Design with Intent

101 patterns for influencing behaviour through design

1·0

Dan Lockton

with

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Design with Intent:
101 patterns for influencing behaviour through design

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Produced on Ubuntu (and Windows XP via Sun VirtualBox)

Your feedback is very welcome: dan@danlockton.co.uk

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Architectural Lens

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

While most of the techniques have been developed in the built environment, many of the ideas 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. Some of the patterns, such as *Simplicity*, *Feature deletion* and *Hiding things* are really fundamental to all kinds of design.

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

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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Converting & 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
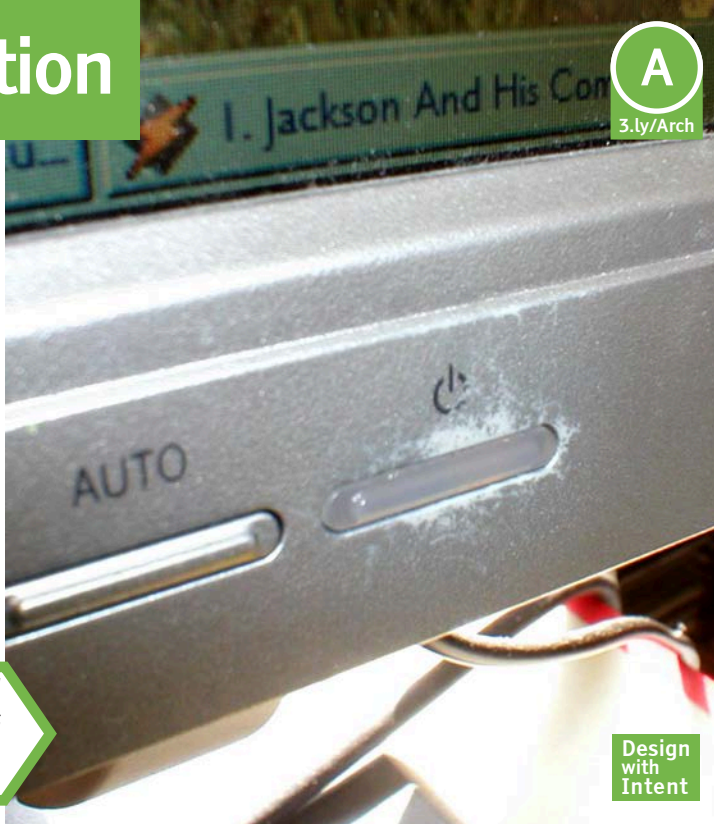
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Feature deletion

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
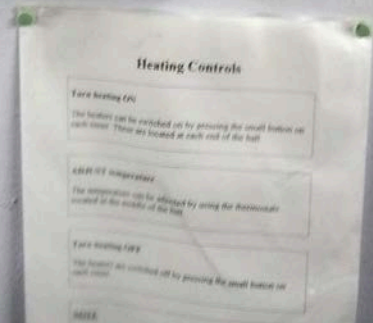
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Hiding things

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

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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

Kaijonharju 6
Hupisaaret 0,5

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Mazes

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
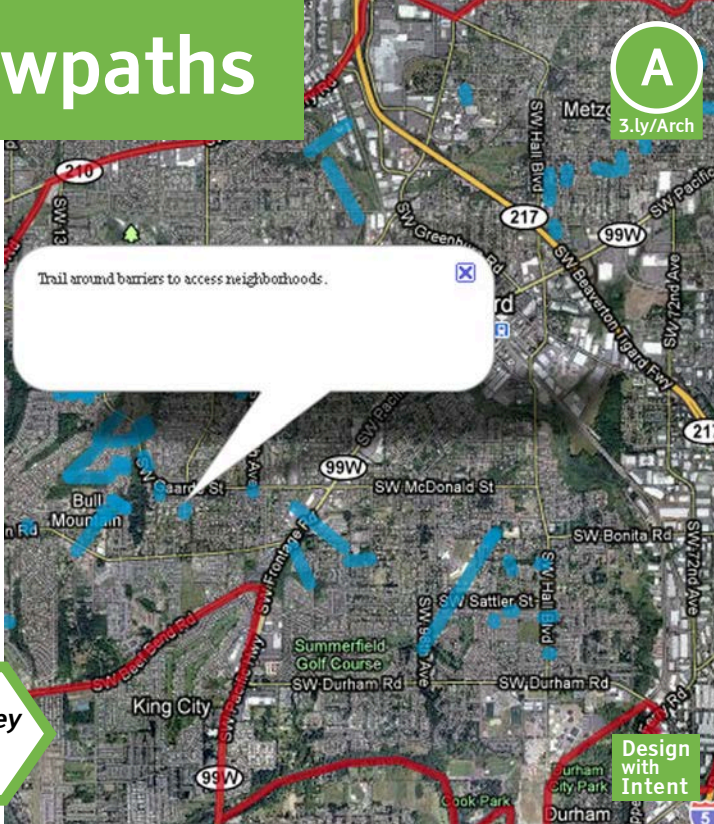
Pave the cowpaths

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

Trail around barriers to access neighborhoods.

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

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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

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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

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.

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Errorproofing Lens

The Errorproofing Lens represents a worldview treating 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.

A key difference between errorproofing and some other views of influencing user behaviour which imply attitude change leading to the target 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 an effect of the errorproofing, but it doesn't have to be.

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

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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

To open door

Door unlocked

1. Wait for 'Door unlocked' sign above door

2. Lower window

3. Open door using outside handle

Danger

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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)

BENZOL

Unleaded
Litre   85.9

4 Star
Litre   .

Diesel
Litre   90.9

£5.00 off

M.O.T. TESTING
Available NOW!

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?

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Newsletter: Obtaining regular update information and news about CIB products.

Licensing: For commercial use or to enable the professional add-on features licensing is compelling. There are special conditions for schools, universities, pupils, students, journalists, public administrations and church mechanisms.

This dialog window is not displayed in the licensed version.

I agree that this unlicensed version of CIB pdf brewer is restricted to private use only. I pledge to purchase a license if I use or intend to use the CIB pdf brewer for commercial

| Newsletter... | Licensing... | I agree |

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

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Did you mean?

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

View History Bookmarks Tools Help

http://www.google.co

3.ly/Erro

E

dability   Dirpy Bookmarklet   Press This   NME

Boing Boi...   russell d...   Design w...   Design w...   p

Web Images Videos Maps News Shopping Mail more ▼

Google   recursion

Web + Show options...

Did you mean: *recursion*

Recursion - Wikipedia, the free encyclopedia
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

Recursion (computer science) - Wikipedia, the free encycl
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

+ Show more results from en.wikipedia.org

Recursion -- from Wolfram MathWorld
A **recursive** process is one in which objects are defined in terms of other obje

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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

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Opt-outs

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

Tools   Help

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

E
3.ly/Erro

Yo
B
With you

| savings | investments | insurance | conveyancing | shares | loans | share p |

etails

ment

etails

Setup

Setup

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E-ISA Application - Small Change Big Difference

Make a Big Difference

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

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

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

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

Cancel

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

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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)
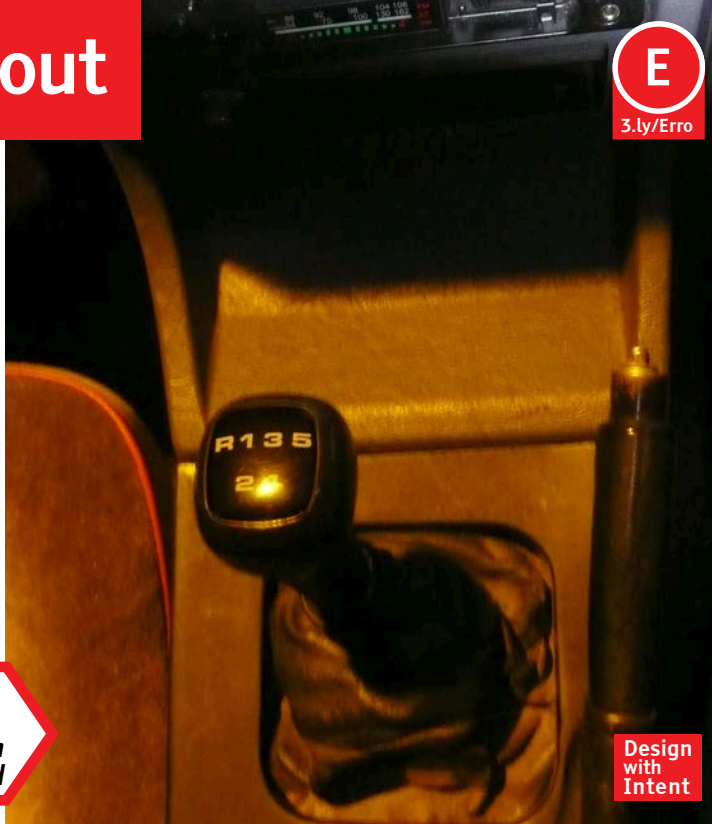
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Task lock-in/out

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 some patterns from the growing field of Persuasive Technology, where computers, mobile phones and other systems with interfaces are used to persuade users: changing attitudes and so changing behaviour through contextual information, advice 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 and http://www.pam.com/indexc.php?demo=1&f=1&ClientTZ=-60 respectively.*

Images for Partial completion, Peer feedback, Progress bar, Simulation & feedforward *and* Tunnelling & wizards *are screenshots of Amazon, Slashdot, Digg, LinkedIn, Wikipedia, Yahoo! savings calculator and Foxit PDF reader.*

Other photos by Dan Lockton

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

42
YOUR SPEED

SLOW DOWN

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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?

amazon.co.uk

WELCOME · **ADDRESS** · ITEMS · WRAP · DISPATCH · PAY

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

[Dispatch to this address]

Brian Brains
PO Box 45
NOWHERE, Bucks SL0 1AA
United Kingdom

[Edit] [Delete]

[Dispatch to this address]

Miss Penelope Pigg
Rose Cottage
Turnip Lane
SWINDON, Wiltshire SN3 4DD
United Kingdom

[Edit] [Delete]

[Dispatch to this address]

[Dispatch to this address]

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?

ease Explain (Score:2, Informative)   by And

Re:Please Explain (Score:2)   by stoborrobo

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   Entertainmen

Popular   Upcoming   News   Videos   Images   Customize

185 diggs

Walmart shopper takes a bat to 29 TVs (Video)

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

Bury   Who dugg this?   Made popular 39 mi

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36 Comments

GamingForever
8 hr 42 min ago

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

+2 diggs

4 Replies — best has 13 diggs   Reply

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

I

3.ly/Inte

Progress bar

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

ur profile to a connection

t Settings

Profile Settings

→ Create your profile in another language

85% profile completeness

Complete your profile quickly

Import your résumé to build a complete profile in minutes.

Profile Completeness
85%
⊕ **Adding a recommendation** will bring you to **90%**

article | discussion | edit this page | history

We're almost there. Thank you.

$6.9M ● $7.5ℓ | **Donate Now**

Autotelic

From Wikipedia, the free encyclopedia

Autotelic[1] is defined by one "having a purpose in and not apart from itself". It is a broad term...

ain page
Contents
Featured content
Current events

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

Real-time feedback

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

Energy meters can allow house-holders 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?

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

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Summary feedback

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

GreenPrint Report

GreenPrint Report

Summary

1407 Saved
3519 Printed

$84.42 Saved
$211.14 Spent

1007 lbs CO$_2$
0.16 Trees

Charts

28.56%

71.44%

| Saved | Printed |

128
112
96
80
64
48
32
16
0

10/7/2009   11/8/2009   12/10/2009   1/11/2010

Top Printers

Name	Printed	Saved
Microsoft XPS Document Writer	2957	166
Microsoft Office Document Image Writer	390	0
Xerox Mobile Express Driver	75	808
Phaser 8860-19 PS	73	201

Top Applications

Name	Printed	S
Microsoft Word	3216	7
Others	57	7
PDF Documents	32	2
Microsoft Excel		1
Internet Explorer		4

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?

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/m²)	

← ← **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)

☐ Weight

09 12 15 18 21 24 27 30 33

Feb 27, 2010 till Sep 4, 2010

Advice

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

exercise

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:
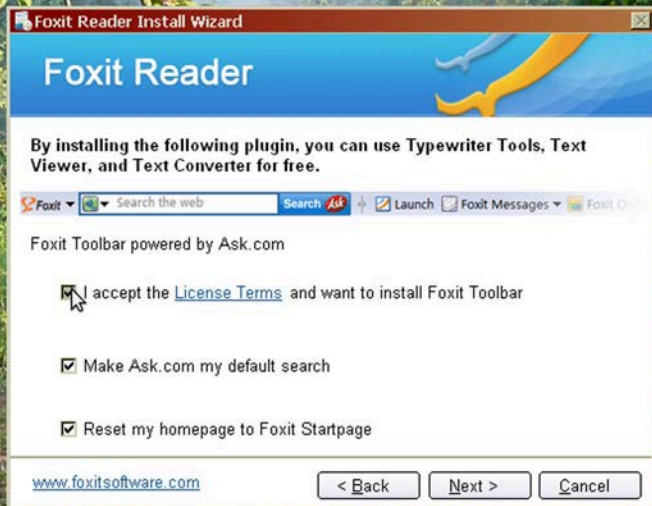
You'll lose weight faster. Do you want that? (323 Cal/day

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

Tunnelling & wizards

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

Ludic Lens

Games are great at engaging people for long periods of time, getting them involved, and, if we put it bluntly, 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*.

Challenges & targets

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

JUST PLAIN HUNGRY

MAKE A WISH!

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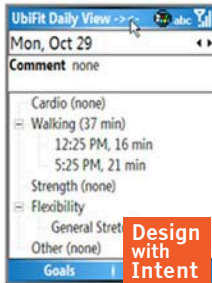
Collections

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

discussion | edit | history

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

Ludic Lens

Ludic design patterns for influenci

- 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 h

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

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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

FarmVille

████ just completed level 1 of Soybean FarmVille!
████ earned a huge reward for being such a dedicated farm and wants to share their success with you!
14 hours ago via FarmVille · Comment · Like · Find a collectable

████ is movin' on up in FarmVille!
████ attained the level of Great Farmer in FarmVille!
Thu at 10:02pm via FarmVille · Comment · Like · Play FarmVille now

████ is movin' on up in FarmVille!
████ attained the level of Cream of the Crop in FarmVille!
January 4 at 9:21pm via FarmVille · Comment · Like · Play FarmVille no

████ just earned the 'Crop Whisperer' red ribbon in FarmVille!
████ got a big ol' reward for being such a great farmer and wants to share their success with you!
January 4 at 9:06pm via FarmVille · Comment · Like · Get a bonus from

████ just earned the 'Tree Hugger' blue ██ ███
████ got a big ol' reward for being such a great farmer and

Status Updates
Photos
Links
More

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
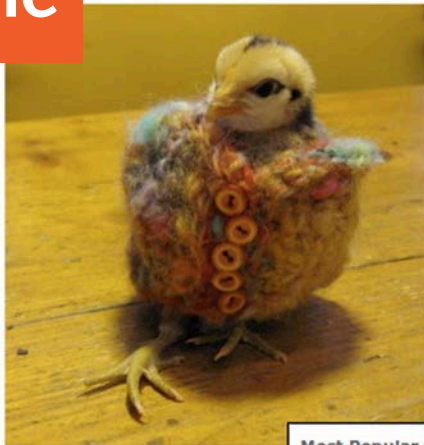
$15.00 USD 1 in stock

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 bea... than her nine sisters. I'm making ponchos and sh...

Most Popular Services

Email   Facebook   Twitter   Save

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

◄ ● ○ ○ ○ ►

Download ShareThis for Firefox   Sign In:

...folks say that on a cold night, when the moon is a-howlin', you can still see her at the old farmhouse ... knitting shrugs for the chickens."

View Post (52 comments)   f 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
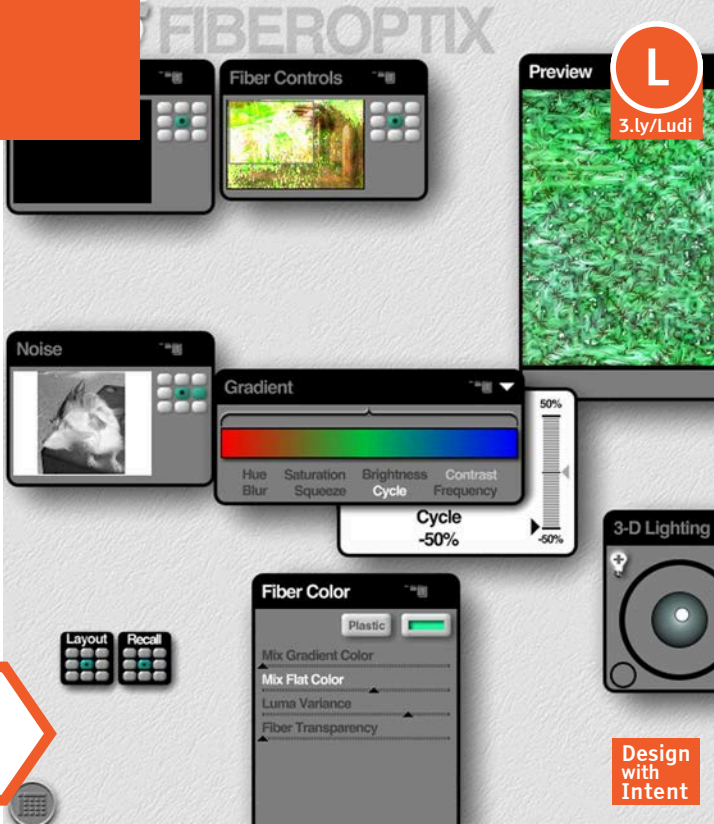
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Rewards

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

Preview

Fiber Controls

Noise

Gradient

Hue   Saturation   Brightness   Contrast
Blur   Squeeze   Cycle   Frequency

Cycle
-50%

Layout   Recall

Fiber Color

Plastic

Mix Gradient Color
Mix Flat Color
Luma Variance
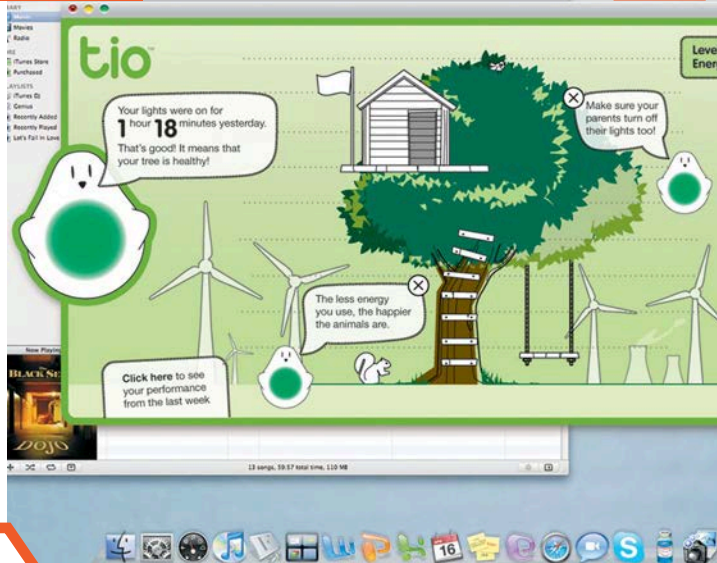Fiber Transparency

3-D Lighting

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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

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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

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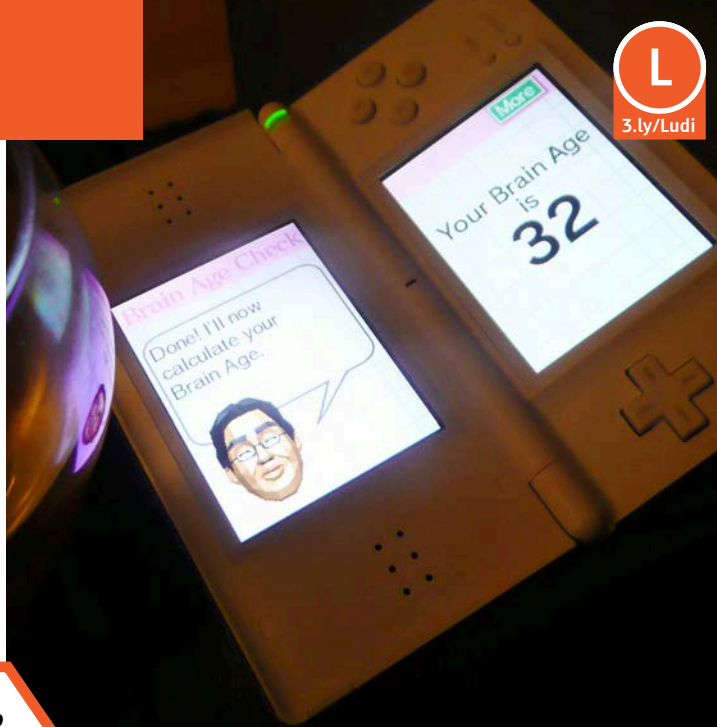
Storytelling

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 about 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 are often applied by interaction designers in the course of doing a job without necessarily considering how they can influence user behaviour.

(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

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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

Design with Intent
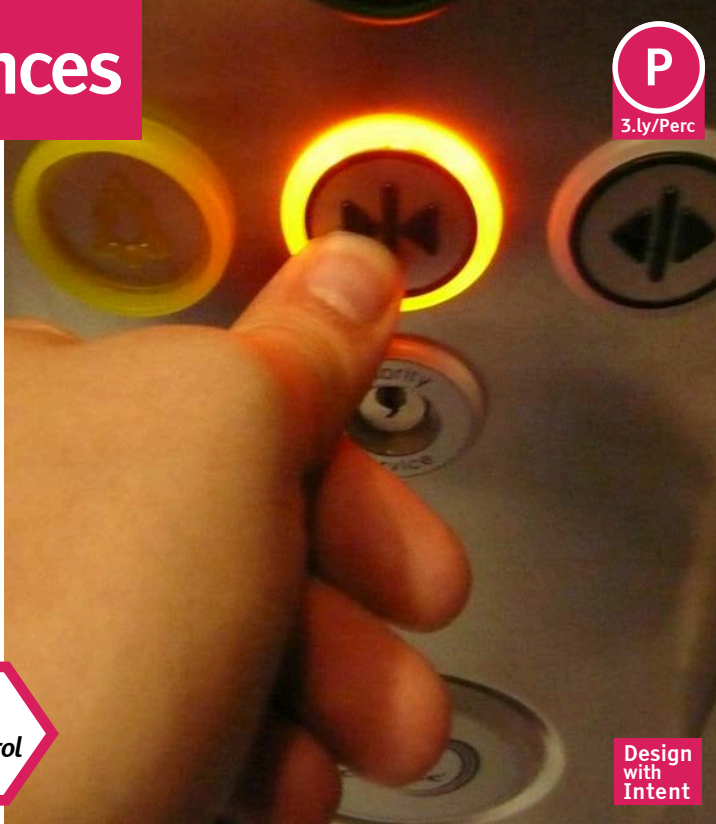
Implied sequences

Can you make it look like there's a sequence for users to follow, through the layout of elements?
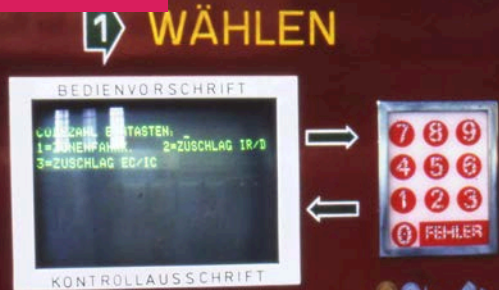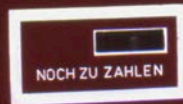
This East German rail ticket machine makes very clear the order in which the interface should be used, with a sequential layout

① WÄHLEN

BEDIENVORSCHRIFT

KONTROLLAUSSCHRIFT

② ZAHLEN

NOCH ZU ZAHLEN

③ NEHMEN

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

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Mimicry & mirroring

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

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

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

Design with Intent

Mood

Can you use colour, images or other sensory stimuli to set a particular mood for a user's interaction with your system?
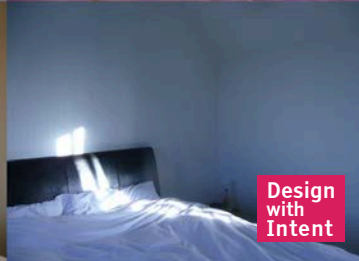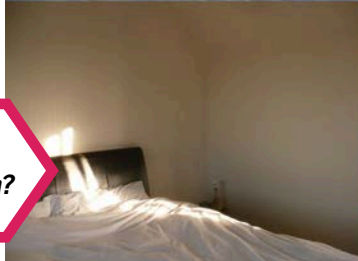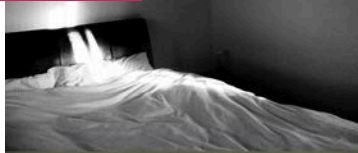
Changes in hue, saturation and brightness can set moods: which room would you choose to stay in? (assuming the bed was made!)

Design with Intent

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

Design with Intent

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

Design with Intent

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
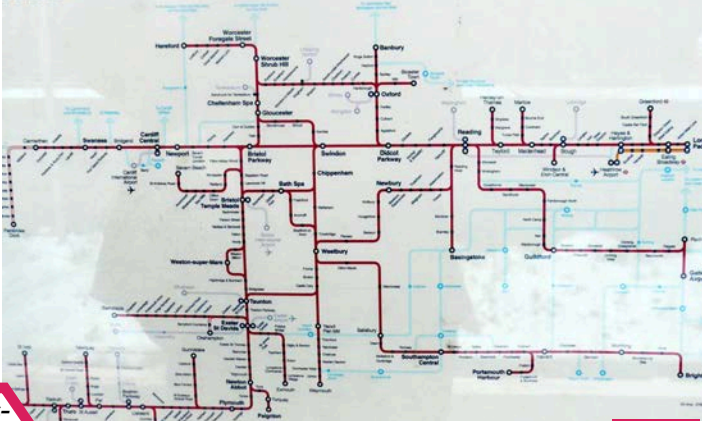
Great Western

www.firstgreatwestern.

P
3.ly/Perc

Design
with
Intent

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

Push

Passenger alarm

microphone

Design with Intent

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

Design with Intent

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

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

Design with Intent

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'

Design with Intent

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 below are some of the most commonly used; this selection draws heavily on the work of Robert Cialdini, Richard Thaler and Cass Sunstein.

Design with Intent

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

Design with Intent

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?

FREE MAGAZINES   GIFT CARDS

by keyword ▾   go   ☎ 1-800-MAGAZINES (800-62

Home : Entertainment & TV : Celebrity : People Magazine Subscription

PEOPLE

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53 issues per year

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YOU SAVE 45%	YOU SAVE 44%	YOU SAVE 45%
Add To Cart	Add To Cart	Add To Cart
FREE GIFT: FREE TOTEBAG		FREE GIFT: FREE TOTEBA

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?

ESTA — Electronic System for Travel Authorization
U.S. Department of Homeland Security

The page at https://esta.cbp.dhs.gov says:

You are about to access a Department of Homeland Security computer system. This computer system and data therein are property of the U.S. Government and provided for official U.S. Government information and use. There is no expectation of privacy when you use this computer system. The use of a password or any other security measure does not establish an expectation of privacy. By using this system, you consent to the terms set forth in this notice. You may not process classified national security information on this computer system. Access to this system is restricted to authorized users only. Unauthorized access, use, or modification of this system or of data contained herein, or in transit to/from this system, may constitute a violation of section 1030 of title 18 of the U.S. Code and other criminal laws. Anyone who accesses a Federal computer system without authorization or exceeds access authority, or obtains, alters, damages, destroys, or discloses information, or prevents authorized use of information on the computer system, may be subject to penalties, fines or imprisonment. This computer system and any related equipment is subject to monitoring for administrative oversight, law enforcement, criminal investigative purposes, inquiries into alleged wrongdoing or misuse, and to ensure proper performance of applicable security features and procedures. DHS may conduct monitoring activities without further notice.

OK

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

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

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

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

essential Waitrose®
now with over 1000 everyday essentials in store

Britain's top chef

Design with Intent

Framing

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

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

Espresso
100% Responsibly Grown and Ethically Traded Espresso

HOT OR ICED

	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

	SOLO 1 FL OZ	DOPPIO 2 FL OZ
Espresso	2.20	2.50

Make It Your Drink

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

Espresso Extra Shot
Soymilk (60¢)

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

Design with Intent

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

Design with Intent

Personality

Can you give your system a personality or character that engages users, becoming a 'social actor'?
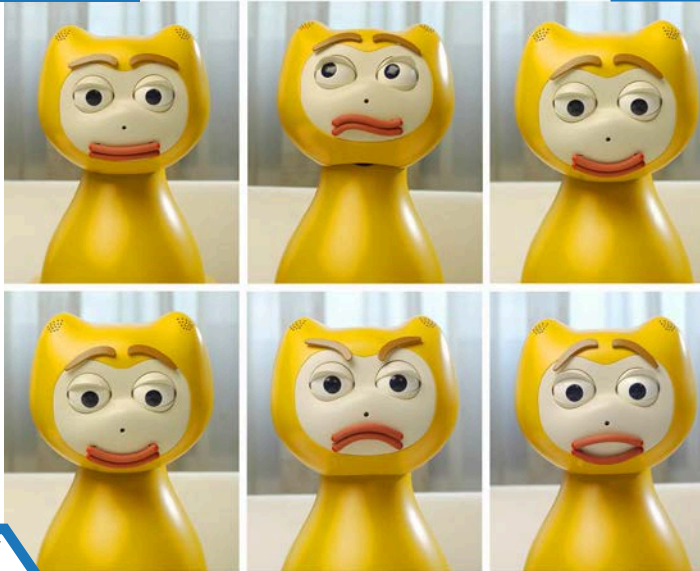
Dutch researchers have used Philips' iCat robot to influence users' decision-making with washing machines, advising and expressing opinions

Design with Intent

Provoke empathy

C

3.ly/Cogn

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

...basically accomplished none of my homewo... ...ath and I still don't know what to write for lang...

brandieatslava Headache. Also, I don't understand my math homework. I a... going to faaaail.

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

iKaulitz5 ↻ **@melaniae** Ooh I hate math, I don't understand anything bou... it. -_- u there now? :-D

MikeS_Photo ↻ **@friskywhiskey** I don't even understand why you're complaining. Sounds like the math is right. http://myloc.me/5idlZ

DemiL_FC ↻ **@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!! :s

Design with Intent

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.

Reciprocation

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

FREE POSTCARD
Please TAKE ONE

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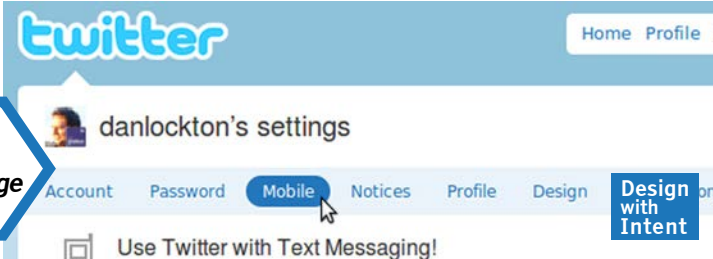
Rephrasing & renaming

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

twitter

Home Profile

danlockton's settings

Account | Password | **Devices** | Notices | Profile | Design | Connecti

Use Twitter with Text Messaging!
Twitter is more fun when used through your mobile phone. Set yours up
It's easy!

1. **Choose your country**

United States ▾

twitter

Home Profile

danlockton's settings

Account | Password | **Mobile** | Notices | Profile | Design | or

Use Twitter with Text Messaging!

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

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

Design with Intent

Social proof

RRP: Our Price: Other Offers:
Order it used
4 used & new from £30.0

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

Frequently Bought Together

Customers buy this book with Behavioral Theory of the Firm by R

Administrative Behavior HERBERT A. SIMON

+

A BEHAVIORAL THEORY OF THE FIRM Richard M. Cyert & James G. March

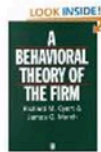**Price For Both: £26.40**

Add both to Basket

Show availability and delivery details

Customers Who Bought This Item Also Bought

A BEHAVIORAL THEORY OF THE FIRM Richard M. Cyert & James G. March

Sciences o

Behavioral Theory of the Firm by Richard M. Cyert
★★★★☆ (3)
£18.29
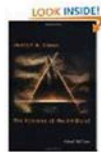
Sciences of the Artificial by Herbert A. Simon
★★★★☆ (2)
£16.52

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

Design with Intent

Product details

Machiavellian Lens

M

3.ly/Mach

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.

Design with Intent

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

Design
with
Intent

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

Design with Intent

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

Design with Intent

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

Design with Intent

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 ti̶c apologize for any inconvenience this has caused. We have s̶ e̶d the situation. (01/16/2007)

Design
with
Intent

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

Test   **Exit this survey**

1. Default Section

	Very useful	Quite useful	Almost useless	Completely useless
Are these Design with Intent cards useful?	○	☑	○	○

(Done)

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

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

Design with Intent

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

Design with Intent

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*

WARNING!
SMART-INK™

UNAUTHORIZED REMOVAL WILL TRIGGER ALARM TO SOUND AND CAUSE PERMANENT DAMAGE WHICH MAY RESULT IN INJURY

Design with 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

Design with Intent
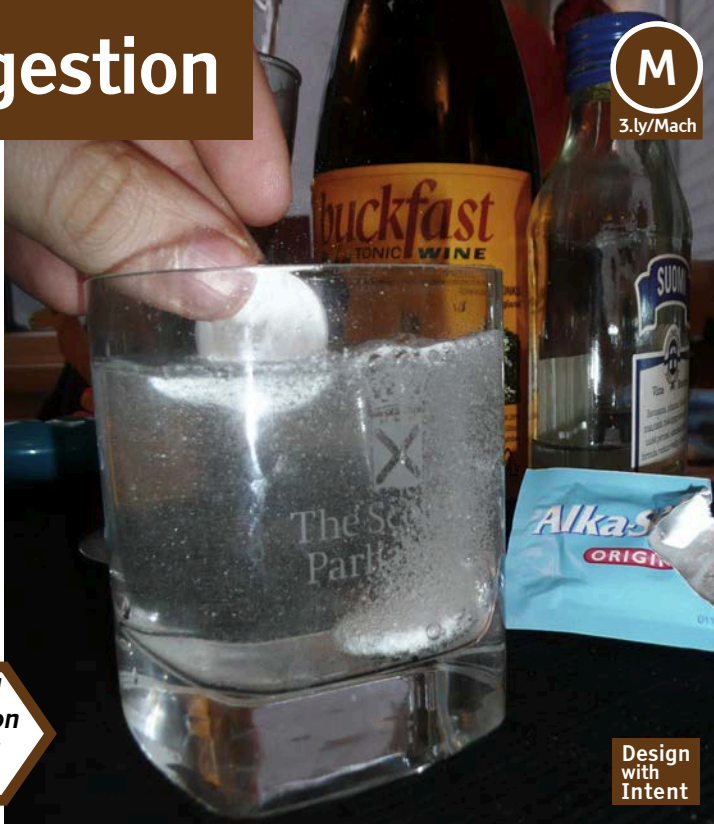
Slow / no response

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

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.

updates in my clinical area, forum debates,reviews, disease occasional email about other medical content that might be of

(Cancel)   (Submit)

(Registration can take a few minutes. Please click Submit only once)

Top

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

Design
with
Intent

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

£25
£20
£10

BE the TREND

Design 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

Design with Intent

Security Lens

The Security Lens represents a 'security' worldview, i.e. that undesired user behaviour is something to deter and/or prevent though '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, thinking further about 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.
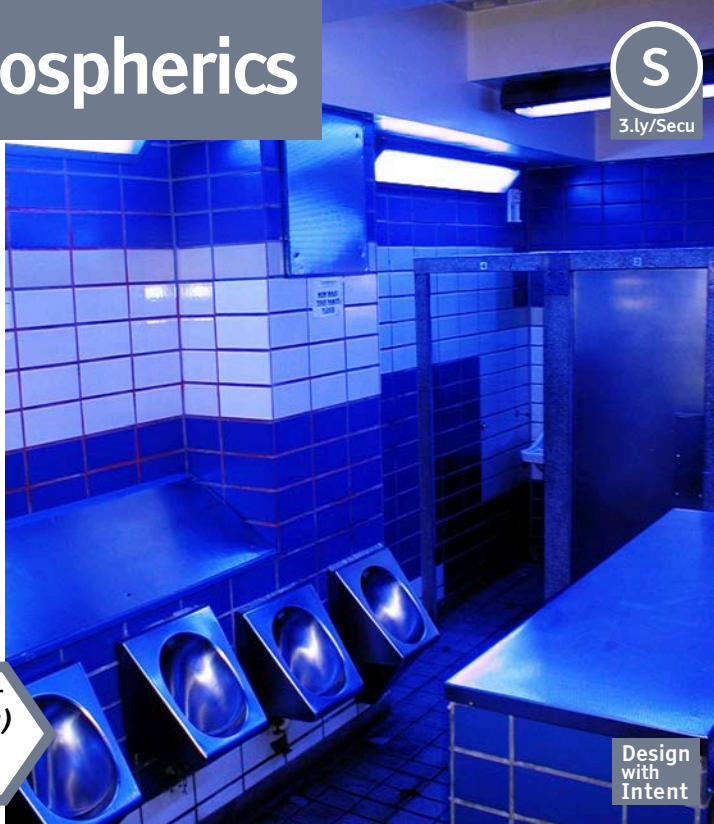
S
3.ly/Secu

Design
with
Intent

Coercive atmospherics

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
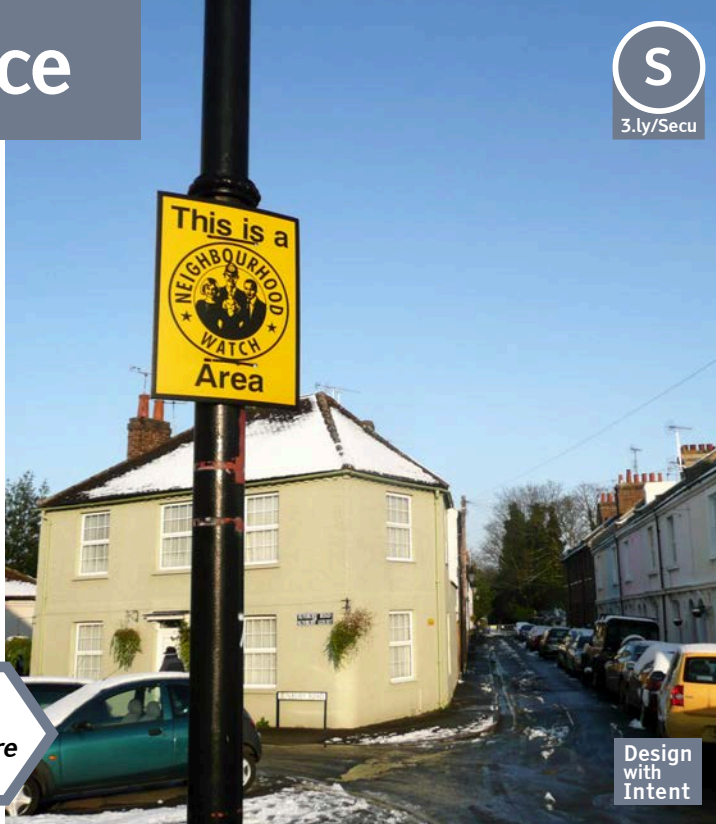
Design with Intent

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"

Design with Intent

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

They Work For You.com
Keeping tabs on the UK's parliaments & assemblies

Sign in Join

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
with
Intent

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
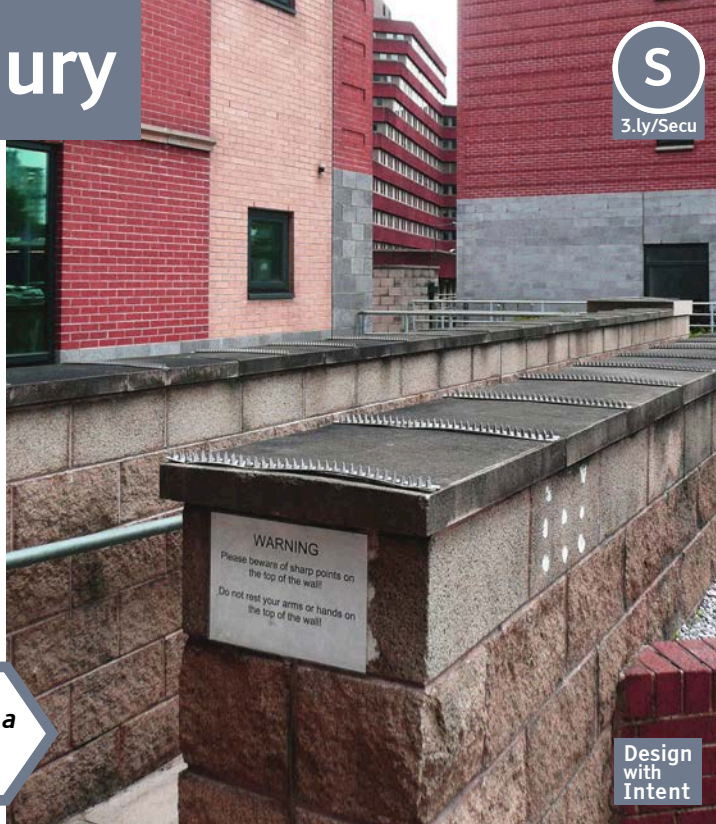

CCTV IN OPERATION

This scheme is operated by the Royal Borough of Windsor & Maidenhead. For further information: tel. 01628 798888.

The Royal Borough
Windsor &
Maidenhead

Design with Intent

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

WARNING
Please beware of sharp points on the top of the wall

Do not rest your arms or hands on the top of the wall

Design with Intent

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

Design with Intent
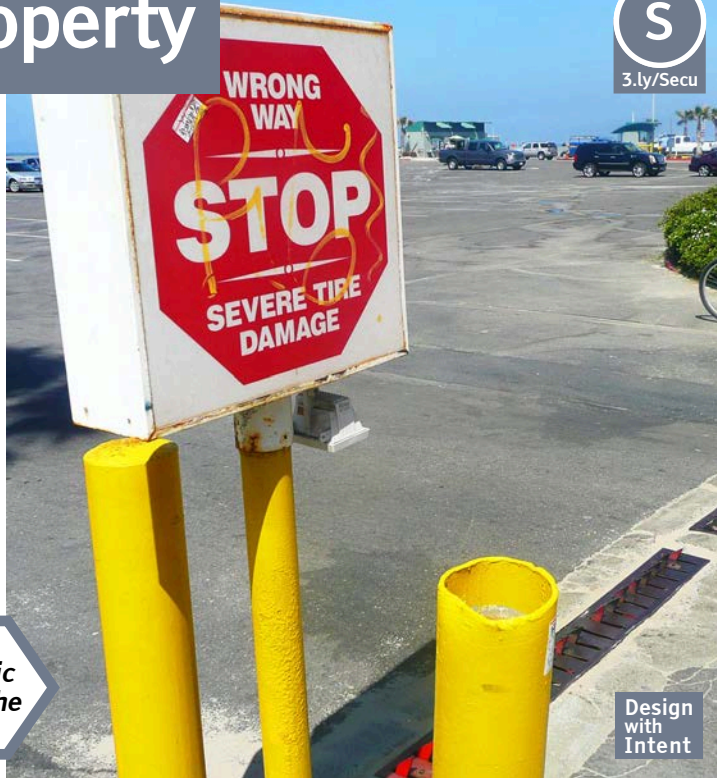
What you can do

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

Design with Intent

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

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 .AppleDoub
-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
-rwxr-xr-x    1 67630              8351 Dec 22 2005
-rwxr-xr-x    1 67630              3036 Dec 22 2005
```

Design
with
Intent

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

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 10³kg.
You made this mistake because you failed to distingu
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 cas
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.

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

Design with Intent

Where you are

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

Warning:
Trolleys will stop when pushed past this point

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?

MAXIMUM HEADROOM 1.9M

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

Design with Intent