Changing Behavior | Studio Task #3 (Individual)

Due: Thursday, April 25, 2013

Goals

The goal of this assignment is to investigate various techniques that can be used to build applications designed to influence the behavior of the user over a long term period.

Assignment

We are motivated to act based on various driving forces. Such forces can come from computer-based applications, and effective applications can exploit this fact by incorporating a variety of techniques to attempt to steer the user to behave in a certain way. Three examples of such effects presented in the book *The Universal Principles of Design* include **cognitive dissonance**, **operant conditioning**, and **nudge**. Read about each of them in more detail by following the URL links below.

Cognitive Dissonance

https://www.cs.washington.edu/education/courses/cse441/13sp/readings_files/restricted/upd_cognitive_dissonance.pdf

Cognitive dissonance arises when the mind is forced to hold on to two conflicting ideas or beliefs. For example, a cognitive dissonance may arise when a person who believes that they are generally helpful comes across someone hitchhiking on a deserted road at night. Their desire to be helpful may be conflicted with their notion that it may be risky to trust a stranger especially during the night on a deserted road. There are generally three ways in which people deal with such situations to reduce their cognitive dissonance, which are described in the article at the above link. An application which seeks to modify the user's behavior may exploit this concept, and either intentionally creates a certain cognitive dissonance that will most likely lead to the desired response from the user, or suggest a consonant cognition or even change or remove the dissonant condition for the user so that they are guided towards the desired behavior.

Operant Conditioning

https://www.cs.washington.edu/education/courses/cse441/13sp/readings_files/restricted/upd_operant_conditioning.pdf

Operant conditioning is a technique used to encourage or discourage a particular behavior through the application of positive reinforcement (reward), negative reinforcement (removal of negative condition), or punishment (application of negative condition). The differences in the effectiveness of the frequency of the reinforcements and the types of reinforcement are discussed in more detail in the article at the above link. Video games and gambling machines effectively manipulate this technique to get their users to continue playing the game.

Nudge

https://www.cs.washington.edu/education/courses/cse441/13sp/readings_files/restricted/upd_nudge.pdf

Nudging is a way of predictably altering behavior without restricting options or significantly changing incentives. It relies on a variety of common methods such as setting reasonable Defaults, giving visible and immediate Feedback, avoiding Incentive conflicts and aligning incentives them with desired behavior, simplifying decision making by offering Structured Choices, and making Visible Goals.

For this assignment, we would like you to either conduct a critique of an existing behavior changing application, or to come up with a design of your own behavior changing application that successfully manipulates the three concepts above in eliciting the desired effect. In either case, the application should target behavior change that can be observed over a longer period of time than single use.

If you choose to critique an existing application, find an example of an application or system that is targeted towards modifying the behavior of its users (with goals such as getting them to become more physically fit, getting them to become more ecologically friendly, getting them to save more money, etc.) and critiquing how successful or unsuccessful its design incorporates the above three concepts. Include screenshots of the application if possible and a description of its common usage scenario, and provide suggestions on how it may be improved to make better use of the three concepts.

If you choose to come up with your own design for an application, come up with a scenario that describes what behavior your application seeks to elicit from its users, and provide a mockup of your interface or interaction storyboard that demonstrate how your application incorporates the at least two of three concepts above in achieving its goals, and why you believe it will be effective.

A few related links

The following are some examples of applications that aim to modify the behavior of its users towards the goal of making them more environmentally aware or physically fit.

UbiGreen
http://dub.washington.edu/projects/ubigreen

UbiFit
http://dub.washington.edu/projects/ubifit

Fish 'n' Steps
www.cs.washington.edu/education/courses/cse441/13sp/readings_files/restricted/FishnSteps.pdf

Deliverables

1. Update studio design website
   Update your top level html page (index.html) in this directory and include a link to this week's studio design html document.

2. Your design or evaluation
   Your design or system evaluation should be accessible online in your individual project directory as an html (or, if you prefer, pdf) page. This page should be linked off of your index.html defined above. Please include screenshots of your sketches and a description of the interface and proposed interaction if it is your own design, or the critique of an existing system.

3. Presentation
   You must be prepared to present your work in class and lead a small discussion about your design or evaluation.

Grading (100 Points)

You should not spend enormous amounts of time on this assignment. As usual, you are welcome to sketch up your design and scan it in (rather than mocking it up digitally), but make sure your written description is clear and complete (handwritten notes that are not self-describing are unacceptable).

For this assignment, you will be graded on:

- [10] Updating your studio design website
- [80] Your own design of or evaluation of existing system that aims to modify the user's behavior through the exploitation of cognitive dissonance or operant conditioning.
- [10] Your presentation