The Frontier of Persuasive Design
Background

We are not as in control of our own actions as we might believe. In Germany, organ donation is “opt-in,” meaning you must deliberately act to be a donor. Next door, donation is opt-out in Austria, and Austria has more than 8 times the donor rate. In a rational world, people would weigh their options and make the same decision regardless of the default choice. But it’s not always a rational world, even for things that are important to people. Enter Persuasive Design.

Persuasive design is one name for a goal that many disciplines are working on in parallel: creating strategies and experiences that aim to deliberately change behavior. Other names include game dynamics (or “the game layer”), design with intent, responsible design, and more. Design community, along with social psychologists, behavioral economists, game designers, marketers, urban planners and others are looking back through old research and sharpening new tools for influence. Why? First, it’s becoming very clear people often behave irrationally and don’t act in their own best interest. Second, opportunities open up when it’s possible to influence customers through design. Traditional approaches relying on business goals and existing user needs won’t lead to the same ideas because they don’t account for this potential for movement.

There are many other influential factors italicized in this report. Personal relationships and social norms, public commitments, reciprocity, randomizing the timing of small rewards, completing sets, and aversion to loss are just a few other powerful influencing factors when used effectively. As with many fields, people have long been using principles now being defined, from sales techniques to casino floor planning. But it’s now emerging as a cross-discipline focus area with implications for your business.

The Latest Trends

A cross-discipline focus area is growing

Many communities working on related issues didn’t interact much before, and certainly many worthy application domains are unaware of the topic. But now, several interdisciplinary conferences deal specifically with the topic of influence. 2010 was the fifth year of the International Conference on Persuasive Technology, Artefact participated in the fourth annual Behavior, Energy, and Climate Change conference, and behavioral scientists, military leaders, contractors attended the Conference on Influence & Fighting Propaganda. Behavior was the talk of the Gridwise Global Forum this year as participants realized that efficiency gains of the future power grid depend a great deal on behavior change.

Another sign of cross-discipline growth is that influence experts from gaming are being hired by non-gaming companies to incentivize visitor participation and engagement. Game designer and online community expert Amy Jo Kim contributed to eBay’s community features and a recent Artefact client worked with game designers to help make their online presence “sticky.”

![Design With Intent cards are color coded by the type of influence each technique wields](image)

Regence health care lets users log points and earn rewards for a variety of healthy activities that presumably lower insurance risk.
In addition, influence techniques are being gathered together from across disciplines as references and as design tools. Dan Lockton built a downloadable set of 101 "gambits" or techniques that influence behavior drawing from multiple disciplines. BJ Fogg of Stanford is developing a breakdown of the types of behavior change and guides for effecting each. Mobile app maker SCVGR’s 47 game mechanics have been leaked and addictive game maker Zynga’s ‘playbook’ of influential design factors has even been the subject of lawsuits. Check the references section for more links to such lists of influence techniques.

Games mechanics are turning towards reality
What’s a game mechanic? Basically a set of influencers - points, for example. Points make games competitive and rewarding but also reflect the values of the game by incentivizing certain activities. Jesse Schell, a game maker and CMU professor, recently gave a talk at a game executive summit on how the surprising success of recent games like Farmville, Club Penguin, Guitar Hero, Wii Fit, and others is due not just to their carefully crafted behavioral influence but also to their connection to the real world, using real songs, real friends, or natural interaction. But game mechanics are being applied directly to reality as well.

Frequent flyer miles and Weight Watchers have long had game-like point systems. More recently, HMOs like Regence have begun to offer incentive programs for individuals or employers to be more active, seek support, eat healthier, and log it all to get rewards. Some even offer discounted rates, and it’s easy think of future HMO scenarios as the world gets more sensors and connectivity. GetGlue rewards media consumption with reputation-based rewards and achievements, and promises future rewards from content publishers. RideKicks incentivizes carpooling by giving a point per mile, granting titles on certain routes, and letting users reward each other with honors that reflect carpooling values like “On Time,” “Full Car,” “Safe,” or “Helped a Newbie.”

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The Huffington Post wanted to incentivize repeat reader-contributors and community moderators, and recently implemented a system of achievement badges to promote desired behaviors. Deal Machine lets sales managers turn their incentive structure into a game, with sales staff earning points for various activities throughout lead development. StickK lets users place money in jeopardy and make their personal goals public, leveraging the proven power of commitments and aversion to loss. Other examples take game mechanics more literally: Chore Wars and Epic Win offer an evolving character-based adventure that grows as you make progress on your daily to-do list of real-world activities like washing the dishes, attending more networking events, or taking the bus.

Mobile solutions are driving retail visits and purchases. By far the most talked-about real-world applications of behavioral influence are the mobile apps such as Foursquare, which had close to 5 million users at the time this article was written. Foursquare lets people use their phones to “check in” to registered locations like stores or restaurants when the GPS knows they are there. Repeated check-ins earn achievements from the app maker or rewards (like discounts) from partners. Gowalla adds multiple types of collections, 3rd party sponsored “trips,” and user content. Having friends involved makes you want to do it more, and in fact to do it better than they do. ShopKick provides a story that evolves and a character who becomes stronger according to the task list users want to accomplish in real life (Source: ZombieSpider).

CheckPoints launched late in 2010 and adds incentives for scanning the bar codes of specific products from partners like Energizer and Seventh Generation. Think it makes you more likely to buy them? Your points and achievements need a flexible place to live with a future, and now that Facebook has made its location API public, expect to see more connections to this proven platform. Your activity history and accumulated reputation may even become generic and cross-application.

Opportunities

Support the ‘long tail’ of achievement

Imagine a frequency graph of the behavior that your design encourages. There probably comes a point where the graph levels off – your user has achieved most of what they are going to and what’s left is smaller or more difficult. This is a key point in the experience design where users must continue to feel achievement and reward but the emphasis may need to shift to maintenance behaviors and mastery over goals rather than ever-higher goals for everything. Not everyone is doing this very well today.

Sticky vs. portable?

If you stop using your HMO reward program, Deal Machine, or Gowalla, you lose the reflection of your behavior that provides incentive and contributes to your identity. One argument is that it helps make these experiences “sticky” by providing a reason to come back or to use them instead of alternatives. But as reflections of real world activity, they...
might be more valuable to you if you took them with you, so that meaningful parts of your identity aren’t fragmented and forgotten. There is a great opportunity to either provide or use a unifying platform for earned credit and achievements that can be optionally public.

Reach out to experts

Some words of caution: It’s not easy. Don’t browse the influencers in the references and choose your favorites to apply. What works for one situation may not work for another. For example, ‘leader boards’ showing high achievers are valuable motivators for smaller user groups but can be discouraging or irrelevant at larger sizes. What’s more, even behaviors that seem highly related like conserving water and electricity each have unique perceived “barriers and benefits,” to use social marketing terms, that must be understood for effective design. Design firms like Artefact have expertise to offer in clarifying goals, uncovering the barriers and benefits to particular actions, and designing great and effective experiences. So do academics and professionals in a variety of other disciplines.

Appeal to ‘the better angels of our nature’

The mobile app examples target behavior change towards explicit commercialism, much of which the users of these apps may not otherwise have desired to do. Doubtless this will continue, but there is also an opportunity to profit while providing for the social good. Scaffold and support people in achieving existing goals for who they want to be, like stickK or insurance company programs do. Move people towards our collective needs, like reducing consumption or strengthening local relationships. Our own work on energy efficiency behavior is an example of the way we hope influence will be wielded. Check your own company values for inspiration.

Exercises

Gather a group of interested people for a demonstration of a principle of behavioral influence. Propose the following scenario, A. “You may choose between either getting $100 outright or taking a 1% chance of getting $10,000. There are no correct or incorrect answers.” Record the responses. Now pose scenario B, between $10,000 or a 1% chance at $1,000,000, and scenario C, between $1 guaranteed or a 1% chance at $100. Check the results. Consider this: in each scenario, the two offerings have equivalent theoretical value—the larger is always 100 times the smaller value, but with 1% likelihood. Despite this, psychology research shows that as the scenario values go up (from C to A to B), more people will choose the smaller but guaranteed quantity. You can imagine how Las Vegas takes advantage of this principle, and it’s already being applied to ridesharing commutes and energy efficiency programs by providing a chance at a higher reward rather than a guarantee of a perceived small one.

You may have a business goal but not know the most appropriate behaviors to encourage (or discourage). Try making three lists. First, assuming you have an existing business, make a list of the user behaviors that most directly benefit you economically. For example, ‘buy more exercise machines.’ Next, list related behaviors that provide positive benefit to users, such as ‘lower my blood pressure’ or ‘spend more time with my friends.’ Last, think of your company values. Look at your mission statement, corporate social responsibility reports, or values shared with colleagues to make a list of behaviors that are in line. Look for behaviors that are on multiple lists, and then start to consider which behaviors have the most impact on your goal and which are most likely to be influenced.

What about the race? Applying influence techniques without careful attention to effectiveness and purpose can lead to failure (Source: Penny Arcade)
References and Examples

**Mobile social checkins**
http://whm.com checkins and recommendations earn you rewards and prestige
http://scvngr.com SVGR checkins, challenges, and treks even let companies create user experiences with earned rewards
http://gowalla.com Gowalla
http://foursquare.com FourSquare emphasizes being the most frequent visitor, social sharing, and location-based rewards, but also has categories and levels of achievement across locations
http://www.shopkick.com earn credit for entering businesses
http://www.checkpoints.com Location points but also points for scanning UPC codes of specific products. Think it makes you more likely to buy them? They do
http://developers.facebook.com/blog/post/403 Facebook makes its locations API public

**Issue education and advocacy**
http://www.persuasivegames.com games to educate about privacy and security tradeoffs in airport screening, food safety, balanced energy generation, influenza spread, and more
http://areacodeinc.com Area Code games makes games with a real world component or message

**Incentivizing personal health or discipline**
http://www.chorewars.com Chore Wars advances a virtual character with your real-world efforts
http://www.rexbox.co.uk/epicwin Epic Win also makes your To-Do list a matter of “character”
http://www.humana.com/resources/healthy_living/articles/exercise/active.aspx games for physical activity
http://www.or.rencome.com/agent/medicalManagement/wellness.html#custom Another insurance company sponsors reward programs and point systems for healthy behaviors. Any member can get $25 gift certificates after a point threshold
http://www.stickk.com Set and achieve personal goals. Featured in Nudge, this site lets you put money down. Aversion to loss is a strong motivator

**Training or Education**
http://www.persuasivegames.com/games/game.aspx?game=coldstone ColdStone Creamery commissioned a game to teach trainees about portion size and profitability

**Toolkits**
http://architectures.danlockton.co.uk/2010/04/10/design-with-intent-toolkit-1-0-now-online 101 “gambits” to influence behavior in card form, from Design With Intent
http://www.youtube.com/watch?v=iN-163gZiiS fundamental game mechanics from Amy Jo Kim
http://www.behaviorgird.org BJ Fogg’s breakdown of change types by duration and current status
http://www.behaviorwizard.org BJ Fogg’s wizard to guide you to the right type of change
http://developer.yahoo.com/ypatterns/social/people/reputation Yahoo Developer Network’s pattern library for reputation systems

**“Alarm Clock” shopping**
These sites have periodic deals that encourage repeat visits by using their fear of missing an opportunity. Similar systems are found in many Zynga games
http://woot.com
http://Yugster.com
http://Shnoop.com
http://LunarLoot.com – one deal per day
http://Tanga.com

**Conferences**
http://beccconference.org Behavior, Energy, and Climate Change conference, focused on effective principles to influence efficient behavior
http://www.persuasive2011.org Persuasive technology conference, focused on sustainability and health
http://www.crows.org/component/option,com_eventlist/itemid,39/id,87/view,details Conference on Fighting Influence & Propaganda
http://news.cnet.com/9301-11128_3-20017348-54.html The Gridwise Global Forum is increasingly concerned with efficiency behavior

**Further information**
http://www.fastcompany.com/magazine/144/a-is-for-app.html Toward effective educational games, including teacher tools
http://en.wikipedia.org/wiki/Game_mechanics Wikipedia article on game mechanics
http://changeobserver.designobserver.com/entry.html?entry=14388 Robert Fabricant on design for influencing behavior
http://www.ted.com/talks/lang/eng/seth_priebatsch_the_game_layer_on_top_of_the_world.html Seth Priebatsch on laying gaming on top of the world
http://www.youtube.com/watch?v=Ym9TLc_WMbo Another Seth Priebatsch talk on the game layer
http://g4tv.com/videos/44277/DICE-2010-Design-Outside-the-Box-Presentation Jesse Schell discusses how the connection to reality is driving new game success
http://www.ted.com/talks/jane_mcgonigal_gaming_can_make_a_better_world.html Jane McGonigal on gaming on real-world problems
http://jag.lcc.gatech.edu/blog A blog about games for journalism
http://captology.stanford.edu Stanford Persuasive Technology lab, headed by BJ Fogg
http://www.influenceatwork.com Robert Cialdini’s workshops and application of influence techniques to business
http://www.artefactgroup.com/#!/content/contextual-interventions-for-sustainable-user-experiences Artefact thoughts on influencing behavior at the time of action
Amy Jo Kim’s Community Building on the Web discusses reputation, achievement, and more
Thaler and Sunstein’s Nudge: Improving Decisions About Health, Wealth, and Happiness. A book on behavioral economics for the greater good
2 books by Robert Cialdini: Influence: The Psychology of Persuasion, and Yes! 50 Scientifically Proven Ways to be Persuasive
Ian Ayres’ Carrots and Sticks