

Design with Intent

101 patterns for influencing
behaviour through design

1.0

Dan Lockton
with
David Harrison
& Neville A. Stanton



Requisite Variety

Design with Intent: 101 patterns for influencing behaviour through design

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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://designwithintent.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.

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.



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 is 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.

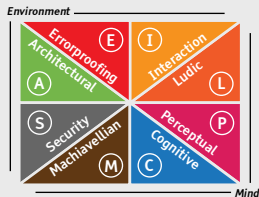
Weekly idea

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.



The eight lenses of the toolkit

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 atmospheres
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
- E** Defaults
- I** Partial completion
- L** Make it a meme
- P** Colour associations
- S** Simplicity
- O** Opt-outs
- T** Tunnelling & wizards
- R** Rewards
- C** Contrast
- M** Decoys
- D** Do as you're told
- F** Expert choice
- S** Scarcity
- A** Anchoring
- S** Serving suggestion
- S** Style
- O** obsolescence
- W** Worry
- R** resolution
- I** Implied sequences
- M** Mood
- P** Perceived affordances
- P** Prominence
- P** Proximity & grouping
- S** Similarity

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
Peersurveillance
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		
	<i>Examples</i>	<i>Some relevant patterns</i>
51 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
52 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
53 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
54 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
55 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
56 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
57 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		
	<i>Examples</i>	<i>Some relevant patterns</i>
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, Reciprocation, 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



3.ly/archi

A

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

A

3.ly/Arch

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

A

3.ly/Arch

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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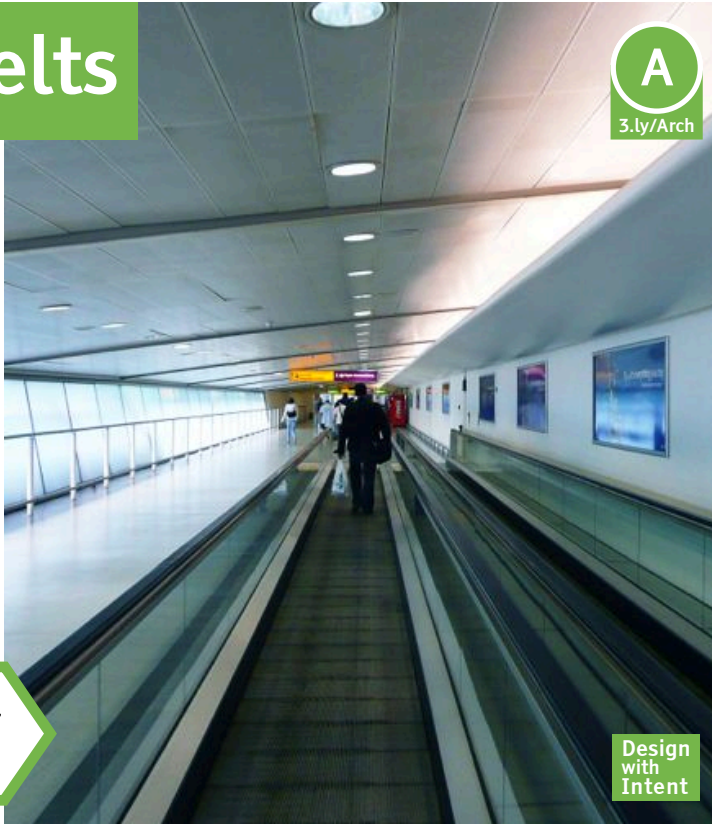
Conveyor belts

A

3.ly/Arch

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

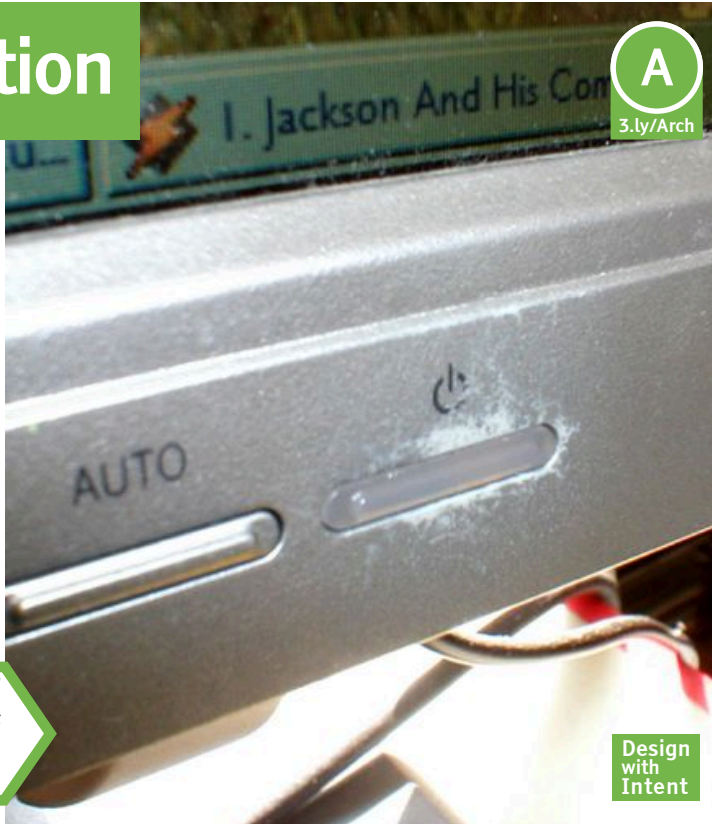


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Feature deletion

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



A

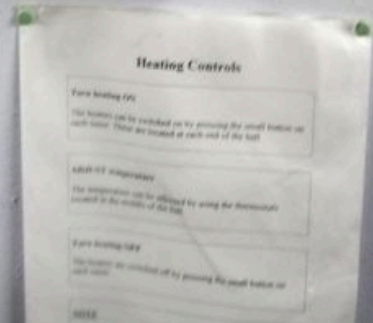
3.ly/Arch

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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

A

3.ly/Arch

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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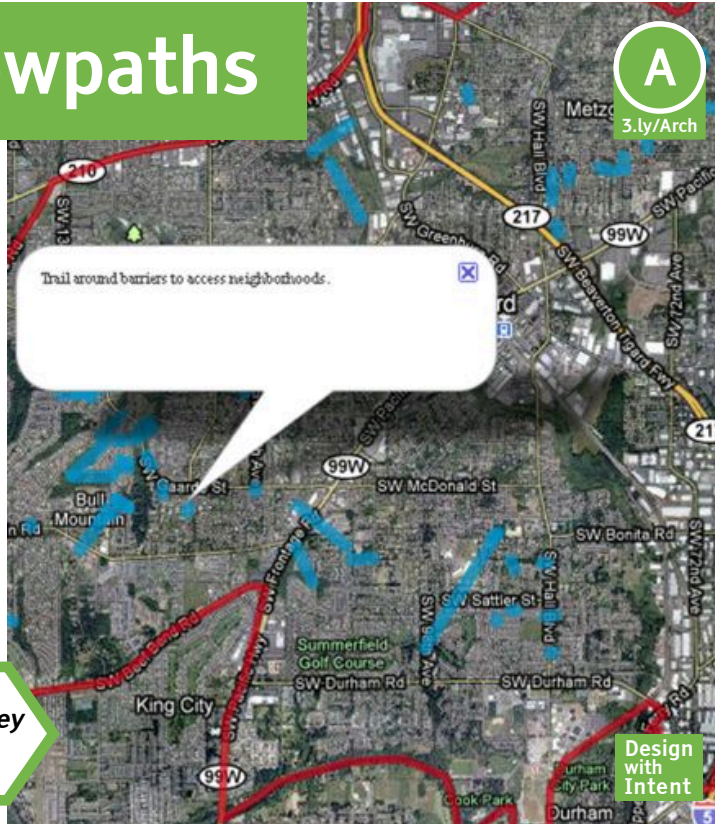
Pave the cowpaths

A

3.ly/Arch

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



Roadblock

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



A
3.ly/Arch



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

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Segmentation & spacing

A

3.ly/Arch

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

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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

E

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



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)



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!

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'



E
3.ly/Erro

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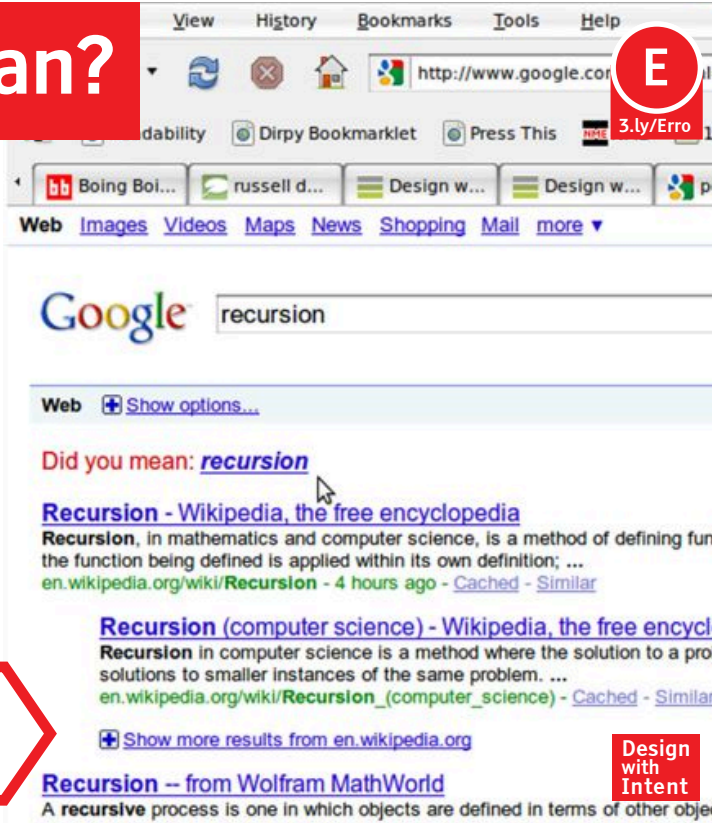
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Design with Intent

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 Google search interface. The search bar contains the word "recursion". Below the search bar, the text "Did you mean: [recursion](#)" is displayed in red. A mouse cursor is hovering over the suggested word. Below this, the first search result is "Recursion - Wikipedia, the free encyclopedia". The snippet for this result reads: "Recursion, in mathematics and computer science, is a method of defining fun the function being defined is applied within its own definition; ... en.wikipedia.org/wiki/Recursion - 4 hours ago - Cached - Similar". The second search result is "Recursion (computer science) - Wikipedia, the free encycl". Its snippet reads: "Recursion in computer science is a method where the solution to a pro solutions to smaller instances of the same problem. ... en.wikipedia.org/wiki/Recursion_(computer_science) - Cached - Similar". At the bottom of the visible results, there is a link "Recursion -- from Wolfram MathWorld" with a snippet: "A recursive process is one in which objects are defined in terms of other obje".

E
3.ly/Error

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Interlock

E

3.ly/Erro

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

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



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

Tools Help

http://www.ybs.co.uk/

3.ly/Erro

With you

savings investments insurance conveyancing shares loans share

details E-ISA Application - Small Change Big Difference

ment

details **Make a Big Difference**

Setup

Setup The Small Change, Big Difference Scheme is a way in which you can support Y

e Big
rence For all customers opening a new investment account from 1st May 2001, an an
This donation will be the same as the pence of your net interest payment or gro

ation For details on when your donation will be collected, please refer to your accou
your local branch or call 0845 1200 300.

Check this box if you would not like to make a big difference

Cancel

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)



E

3.ly/Erro

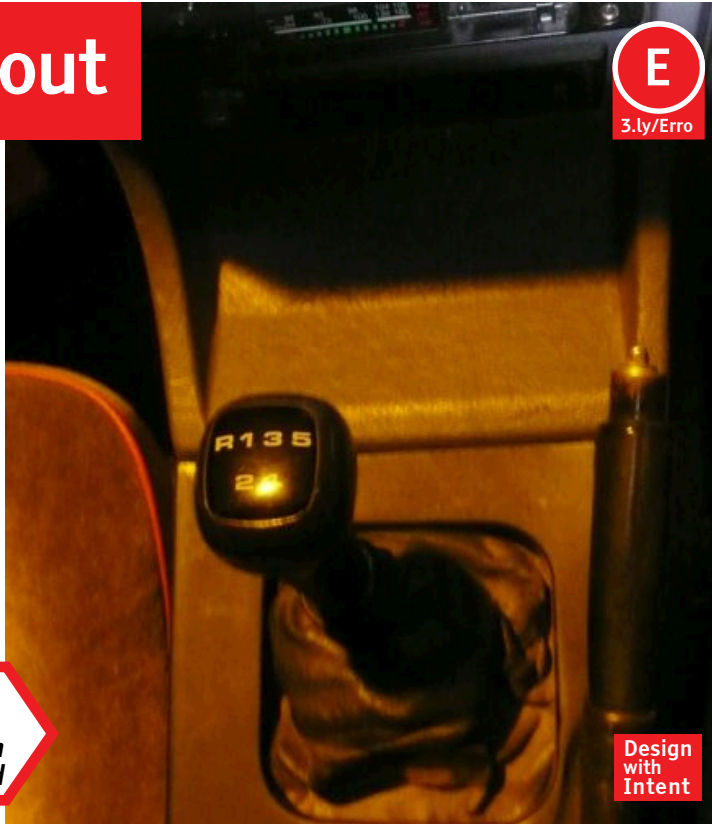
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Task lock-in/out



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



Interaction Lens



3.ly/inter

I

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>



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

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



Partial completion

I

3.ly/Inte

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 Amazon.co.uk website's delivery address selection interface. At the top, the Amazon logo and 'amazon.co.uk' are visible. Below the logo, there are navigation links: 'WELCOME', 'ADDRESS', 'ITEMS', 'WRAP', 'DISPATCH', and 'PA'. The main heading is 'Choose a delivery address', followed by a question: 'Is the address you'd like to use displayed below? If so, click the corresponding "Dispatch to this address" button. Or you can enter a new delivery address:'. Below this, there is a section titled 'MR E SHOPPER's Address Book' which contains two columns of address cards. Each card has a 'Dispatch to this address' button at the top, followed by the name and address details, and 'Edit' and 'Delete' buttons at the bottom. The bottom two cards are blurred to represent pre-filled details.

amazon.co.uk

WELCOME ADDRESS ITEMS WRAP DISPATCH PA

Choose a delivery address

Is the address you'd like to use displayed below? If so, click the corresponding "Dispatch to this address" button. Or you can enter a new delivery address:

MR E SHOPPER's Address Book

<p>Dispatch to this address</p> <p>Brian Brains PO Box 45 NOWHERE, Bucks SL0 1AA United Kingdom</p> <p>Edit Delete</p>	<p>Dispatch to this address</p> <p>Miss Penelope Pigg Rose Cottage Turnip Lane SWINDON, Wiltshire SN3 4DD United Kingdom</p> <p>Edit Delete</p>
<p>Dispatch to this address</p> <p>[Blurred address details]</p>	<p>Dispatch to this address</p> <p>[Blurred address details]</p>

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')

The screenshot shows a Digg website interface. At the top, there are several article titles with their scores and categories highlighted in black boxes: "Please Explain (Score:2, Informative)", "Re:Please Explain (Score:2)", "Apache anf RFID? (Score:1, Offtopic)", and "Same technology as proximity cards... (Score:5, Insightful)". Below these, there is a navigation bar with "digg" logo, "Connect with Facebook", and links for "Join Digg", "About", and "Login". The main content area features a featured article titled "Walmart shopper takes a bat to 29 TVs (Video)" with a score of 185 diggs. The article text is partially visible, mentioning "engadget.com" and "Look, we've all had rough days...". Below the article, there are social media sharing icons (email, Facebook, Twitter), a "Bury" button, and a "Who dugg this?" button. At the bottom, there is a "36 Comments" section with a comment from "GamingForever" posted "8 hr 42 min ago" that says "Everyone just watches, no one tries to stop him...". There are also buttons for "4 Replies" and "2 diggs".

Design with Intent

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 shows three examples of progress bars:

- LinkedIn (top):** A blue progress bar at 85% profile completeness. Text below reads: "Complete your profile quickly" and "Import your résumé to build a complete profile in minutes." Below this is a green box with a "Profile Completeness" header, a green progress bar at 85%, and the text: "Adding a recommendation will bring you to 90%".
- LinkedIn (middle):** A blue progress bar at 85% profile completeness. Text below reads: "Complete your profile quickly" and "Import your résumé to build a complete profile in minutes." Below this is a green box with a "Profile Completeness" header, a green progress bar at 85%, and the text: "Adding a recommendation will bring you to 90%".
- Wikipedia (bottom):** A blue progress bar showing a goal of \$7.5T and a current amount of \$6.9M. Text above the bar reads: "We're almost there. Thank you." A "Donate Now" button is visible to the right.

Real-time feedback

I

3.ly/Inte

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



Design
with
Intent

Simulation & feedforward

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

Interactive savings / loan simulators such as this from Yahoo! are increasingly common, and can influence customer decisions



Start ahead and stay ahead

Find out more
Design with Intent

Summary feedback

I

3.ly/Inte

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

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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'



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

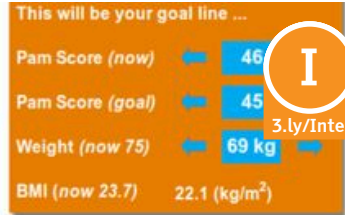
Walking: 57 min/day or

Running: 21 min/day

To reach your weight goal:

Eat less: 270 Cal/day

(from today!)



Tunnelling & wizards

I

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

Design
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Ludic Lens



3.ly/ludic



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>)



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-frilled-chicken>). Other photos/images by Dan Lockton. For references & further reading, please see 3.ly/ludic

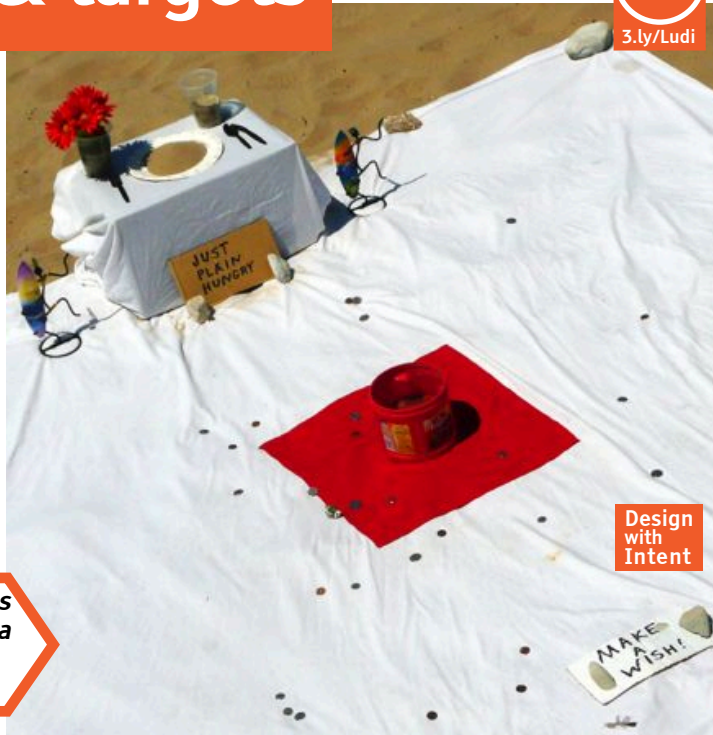
Challenges & targets

L

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

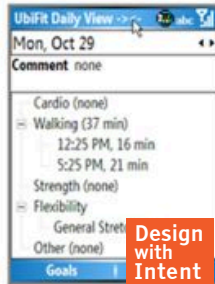


Design
with
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Collections

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



Design with Intent

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

- 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 t

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

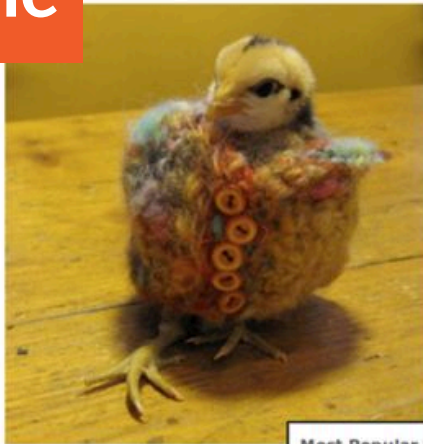
The screenshot displays a Facebook profile for 'FarmVille' with a navigation bar at the top containing 'me', 'Profile', 'Friends', and 'Inbox' (96). The profile picture is a star with the text 'FARMVILLE'. Below the profile are navigation options: 'Status Updates', 'Photos', 'Links', and 'More'. The main content area shows a list of status updates from users, each featuring a FarmVille logo and a celebratory message. The updates include: 'just completed level 1 of Soybean FarmVille!', 'is movin' on up in FarmVille!', 'is movin' on up in FarmVille!', and 'just earned the 'Crop Whisperer' red ribbon in FarmVille!'. Each update includes a timestamp, location, and interaction options like 'Comment', 'Like', and 'Find a collectable'. A red circular icon with the letter 'L' and the URL '3.ly/Ludi' is overlaid in the top right corner. A red arrow-shaped box in the bottom right corner contains the text 'Design with Intent'.

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



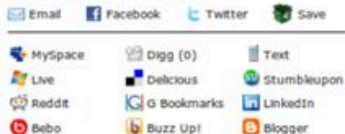
\$15.00 USD 1 in stock

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 beautiful than her nine sisters. I'm making ponchos and...

Most Popular Services



Download ShareThis for Firefox

Sign In: < >

View Post (52 comments)

Share 703

ShareThis



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Playfulness

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

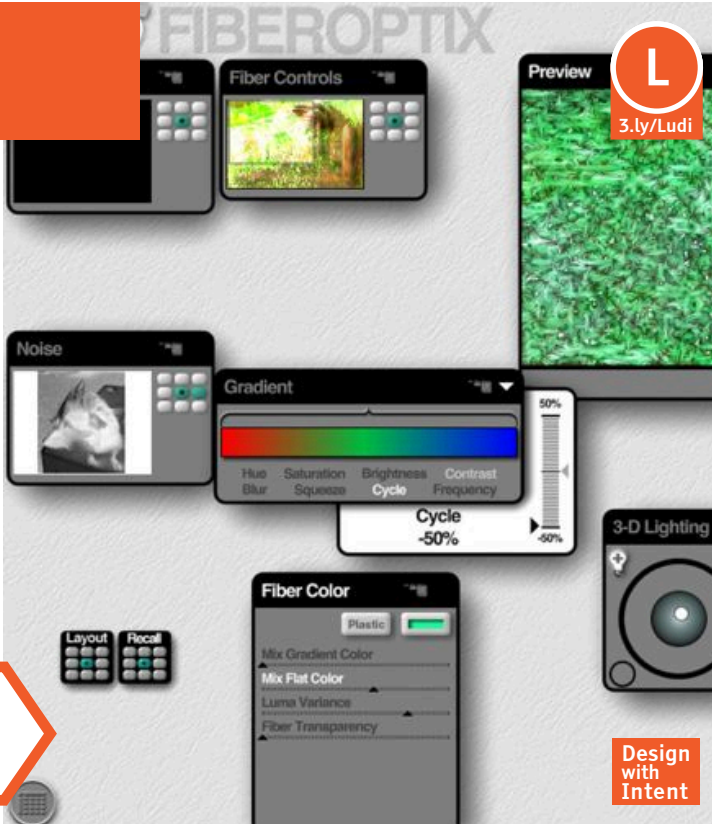
Spiral wishing wells turn giving money to charity into something actively fun for donors, and provoke curiosity of passers-by



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



Role-playing

L

3.ly/Ludi

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

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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



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



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



3.ly/perce



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 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 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



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



Fake affordances

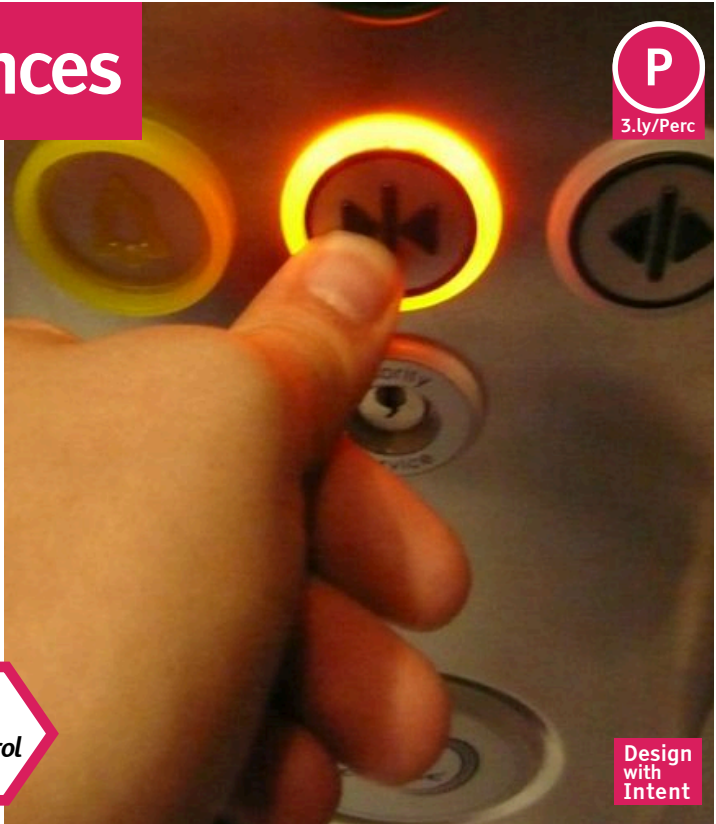
P

3.ly/Perc

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



"... put some bread in the jar..."

Your e-mail address:

Recipient's e-mail address:

Amount:

Message:

Anonymous

put some bread in someone's 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?

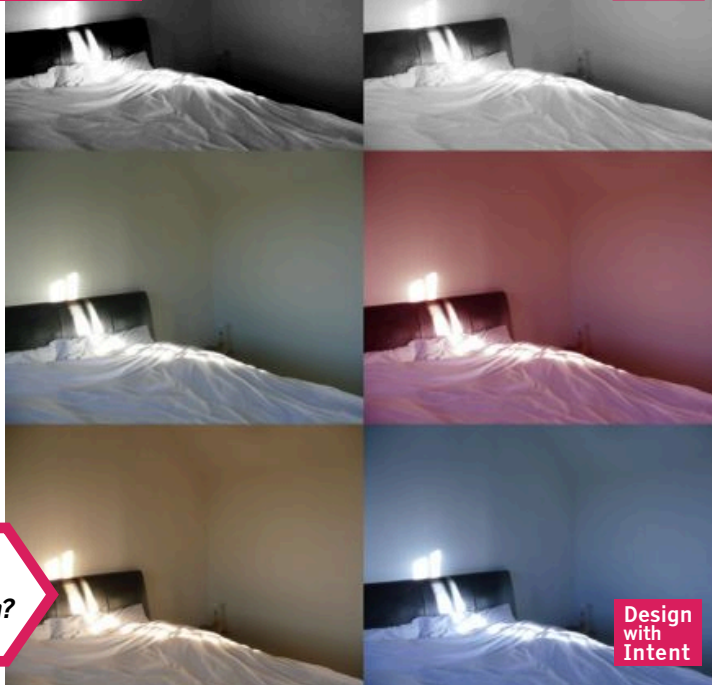
```
* Should I buy a house now or wait and see if the
market falls any further?
> That is quite interesting.
* Whyt do you say it is interesting?
> You're not really talking about me, are you?
* No I'm not. I suppose I'm just stressed at work
> Do you believe it is normal to be not. you suppose
you're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

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



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



P

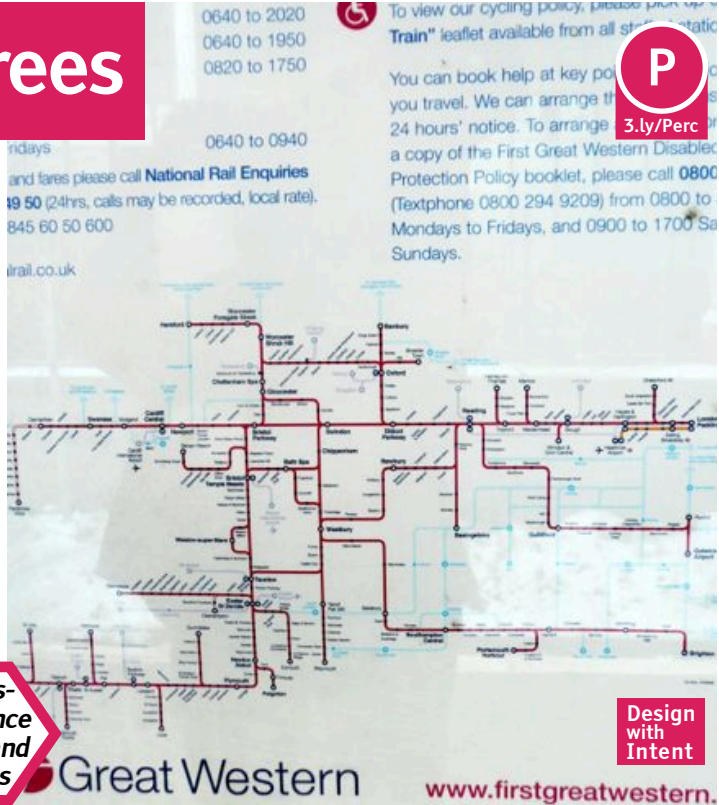
3.ly/Perc

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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



P

3.ly/Perc

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Proximity & grouping

P

3.ly/Perc

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



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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

Tools Help

www.bing.com/search?q=Pay+Per+Click+Advertising+MSN&FORM=R5FD6

Design w... The sem... Gestalt Pr... Amazon...

Shopping News Maps More MSN Hotmail

Pay Per Click Advertising MSN

Show all Only from United Kingdom

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

[Pay-Per-Click Agency](#) · [www.WestcomSearchMarketing.com](#) Sponsored
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](#)

Design with Intent

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



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



3.ly/cogni



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?



Our coffee won't leave
a bitter taste in your
mouth. It's Fairtrade.

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

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

Decoys

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?

The screenshot shows the 'People' magazine website. At the top, there are navigation links for 'FREE MAGAZINES' and 'GIFT CARDS', and a logo with the letter 'C' and the URL '3.ly/Cogn'. Below the navigation is a search bar with 'by keyword' and a 'go' button, and a phone number '1-800-MAGAZINES (800-62...'. The main content area features a large image of the magazine cover with headlines like 'HOW MUCH MORE CAN SHE TAKE?' and 'JIM'S MISTRESS ATTACKS ELIZABETH'. To the right of the cover is the title 'PEOPLE', 'Published Weekly', '53 issues per year', and a star rating '4.5/5' based on 59 reviews. Below this is an 'ABOUT PEOPLE' section. At the bottom, there are three subscription options, each with a price, a discount percentage, and an 'Add To Cart' button. The first option is for 26 issues at \$403.74, reduced to \$56.94 (45% off). The second option is for 36 issues at \$443.64, reduced to \$79.88 (44% off). The third option is for 53 issues at \$244.47, reduced to \$116.07 (45% off). Each option includes a 'FREE GIFT: FREE TOTE BAG'. A mouse cursor is hovering over the 'Add To Cart' button for the \$79.88 option.

FREE MAGAZINES GIFT CARDS 3.ly/Cogn

by keyword go 1-800-MAGAZINES (800-62...)

Home : Entertainment & TV : Celebrity : People Magazine Subscription

PEOPLE
Published Weekly
53 issues per year

★★★★☆ BASED ON 59 CUSTOMER REVIEWS
[Write A Review](#) | [Read All Reviews](#)

ABOUT PEOPLE
People magazine is a weekly magazine featuring all the latest news, photos and gossip from the world of Hollywood. People magazine is one of the most popular celebrity magazines in the world.
[Learn More...](#)

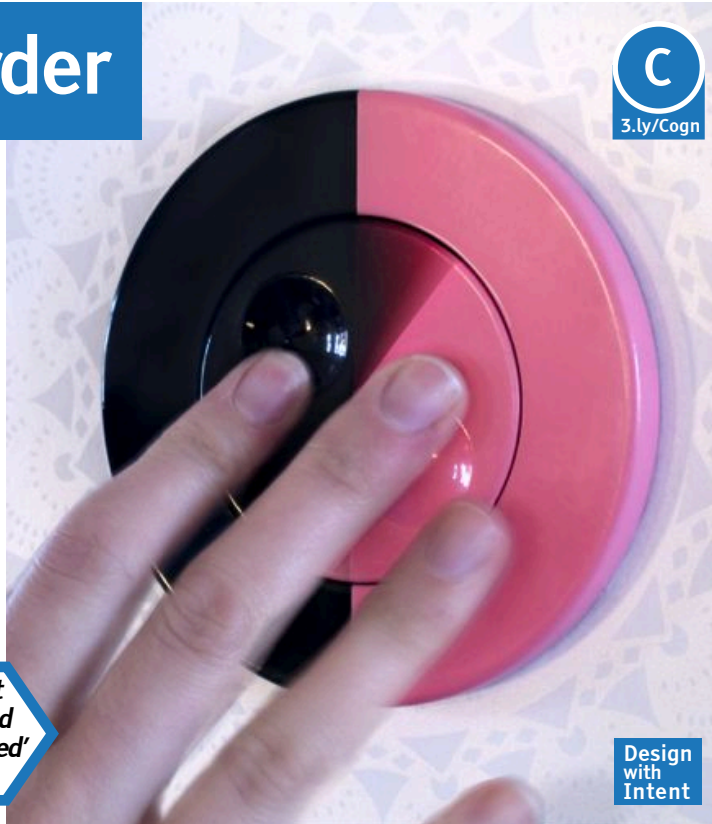
Subscription Option	Original Price	Discounted Price	Savings	Gift
26 ISSUES	\$403.74	\$56.94	YOU SAVE 45%	FREE TOTE BAG
36 ISSUES	\$443.64	\$79.88	YOU SAVE 44%	FREE TOTE BAG
53 ISSUES	\$244.47	\$116.07	YOU SAVE 45%	FREE TOTE BAG

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?

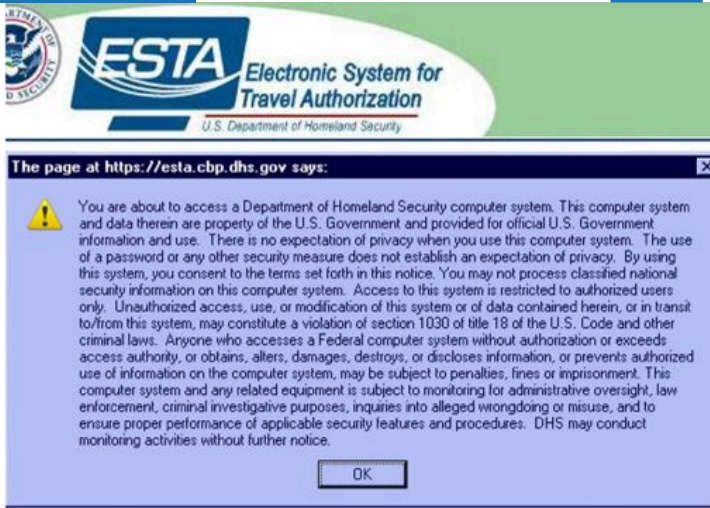
The AWARE Puzzle Switch, a light switch design by Looove Broms and Karin Ehrnberger, is visibly 'disordered' when in the 'on' position



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 travelers under the Visa Waiver Program must apply for authorization using

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

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



Framing

C

3.ly/Cogn

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

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

TALL 12 FL OZ GRANDE 16 FL OZ VENTI 20/24 FL OZ

Espresso

100% Responsibly Grown and Ethically Traded Espresso

TALL 12 FL OZ GRANDE 16 FL OZ VENTI 20/24 FL OZ

HOT OR ICED

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	SOLD 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¢)

Design
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Habits

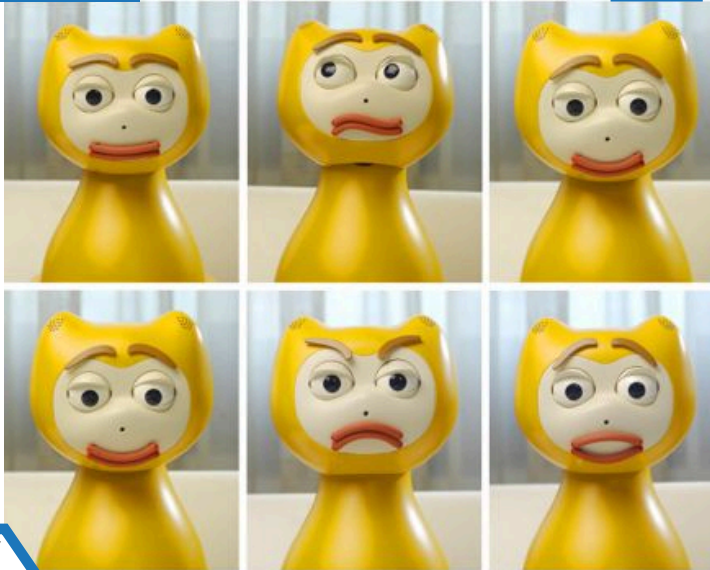
Can you make it easy for a new behaviour to become habitual, by building it into an existing routine?

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



Personality

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

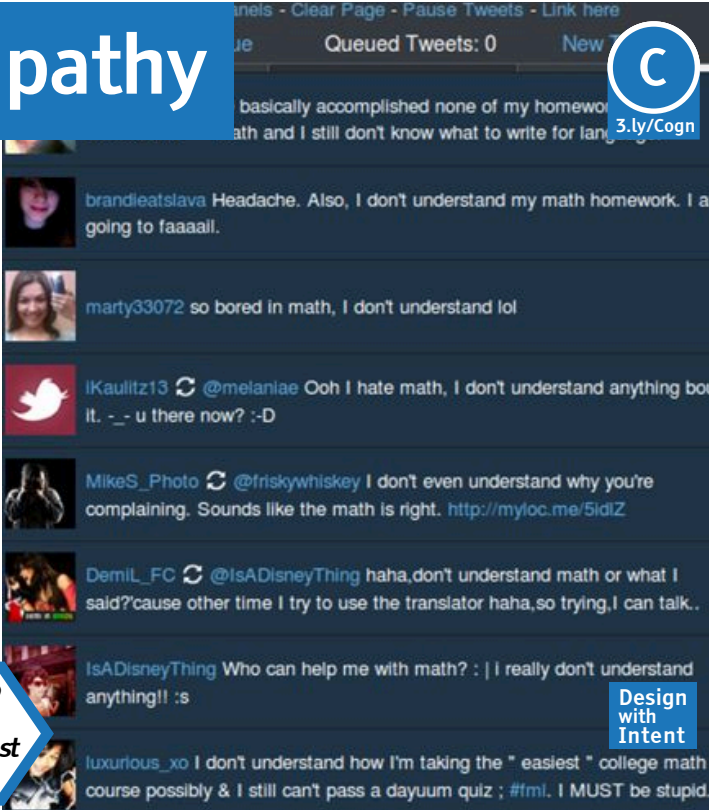


Dutch researchers have used Philips' iCat robot to influence users' decision-making with washing machines, advising and expressing opinions

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



Reciprocation

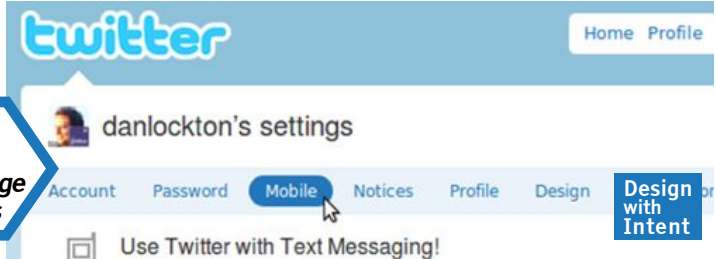
Can you make users feel they've been done a favour (by the system, or by other users) and want to return it?

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

Scarcity

home living



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



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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



Frequently Bought Together

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



+

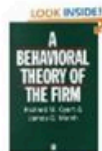


Price For Both: **£26.40**

[Add both to Basket](#)

[Show availability and delivery details](#)

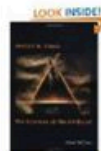
Customers Who Bought This Item Also Bought



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

★★★★☆ (3)

£18.29



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

★★★★☆ (2)

£16.52

Product details

Design
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Machiavellian Lens



3.ly/machi



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.

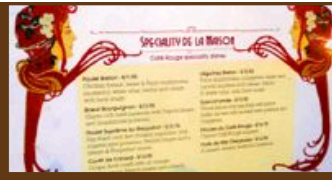
For references & further reading, please see 3.ly/machi



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



3.ly/Mach



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Antifeatures & crippleware

M

3.ly/Mach

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



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



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



First one free



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:

 [Download Chapter PDF](#)

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... apologize for any inconvenience this has caused. We have s... 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 browser window with the address bar displaying "VIEW-MODE] Test Survey" and "3.ly/Mach". The browser's history and bookmarks are visible. The survey content is on a yellow background. At the top right, there is a circular logo with the letter 'M' and the text "3.ly/Mach". Below the logo, the word "Test" is displayed. To the right of "Test" is a link that says "Exit this survey". The main heading is "1. Default Section". Below this, there is a rating scale with four options: "Very useful", "Quite useful", "Almost useless", and "Completely useless". The question is "Are these Design with Intent cards useful?". The "Quite useful" option is selected, indicated by a checkmark in a box and a mouse cursor. At the bottom right, there is a "Done" button. In the bottom right corner, there is a 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



Functional obsolescence

M

3.ly/Mach

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?

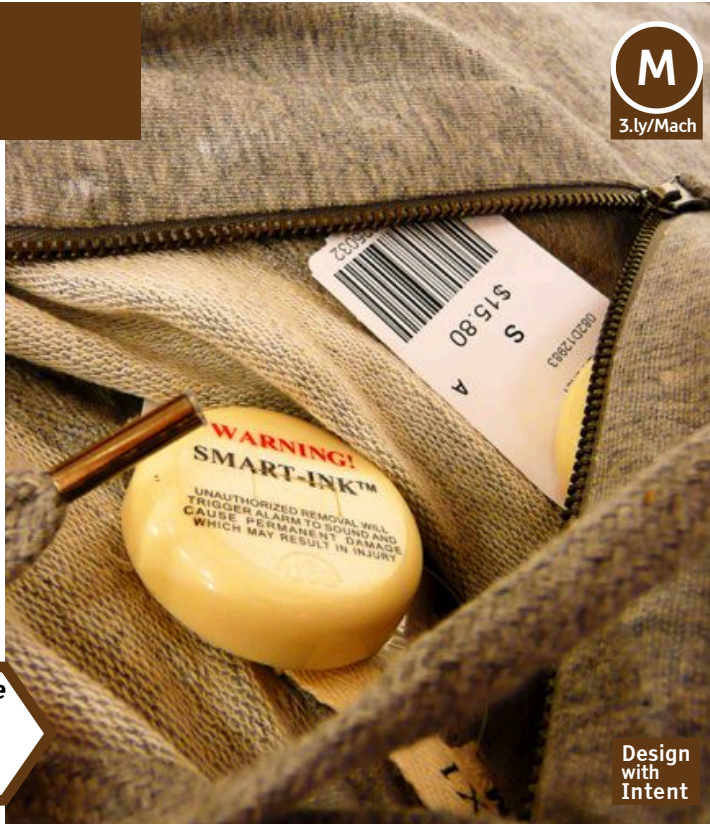


If person 1 cuts a cake into halves, and person 2 chooses the half he or she wants, there is no advantage in person 1 cutting the cake unfairly

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



Serving suggestion

M

3.ly/Mach

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

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Slow / no response



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

The screenshot shows a registration form with two input fields. The first field is empty, and the second field contains a number. Below the second field, there is a message: "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." Below this message, there is a text label: "updates in my clinical area, forum debates, reviews, disease occasional email about other medical content that might be of". At the bottom of the form, there are two buttons: "Cancel" and "Submit". A red banner at the bottom of the form reads: "(Registration can take a few minutes. Please click Submit only once)".

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

Style obsolescence

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

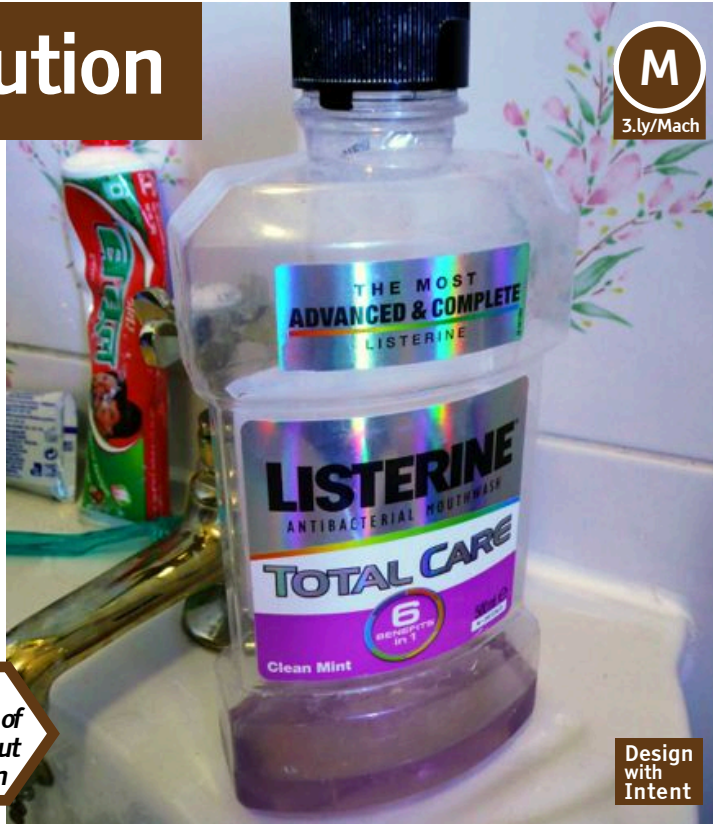
Fashions and trends are obvious in high-street retailing, but are also prevalent (and can be deliberately created) in other fields



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



3.ly/secure



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/secure

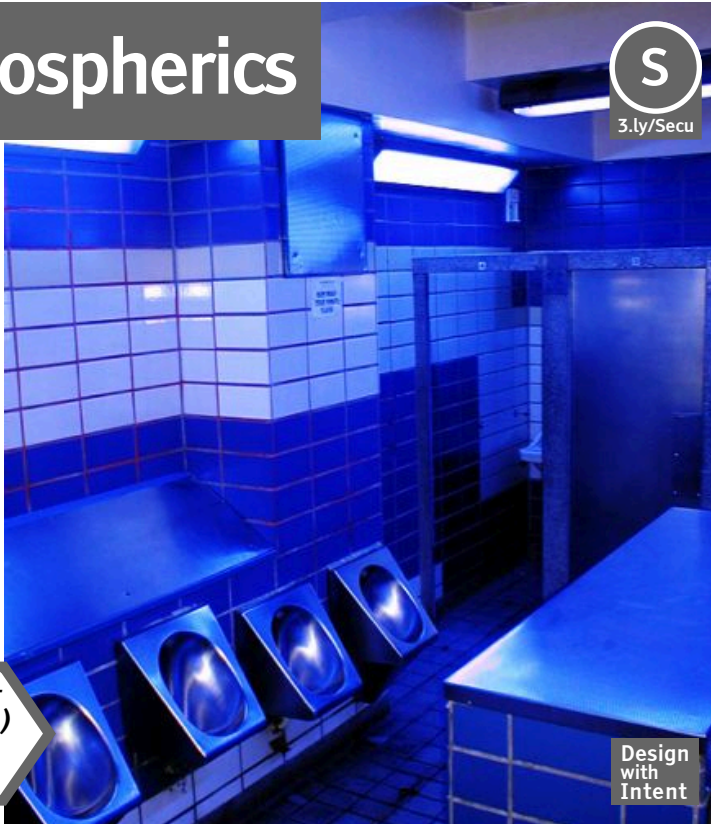
Coercive atmospherics

S

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



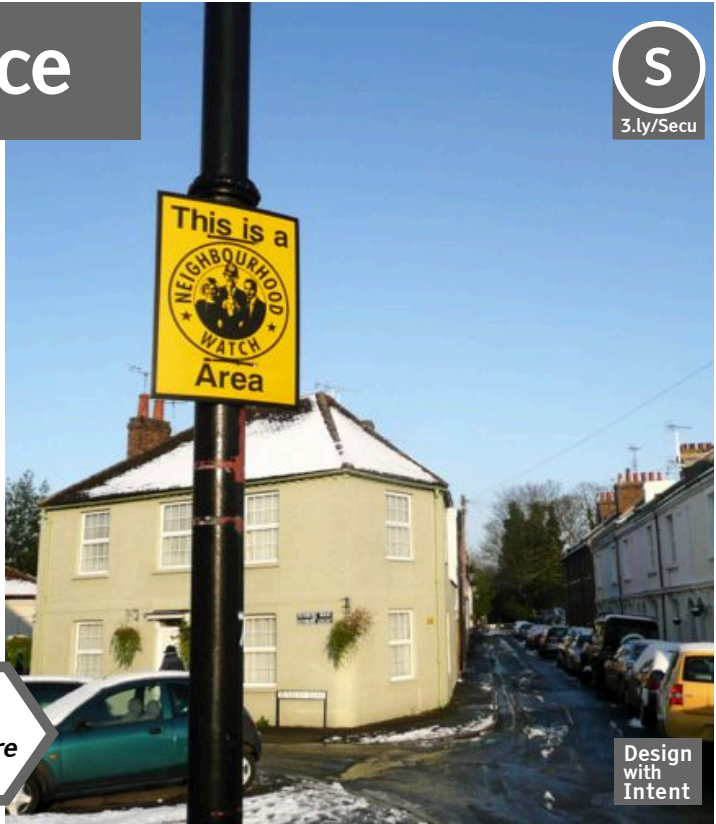
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Peerveillance



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"



Sousveillance



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

TheyWorkForYou allows the public to monitor politicians' activities easily: transparency leading to better accountability



TheyWorkForYou.com

Keeping tabs on the UK's parliaments & assemblies

Sign in Join

Overview

MPs

Lords

Debates

Written Answers and Statements

Bill C



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](#)

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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



S

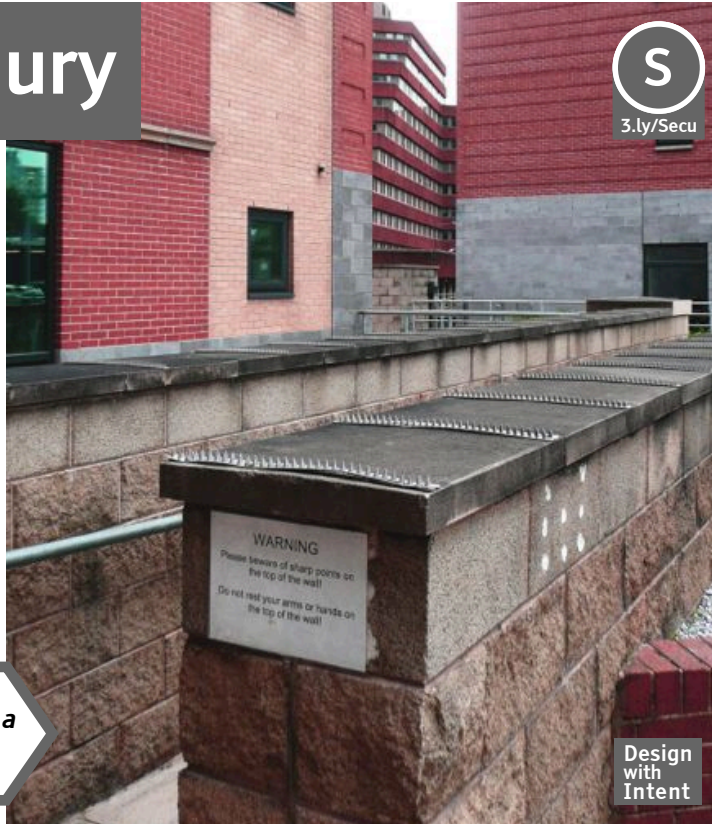
3.ly/Secu

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Threat of injury

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

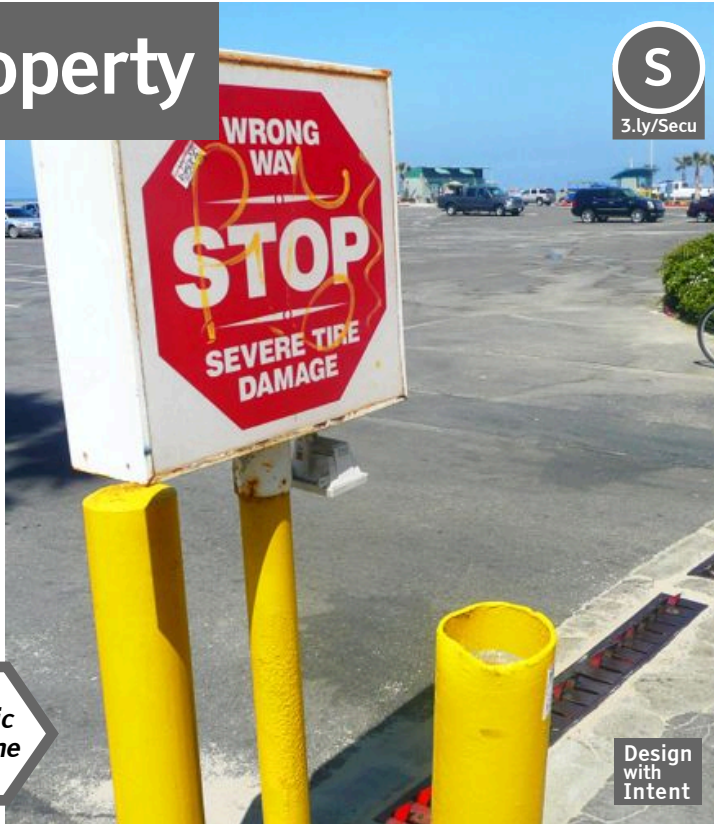
Spikes on walls—such as these stick-on plastic ones—can act as a deterrent to climbing or sitting, with varying effectiveness



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



What you can do

S

3.ly/Secu

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

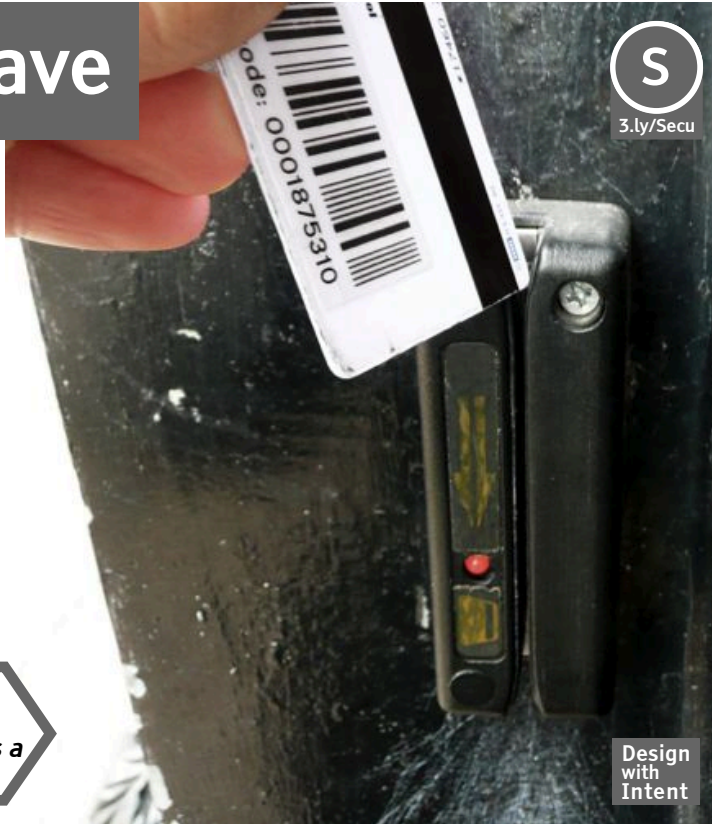


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What you have

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



What you know

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 ██████████
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 (██████████:dan): ██████████
331 User ██████████ OK. Password required
Password: ██████████
230-User ██████████ has group access to: ██████████
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 .AppleDoul
-rw-r--r-- 1 67630 ██████████ 1625 Mar 11 2009 .htaccess
-rwxr-xr-x 1 67630 ██████████ 9645 Mar 12 2006 ██████████
-rwxr-xr-x 1 67630 ██████████ 10935 Mar 12 2006 ██████████
-rwxr-xr-x 1 67630 ██████████ 39003 Mar 12 2006 ██████████
-rwxr-xr-x 1 67630 ██████████ 3142880 Sep 29 2005 ██████████
-rwxr-xr-x 1 67630 ██████████ 9545 Dec 22 2005 ██████████
-rwxr-xr-x 1 67630 ██████████ 17727 Dec 22 2005 ██████████
-rwxr-xr-x 1 67630 ██████████ 4388 Dec 22 2005 ██████████
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-rwxr-xr-x 1 67630 ██████████ ██████████ ██████████
```


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 do 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 casual 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.

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

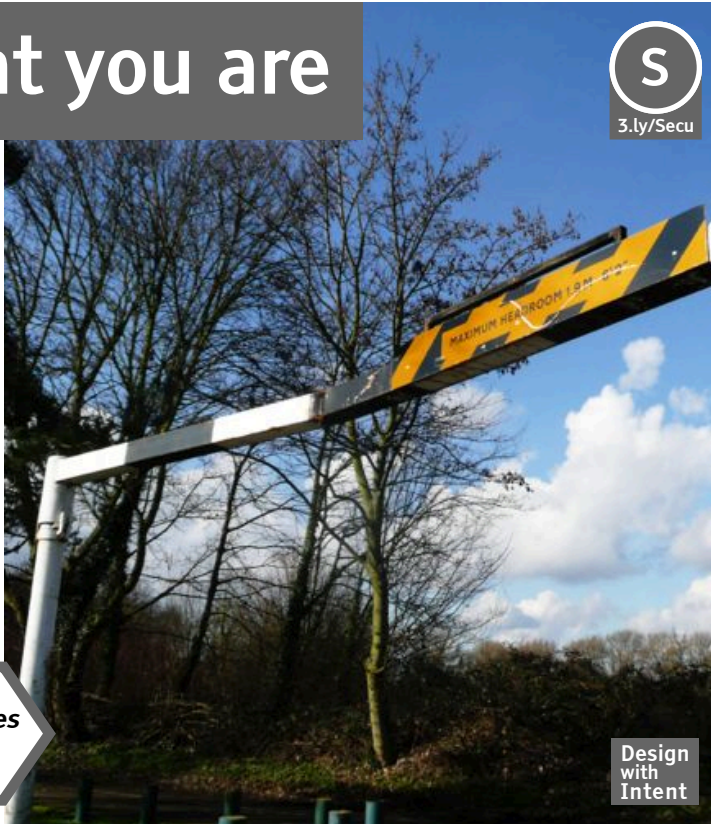


Who or what you are



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



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 dan@danlockton.co.uk

How do you judge whether a brainstorm / idea generation session was successful?
I judge it on the number of ideas generated / I judge it on the quality of ideas / I judge it on the quantity of ideas / I judge it on the quantity of ideas / I judge it on the quantity of ideas

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

When the Design with Intent cards arrived today?
yes / no

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

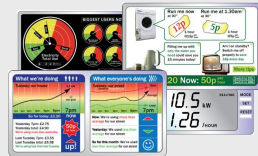
Wiki



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

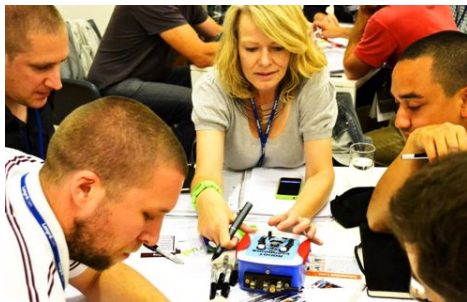
Workshops, consultancy and research

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