

How do social media capture
action and retain attention?

Problem

6 Ways to Capture and Keep Your Audience's Attention Online



[Danielle Antosz](#) / December 29, 2015

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A HISTORY OF BEHAVIORAL DESIGN

Burrhus Frederic (B. F.) Skinner

- 1920-1990
- American psychologist, **behaviorist**, inventor, author and social philosopher
- Professor of psychology, Harvard University, 1958-1974



Behaviorism vs. psychoanalysis

Psycholanalysis

- The unconscious as a determining factor
- Observable behavior is a symptom, not the cause, of an underlying problem
- Early childhood, including infancy, is critical

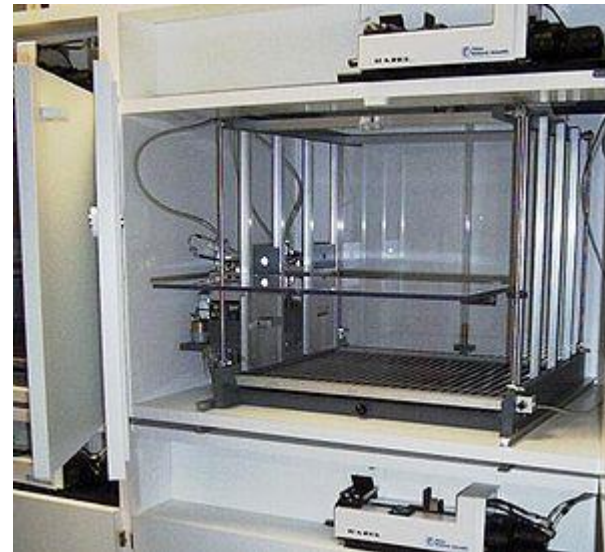
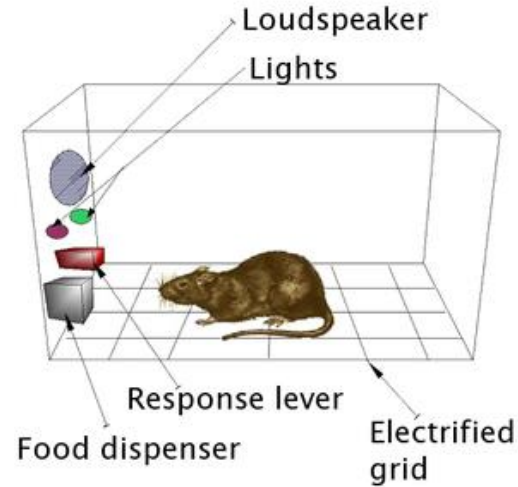
Behaviorism

- The unconscious is not only unknowable, but potentially also a dangerous fiction
- Looks only at observable behavior – what a person does, rather than feels or thinks
- Holds that current conditioning is crucial; early hbits can be unlearned

BF Skinner's early work

Skinner's early work was with animals.

- As a graduate student at Harvard, he devised the operant conditioning chamber, better known as the Skinner box, that was used to study animal behavior.
- The chamber contained a response mechanism that the animal would be trained to use, typically by rewarding the animal with food.



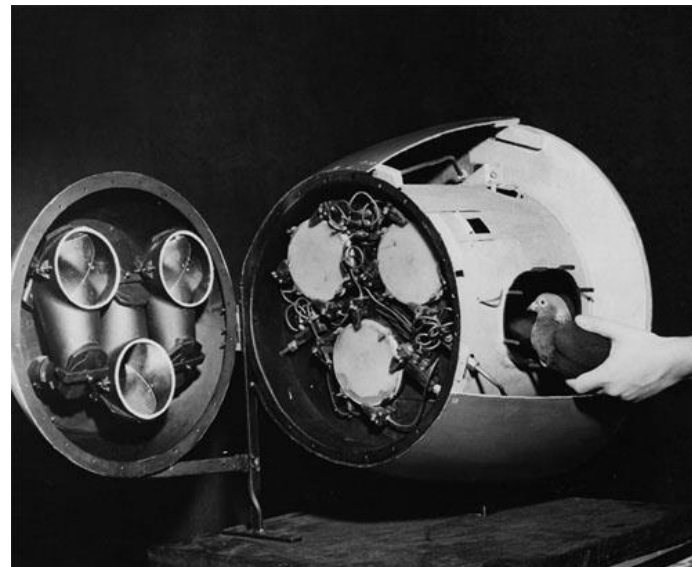
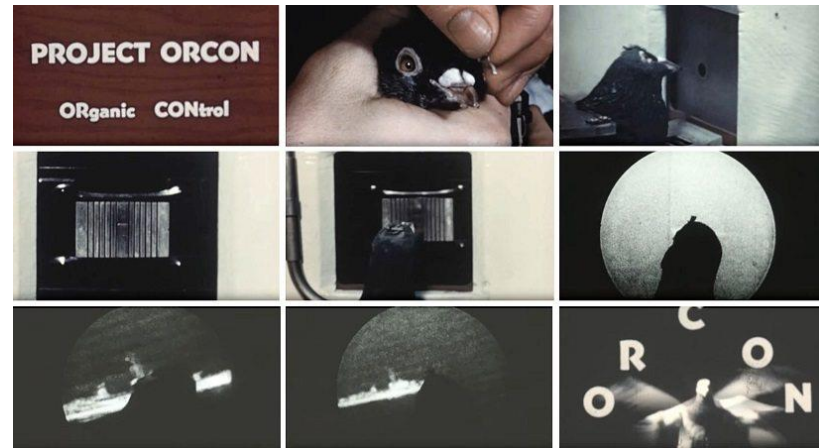
Operant conditioning

What is the operant conditioning hypothesis?

- Actions that are followed by **reinforcement** will be **strengthened** and more likely to be **repeated** in the future
- Operant conditioning is **a method of learning** that occurs through **rewards** and **punishments** for behavior
- It is sometimes referred to as **instrumental conditioning**

Project Pigeon

- During World War II, Skinner worked on a program called Project Pigeon – also known as Project Orcon, short for Organic Control
- Orcon was an experimental project to create pigeon-guided missiles.
- The pigeons were trained by Skinner to peck at a target, and were rewarded with food when they completed the task correctly.
- Skinner designed a missile that carried pigeons which could see the target through the windows. The pigeons would peck at the target; the pecking in turn would control the missile's tail fins, keeping it on course, via a metal conductor connected to the birds' beak, transmitting the force of the pecking to the missile's guidance system. The pigeons' accuracy, according to Skinner's preliminary tests: nearly perfect.



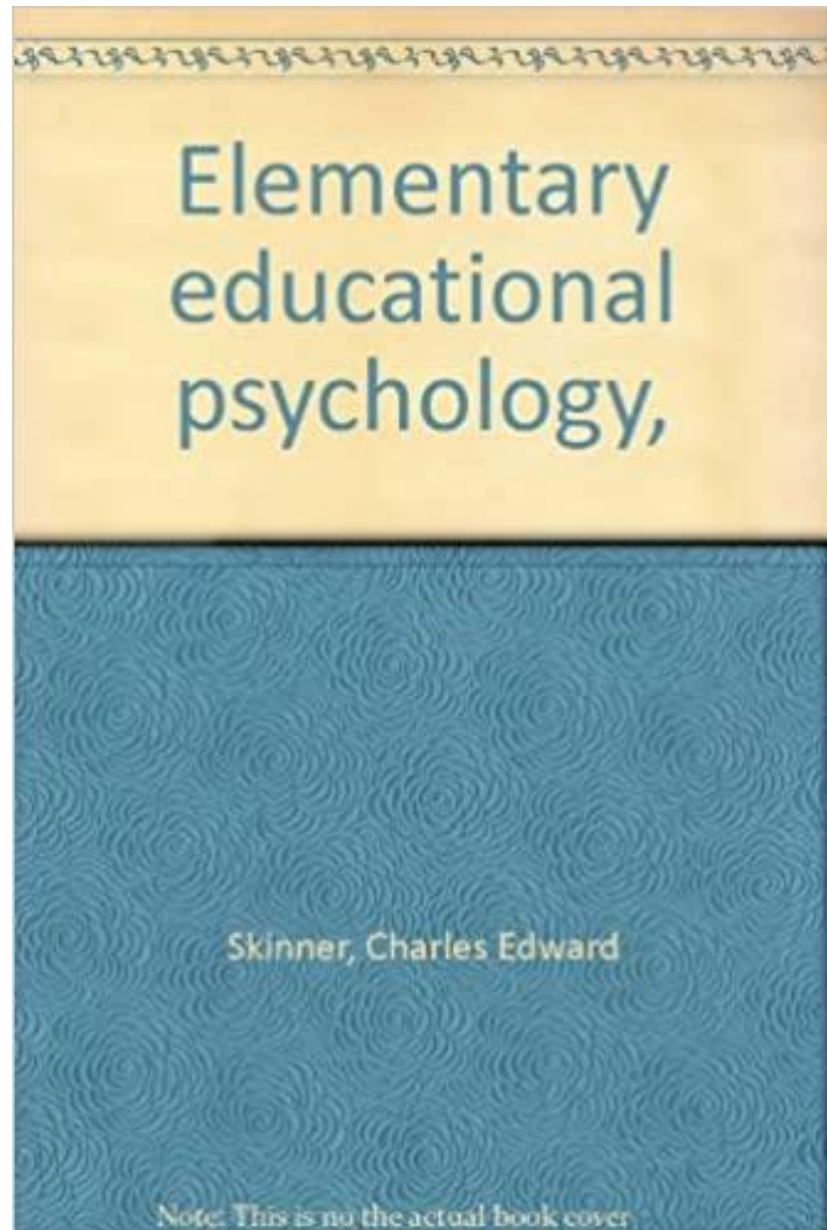
From war to pingpong

- Orcon was classified and was never operationalized in combat
- Later the public was presented with Skinner's ideas through pigeons trained in ping-pong



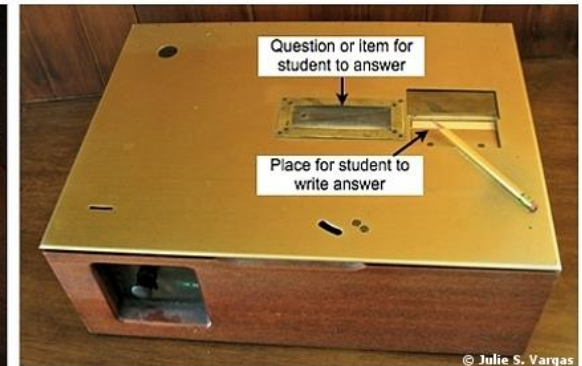
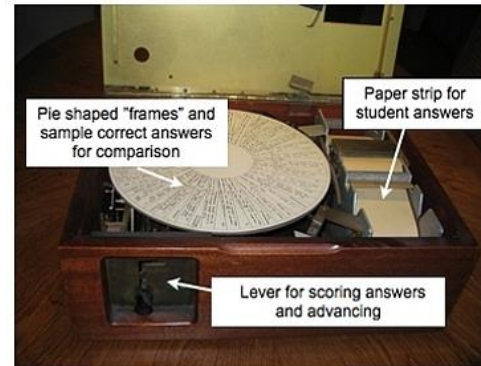
Skinner's theoretical implications

- Important figure in educational technology and psychology
- Skinner argued that the behavioral reinforcement students received at the time was primarily aversion (punishment).
- Learning, to Skinner, was a behavior – and a behavior that needed positive **“contingencies of reinforcement”**
- Positive **“contingencies of reinforcement”** should minimize the chances of doing something wrong – getting the wrong answer, for example (≠ multiple choice tests.)
- The **reinforcement should be immediate.**



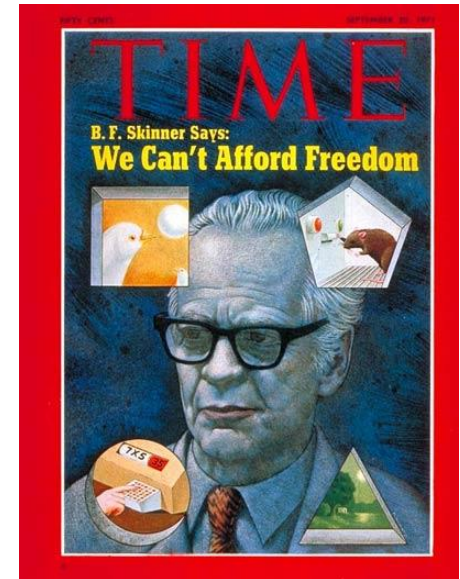
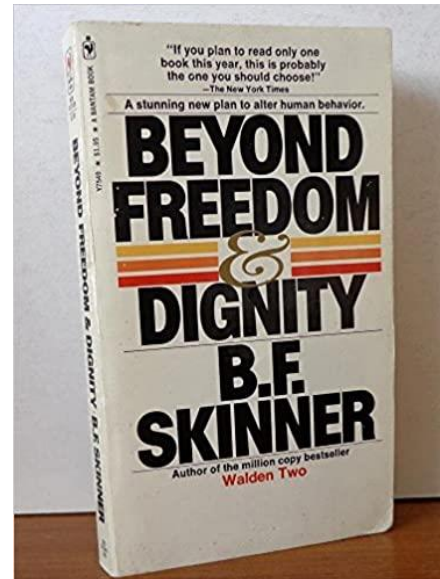
The teaching machine

- Later invention: the teaching machine
- Allows the student to move at her own pace through the material.
- Immediate response (The reward was getting to move on to the next exciting question or concept.)
- Today these features reappear as “personalized learning.”



Later reception and critique

- Skinner: The goal of behavioral technologies should be to “design a world in which behavior likely to be punished seldom or never occurs” – a world of “automatic goodness.” We should pursue “effectiveness of techniques of control” which will “make the world safer.”
- Noam Chomsky’s review: a frontal assault on Skinner’s scientific claims and results, which provided a damning critique of behaviorism
- Later: Cognitive science supplanted behavioral science – but that’s another story



The New York Review of Books

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The Case Against B.F. Skinner

Noam Chomsky

DECEMBER 30, 1971
ISSUE

Beyond Freedom and Dignity
by B.F. Skinner
Knopf, 225 pp., \$6.95

Skinner's legacies

AUTOMATED GOODNESS, CAPTOLOGY AND ADDICTION MACHINES

Today

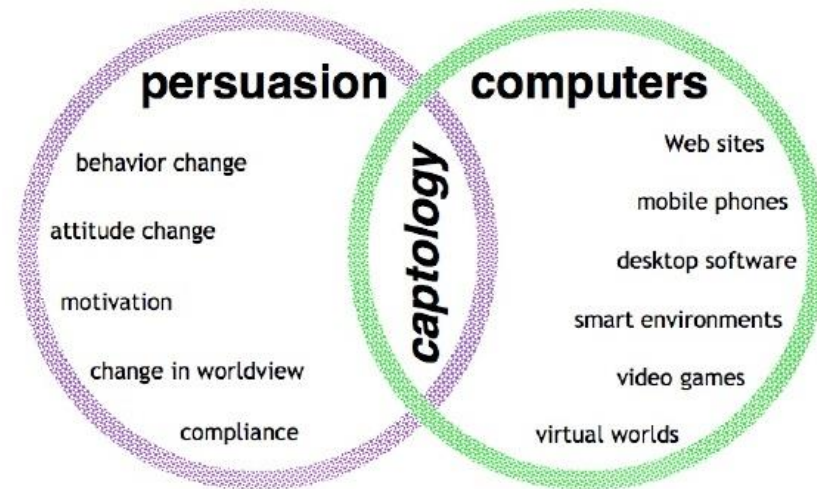
Behaviorism may be outdated as a psychological paradigm
but ...

Strands of the theories and ideas have sprung up again in
software environments

BJ Fogg

- BJ Fogg's Persuasive Technology Lab at Stanford.
- Fogg founded the lab in the late 1990s to develop the field he called 'captology', a name derived from the acronym for 'computers as persuasive technologies'
- The lab's mission is 'to create insight into how computing products can be designed to change people's beliefs and behaviors.'
- Alumni: Nir Eyal

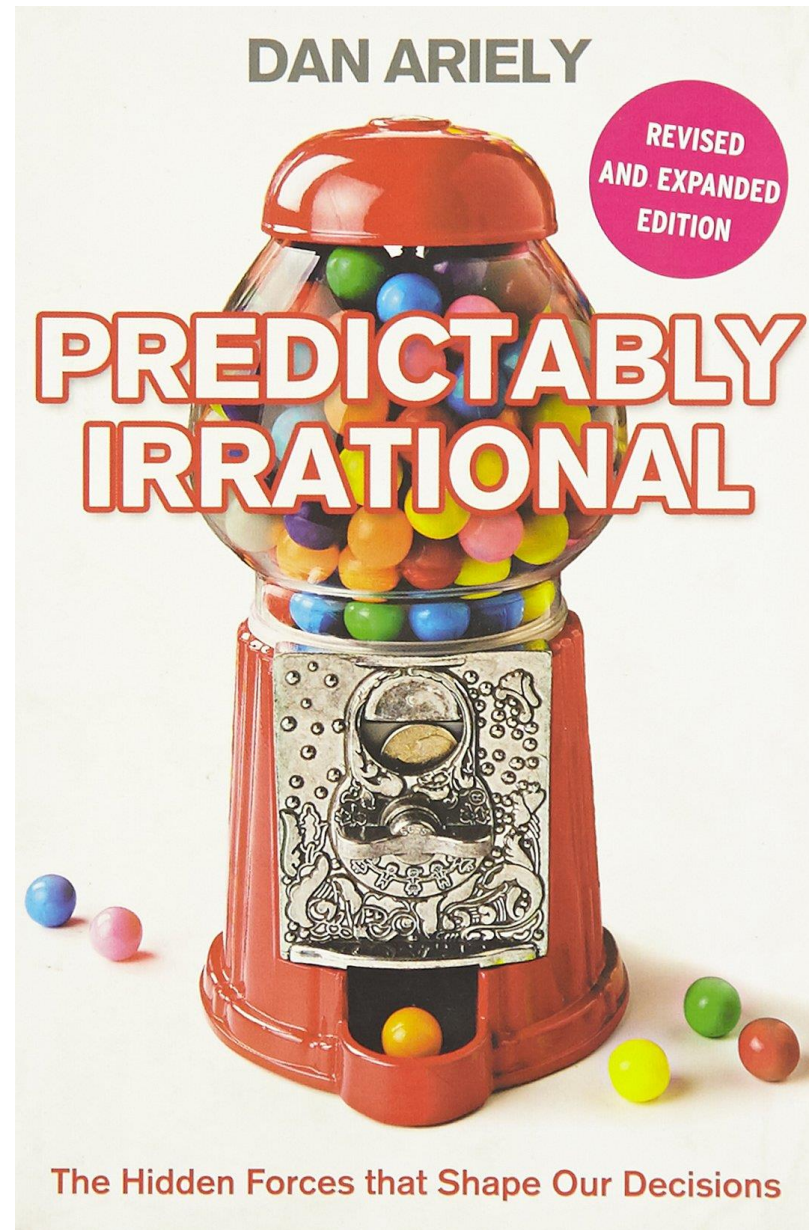
Stanford Persuasive Technology Lab 1997



BJ Fogg, Ph.D. - Stanford University

The variable reward

- If you don't know what is going to come down a chute in one armed jacks or slot machines in terms of rewards, and you don't know when it's going to come, you will stay there pressing the button and pulling the lever.
- The same, some have argued, is the mechanism that makes Social Media so habit-inducing.
- Compare to B.F. SKINNER: "The things we do in everyday life don't always pay off and they don't always not pay off. It isn't simple all or none. We study that, in the case of the pigeon, by arranging various schedules or systems of payoff."



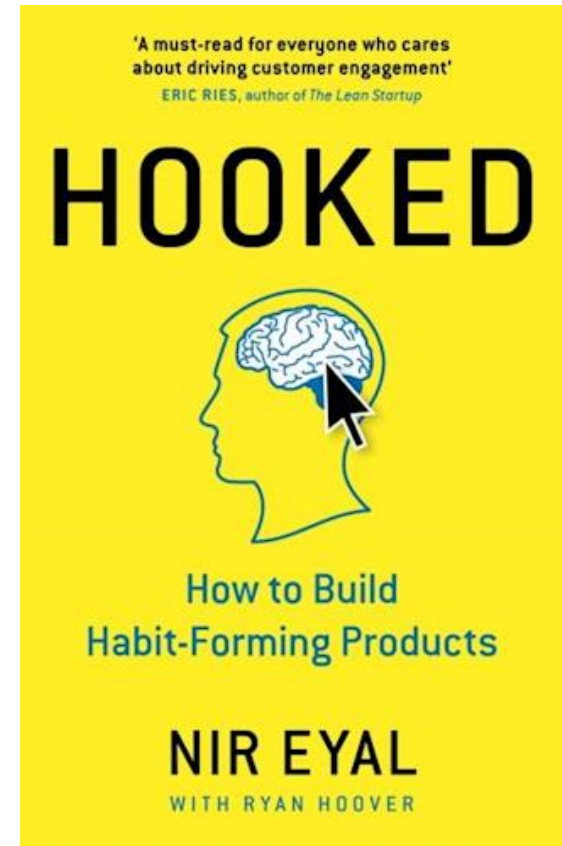
<https://www.youtube.com/watch?v=wfcro5iM5vw>

Capturing through hooks

E.g. Nir Eyal's concept of the "hook"

"What we find is that habit-forming products have what's called a **hook** designed into the product. If we feel lonely, we check Facebook. If we're uncertain, we google. All of these things, fundamentally, cater to an emotional itch, an emotional discomfort. **What we want to do is to find the pain points in users' lives so that we can solve that problem for them.**"

"The connection is **to make something interesting it needs to be variable**. It has to be, there has to be some kind of mystery, some kind of **uncertainty**. Instagram is a great example of a product that has a fantastic hook built in. The **internal trigger** is when you're seeking connection, the action is to open the app. **The variable reward** is to scroll the feed. Over time, you're changing your habits to use this product."



Nir Eyal: TedX What makes technology so habit-forming

https://www.ted.com/talks/nir_eyal_what_makes_technology_so_habit_forming

Eyal's model for how to build ethical hooks

Hook Model And How To Build An Ethical Product

The Hook Model is a framework designed by Nir Eyal, author of the book "Hooked" which consists of four elements: trigger, action, reward, and investment. This is a process of gamification that helps startups create habit-forming products. Nir Eyal also elaborated a matrix, "the drug dealer test" to assess when the product you've built is ethically viable. When the product improves users' lives and you, the maker, use the product, you can be classified as a "facilitator."



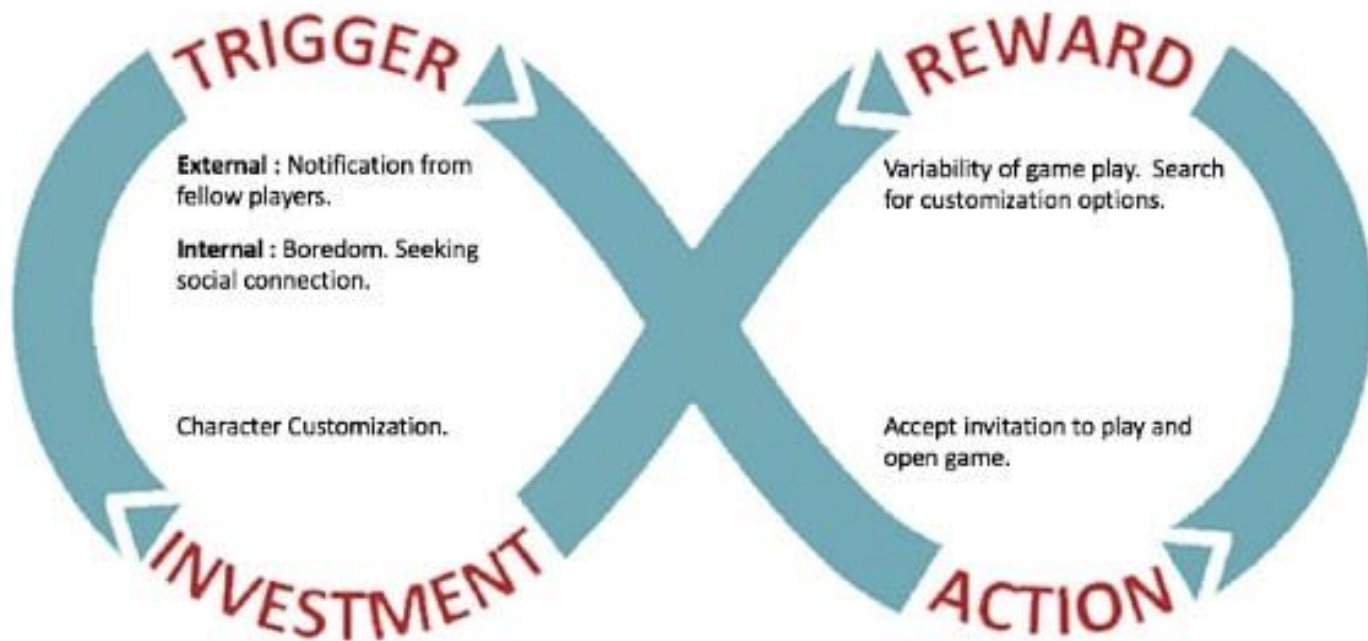
Materially improves the user's life	Peddler	Facilitator
Does not improve the user's life	Dealer	Entertainer
	The maker does not use it	The maker uses it

NIRANDFAR.COM

Example:

The variable reward in Fortnite

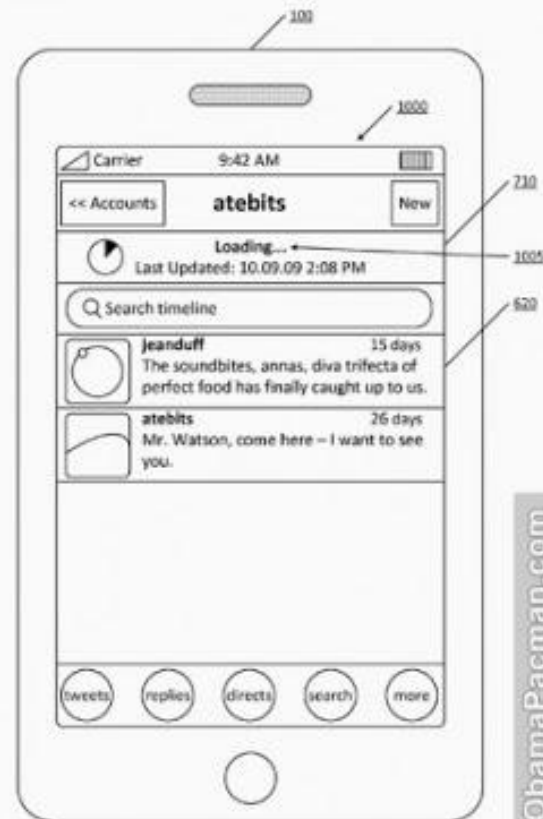
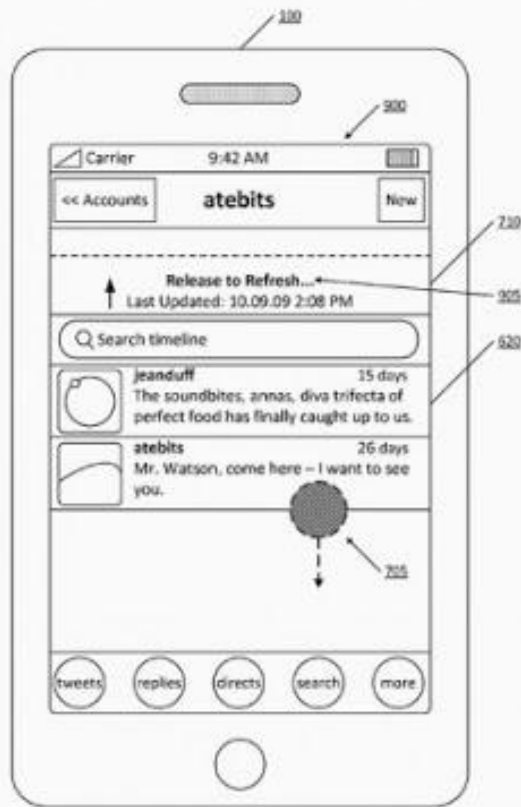
FORTNITE



Twitter's pull to refresh

Patent Application Publication Aug. 5, 2010

US 2010/0199180 A1



Ideal Outcome: World Peace

- **The Facebook course taught us ways to persuade people on a mass scale.**

Our class reached 16 million people in 10 weeks, using no money.

- **My lab will use this power to resolve big problems.**
- **Huge Goal: Use persuasive technology to achieve world peace by 2037 (a 30-year intervention).**

Interested? Join us --> bjfogg@stanford.edu

“Being indistractable is the essential skill for our time.”
—GREG McKEOWN, author of *Essentialism*

indistractable



How to Control Your Attention
and Choose Your Life

NIR EYAL

Wall Street Journal bestselling author of *Hooked*

WITH JULIE LI