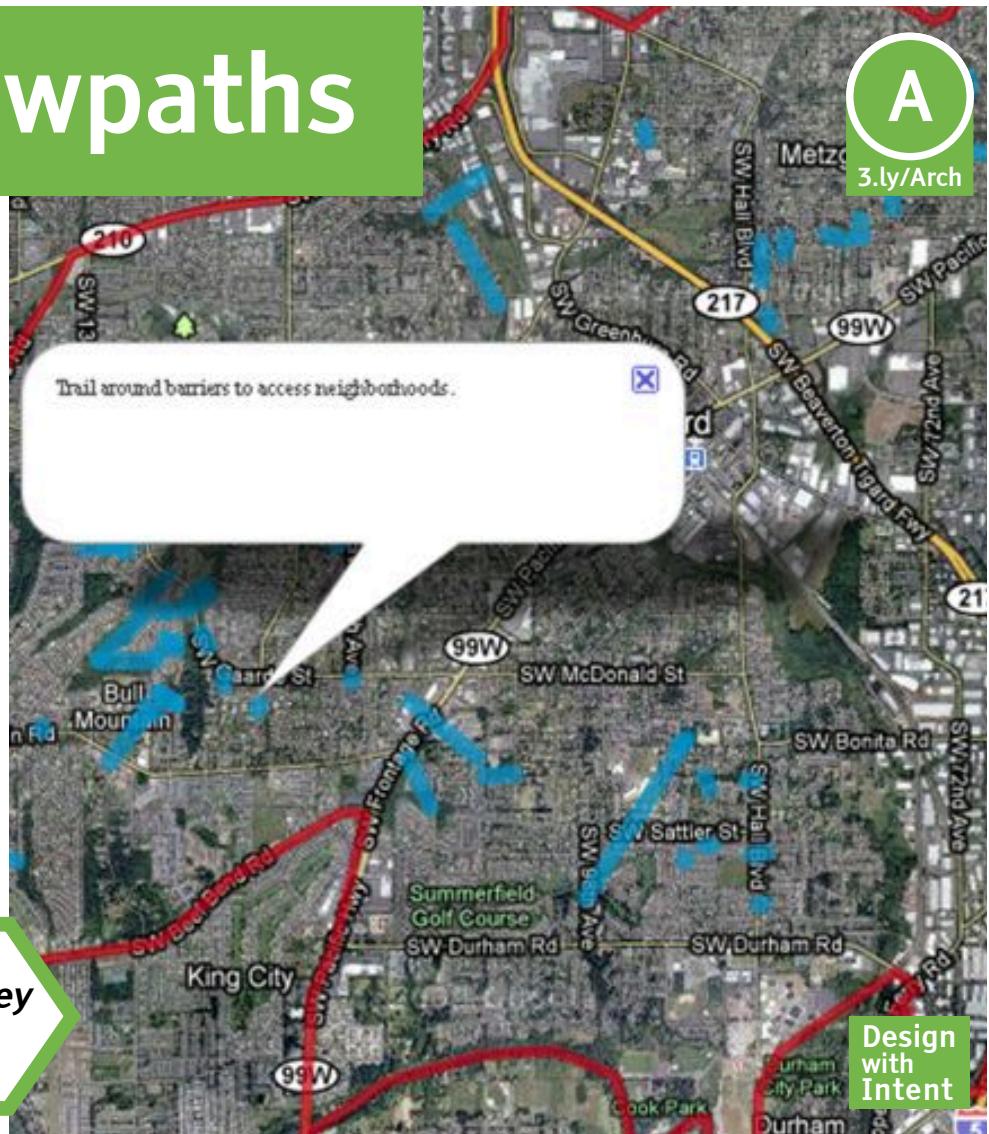


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Pave the cowpaths

Can you recognise the 'desire paths' of some of your users, and then codify them into your system, so others follow too?

In Tigard, OR, residents marked informal 'neighbourhood trails' they used on a map, so the city could prioritise ones to 'formalise'



Positioning

Can you rearrange things so people interact with them in the locations you want them to?

Positioning pedestrian crossing push-button units on the right-hand side (UK) makes it more likely that users turn to notice oncoming traffic



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Roadblock



Can you put things in users' way, so they take an alternative route, or adjust their speed?

'Chicanes' can slow down drivers, pedestrians and cyclists; the crossing chicane prevents running or cycling straight across the road



Segmentation & spacing

Can you divide your system up into parts, so people only use one bit at a time?

These individual seats replace a bench on the Paris Métro – spaced so that someone cannot lie down or occupy more than one



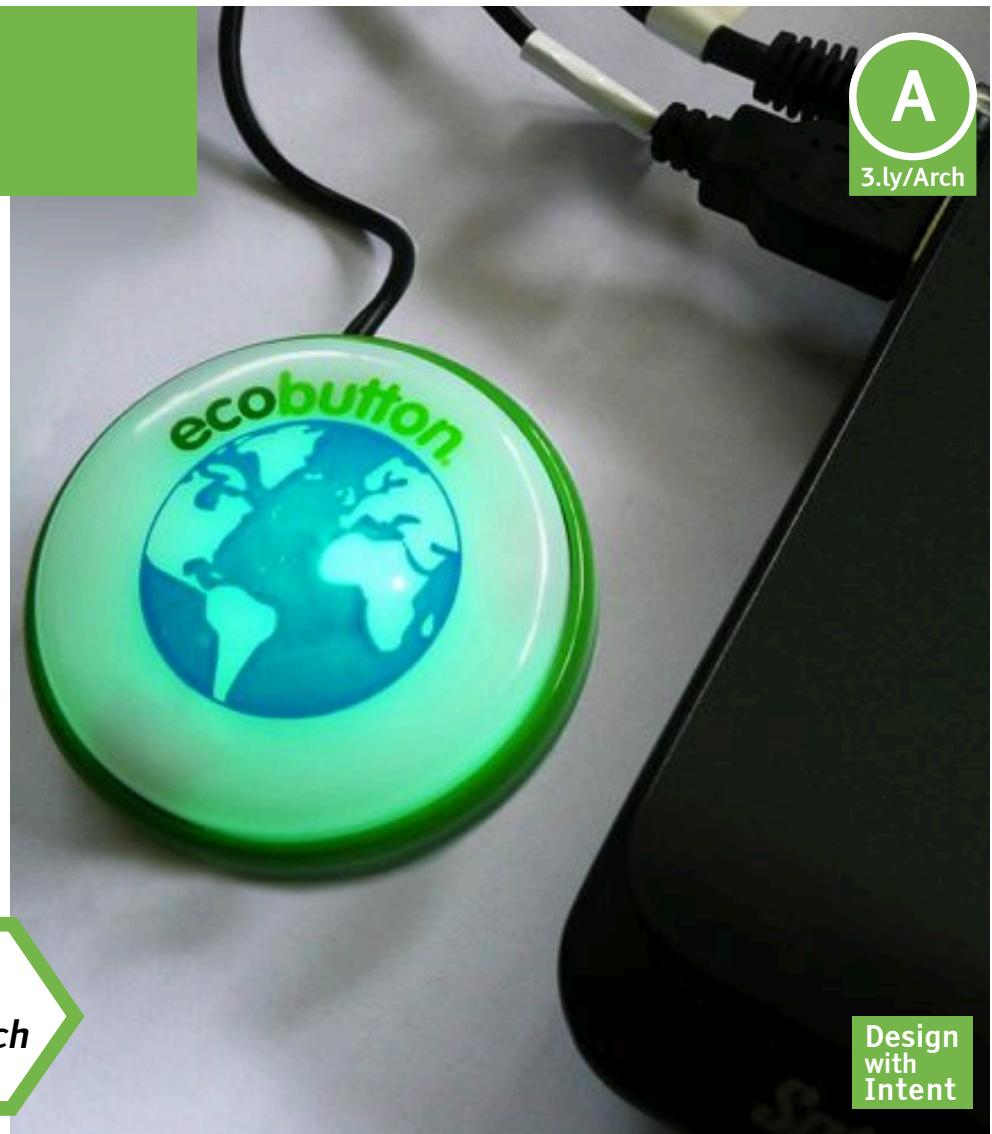
A
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Simplicity

How simply can you structure things, to make it easier for users to do what you'd like them to do?

EcoButton allows a user to put a computer into a low-power state with just one press, making it much easier for users to save energy.



Errorproofing Lens



3.ly/error

The Errorproofing Lens treats deviations from the 'target behaviour' as 'errors' which design can help avoid, either by making it easier for users to work without making errors, or by making errors impossible in the first place. It's often found in ergonomics, health & safety-related design, medical device design and manufacturing engineering (as *poka-yoke*): where, as far as possible, one really doesn't want errors to occur at all. Much of this builds on Don Norman's classic concept of *forcing functions* and 'deliberately making things difficult' as detailed in *The Design of Everyday Things*.

A key difference between errorproofing and some other views of influencing behaviour is that errorproofing doesn't care whether or not the user's *attitude* changes, as long as the target behaviour is met. Attitude change might be a side-effect, but it is not required.

Images for Defaults, Did you mean? and Opt-outs are screenshots of CIB PDF Brewer software, a Google search for 'recursion' and Yorkshire Building Society website respectively.

All other photos by Dan Lockton

For references & further reading, please see 3.ly/error



Are you sure?

Can you design
an extra
'confirmation'
step before an
action can be
performed?

Some British Rail train doors require passengers to lower the window to get access to the handle, mounted on the outside



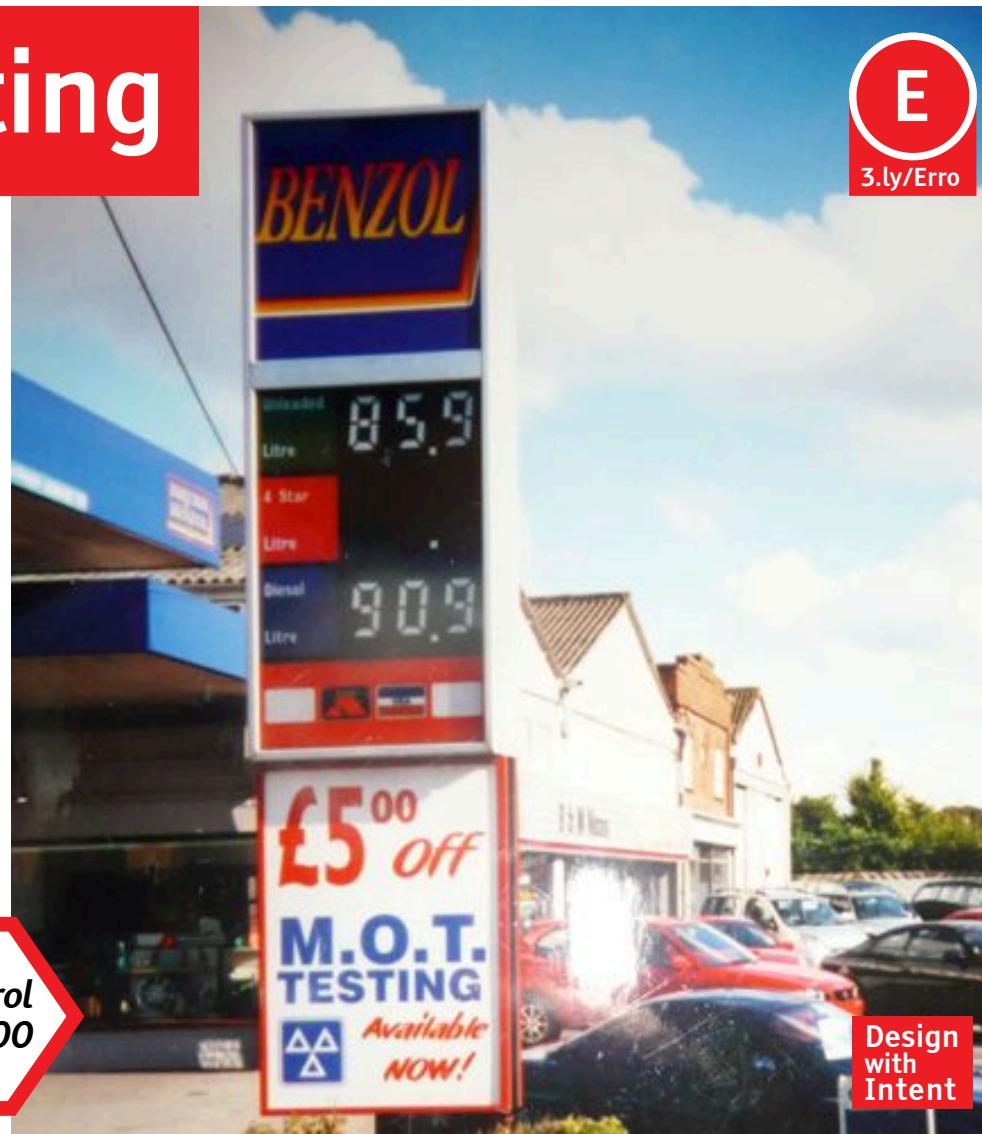
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Choice editing



Can you edit the choices presented to users so only the ones you want them to have are available?

Choice editing can be driven by legislation, e.g. leaded 4-star petrol being phased out in the EU by 2000 (when this photo was taken)



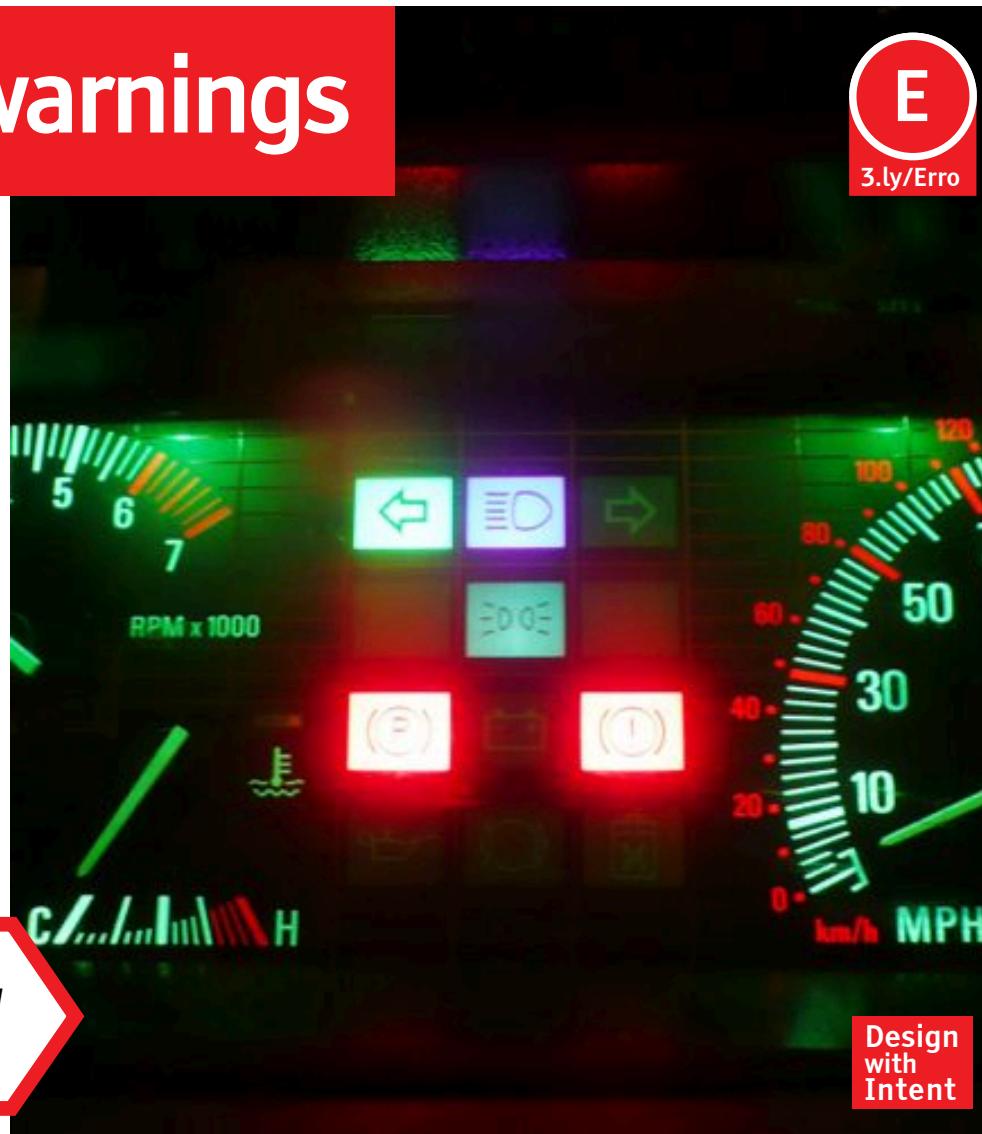
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Conditional warnings



Can you give users warnings based on detecting the error they've made, or might be about to make?

The parking brake warning light on a car's dashboard is a warning to the driver: don't drive off without releasing the brake!



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Defaults

Can you make the default setting the behaviour you'd prefer users to perform?

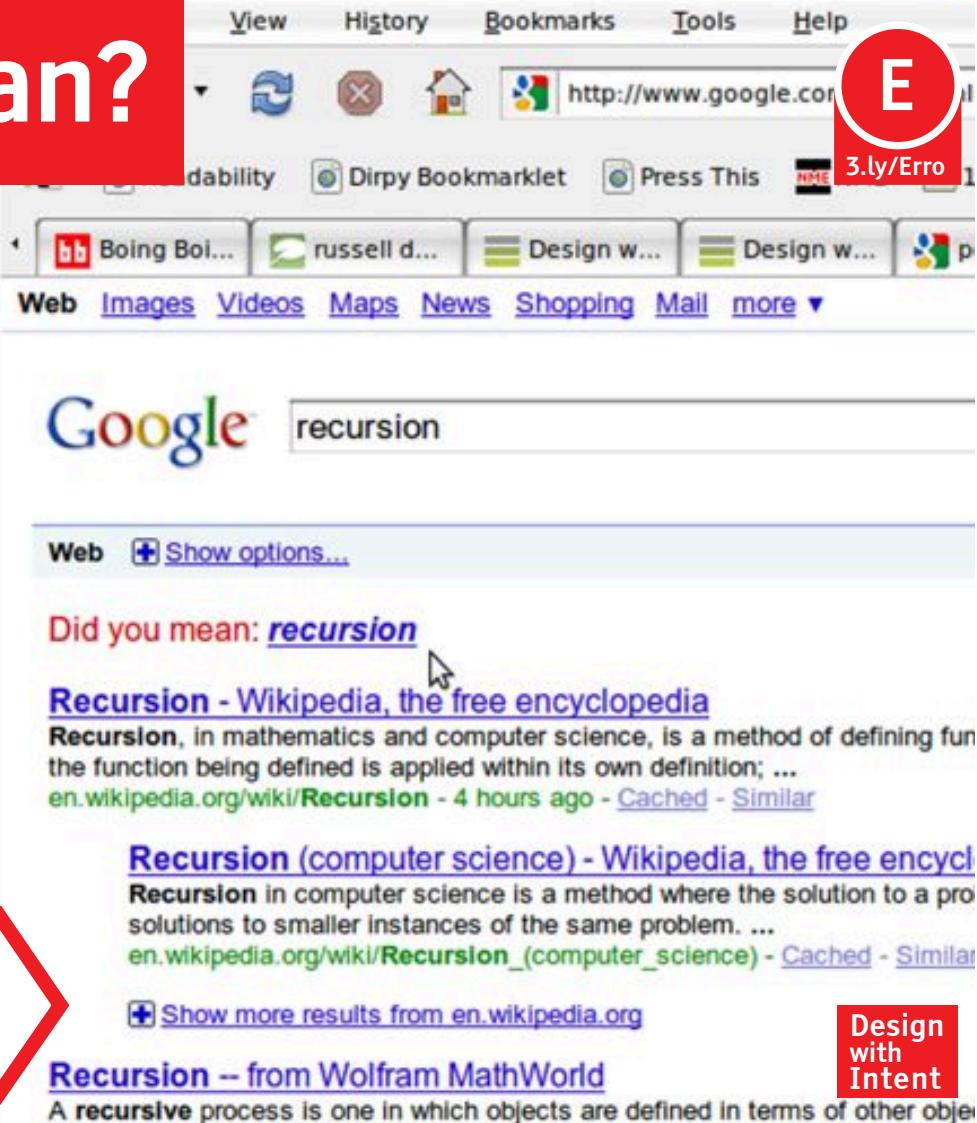
In this software 'nag' screen, the default button (pressed if the user just hits 'enter') is information on licensing rather than 'I agree'



Did you mean?

Can you detect and suggest a better option to users when it looks like they're making an error?

Google's suggestion algorithm is continually evolving to take account of search trends; it also includes this nice 'easter egg'!



The screenshot shows a web browser window with the Google homepage. The search bar contains the query "recursion". Below the search bar, there is a "Did you mean: recursion" suggestion. The first result listed is "Recursion - Wikipedia, the free encyclopedia". The page title is "Recursion (computer science) - Wikipedia, the free encyclopedia". The snippet describes recursion in computer science as a method where the solution to a problem depends on smaller instances of the same problem. There are links to "Show more results from en.wikipedia.org" and "Recursion – from Wolfram MathWorld". A red circle highlights the "Did you mean" suggestion.

E

3.ly/Error

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Interlock

Can you set things up so one action can't be performed until another is completed?

Most modern cash machines don't dispense cash until you remove your card, making it less likely you'll leave it behind



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Matched affordances

E

3.ly/Erro

Can you make parts fit only when the right way round, or only with the products they should do?

The bevelled corner on SIM cards, memory cards and floppy disks ensures that they can't be inserted the wrong way round



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Opt-outs

What happens if you make an option something people opt out of, rather than opt in to?

This building society asks new savers if they want to opt out of donating part of their interest to charity – by default it is donated

The screenshot shows a web browser window for 'Your Building Society' at <http://www.ybs.co.uk/>. The page title is 'E-ISA Application - Small Change Big Difference'. A green header bar contains the text 'Make a Big Difference'. The main content area has a sidebar with options like 'Details', 'Setup', and 'Big Difference'. The main text area describes the 'Small Change, Big Difference Scheme' and the 'Big Difference' feature. A checkbox labeled 'Check this box if you would not like to make a big difference' is present. At the bottom right is a red button labeled 'Design with Intent'.

Portions

Can you change the size of the portions or the units of 'stuff' you give users?

'Portion packs' for snacks give customers the 'right' amount of food to eat in one go (sometimes a particular amount of calories)



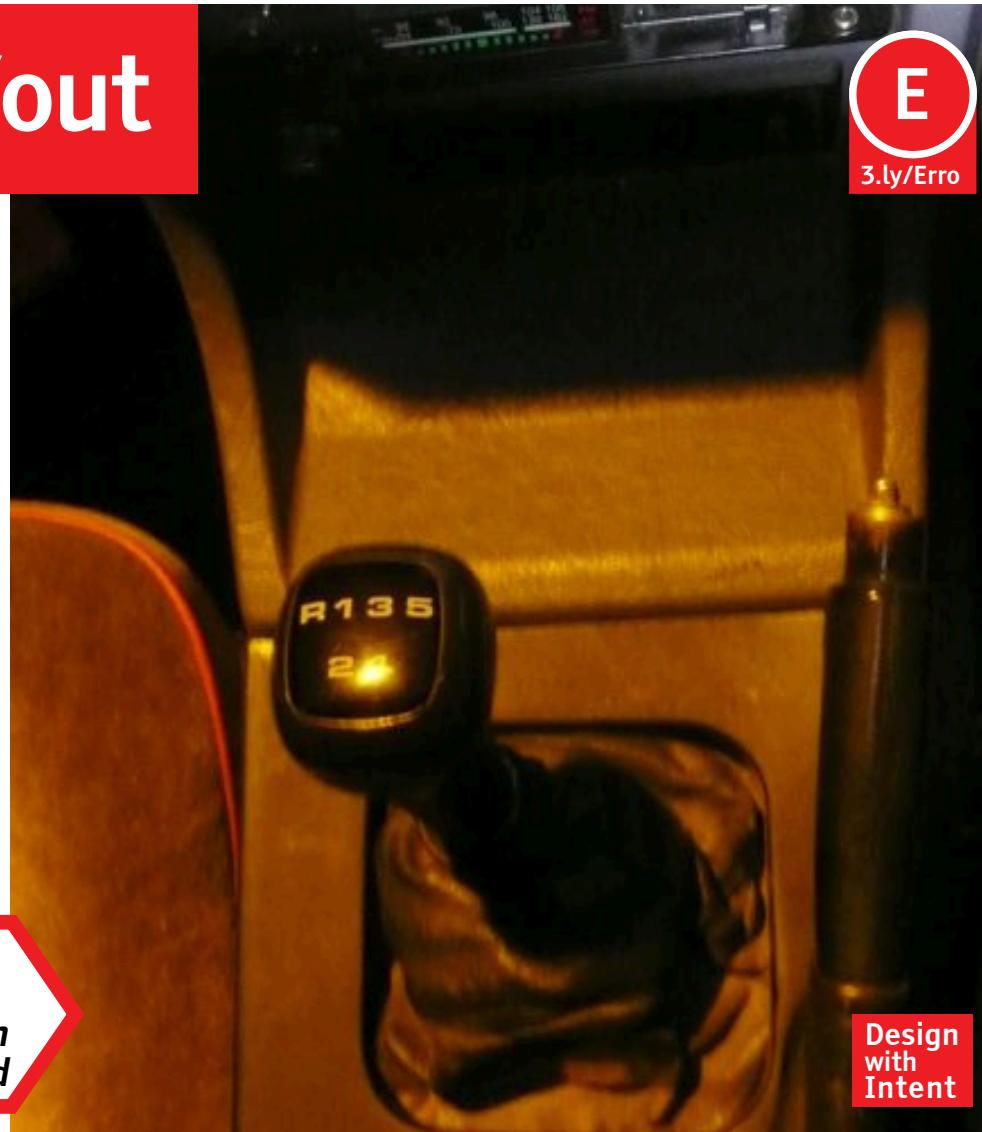
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3.ly/Erro

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Task lock-in/out

Can you keep a task going that needs to be, or prevent one being started inadvertently?

To prevent accidentally engaging reverse gear, most gearboxes include a 'gate' over/under which the stick must be lifted or pressed



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Interaction Lens



All the patterns are really about interaction design in one form or another, but the Interaction Lens brings together some of the most common design elements of interfaces where users' interactions with the system affect how their behaviour is influenced. So there are some core Human-Computer Interaction patterns here, such as kinds of *feedback*, *progress bars*, and *previews*, and some currently less-used such as *feedforward*.

This lens also includes patterns from the growing field of Persuasive Technology, where computers and phones influence behaviour through contextual information and guidance. Among these are *kairos*, *tailoring* and *tunnelling*, identified in BJ Fogg's seminal book *Persuasive Technology: Using Computers to Change What We Think and Do*.

Images for Feedback through form, Summary feedback and Tailoring are taken from promotional videos/demos by Royal VKB, GreenPrint and Pam, available at <http://shop.royalvkb.com/shopexd.asp?id=423&menu=2>, <http://www.printgreener.com> & <http://www.pam.com/indexc.php?demo=1&f=1&ClientTZ=-60>

Feedback through form	Kairos	Partial completion
Can you use the object itself as a kind of interface, giving feedback or suggestive cues?	Can you give users a suggestion at exactly the right moment for them to change their behaviour?	Can you show the first stage of a process has been completed already, to give users a sense of what to do next?
Peer feedback	Progress bar	Real-time feedback
Can you give users feedback on their behaviour from other users of the system, equal in status to themselves?	Can you let users know their progress towards achieving a goal?	Can you let users know how what they're doing is affecting the system?
Simulation & feedforward	Summary feedback	Tailoring
Can you give users a preview or simulation of the results of different actions or choices?	Can you give users a report on what they've been doing, or its effects?	Could your system adapt when it offers to match individual users' needs and abilities?
Tunnelling & wizards		
Can you offer users a wizard to 'tunnel' them through a decision process in the way you'd like?		

Images for Partial completion, Peer feedback, Progress bar, Simulation & feedforward and Tunnelling & wizards are screenshots of Amazon, Slashdot, Digg, LinkedIn, Wikipedia, Yahoo! savings calculator & Foxit PDF reader. Other photos by Dan Lockton. For references & further reading, please see 3.ly/inter

Feedback through form



Can you use the form of your object itself as a kind of interface, giving feedback or suggestive cues?



Royal VKB's 100g/250g Balancing Bowls are weighted so they tilt noticeably and audibly when the 'portion size' is reached when filling

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Kairos



Can you give users a suggestion at exactly the right moment for them to change their behaviour?

Automatic warning signs can alert drivers to upcoming dangers at the right point for them to respond and slow down accordingly



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Partial completion



Can you show that the first stage of a process has been completed already, to give users confidence to do the next?



The screenshot shows the 'Choose a delivery address' section of the Amazon.co.uk website. At the top, there's a navigation bar with 'WELCOME', 'ADDRESS' (highlighted in orange), 'ITEMS', 'WRAP', 'DISPATCH', and 'PAY'. Below the navigation, the heading 'Choose a delivery address' is displayed. A text block explains that users can click 'Dispatch to this address' for a listed delivery point or enter a new one. Two address entries are shown in a table:

MR E SHOPPER's Address Book	
<input type="button" value="Dispatch to this address"/>	
Brian Brains PO Box 45 NOWHERE, Bucks SL0 1AA United Kingdom	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
<input type="button" value="Dispatch to this address"/>	
Miss Penelope Pigg Rose Cottage Turnip Lane SWINDON, Wiltshire SN3 4DD United Kingdom	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Pre-filled details such as delivery addresses can be an effective way of speeding up an order process and reducing 'shopping cart abandonment'

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Peer feedback

Can you give users feedback on their behaviour from other users of the system, equal in status to themselves?

Peer feedback on comments and stories is central to sites such as Slashdot ('karma' scores) and Digg ('digging' and 'burying')

[Please Explain \(Score:2, Informative\)](#)

by And...  I

[Re:Please Explain \(Score:2\)](#)

by stoborobe... 3.ly/Inte

[Apache anf RFID? \(Score:1, Offtopic\)](#)

by Chasuk (62477) Could

[Same technology as proximity cards... \(Score:5, Insightful\)](#)

by stienman (51024) <adavis@@@ubasics...com> on Tuesday August 0

digg™

f Connect with Facebook

Join Digg

About

Login

Technology

World & Business

Science

Gaming

Lifestyle

Entertainment

Popular

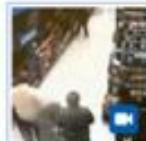
Upcoming

News

Videos

Images

Customize



185
digg

[Walmart shopper takes a bat to 29 TVs \(Video\)](#)

engadget.com — Look, we've all had rough days. Ones that we wish in fact. But we've yet to be pushed to the brink where the only logical steam would be to take an aluminum baseball bat to nearly three ours.



Made popular

39 min

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36 Comments

GamingForever
8 hr 42 min ago

Everyone just watches, no one tries to stop him...

► 4 Replies — best has 13 diggs

+2 diggs 

Reply

Progress bar

Can you let users know their progress towards achieving a goal?

As demonstrated by examples from LinkedIn and Wikipedia, progress bars showing 'nearly complete' can make a goal seem more achievable

The collage consists of four screenshots:

- LinkedIn Profile Settings:** A screenshot of the LinkedIn profile settings page. It shows a progress bar at 85% completion with the text "85% profile completeness". Below it is a call-to-action: "Import your résumé to build a complete profile in minutes."
- LinkedIn Profile Completeness:** A screenshot of a LinkedIn modal window titled "Profile Completeness". It shows a green progress bar at 85% completion. Below it is a call-to-action: "Adding a recommendation will bring you to 90%".
- Wikipedia Autotelic Article:** A screenshot of a Wikipedia article page for "Autotelic". The top navigation bar includes "article", "discussion", "edit this page", and "history". Below the navigation is a progress bar with the text "We're almost there. Thank you." and a small "Donate Now" button. The progress bar shows a range from "\$6.9M" to "\$7.51".
- Wikipedia Footer:** A screenshot of the Wikipedia footer. It features the "Design with Intent" logo, which is a white circle with the letter "I" inside, followed by the text "3.ly/Inte".

Real-time feedback

Can you let users know how what they're doing is affecting the system?

Energy meters can allow householders to see which appliances use the most electricity, and how much this is costing

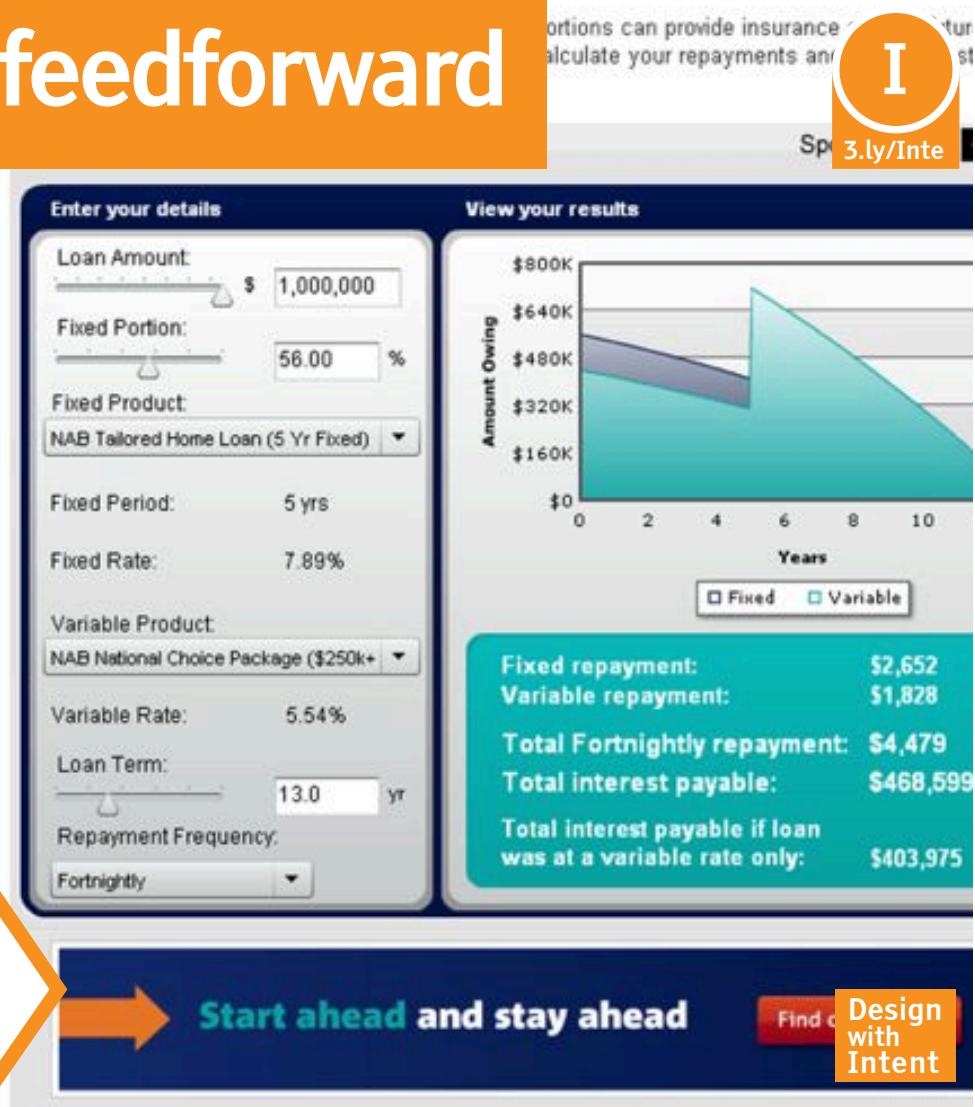


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Simulation & feedforward

Can you give users a preview or simulation of the results of different actions or choices?





3.ly/Inte

Summary feedback

Can you give users a report on what they've been doing, or its effects?



GreenPrint, software that reduces wasted prints through better usability, provides users (and their bosses!) with a summary of resources saved

Tailoring

Could your system adapt what it offers to match individual users' needs and abilities?

The Pam personal activity monitor suggests exercise regimes tailored to the user—something approaching the role of a 'personal trainer'

This will be your goal line ...

Pam Score (now) 46
Pam Score (goal) 45
Weight (now 75) 69 kg
BMI (now 23.7) 22.1 (kg/m^2)

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Jul 16, 2010
(month)(week) (week)(month)

you want to have reached your goal.

So from this date onwards you do this (e.g.) extra per day:

Walking: 57 min/day or
Running: 21 min/day

To reach your weight goal:
Eat less: 270 Cal/day
(from today!)

Progress of your weight

Weight (kg)

Feb 27, 2010 till Sep 4, 2010

Advice

You're coming right along. Suggestion: try adding one or more of your favorite activities:

Daily 104 minutes extra walking (3km/h)
Daily 104 minutes extra cycling to work
Daily 42 minutes extra walking downstairs
Daily 15 minutes extra walking upstairs
Daily 21 minutes extra Cycling (25 km/h)

Dietary advice:

You'll lose weight faster. Do you want that? 2 / 223 Cal/day

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Tunnelling & wizards



3.ly/Inte

Can you offer users a wizard to 'tunnel' them through a decision process in the way you'd like?



This installation wizard tries to get users to 'choose' to install additional (and irrelevant) software by presenting them as default parts of the process

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Ludic Lens



Games are great at engaging people for long periods of time, getting them involved, and influencing people's behaviour through their very design. Yet this potential has (so far) been underexplored in application to other kinds of situations outside 'recreation'.

The Ludic Lens includes a number of techniques for influencing user behaviour that can be derived from games and other 'playful' interactions, ranging from basic social psychology mechanisms such as goal-setting via *challenges & targets*, to operant conditioning via *unpredictable reinforcement* and *rewards*, to common game elements such as *scores, levels and collections*.

Images for Collections are screenshots of the University of Washington's UbiFit software, developed in collaboration with Intel Labs Seattle, available at <http://dub.washington.edu/projects/ubifit>

Images for Levels and Rewards are screenshots of Facebook/FarmVille and KPT5 software. Images for Playfulness and Role-playing are promotional photos kindly supplied by Steve Divnick (<http://www.spiralwishingwells.com>) and Tim Holley (<http://timholley.de>)

Challenges & targets
What happens if you set people a challenge, or give them a target to reach through what they're doing?
Leave out art of this coffee table so people have to go online to find out what it is, and encourage them to do geometry and enjoy it.

Collections
What happens if you encourage users to collect a set of things (items, activities, places, objects, etc) through using your system?
GoFit Center encourages users to collect items from different categories to collect different types of flower.

Leave gaps to fill
Can you leave deliberate gaps (in a design, message, etc) which users will want to fill, becoming engaged in the process?
Deliberate gaps of red dots are placed on the floor to encourage people to walk over them, and the game should be off, encouraging people to explore.

Playfulness
Can you design something which 'plays' with users, involving cuteness or making interactions into a game?
Sarah working with her pony giving money to charity into something fun, and the game should be off, encouraging people to explore.

Levels
Can you split your system up into achievable levels which help users see the little they're making progress?
Can the week levels (lower tier) be barriers to progression, and the month levels (higher tier) be rewards?

Make it a meme
What happens if you plan your design to be something people want to spread, and make it easy for them to do so?
Share and similar action access social sharing services like Twitter, Facebook, and LinkedIn to encourage sharing.

Rewards
Can you encourage users to take up and continue a behaviour by rewarding it, through the design of the system?
If a Power Tools (gymnastics) user completes a task, they are rewarded with a gift card for a local gym where they can develop their skill level.

Role-playing
What happens if your system gives users particular roles to play, or makes them feel like they're playing a role?
Tim makes it encouraging customers to play a role in the service, and the game should be off, encouraging people to explore.

Storytelling
Can you tell a story via your interface that interests users and keeps them engaged?
Dove uses narrative Assistant, the story is told to the customer via the story behind the company and its technology.

Unpredictable reinforcement
What happens if you give rewards or feedback in an unpredictable schedule, so users keep playing or interacting?
Arcade games such as this claw machine randomly reward a prize after a random amount of time, so users keep playing.

Ludic Lens
Ludic design patterns for influencing user behaviour:
• Challenges & targets
• Leave gaps to fill
• Levels
• Playfulness
• Provocative
• Rewarding
• Role-playing
• Storytelling
• Unpredictable reinforcement
• Visuals on influence (like having things)

Image for Make it a meme is a screenshot of Regretsy's story on Gooseontheloose's chicken ponchos (<http://www.regretsy.com/2009/10/20/kentucky-fried-chicken>). Other photos/images by Dan Lockton. For references & further reading, please see 3.ly/ludic

Challenges & targets



3.ly/Ludi

What happens if you set people a challenge, or give them a target to reach through what they're doing?

Whoever laid out this coffee tub as a target for throwing coins knew a lot about influencing people to donate generously and enjoy it

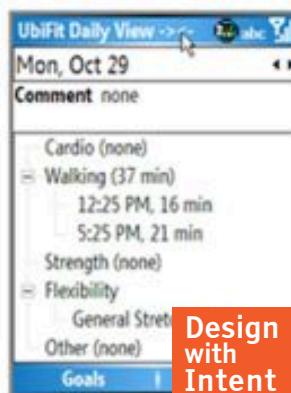


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Collections

What happens if you encourage users to collect a set of things (friends, activities, places, objects, etc) through using your system?

UbiFit Garden encourages users to maintain a regular variety of exercise activities, in order to 'collect' different types of flower



Leave gaps to fill

Can you leave deliberate gaps (in a design, message, etc) which users will want to fill, becoming engaged in the process?

Deliberate use of red links on Wikipedia, signifying articles which should be written, "encourage[s] new contributors in useful directions"



Ludic Lens

Ludic design patterns for influencing behaviour

- Challenges & targets
- Leave gaps to fill
- Levels
- Make it a meme
- Playfulness
- Provoke curiosity
- Rewards
- Role-playing
- Storytelling
- Unpredictable reinforcement

Eight lenses on influencing behaviour

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Levels

Can you split your system up into achievable levels which help users feel like they're making progress?

Easy-to-reach levels lower the barriers to participation and encourage continued engagement for games such as FarmVille



Make it a meme

What happens if you plan your design to be something people want to spread, and make it easy for them to do so?

ShareThis and similar quick-access social sharing services can mean rapid 'viral' or 'meme' status for interesting or amusing stories

Chicken Poncho or Knitted Wrist Cuff

\$15.00 USD 1 in stock

Description

This isn't a joke.

This poncho/human wrist cuff is being modeled by Dayna. I made it specifically for her. She's so beatiful than her nine sisters. I'm making ponchos and sh

MySpace Digg (0) Text
Live Delicious Stumbleupon
Reddit G Bookmarks LinkedIn
Bebo Buzz Up! Blogger

Download ShareThis for Firefox Sign In: Design with Intent

Playfulness

Can you design something which 'plays' with its users, provoking curiosity or making interactions into a game?

Spiral wishing wells turn giving money to charity into something actively fun for donors, and provoke curiosity of passers-by



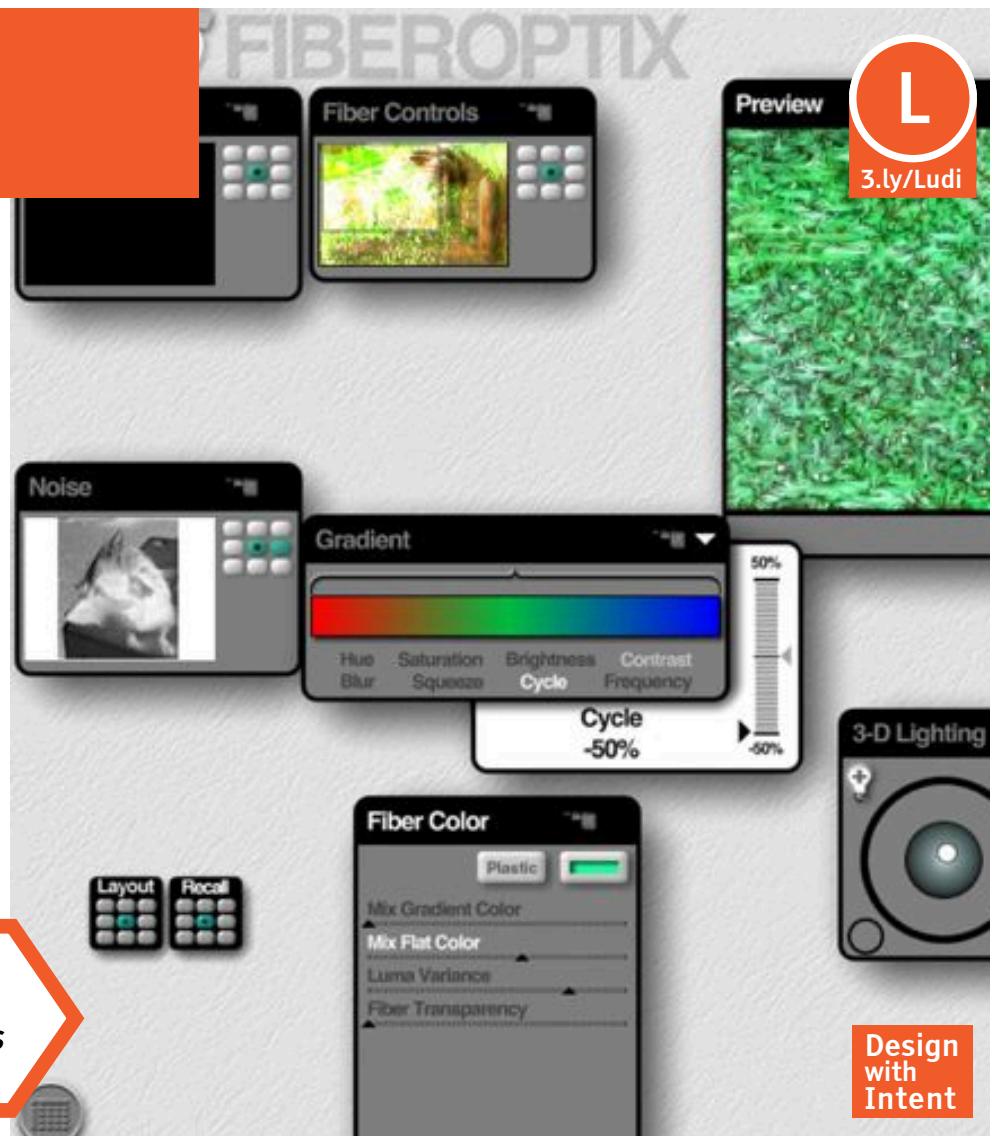
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Rewards

Can you encourage users to take up or continue a behaviour by rewarding it, through the design of the system?

Kai's Power Tools (pioneering visual effects software) revealed 'bonus functions' to reward users who developed their skill level



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Role-playing

What happens if your system gives users particular roles to play, or makes them feel like they're playing a role?

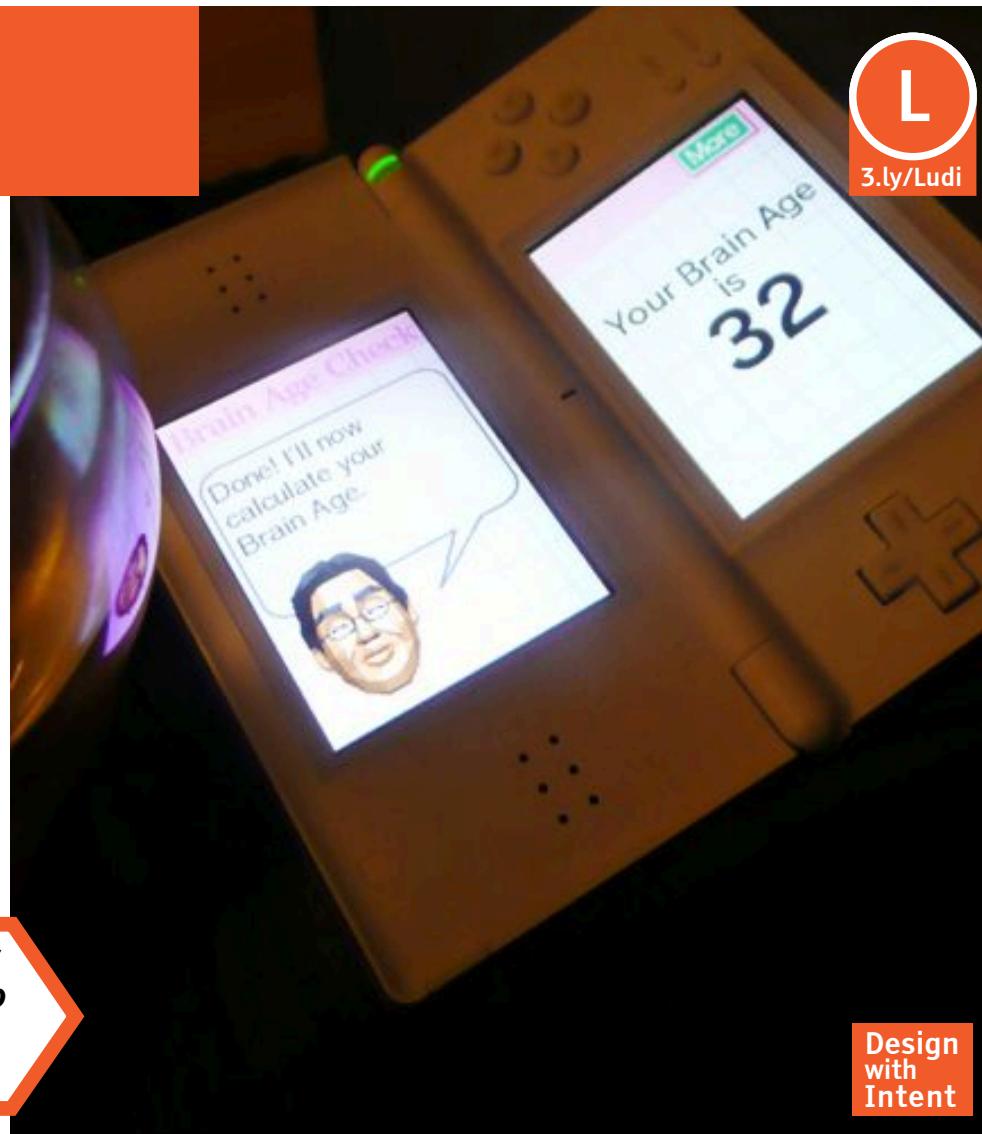


Tim Holley's Tio encourages children to become 'energy champions' for their household, influencing parental behaviour

Scores

Can you give users feedback on their actions as a score or rating allowing comparison to a reference point ?

The 'Brain Age' score given by Dr Kawashima's games for Nintendo gives users a clear incentive to keep using the software



L

3.ly/Ludi

Storytelling

Can you tell a story via your design, which interests users and keeps them engaged?

Dyson uses narrative booklets drawing customers (and potential customers) into the story behind the company and its technology



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Unpredictable reinforcement

What happens if you give rewards or feedback on an unpredictable schedule, so users keep playing or interacting?

Arcade games such as this coin pusher usually employ a strong element of unpredictable reinforcement, to keep users playing/paying



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Perceptual Lens



The Perceptual Lens combines ideas from product semantics, semiotics, ecological psychology and Gestalt psychology addressing how users perceive patterns and meanings as they interact with the systems around them, and puts them into forms which invite the designer to think about how they might influence people's behaviour. Most are predominantly visual, but they need not be: sounds, smells, textures and so on can all be used, individually or in combination.

These techniques may often be applied by graphic and interaction designers in the course of a job or project without necessarily considering explicitly the influence they can have on users' perceptions and behaviour.

Images for Implied sequences and Nakedness are from Sludgegulper's and ITDP-Europe's Flickr streams, CC-BY-SA and CC-BY licensed respectively (<http://www.flickr.com/photos/sludgegulper/4188746062> and <http://www.flickr.com/photos/38607288@N03/3836906872>).
Images for Metaphors, Mimicry & mirroring and Similarity are screenshots of Tipjar.com from the Wayback Machine, Eliza chatbot from <http://nlp-addiction.com> and a Microsoft Bing search.

Other photos by Dan Lockton
For references & further reading, please see 3.ly/perce

(A)symmetry

Can you use symmetry to make elements related, or asymmetric to show difference and focus attention?

Colour associations

Can you use colour to suggest associations between particular behaviours and outcomes?

Contrast

Can you create an obvious contrast between your design or the context in which it's used?

Fake affordances

Is there anything to be gained from making something look like it works but isn't? Is it actually doing something else (or nothing at all)?

Implied sequences

Can you make it look like there's a logic or flow for users to follow, through the layout of elements?

Metaphors

Can you employ a metaphor or analogy in your design so people understand or use it in the same way?

Mimicry & mirroring

Can your system mirror or mimic a user's behaviour or mood in some way, to increase the likelihood of user feels?

Mood

Can you use colour, images or other cues to set a particular mood for a user's interaction with your system?

Nudges

Can you remove cues that people are used to, to get them to think more about what they're doing?

Perceived affordances

Can you give the form of your system to suggest particular functions (or constraints on action) to users?

Possibility trees

Can you give people a map of the routes or choices they can use to achieve different goals?

Prominence

Can you direct your users' attention to what you want, by making it more prominent, obvious or exaggerated?

Proximity & grouping

Can you group elements so that users perceive they have similar functions or should be used together?

Seductive atmospherics

Can you use ambient sensory effects (sound, light, touch etc) to encourage users to interact or behave in the way you'd like?

Similarity

Can you make elements look similar so users are more likely to share characteristics, even if they shouldn't be used together?

Transparency

Can you (perhaps selectively) reveal what's going on under the hood to influence users' perceptions and behaviour?

Watermarking

Can you make a user feel like he or she (or someone else) owns or has responsibility for something?

(A)symmetry

Can you use symmetry to make elements look related, or asymmetry to show difference and focus attention?

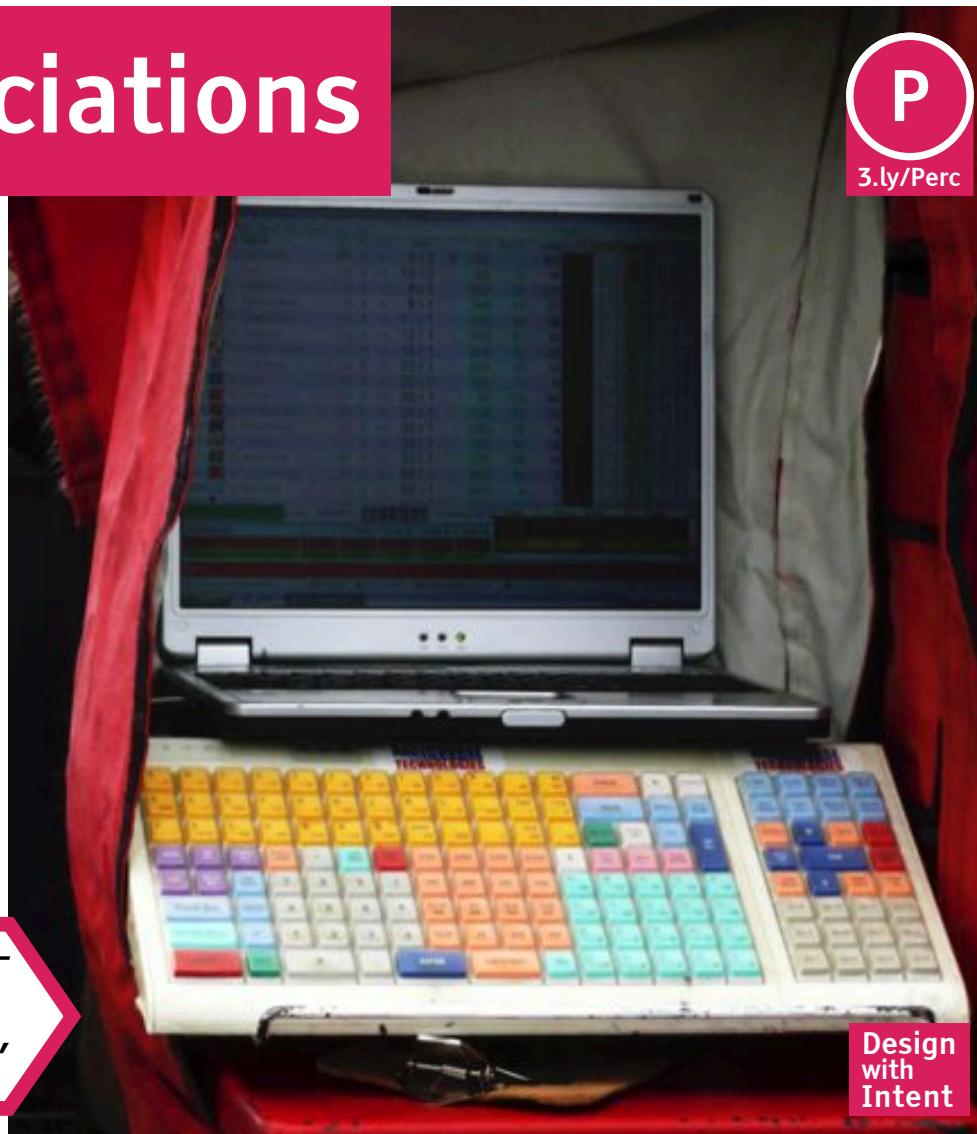
The symmetrical holes on this lifebuoy, even without the text, suggest that it should be gripped with both hands simultaneously



Colour associations

Can you use colour to suggest associations between particular behaviours and outcomes?

This racecourse bookmaker's keyboard has a detailed language of colour-coded groups of functions, to aid rapid action-taking



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Contrast

Can you create an obvious contrast between parts of your design or the context in which it's used?

In 2004, Britain's Royal Mail switched to using red rubber bands for bundling post, to make them easier to spot if dropped accidentally

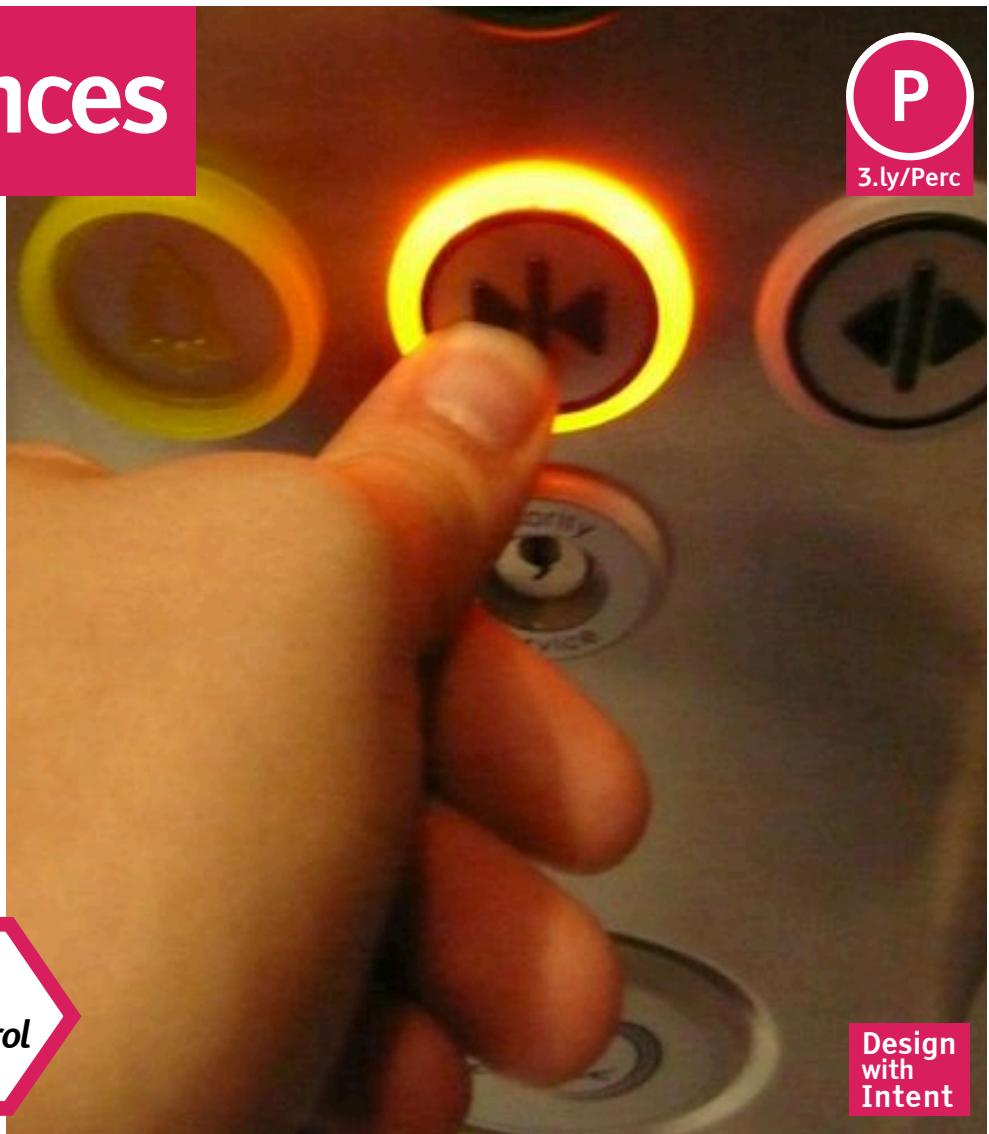


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Fake affordances

Is there anything to be gained from making something look like it works one way, while actually doing something else (or nothing at all)?

Many elevator/lift 'door close' buttons are reputedly 'placebo buttons', giving an illusion of control but not speeding up the process



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Implied sequences

Can you make it look like there's a sequence for users to follow, through the layout of elements?

This East German rail ticket machine makes very clear the order in which the interface should be used, with a sequential layout



Metaphors

Can you employ a metaphor / analogy of something familiar, so people understand or use your system the same way?

Tipjar.com, launched in the late 1990s, was one of the first simple micropayment systems, using the familiar metaphor of a tip jar



Mimicry & mirroring

Can your system mirror or mimic a user's behaviour or mood in some way, to increase the engagement a user feels?

Chatbots have evolved beyond the classic ELIZA, and are being used in social engineering attacks to extract information and deliver malware

**Eliza
Chat bot**



Is she a Rogerian psychotherapist, a semi intelligent chat bot, or just a toy?

```
* Should I buy a house now or wait and see if the market falls any further?  
> That is quite interesting.  
* Whyt do you say it is interesting?  
> You're not really talking about me, are you?  
* No I'm not. I suppose I'm just stressed at work  
> Do you believe it is normal to be not. you suppose you're just stressed at work?  
* Everyone else seems to be, too.  
> Say, do you have any psychological problems?
```

Talk to Eliza:

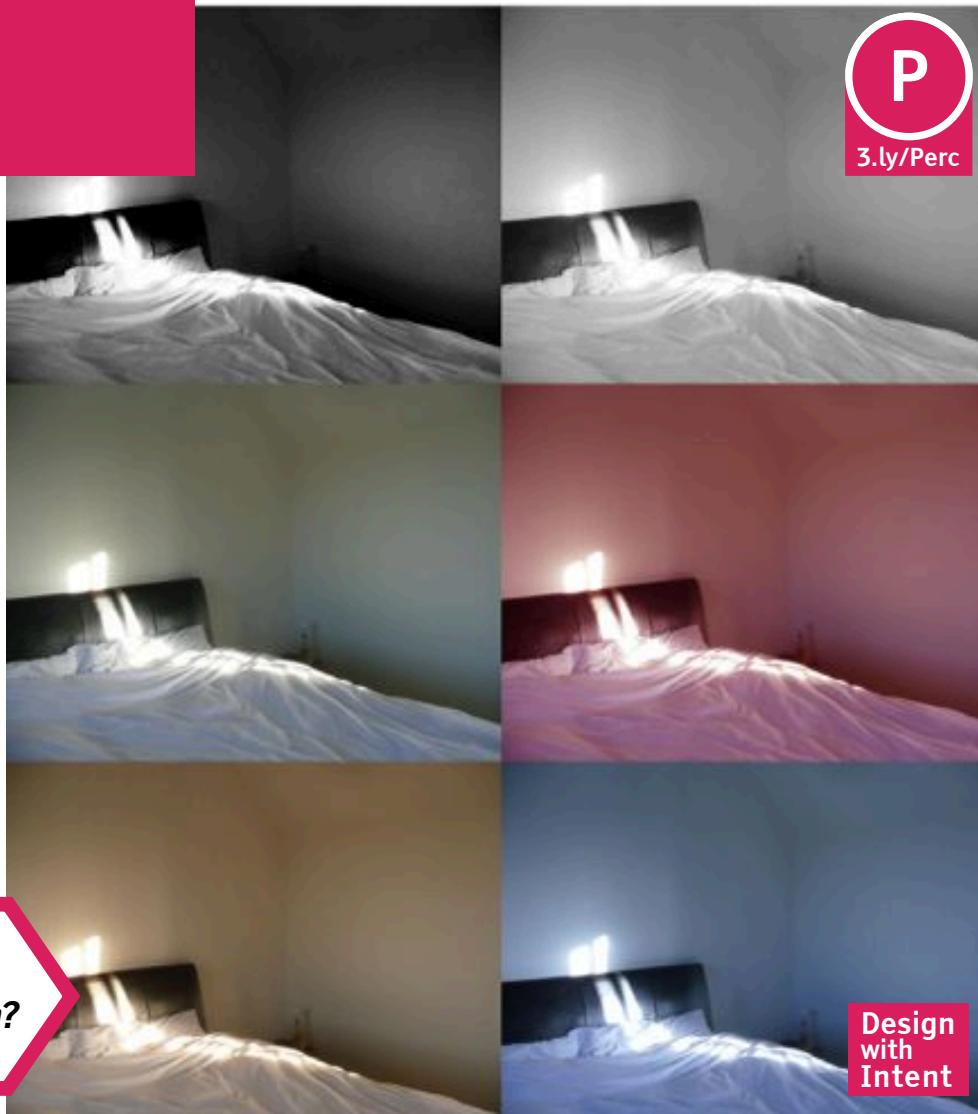
I do sometimes, to be honest

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Mood

Can you use colour, images or other sensory stimuli to set a particular mood for a user's interaction with your system?

Changes in hue, saturation and brightness can set moods: which room would you choose to stay in? (assuming the bed was made!)



Nakedness

Can you remove cues that people take for granted, to get them to think more about what they're doing?

'Naked roads' with signage and markings removed can encourage pedestrians, cyclists and drivers to be more aware of each other's presence



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Perceived affordances

Can you design the form of your system to suggest particular actions (or constraints on action) to users?

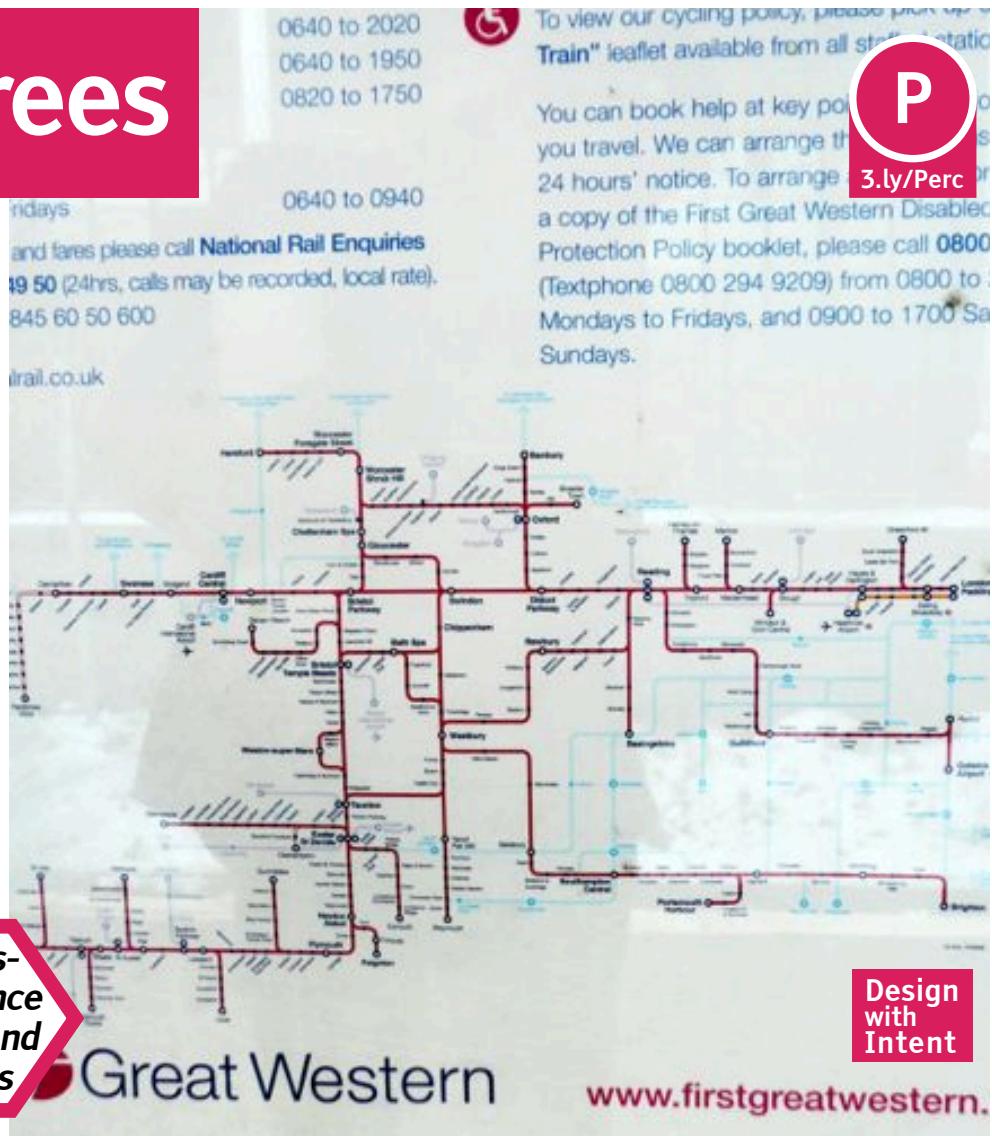
Reshaping the holes on bins to match the 'form' of different types of waste has been shown to increase recycling levels significantly



Possibility trees

Can you give people a 'map' of the routes or choices they can use to achieve different goals?

Presenting a simplified set of possibilities, transport maps can influence users' perceptions of geography, and promote certain routes over others



Prominence

Can you direct your users' attention to what you want, by making it more prominent, obvious or exaggerated?

The 'big red button' is a common way of making a control prominent. Here on London's DLR, it is recessed to help avoid accidental presses



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Proximity & grouping



Can you group elements so that users perceive they have similar functions or should be used together?

This power supply has controls often used in pairs (coarse & fine voltage adjustment, and output terminals) explicitly grouped



Seductive atmospherics

Can you use ambient sensory effects (sound, light, smell, etc) to encourage users to interact or behave in the way you'd like?

The distinctive 'Subway smell' may only be a by-product of baking, but intentional 'scent branding' is increasingly common in retail design



Similarity

Can you make elements look similar so users perceive them to share characteristics, or that they should be used together?

Paid-for links on Microsoft's Bing look very similar to the real search results, to increase the chance of users clicking them

Pay Per Click Advertising MSN

Show all Only from United Kingdom

ALL RESULTS 1-10 of 6,310,000 results · Adva

Sponsored

[Pay-Per-Click Agency](#) · [www.WestcomSearchMarketing.com](#)
Full PPC Management Services, Advanced Optimisation For High ROI.

[Pay Per Click Management](#) · [www.Periscopix.co.uk](#)
Specialist Pay Per Click design, management and analysis services

[PPC Coaching \\$1 Trial](#) · [http://ppc-coach.com](#)
PPC Coaching For \$1 For 14 Days Of Full Access

Search Advertising
Every month, over 15 million people type keywords into Bing to find products and services they're interested in. Pay-per-click advertising with Microsoft gives you access to ...
[advertising.microsoft.com/uk/microsoft-adcenter](#) · [Cached page](#)

Google Adwords, Yahoo! & MSN Pay Per Click (PPC) Advertising Agency ...
Top Click Media offers potential clients 3 core services; Pay Per Click Management, Search Engine Optimisation and Web Design & Branding Solutions
[www.topclickmedia.co.uk/services.htm](#) · [Cached page](#)

Pay Per Click Advertising
... years of experience with the setup and management of Pay Per Click advertising ... areas of major search engines such as Google, Yahoo, MSN.
[optihost.co.uk](#) · [Cached page](#)

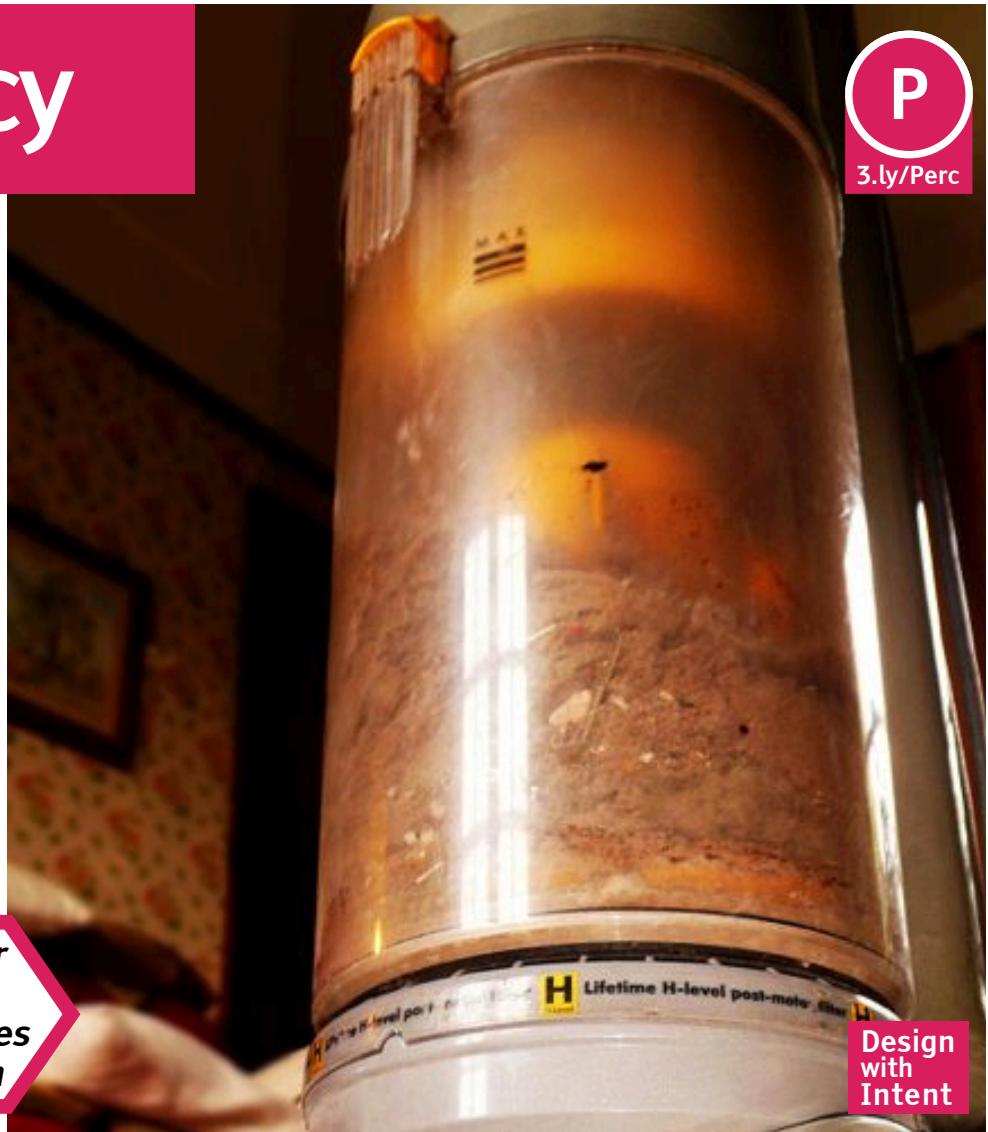
Pay Per Click Advertising | Google Adwords | Yahoo
[com/?id=2vUovIBZ+Gxbfck3NhY/YA1W7xxGuODx0RDeZv6s2R2Y+DViiIWqXaT51UG2XoGNQSwI#](#) · [Cached page](#)

Design with Intent — Dwl v.095 REVISED.o... Photos for new Dwl v0... Pay Per Click Advertising

Transparency

Can you (perhaps selectively) reveal what's going on under the surface, to influence users' perceptions and behaviour?

Dyson's transparent dust container both demonstrates the vacuum cleaner's effectiveness, and makes it likely to be emptied more often



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Watermarking

Can you make a user feel like he or she (or someone else) 'owns' or has responsibility for something?

One UK shopkeeper writes customers' names on the packaging of snacks they buy, discouraging littering through 'taking ownership'



Cognitive Lens



The Cognitive Lens draws on research in behavioural economics and cognitive psychology looking at how people make decisions, and how this is affected by 'heuristics' and 'biases'. If designers understand how users make interaction decisions, that knowledge can be used to influence interaction behaviour. Equally, where users often make poor decisions, design can help counter this, although this may lead to a 'we know what's best for you' attitude.

Dozens of cognitive biases and heuristics have been identified which could potentially be applied to design. The patterns detailed in these cards are some of the most commonly used; this selection draws particularly heavily on the work of Robert Cialdini, Dan Ariely, Richard Thaler and Cass Sunstein.

Images for Desire for Order and Personality are promotional photos from the Interactive Institute's AWARE project (<http://www.tii.se/aware/designConcept.html>) and Philips robotics (<http://www.research.philips.com/technologies/projects/robotics.html>). Images for Decoys, Do as you're told, Provoke empathy, Rephrasing & renaming and Social proof are screenshots of Magazines.com, the US DHS ESTA website, Twitterfall.com, Twitter.com and Amazon.co.uk respectively. Other photos by Dan Lockton. For references & further reading, please see 3.ly/cogni

Assuaging guilt

Can you influence users by helping them reduce feelings of guilt about their behaviour?

Commitment & consistency

Can you get users to commit to an idea or goal, so they feel they should act consistently with this commitment?

Decoys

Can you add 'decoy' choices, making the others (which you want the user to pick) look better in comparison?

Desire for order

Can you use people's desire for tidiness to influence them to reorganise or take actions you want them to?

Do as you're told

Can you use an authority figure or authoritative infrastructure to tell users what they should (or should not) do?

Emotional engagement

Can you design your system to engage people's emotions, and make them emotionally connected to their behaviour?

Framing

Can you selectively present choices in a way which frames the message available in a more positive light?

Habits

Can you make it easy for a new behaviour to become habitual, by building it into an existing routine?

Expert choice

Is it possible to show users the choices that an expert or authority figure would make when in the same situation?

Provoking empathy

Can you help users see things from other people's perspective, or change thought processes, by revealing them through the design of your system?

Reciprocity

Can you make users feel that they benefit from doing favours for the system, or by other users, and want to return it?

Personality

Can you give your system a personality or character that engages users, becoming a 'social actor'?

Rephrasing & renaming

Can you rephrase or rename what your users want to do, so it aligns better with what they already want to do?

Scarcity

Can you emphasise that a resource is scarce, limited in quantity, or running out (or actually limit it artificially)?

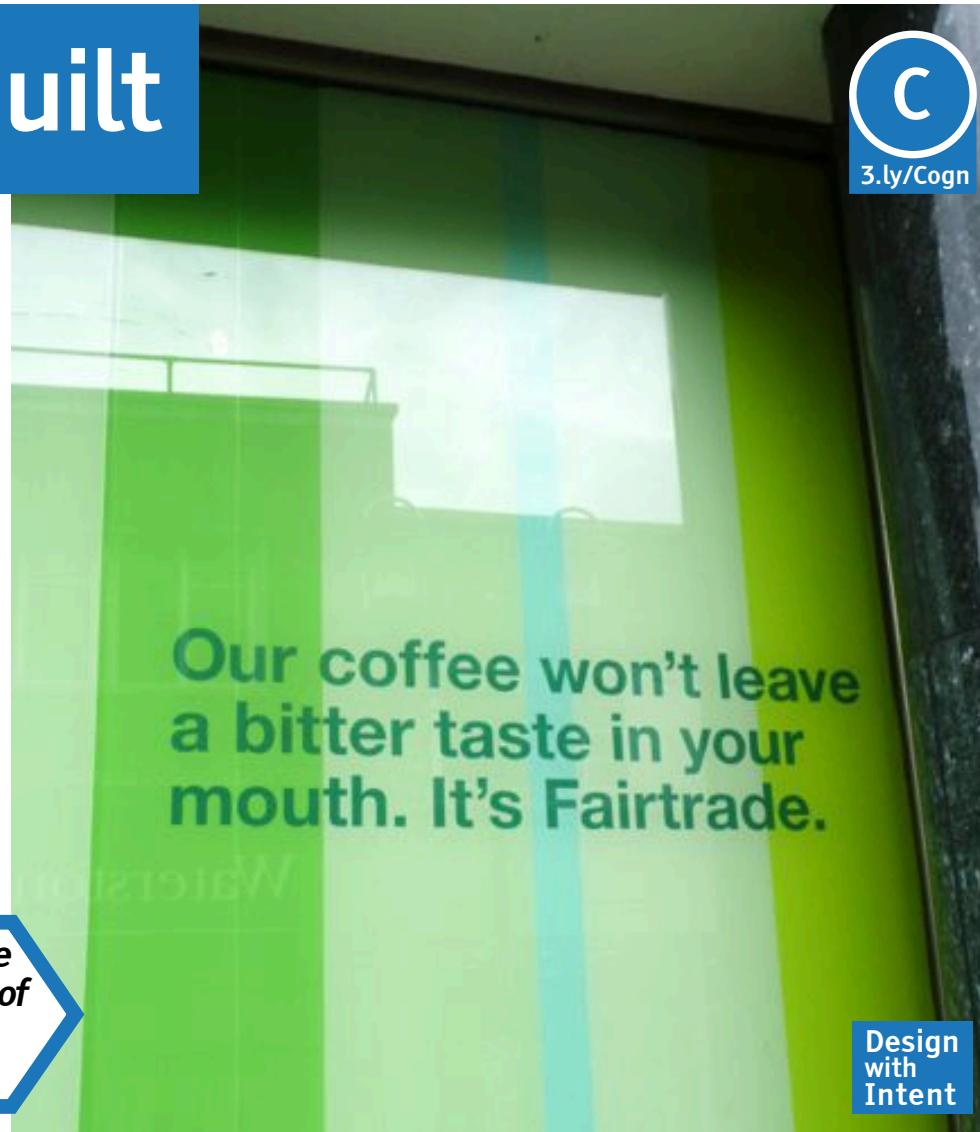
home living

Can you show people what other users are doing in this situation, and which choices are most popular?



Assuaging guilt

Can you influence users by helping them reduce feelings of guilt about their behaviour?



This message both implies that one should feel bad about the ethics of coffee production, and offers an easy way to take away the guilt

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Commitment & consistency

Can you get users to commit to an idea or goal, so they feel they should behave consistently with this commitment?

In a 1976 study, householders sent a 'We are saving oil' sticker subsequently used 10% less heating oil than groups not sent the sticker



Design
with
Intent

Decoys



3.ly/Cogn

Can you add
'decoy' choices,
making the
others (which you
want people to
pick) look better in
comparison?

Would you choose the \$79.88 option here, when the other two offer you a free gift AND save you slightly more money?

FREE MAGAZINES GIFT CARDS

by keyword 1-800-MAGAZINES (800-62

Home : Entertainment & TV : Celebrity : People Magazine Subscription

PEOPLE
Published Weekly
53 issues per year

★★★★★ BASED ON 59 CUSTOMER REVIEWS
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ABOUT PEOPLE
People magazine is a weekly magazine featuring all the latest news and entertainment from around the world. It is one of the most popular celebrity magazines in the world.

26 ISSUES: \$103.74
\$56.94
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YOU SAVE 45%
[Add To Cart](#)
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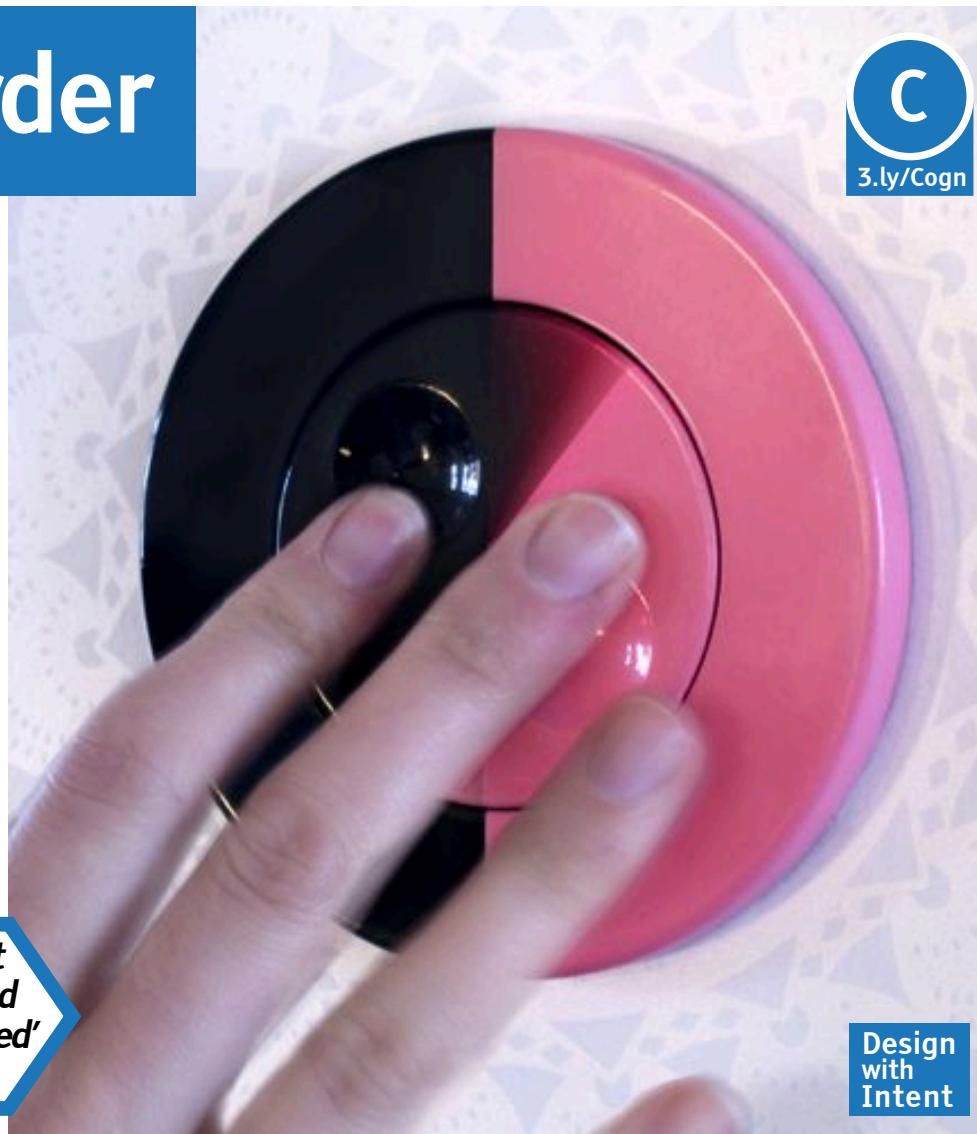
Design with Intent

Desire for order



Can you use people's desire for tidiness to influence them to rearrange elements or take actions you want them to?

The AWARE Puzzle Switch, a light switch design by Loove Broms and Karin Ehrnberger, is visibly 'disordered' when in the 'on' position

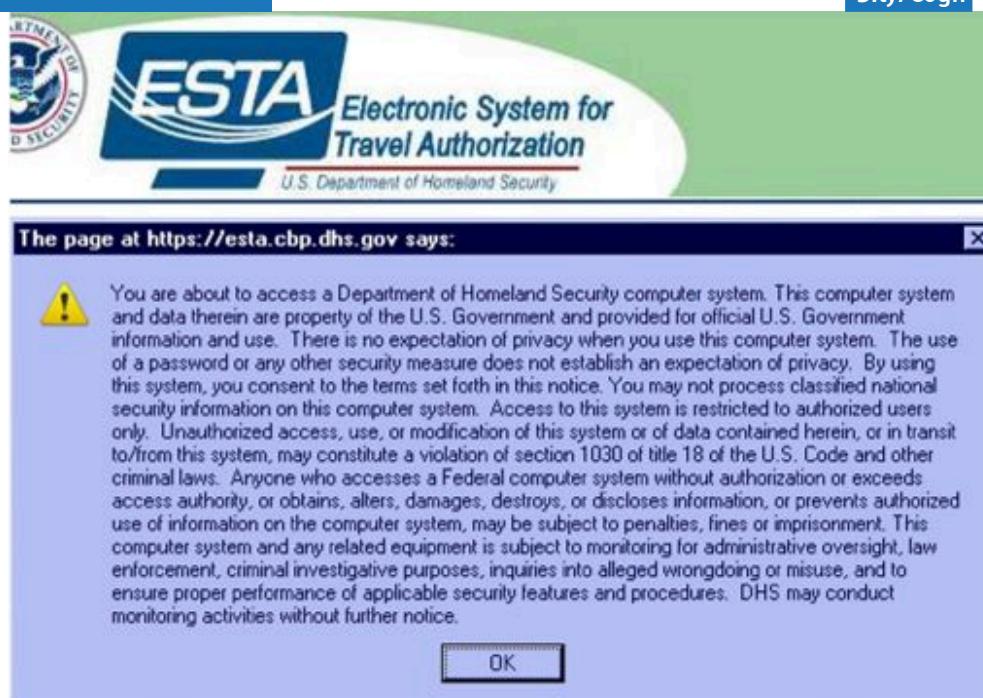


Design
with
Intent

Do as you're told



Can you use an authority figure or authoritative instruction to tell users what they should (or should not) do?



Impenetrable 'agreements' such as this often make heavy use of authority (and threats) to reinforce their message: do as you're told

International travelers who are seeking to travel to the United States are now subject to enhanced security requirements. All eligible under the Visa Waiver Program must apply for authorization usi

Design
with
Intent

Emotional engagement



Can you design your system to engage people's emotions, or make them emotionally connected to their behaviour?

The open beak of these 'baby bird' litter bins at a city farm (visited by lots of children) suggests that they are hungry and would like to be fed

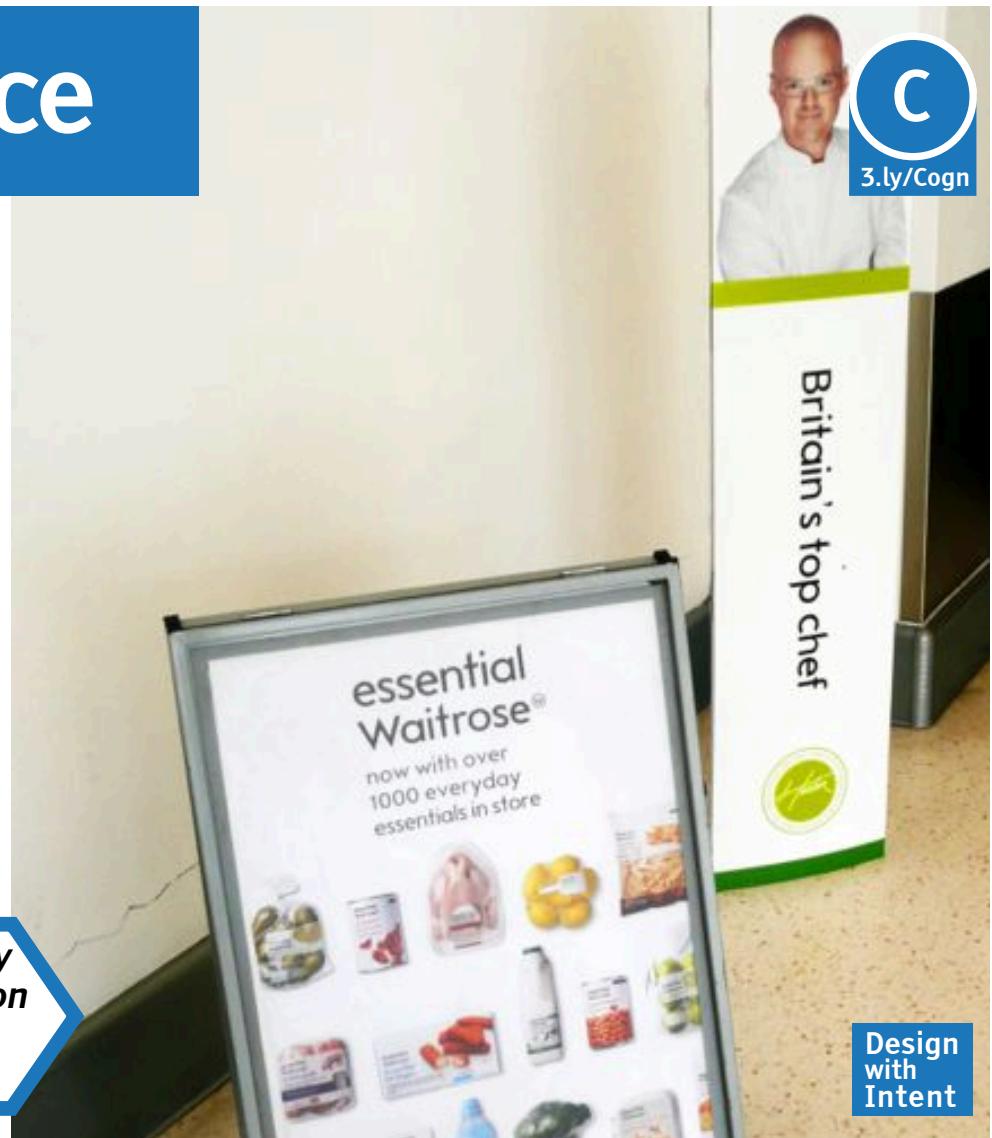


Design
with
Intent

Expert choice

Is it possible to show users the choices that an expert or authority figure would make when in the same situation they're in?

Endorsements where the celebrity is an 'expert' (such as chef Heston Blumenthal in this Waitrose campaign) can lend credibility



Design
with
Intent

Framing

Can you selectively present choices in a way which frames the range available in a more positive light?

The image shows a Starbucks menu page. At the top right, there is a blue circular logo with a white 'C' and the text '3.ly/Cogn'. Below it is a small image of a Starbucks cup with the same branding. The main menu section starts with 'Espresso' and includes a note: '100% Responsibly Grown and Ethically Traded Espresso'. The menu lists various coffee options under 'HOT OR ICED'. A blue arrow originates from the word 'Framing' in the title and points to the 'GRANDE' size row. The menu table is as follows:

	TALL 12 FL OZ	GRANDE 16 FL OZ	VENTI 20/24 FL OZ
Caffè Latte	3.40	4.05	4.45
Caffè Mocha	3.80	4.40	4.80
Iced Caffè Mocha	3.80	4.40	4.80
Caffè Americano	2.50	2.80	3.20
Cappuccino	3.40	4.05	4.45
Caramel Macchiato	3.95	4.60	5.00
Vanilla Latte	4.00	4.60	5.00
Skinny Vanilla Latte	4.00	4.60	5.00
White Chocolate Mocha	3.80	4.40	4.80
Espresso	Solo 1 FL OZ 2.20	Doppio 2 FL OZ 2.50	

Make It Your Drink

Flavor: Regular or Sugar-Free (80¢)
Vanilla, Hazelnut, Cinnamon Dolce, Caramel

Espresso Extra Shot
Soymilk (60¢)

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Starbucks' drink sizes start with 'tall', framing the range further up the scale and avoiding any mediocre implications of 'small' or 'medium'

Habits



Can you make it easy for a new behaviour to become habitual, by building it into an existing routine?

Simply choosing to take the stairs rather than the lift / elevator can quickly become part of a daily routine at home or work

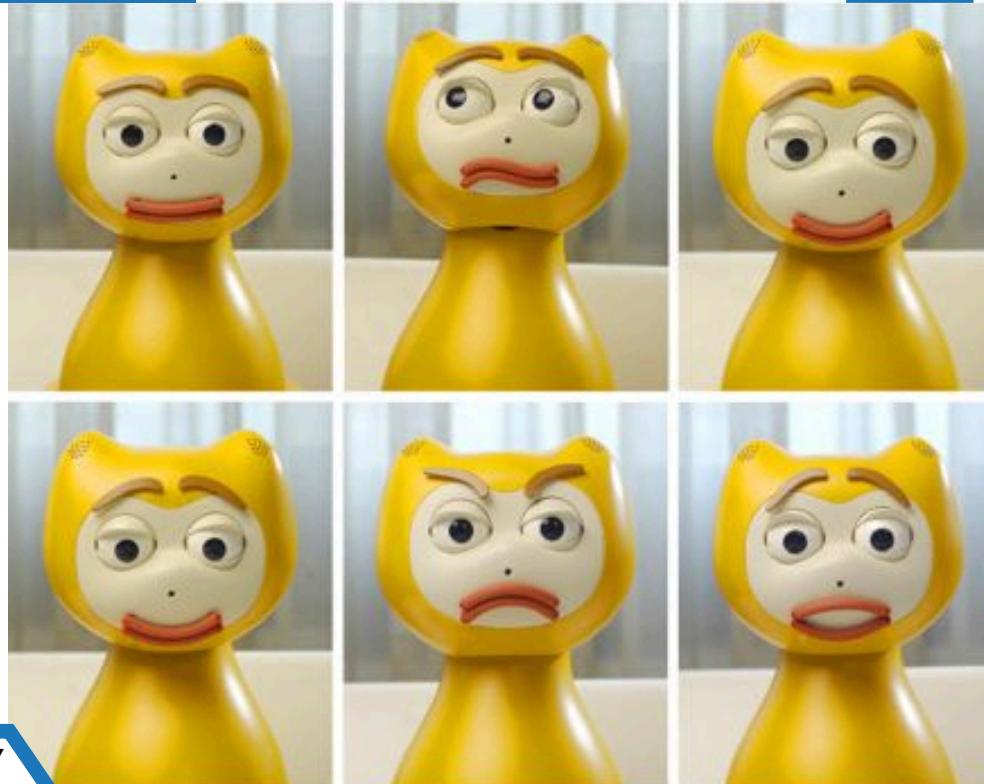


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Personality



Can you give your system a personality or character that engages users, becoming a 'social actor'?



Dutch researchers have used Philips' iCat robot to influence users' decision-making with washing machines, advising and expressing opinions

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Provoke empathy

Can you help users see other people's perspectives and thought processes, by revealing them through the design of your system?

Twitter, Facebook et al allow us to see at any moment the problems and concerns of millions of others just like us (or not) all over the world



Screenshots of a Twitter interface showing multiple tweets from various users expressing frustration or confusion about math homework.

brändieatslava Headache. Also, I don't understand my math homework. I am going to faaaaall.

marty33072 so bored in math, I don't understand lol

iKaulitz13 C @melanieae Ooh I hate math, I don't understand anything bout it. -_- u there now? :-D

MikeS_Photo C @friskywhiskey I don't even understand why you're complaining. Sounds like the math is right. <http://myloc.me/5idIZ>

Demil_FC C @IsADisneyThing haha,don't understand math or what I said?'cause other time I try to use the translator haha,so trying,I can talk..

IsADisneyThing Who can help me with math? : | i really don't understand anything!! :

luxurious_xo I don't understand how I'm taking the " easiest " college math course possibly & I still can't pass a dayuum quiz ; #fml. I MUST be stupid.

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Reciprocation

Can you make users feel they've been done a favour (by the system, or by other users) and want to return it?

This busker's postcards may be 'free', but the social norms of reciprocation mean most people will give him some tip in return



Rephrasing & renaming



Can you rephrase or rename what you'd like users to do, so it aligns better with what they already want to do?

Twitter changed the name of the 'Devices' tab to the more easily understandable 'Mobile' to encourage more users to set up their phones

The image consists of two side-by-side screenshots of the Twitter mobile settings page. Both screenshots show a blue header with the Twitter logo and a user profile picture. Below the header is a navigation bar with tabs: Account, Password, Devices (topped with a small icon of a smartphone), Notices, Profile, Design, and Connect. In the top screenshot, the 'Devices' tab is selected and has a blue background. In the bottom screenshot, the 'Mobile' tab is selected and has a blue background. A callout box with a blue border and white text points from the text in the bottom-left to the 'Mobile' tab in the bottom screenshot. The callout box contains the text: "Twitter changed the name of the 'Devices' tab to the more easily understandable 'Mobile' to encourage more users to set up their phones". In the bottom screenshot, there is also a small text box in the bottom right corner with the text "Design with Intent".

Scarcity

Can you emphasise that a resource is valuable, limited in quantity, or running out (or actually limit it artificially)?

We're used to retailers emphasising that 'everything must go' and then not actually closing; in this case, however, the shop did close down



Social proof

Can you show people what other users like them are doing in this situation, and which choices are most popular?

Amazon's recommendations can be helpful to buyers by expanding the scope of their knowledge, while increasing sales for Amazon

RRP: Our Price: Other Offers:

[Order it used](#)

4 used & new from £30.00

C

3.ly/Cogn

Frequently Bought Together

Customers buy this book with [Behavioral Theory of the Firm](#) by R.



+

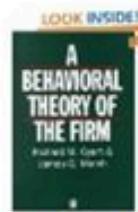


Price For Both: £26.40

[Add both to Basket](#)

[Show availability and delivery details](#)

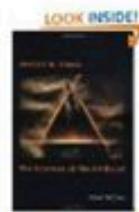
Customers Who Bought This Item Also Bought



[Behavioral Theory of the Firm](#) by Richard M. Cyert

(3)

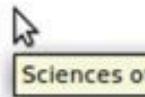
£18.29



[Sciences of the Artificial](#) by Herbert A. Simon

(2)

£16.52



Sciences o

Product details

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Machiavellian Lens



The Machiavellian Lens comprises design patterns which, while diverse, all embody an ‘end justifies the means’ approach of the kind associated with Niccolò Machiavelli. These will often be considered unethical, but nevertheless are commonly used to control and influence consumers through pricing structures, planned obsolescence, lock-ins and so on, and are central to work by authors such as Vance Packard and Douglas Rushkoff, revealing the ‘hidden’ structures which shape our everyday behaviour. In technology contexts, Benjamin Mako Hill and Chris Nodder have both done great work exploring this area.

Elements of game theory are present in some of the patterns, and this is worth further investigation.

Image for Antifeatures & crippleware is from Orin Zebest's Flickr stream, CC-BY-SA licensed (<http://www.flickr.com/photos/orinrobertjohn/68106611>). Images for First one free, Forced dichotomy and Slow/no response are screenshots of Bill Moggridge's 'Designing Interactions' website (<http://www.designinginteractions.com/book>), an example survey built using surveymonkey.com, and a registration form on the Univadis website (http://www.univadis.co.uk/medical_and_more/Registration?locale=en_GB) respectively. Other photos by Dan Lockton.

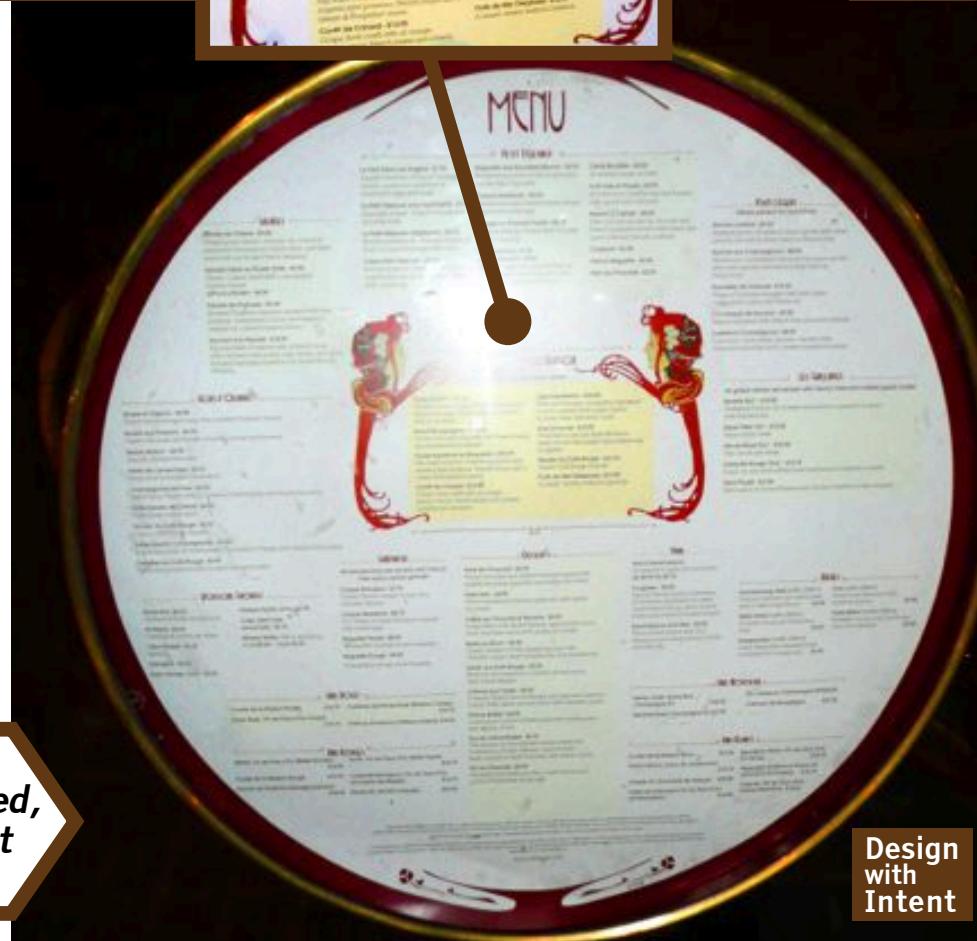
For references & further reading, please see 3.ly/machi



Anchoring

Can you affect users' expectations or assumptions by controlling the reference points they have?

Restaurant menus may use 'anchor' items: prominently placed, higher-priced dishes, raising what customers expect to be paying



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Antifeatures & crippleware

Can you deliberately disable some functions even though they're still present, to drive users to upgrade, or to allow price discrimination?

Sony's cheaper 60-minute MiniDiscs were identical to the 74-minute ones except for a pre-written portion of code preventing full use of the space



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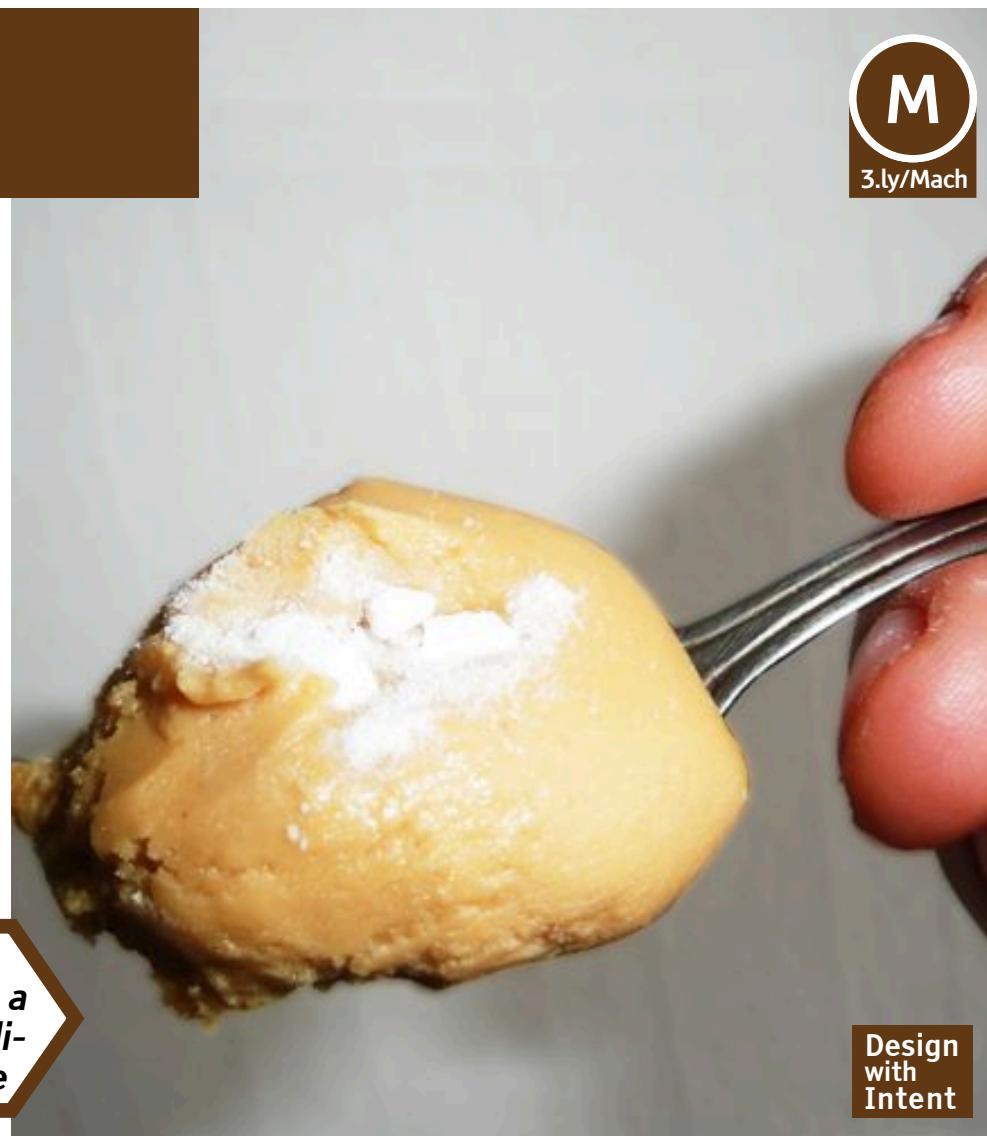
Bundling



3.ly/Mach

Can you include something you want users to do, along with something *they* want to do, so *both* get done?

Crushing up pills or tablets in a spoonful of peanut butter can be a good way to get dogs to take medicines they would otherwise refuse



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Degrading performance



Can you degrade the performance of a product or system until users comply with some behaviour change you want?

Some Nokia phones allegedly sense when a 3rd-party battery is used and switch into a high-power mode so it runs out more quickly



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First one free



3.ly/Mach

Can you give something away which gets people interested or addicted, so they come back and pay for more?

Offering one chapter (often the introduction) free has become increasingly common as a way of promoting new books more widely

DESIGNING INTERACTIONS

THE BOOK

CHAPTERS

INTERVIEWS

DVD

REVIEWS

Download the Introduction– *Two Personal Stories*

Download the Interview:

[Bill Moggridge \(24MB\)](#)

Download the Chapter:

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For more information [visit the Chapter page](#)

To play the interviews you will need [Quicktime 7](#) or higher.

To view the chapter you will need [Acrobat Reader](#).

NOTE: Over the past few weeks, the site has slowed due to [redacted]
apologize for any inconvenience this has caused. We have [redacted]
the situation. (01/16/2007)

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Forced dichotomy

Can you configure a system so there is no 'middle ground' possible, and users must make a choice one way or the other?

An even-numbered (e.g. four-point) rating scale does not allow a 'middle' value: it forces respondents into making a 'good or bad?' choice

The screenshot shows a web-based survey interface. At the top, a dark bar contains the title 'Forced dichotomy'. Below it, the browser's address bar shows 'VIEW MODE] Test Survey' and the URL 'aymonkey.com/s.aspx?PREVIEW_MODE=1&id=3.ly/Mach'. The main content area has a yellow header with 'Test' on the left and 'Exit this survey' on the right. Below this is a section titled '1. Default Section'. A question is displayed: 'Are these Design with Intent cards useful?'. To the right is a horizontal rating scale with five options: 'Very useful', 'Quite useful', 'Almost useless', 'Completely useless', and 'useless'. The 'Quite useful' option is selected, indicated by a checked checkbox with a cursor icon over it. At the bottom right of the form is a 'Done' button, and at the bottom right of the slide is a small logo for 'Design with Intent'.

Format lock-in/out



Can you design your system so users become committed to a particular format or way of doing things?

Panasonic cameras include a 'battery authentication' system, which prevents using cheaper non-Panasonic replacements



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Functional obsolescence

Can you design things to become technologically superseded (or even wear out) quickly, so people replace them?

While new models do bring real technological advances, Apple has managed to create an 'upgrade treadmill' for iPhone buyers



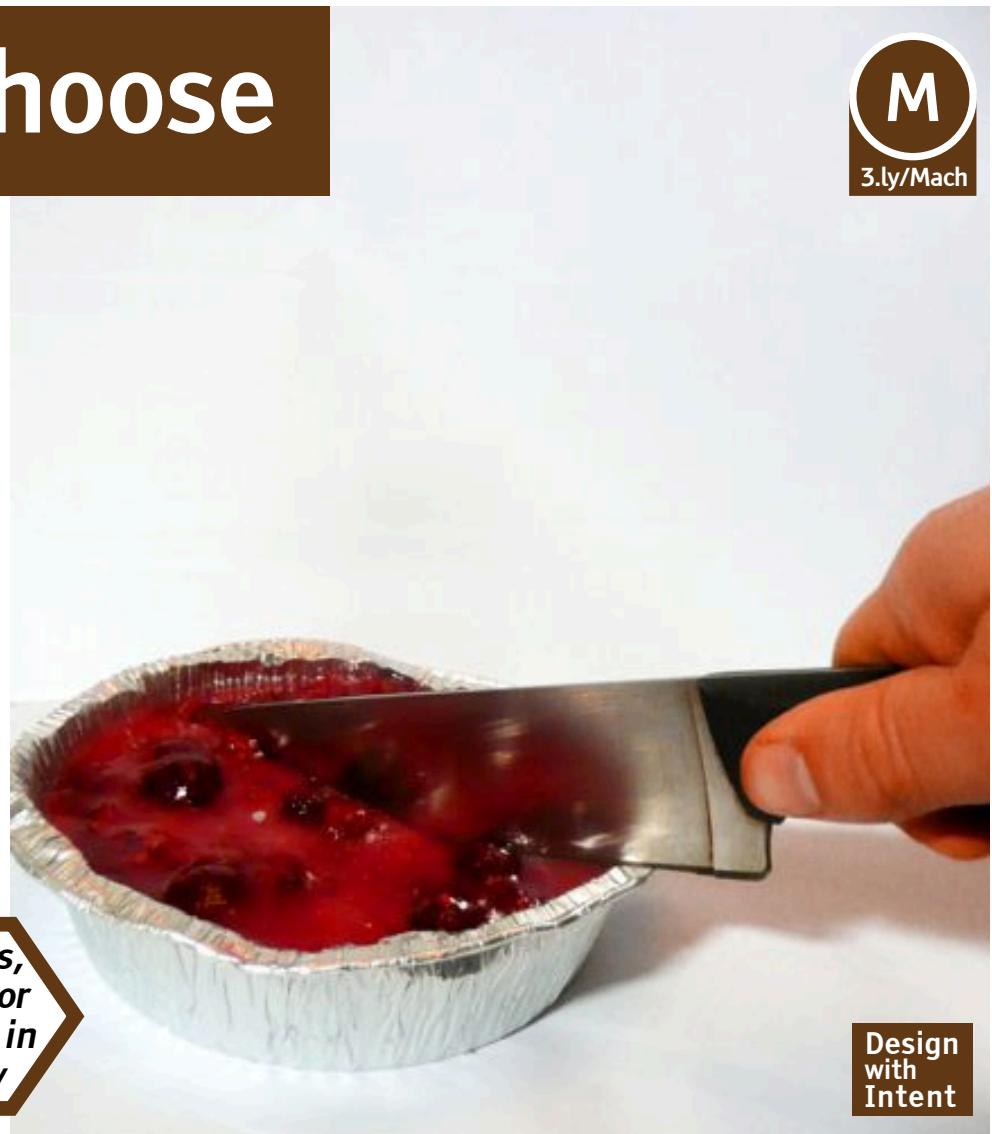
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I cut, you choose



Can you structure a system so that no one user can get an advantage over others simply by being first to act?

If person 1 cuts a cake into halves, and person 2 chooses the half he or she wants, there is no advantage in person 1 cutting the cake unfairly



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Poison pill



Can you arrange things so that an otherwise attractive option has an unpleasant, self-defeating deterrent side-effect?

Security ink tags release indelible ink if removed incorrectly, in an attempt to make it simply not worth stealing the clothes



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Intent

Serving suggestion

Can you direct users to use a product or system in a particular way through examples or demonstrations?

Alka-Seltzer reputedly introduced the 'two tablets per dose' direction to users as part of a 1960s TV ad; before that, only one was taken



Slow / no response



Can you get users to try different actions or repeat a behaviour by making the system respond or give feedback slowly?

A screenshot of a web-based registration form. At the top right is a 'Cancel' button and a blue 'Submit' button with a cursor icon pointing to it. Below the buttons is a red warning message: '(Registration can take a few minutes. Please click Submit only once)'. The main form area contains two large, empty input fields. Above the second input field is a note: 'We may need to contact you if there are problems with your registration details. Please provide us with a number where we can contact you or leave a message.' To the right of this note, there is additional text that is mostly cut off but includes 'updates in my clinical area, forum debates, reviews, disease' and 'occasional email about other medical content that might be of'.

Duplicate orders can be a problem where web forms are slow to submit and users click multiple times: this kind of instruction is common

Top

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Style obsolescence



Can you design things to become unfashionable or undesirable quickly, to spur the desire for replacement or upgrades?

Fashions and trends are obvious in high-street retailing, but are also prevalent (and can be deliberately created) in other fields



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with
Intent

Worry resolution

Can you help users overcome worry about their behaviour (perhaps after having suggested it in the first place)?

The term 'halitosis' was allegedly introduced in a 1921 Listerine ad, part of a series making people worried about bad breath, then offering a solution



Security Lens



The Security Lens represents a ‘security’ worldview, i.e. that undesired user behaviour is something to deter and/or prevent through ‘countermeasures’ designed into products, systems and environments, both physically and online, with examples such as digital rights management.

From a designer’s point of view, this can often be an ‘unfriendly’ – and in some circumstances unethical – view to take, effectively treating users as ‘guilty until proven innocent’. However, taking inspiration from the the patterns, it’s possible to think of ways that they could be applied to help users control their own habits or behaviour for their own benefit – encouraging exercise, reducing energy use, and so on.

Image for Sousveillance is a screenshot of TheyWorkForYou (<http://www.theyworkforyou.com>). Other photos/images by Dan Lockton, including photo of Mentor Teaching Machines textbook. For references & further reading, please see 3.ly/secur

Coercive atmospherics
Can you use ambient sensory effects (sound, light, smell, etc) to make it harder for users to behave in certain ways?
Also lighting is used in some public spaces to discourage drug injection by creating a physical barrier or making it look like there's no one around.
S

Peerveillance
What happens if users know (or believe) that what they're doing is visible to their peers also using the system?
People tend to act differently when they know they are being monitored by others.
S

Sousveillance
Can you give users 'tower down' a hierarchy the ability to observe and monitor the behaviour of people above them?
TheyWorkForYou.com
Tom Watson Labour MP for West Bromwich East
S

Surveillance
What happens if users know (or believe) their behaviour is visible to or monitored by people in positions of power / authority?
CCTV is often presented as a crime deterrent, but it can also be used to monitor people without their knowledge.
S

Threat of injury
What happens if your design threatens to (or actually does) harm users who behave in the 'wrong' way?
CCTV cameras are often placed in areas where they can't be seen to prevent people from breaking the law.
S

Threat to property
What happens if your design threatens to damage users' property if they use it the 'wrong' way?
A sign on a road says 'Wrong Way STOP SEVERE TOW DANGER'.
S

What you can do
Can you give users different choices or access to functions depending on the capabilities they can demonstrate?
Child-proof lids are often used on containers to prevent children from accessing substances, such as medicine and alcohol or cleaning products.
S

What you have
Can you give users options or access to different functions depending on their possession of a special tool, key, device or token?
Access can be given to certain areas of a building or areas in which fuel is available via a QR code.
S

What you've done
Can you change the options available to users based on their current or previous behaviour?
You have made a common error!
You have just made the first operation of the day. You need to get a ring in to open the door. You must now log in to the system you failed to destroy.
I now I'm 'in' to 'in'
It may well be that the use of upper case and lower case letters is not intuitive to you. If you are not sure that you are 'convenient', you will generally accept what is convenient.
Now tackle the exercise below.
S

Where you are
Can you make different choices available to users depending on their location?
Some supermarket trolleys have device fitted to lock the wheels when the trolley is moved away from the entrance.
S

Who or what you are
Can you use criteria innate to particular individuals, groups or objects to block or make different options available?
Additional height restrictions attempt to allow only certain types of vehicles to pass under a bridge by disallowing vehicles taller than the bridge height.
S

TheyWorkForYou.com
Tom Watson Labour MP for West Bromwich East
S

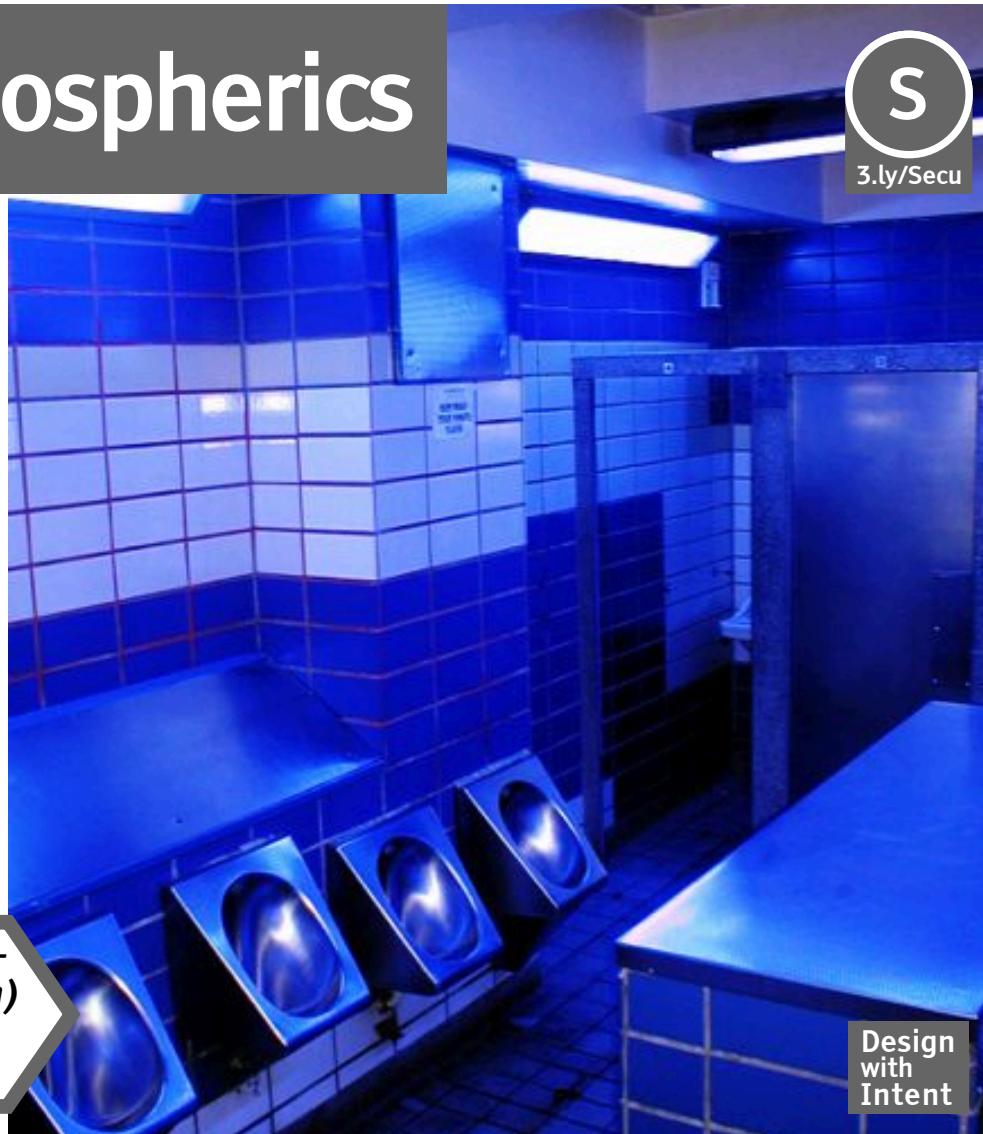
Coercive atmospherics



3.ly/Secu

Can you use ambient sensory effects (sound, light, smell, etc) to make it harder for users to behave in certain ways?

Blue lighting is used in some public toilets (e.g. here, in Edinburgh) to discourage drug injection by making veins difficult to see

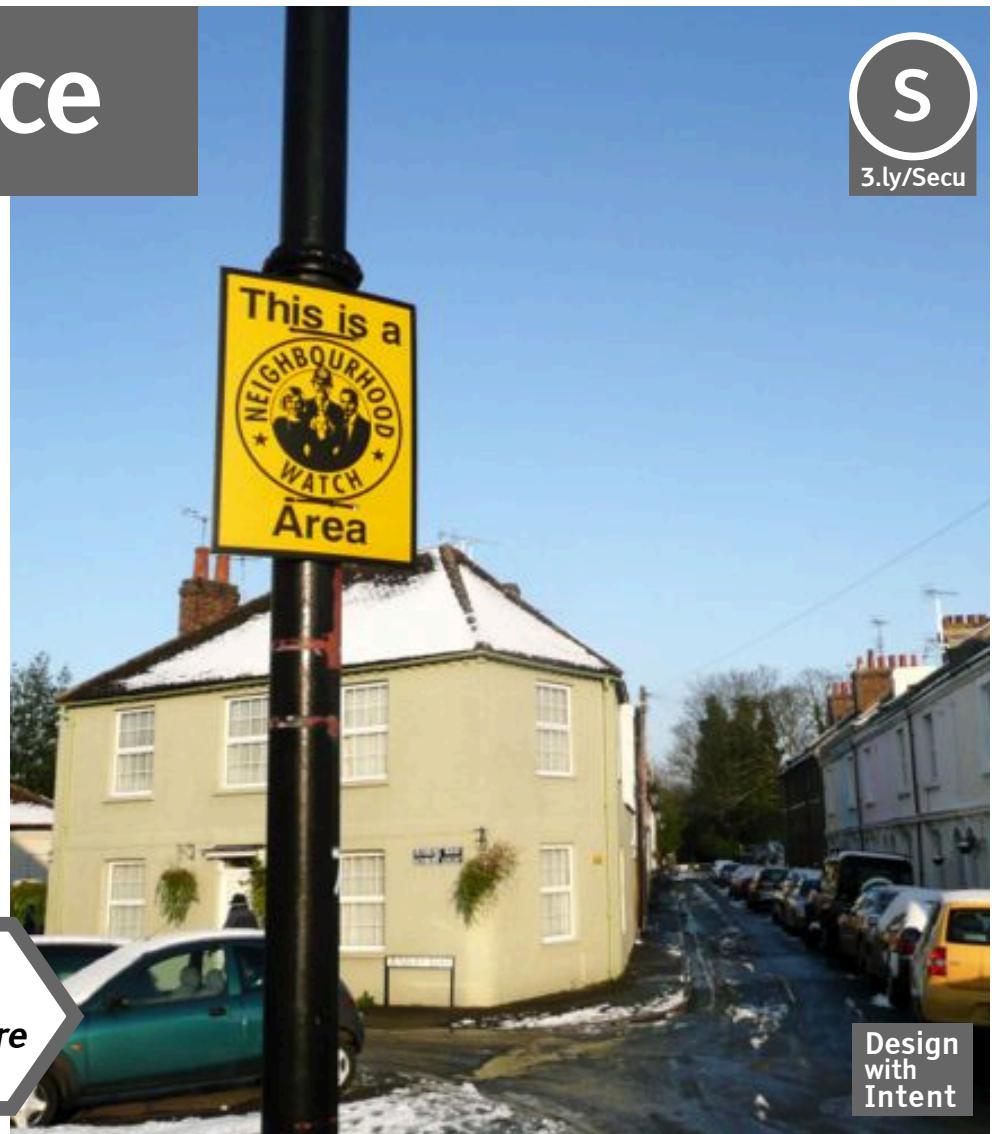


Peerveillance



What happens if users know (or believe) that what they're doing is visible to their peers also using the system?

Neighbourhood Watch schemes are signed so that they provide a deterrent effect—"people here are vigilant about what's going on"



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Sousveillance



Can you give people
'lower down' a
hierarchy the
ability to observe
and monitor the
behaviour of
people above them?

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Overview MPs Lords Debates Written Answers and Statements Bill Co



Tom Watson
Labour MP for West Bromwich East

- Entered Parliament on 7 June 2001 — General election
- Majority: 11,652 votes. — 92nd out of 643 MPs.
- Send a message to your MP (via WriteToThem.com)
- Sign up to *HearFromYourMP* to get messages from your MP
- Email me whenever Tom Watson speaks (no more than once per day)
- Help us add video by matching a speech by Tom Watson
- [Voting record](#)
- Committees and topics of interest
- Most recent appearances

Design
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Surveillance

What happens if users know (or believe) their behaviour is visible to or monitored by people in positions of power / authority?

CCTV is often presented as a crime deterrent, influencing public behaviour, whether or not it is switched on or actually monitored



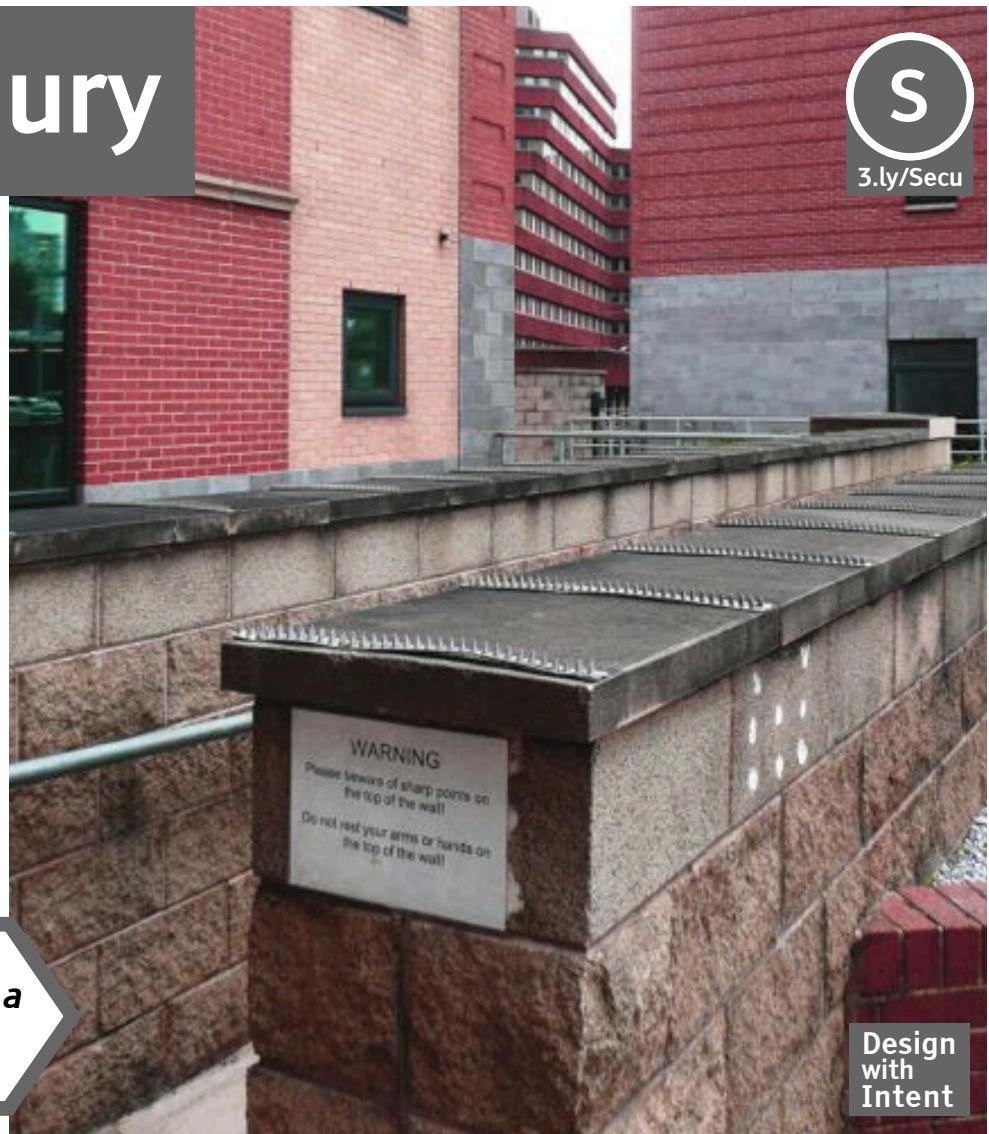


3.ly/Secu

Threat of injury

What happens if your design threatens to (or actually does) harm users who behave in the 'wrong' way?

Spikes on walls—such as these stick-on plastic ones—can act as a deterrent to climbing or sitting, with varying effectiveness



Design
with
Intent



3.ly/Secu

Threat to property

**What happens if
your design
threatens to
damage users'
property if they
use it the
'wrong' way?**

'Traffic control spikes' are an attempt to enforce one-way traffic at entrances to car parks (etc): the threat is made very clear

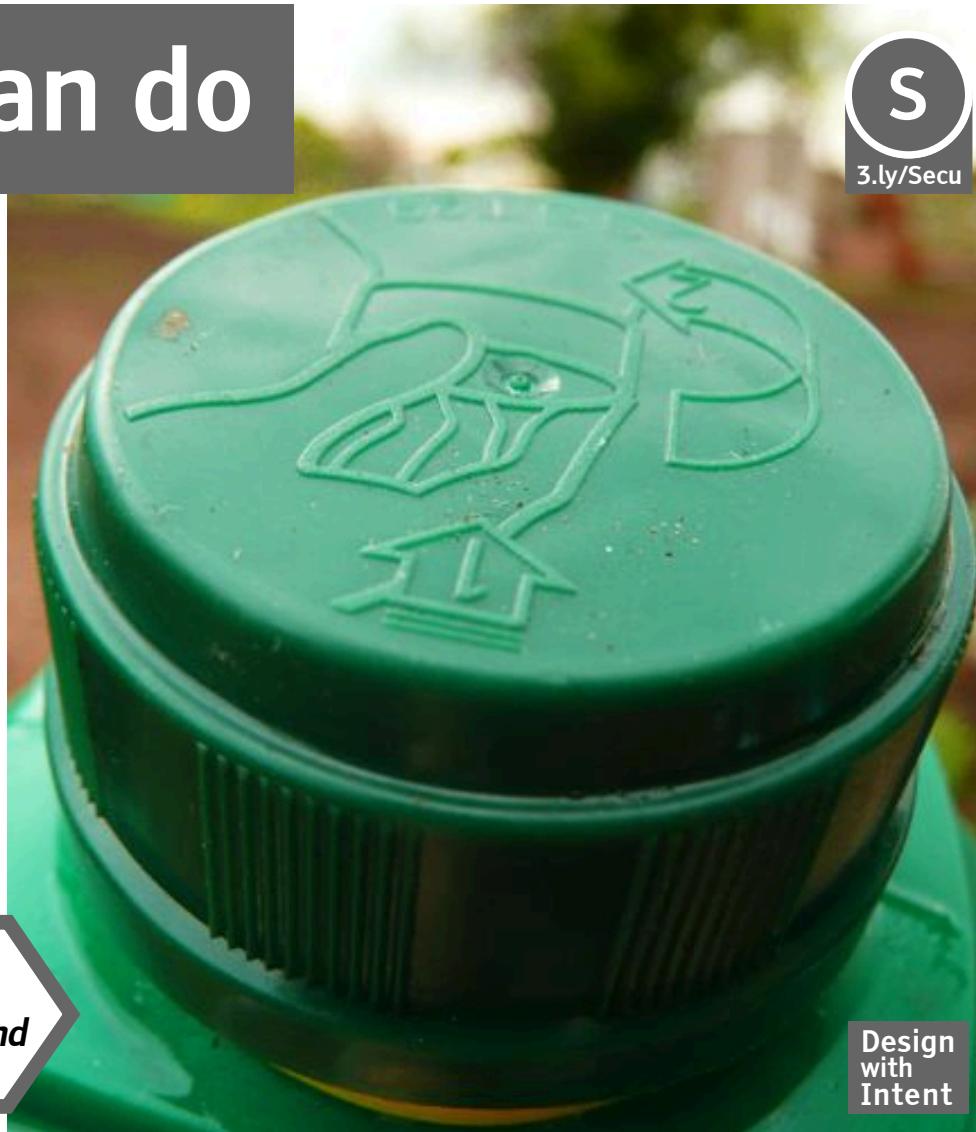


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What you can do

Can you give users different choices or access to functions depending on the capabilities they can demonstrate?

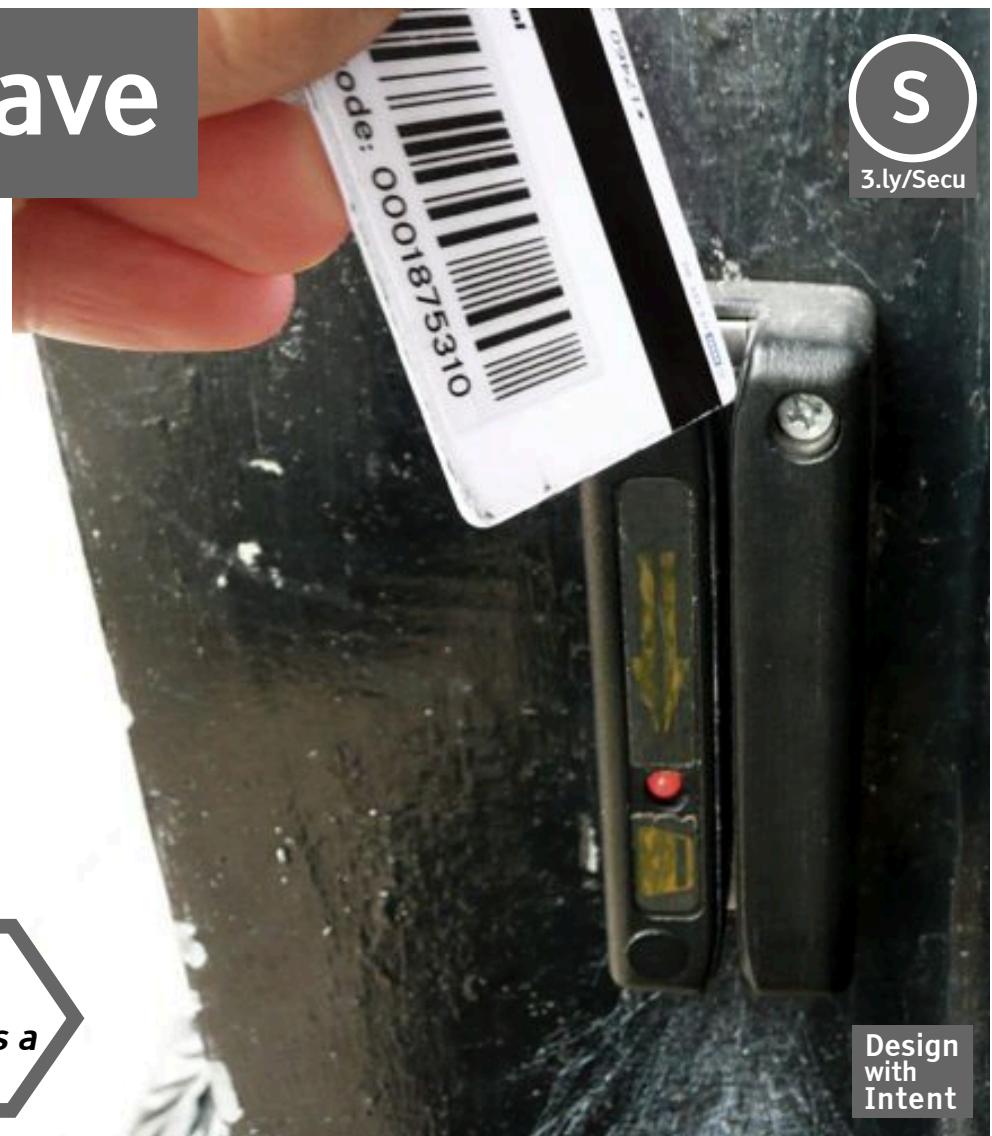
Child-proof lids are often used on containers for dangerous substances, such as medicines and garden and cleaning products



What you have

Can you give users options or access to different functions depending on their possession of a special tool, key, device or token?

Access cards allow the issuer to restrict entrance to certain buildings or areas to whoever has a card with the right permissions



Design
with
Intent

What you know



3.ly/Secu

Can you test what users know (information, passwords, etc) to give them access to different functions?

Remembering usernames, passwords and answers to security questions is increasingly part of our everyday lives, on- and offline

```
dan@dan-laptop:~$ ftp
ftp> open
(to)
Connected to [REDACTED]
220----- Welcome to Pure-FTPd [privsep] [TLS] -----
220-You are user number 2 of 100 allowed.
220-Local time is now 21:40. Server port: 21.
220-This is a private system - No anonymous login
220 You will be disconnected after 15 minutes of inactivity.
Name ( [REDACTED]:dan):
331 User [REDACTED] OK. Password required
Password:
230-User [REDACTED] has group access to: [REDACTED]
230 OK. Current restricted directory is /
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls
200 PORT command successful
150 Connecting to port 38509
drwx--X--X 62 67630          8192 Nov  2 21:20 .
drwx--X--X 62 67630          8192 Nov  2 21:20 ..
drwxr-xr-x  2 67630           6 Apr 26 2005 .AppleDouble
-rw-r--r--  1 67630          1625 Mar 11 2009 .htaccess
-rwrxr-xr-x  1 67630          9645 Mar 12 2006
-rwrxr-xr-x  1 67630          10935 Mar 12 2006
-rwrxr-xr-x  1 67630          39003 Mar 12 2006
-rwrxr-xr-x  1 67630          3142880 Sep 29 2005
-rwrxr-xr-x  1 67630          9545 Dec 22 2005
-rwrxr-xr-x  1 67630          17727 Dec 22 2005
-rwrxr-xr-x  1 67630          4388 Dec 22 2005
-rwrxr-xr-x  1 67630          8351 Dec 22 2005
-rwrxr-xr-x  1 67630          3036 Dec 22 2005
[REDACTED]
```

Design
with
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What you've done



**Can you change
the options
available to
users based on
their current or
previous
behaviour?**

*'Teaching machine' textbooks
allow students to progress in
different orders depending on which
concepts need more explanation*

You have made a common error.

You made a mistake in the first question of the last asked to define 1 mg in SI coherent terms and you de the answer was 10^3kg .

You made this mistake because you failed to distinguish m (milli) and the prefix M (mega):

$$1 \text{ mg} = 10^{-3}\text{g} = 10^{-6}\text{kg}$$

It may well be that this error was the result of a case conversant with use of upper case and lower case symbols and prefix symbols.

If you are not sure that you are conversant, you will page viii at the back of this book.

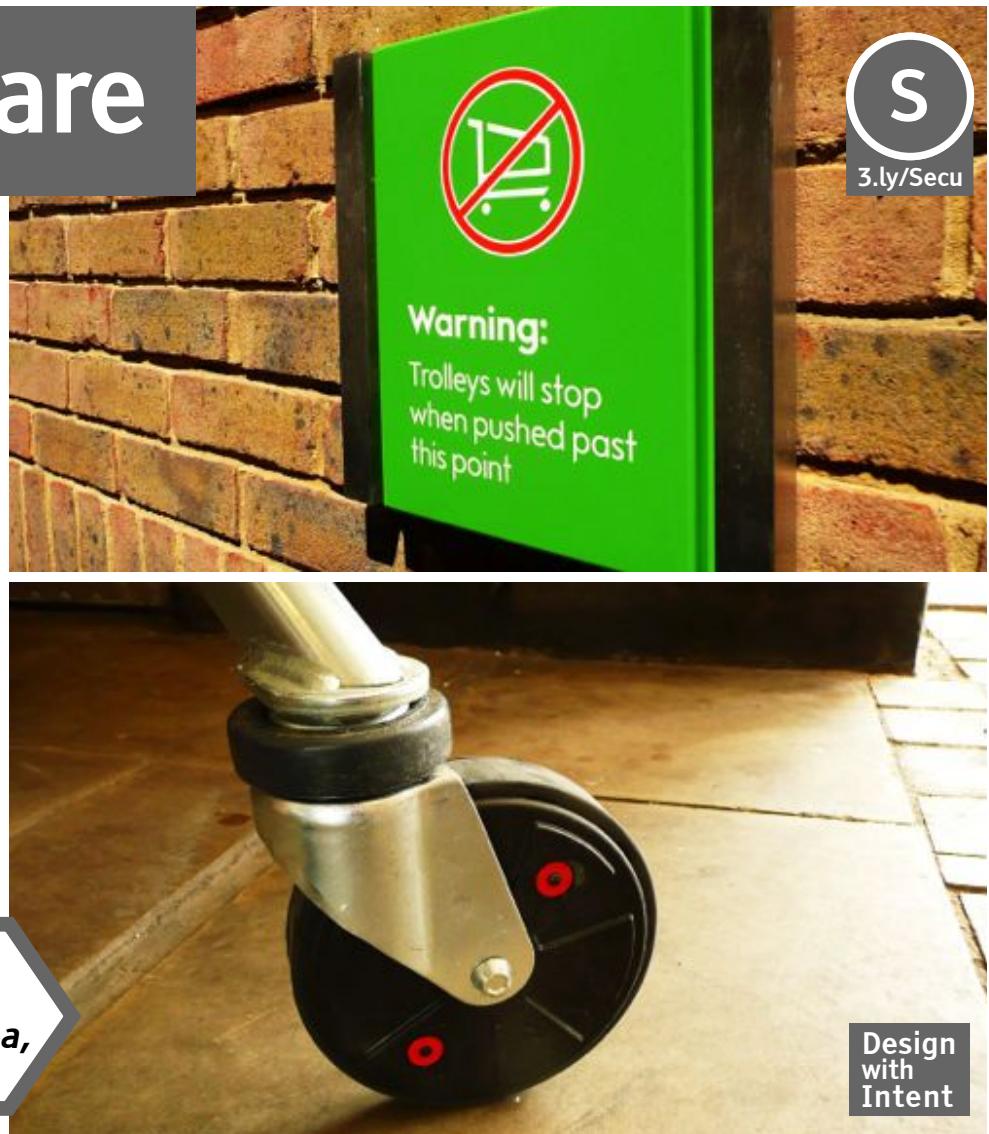
Now tackle the exercise below.

Design
with
Intent

Where you are

Can you make different choices available to users depending on their location?

Some supermarket trolleys have devices fitted to lock the wheels when taken outside a defined area, usually an adjacent car park



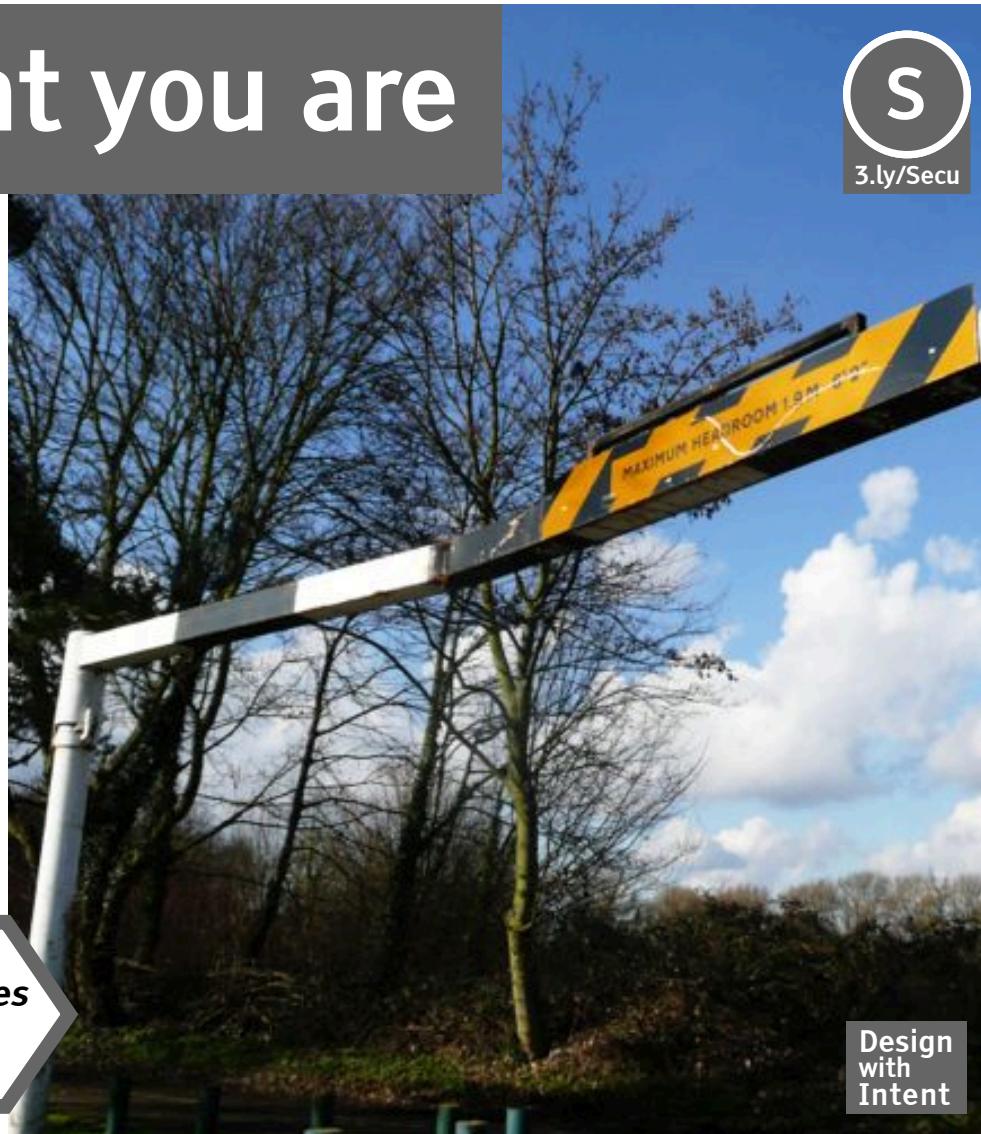
Design
with
Intent

Who or what you are



Can you use criteria innate to particular individuals, groups or objects to block or make different options available?

Artificial height restrictors attempt to allow only certain types of vehicles into a car park, by discriminating on vehicle height



Design
with
Intent

How you can help

I couldn't have developed this toolkit without the help of an enormous number of people, who have offered ideas, comments and suggestions, as well as taking part in a series of workshops during 2008-10, trying out earlier iterations of Design with Intent.

The job isn't finished, however: this is only v.1.0 of the toolkit, and I'm hoping to be able to revise and improve it in the years ahead, with expansion into other forms and a lot more evidence for which patterns work, in what circumstances, and why.

If you'd like to help, there are three main ways:

Surveys

Very Quick Survey

Please return to designwithintent.co.uk

How do you judge whether a brainstrom / idea generation session was successful?

Feedback from others? Judge by yourself? 81% 18% 10% 1%

And do you / they judge it:

Quantity of ideas? Diversity of ideas? Quality of ideas? 71% 13% 13% 3%

If so, quantity of ideas? Diversity of ideas? Quality of ideas? 71% 13% 13% 3%

How often do you use inspiration / method cards or similar things in sessions? often sometimes rarely never

Where the Design with Intent cards useful today? yes no not sure

At designwithintent.co.uk there are links to a number of different surveys designed to capture some of your impressions of using the cards, in different use situations (consultancy idea generation, workshop, educational project, etc). Your participation would be appreciated.

designwithintent.co.uk

Wiki



Each pattern (and each lens) has a corresponding wiki page, which, over time, with readers' input, will (I hope) grow to include more examples, expansions of concepts, references, clarifications and discussion. The wiki also ought to allow new patterns to be identified and discussed.

designwithintent.co.uk

Share your examples



If you've got examples of design for behaviour change — either your own projects, or ones you've come across elsewhere — which you're happy to share, please do get in touch. A Design with Intent book is planned, and it would be fantastic to feature reader submissions.

dan@danlockton.co.uk

Workshops, consultancy and research

If you find these Design with Intent cards useful, and think your organisation could benefit from a more detailed treatment of design and behaviour change, consider hiring Requisite Variety.

We provide consultancy at the interface between people and designed systems, across products, services and environments. We've recently run workshops for Philips Research and Jaguar Land Rover, and at the dConstruct 2011 and Interaction 12 conferences, and given internal talks for Ubisoft and Dyson.

Dan Lockton is the creator of the Design with Intent toolkit, and Requisite Variety is applying the insights and expertise developed through Dan's ongoing academic research, together with an explicit 'systems' viewpoint, to practical contexts.

Please do get in touch for more information, or to discuss how we could work together: dan@requisitevariety.co.uk



Requisite Variety