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.

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

**Converging & diverging**
- Can you channel people so they come together (or split up)?

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

**Feature deletion**
- What would happen if you simply took away features you don’t want people to use?

**Hiding things**
- Can you hide functions or elements you’d prefer people didn’t use?

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

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

**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?

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

**Roadblock**
- Can you put things in users’ way, so they take an alternative route, or adjust their speed?

**Segmentation & spacing**
- Can you divide your system up into parts, so people only use one bit at a time?

**Simplicity**
- How simply can you structure things, to make it easier for users to do what you’d like them to do?

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**Are you sure?**

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

![Image of a confirmation step](image1.png)

**Choice editing**

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

![Image of choice editing](image2.png)

**Conditional warnings**

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

![Image of conditional warnings](image3.png)

**Defaults**

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

![Image of default setting](image4.png)

**Did you mean?**

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

![Image of suggestion feature](image5.png)

**Interlock**

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

![Image of interlock feature](image6.png)

**Matched affordances**

Can you make parts fit only when the products they should do?

![Image of matched affordances](image7.png)

**Opt-outs**

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

![Image of opt-out feature](image8.png)

**Portions**

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

![Image of portion changes](image9.png)

**Task lock-in/out**

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

![Image of task lock-in/out](image10.png)

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**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 poké-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 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 is not required.**
Design with Intent
Interaction Lens

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

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

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

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

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

Real-time feedback
Can you let users know what they’re doing is affecting the system?

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

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

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

Tunnelling & wizards
Can you offer users a wizard to ‘tunnel’ them through a decision process in the way you’d like?

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.

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Design with Intent

Ludic Lens

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

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

Challenges & targets

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

Collections

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

Leaves to fill

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

Levels

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

Make it a meme

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

Playfulness

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

Storytelling

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

Role-playing

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

Rewards

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

Scores

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

Unpredictable reinforcement

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

Storytelling

Eight lenses on influencing behaviour through design

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

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Design with Intent
Perceptual Lens

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

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

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

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

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

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

(implied sequences)
Can you make it look like there’s a sequence for users to follow, through the layout of elements?

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

(mimicry & mirroring)
Can your system mirror or mimic a user’s behaviour or mood in some way, to increase the engagement a user feels?

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

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

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

(Possibility trees)
Can you give people a ‘map’ of the routes or choices they can use to achieve different goals?

(prominence)
Can you direct your users’ attention to what you want, by making it more prominent, obvious or exaggerated?

(proximity & grouping)
Can you group elements so that users perceive they have similar functions or should be used together?

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

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

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

(watermarking)
Can you make a user feel like he or she (or someone else) ‘owns’ or has responsibility for something?
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.
Design with Intent
Machiavellian Lens

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

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

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

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

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

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

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?

Format lock-in/out
Can you design your system so users become committed to a particular format or way of doing things?

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

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?

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

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

Slow / no response
Can you get users to try different actions or repeat a behaviour by making the system respond or give feedback slowly?

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

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

Coercive atmospheres

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

Peerveillance

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

Sousveillance

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

Surveillance

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

Threat of injury

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

Threat to property

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

What you can do

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

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?

What you know

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

What you’ve done

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

Where you are

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

Who or what you are

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

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