

**Example** Concepts generated using the Dwl method to encourage closing curtains at night to conserve heat

<b>Concept for new / redesigned interface or product</b>	<b>Patterns / techniques</b>
Curtains / windows / heating system which can inform user about their state. Use potential benefit compared with past behaviour etc. Could use windows / curtains as interface, e.g. projecting information / graphics	Interface capabilities, Self-monitoring
Reducing hassle / effort required by users to close curtains—e.g. a weighted system or combined mechanism closing multiple curtains	Reduction
Suggest / simulate closing curtains at exactly right moment—when users about to go to bed, or when they enter room and switch lights on, or if significant heat outflow detected	Simulation, Kairos, Condition detection
Rewarding user for closing curtains by providing praise, 'delight' reward, or explicit display of money saved	Operant conditioning
Helping user develop habit of closing curtains by association with another event, e.g. going to bed; embedding 'trigger' in environment	Respondent conditioning
Interface which gets users to commit to a goal of a particular energy use improvement	Commitment & consistency
Interface which points out how well user doing (e.g. "Your insulation is only 65% effective because curtains are still open in three rooms.")	Self-monitoring
Interface which points out energy/financial waste of not closing curtains	Scarcity, Self-monitoring
Demonstrate to users 'precious warmth' and how they'll feel warmer if they close curtains	Scarcity, Self-monitoring
Emotional involvement, e.g. causing users to worry or feel guilty about energy/financial waste or lack of privacy from open curtains	Affective engagement
Making it clear that other people can see into your house at night if you don't close curtains	Surveillance
If dark outside, room lighting can't be switched off (before going to bed) until curtains closed	Interlock, Lock-in / -out
Room lighting can't be switched on in first place if dark outside, unless curtains closed	Interlock, Lock-in / -out
Room heating won't come on at night unless curtains closed	Interlock, Lock-in / -out
Warning lights / alarm / display somewhere in house if curtains not closed	Arrangement detection
Curtain could move indicating that it should be closed	Movement & oscillation
De-segmentation of elements, so fewer curtains to close, or linking closing mechanisms (single pull cord) so less work for user	Segmentation & spacing
Positioning other items used as part of nightly routine, e.g. light switches, next to curtains	Positioning & prominence
Prominent pull cords / other closing mechanisms	Positioning & prominence
Room / furniture layouts designed to make it easier to reach curtains	Positioning & prominence

(full version of table published on p.21 of *Interfaces 78*, BCS Interaction 2009)

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