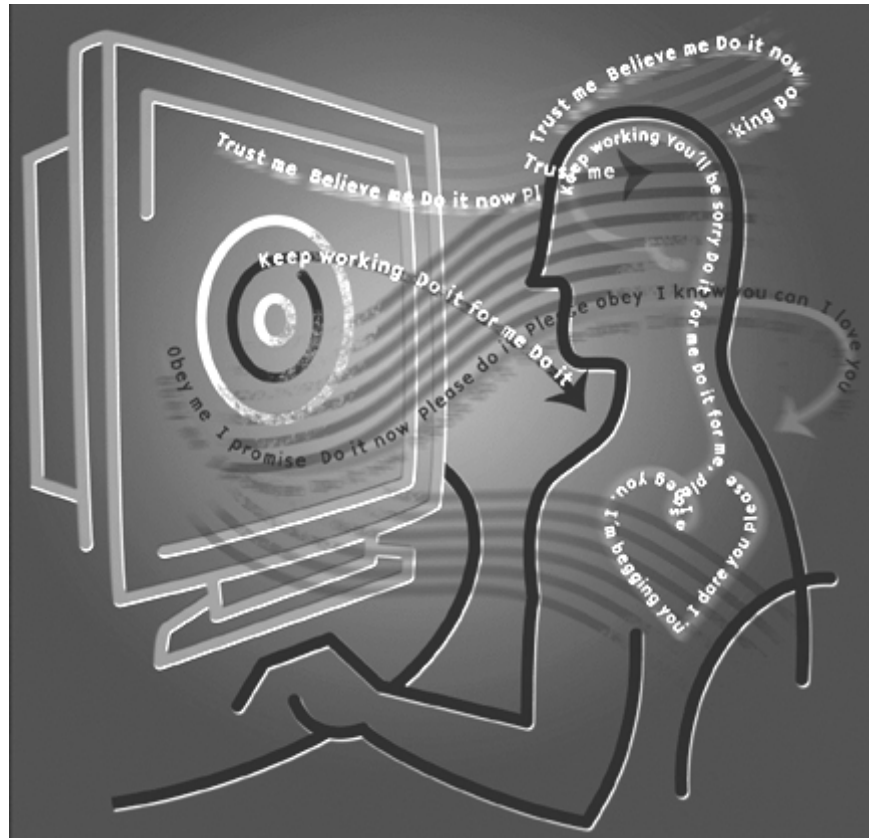# How to Motivate & Persuade Users

CHI 2003 Tutorial
April 6, 2003

B.J. Fogg

Stanford University
Persuasive Technology Lab

Box 20456
Stanford, CA 94309

bjfogg@stanford.edu
captology.stanford.edu

Instructor Biographical Sketch

The material I'm presenting in this tutorial comes from what I teach in my courses and workshops at Stanford University, where I've been appointed to the consulting faculty in the Computer Science Department and in Stanford's School of Education. In my academic roles I teach two or three courses a year for HCI graduates and undergrads. In addition to my teaching, I direct the Stanford Persuasive Technology Lab, a research and design center focusing on how to motivate and influence people using computing technology (see captology.stanford.edu). My research on persuasive technology extends back to 1993 and includes lab experiments, field studies, artifact analyses, design projects, and more.

In addition to my Stanford work, I also am involved in industry. I've done HCI-related work for HP, Interval Research, Sun, and most recently Casio Research, where I directed research and innovation for the U.S.

Currently, I run my own consulting business that focuses on helping organizations create persuasive technology products to improve people's lives. My industry work helps me to understand what practitioners need in their day-to-day work, as well as to know what aspects of theory and research practitioners find helpful.

I've published articles on persuasive technology for CHI and other audiences. Recently I wrote a book on computers and persuasion, *Persuasive Technology: Using Computers to Change What People Think and Do*, published by Morgan Kaufmann (you'll find the book's website at www.persuasivetech.info).

I work a lot, mostly because I enjoy it, but I also find time to do other things. I compete in masters swim meets, I sculpt and paint the human form, and I eat lots of mustard. For the past two years, I've been teaching myself to play the guitar, and I recently inherited the old piano I practiced on for what seemed like thousands of hours as a child. I must admit that I like playing guitar much more, though my dog prefers me to play the piano.

I grew up in an American subculture that was unusually rich in both persuasion and technology, so putting these two worlds together was a natural as I began my doctoral work. Captology, the study of computers as persuasive technologies, is an area that completely fascinates me.

Agenda

Approx. Time	Topics and Activities
6:00	Welcome and overview of tutorial
6:05	Introduction to persuasive technology (slides 1-17)
6:25	Designing for persuasion, Part 1 (slides 17-20)
6:30	Designing for persuasion, Part 2: team project (slides 20-21)
6:55	Designing for persuasion, Part 3 (slides 23-31)
7:05	Seven ways tech tools persuade (slides 32-42)
7:18	Team exercise: Motivating persistence in e-learning (slides 43-44)
7:40	Break
7:55	Break or optional module: Mobile persuasion (slides 67-71)
8:05	Welcome back
8:07	Three ways simulations persuade (45-48)
8:25	Seven ways social actors persuade (slides 49-56)
8:45	Team design project: Avoiding UV rays (slides 57-58)
9:05	Ethics of using computers to influence people (slides 59-64)
9:20	Future trends in persuasive technology (slides 65-66)
9:30	End of tutorial

Objectives of the Course

- To understand how persuasion is relevant to websites, desktop software, & mobile platforms.

- To see how influence strategies are used in a wide variety of interactive products, both familiar (like Amazon.com) and unusual (like Baby Think It Over).

- To learn the seven ways computers persuade as tools.

- To learn the three ways computers persuade as simulation media.

- To learn the seven ways computers persuade as social actors.

- To learn techniques for designing persuasive interactions.

- To begin to see how persuasion plays a role in e-learning.

- To become sensitive to some of the major ethical issues of persuading via computing products.

Computers can be persuasive.

They can be designed to change attitudes & behaviors.

- **Health**
- **Education**
- **Environment**
- **Safety**
- **Personal improvement**
- **Personal finance**
- **Fitness**

- **Occupational performance**
- **Community involvement**
- **Personal relationships**
- **Consumer behavior**
  - **buying and branding**

#2

Captology

The study of c̲omputers a̲s p̲ersuasive t̲echnologies

persuasion   computers

captology
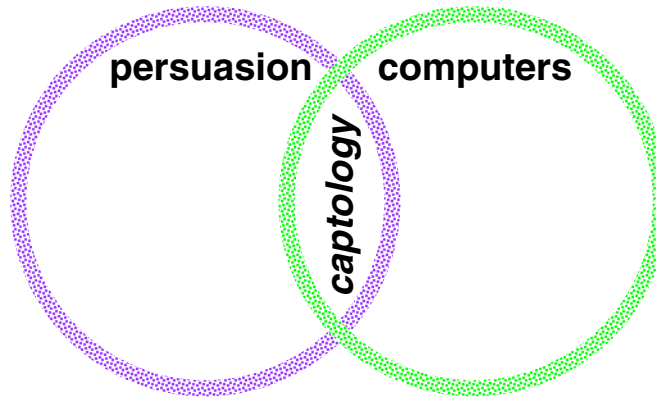
We'll continue to see more overlap.

Some examples

- Baby Think It Over
- Amazon Gold Box Offers
- Quitnet.com
- RSI Guard
- SportBrain
- Eudora Registration
- CodeWarriorU.com
- America's Army

You'll see many other examples later.

#4

Macrosuasion vs. microsuasion

Macrosuasion

– **The entire product is designed for a persuasive purpose.**
  - America's Army
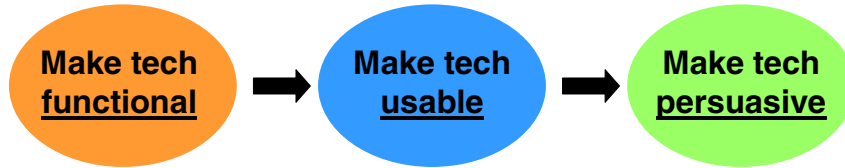 - RSI Guard
  - Quitnet.com

Microsuasion

– **The elements of influence in products that do not have an overall intent to persuade.**
  - Registration <u>reminder</u> in Eudora
  - <u>Praise</u> in Quicken
  - <u>Commitment</u> feature in CodeWarriorU.com

– **Microsuasion is becoming more common in all software products.**

#15

A trend in interactive technology

Make tech __functional__ → Make tech __usable__ → Make tech __persuasive__

#16

Another way to look at this trend

Focal areas in interactive technology

1 Functionality

2 Entertainment

3 Ease of Use

4 Networking

5 Persuasion

1950s 1960s 1970s 1980s 1990s 2000s 2010s 2020s

#17
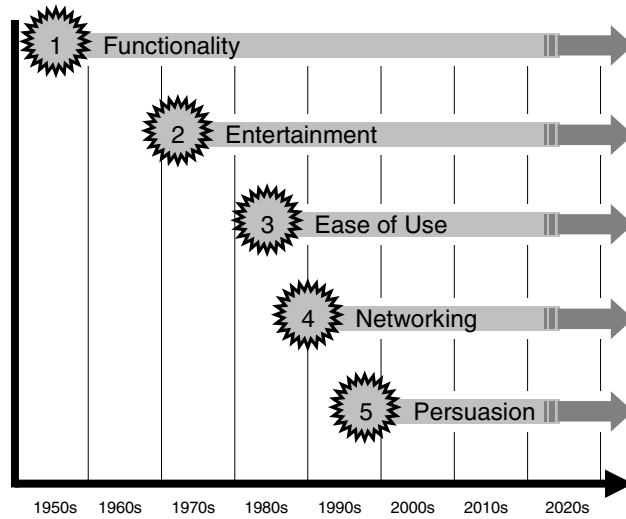
Designing for persuasion

Designing interactive experiences that influence

– **Begin with an influence analysis**

– **Generate ideas using the functional triad**

– **Learn from best-in-class examples**

#18

Influence analysis

What?

– **A new design method**

• And it's easy to do

When?

– **Early-stage user experience design**

• Usually left to chance or intuition.

Why?

– **To get a clear picture of desired attitude and behavior changes**

Who?

– **Designers of most end-user products have influence goals, though often not explicitly stated.**

#19

Influence analysis

How to do influence analysis?

Phase 1 --> outline landscape

1. Draw two columns
2. List all desired attitudes and attitude changes
3. List all desired behaviors and behavior changes

Phase 2 --> identify targets

1. Identify what's possible to change via technology
2. Identify what matters most

Phase 3 --> propose solutions

1. Select one key item and brainstorm solutions
2. Look at best-in-class examples and adapt them
3. Create rapid prototypes --> iterative user testing
4. Repeat Step #1 of Phase 3 with a new item

#20

Practicing influence analysis

Scenario

A consumer advocacy group has hired you to help create a financial management website for girls 12 to 15 (or alternatively, *Quicken Junior*).

Client Goal

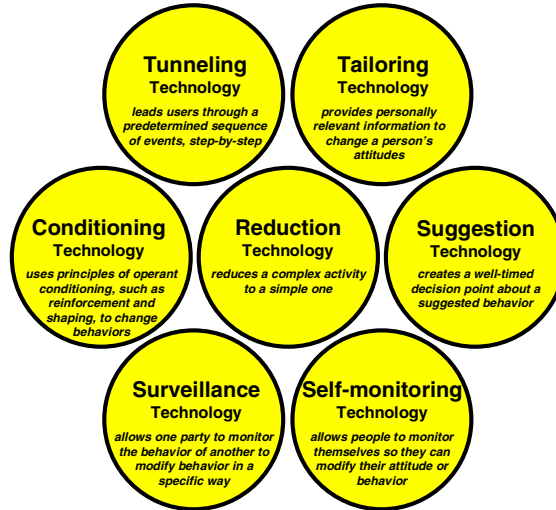To teach financial responsibility

---

Work in teams for 10 minutes

- Self organize in teams of three
- Work through Phase 2 of influence analysis
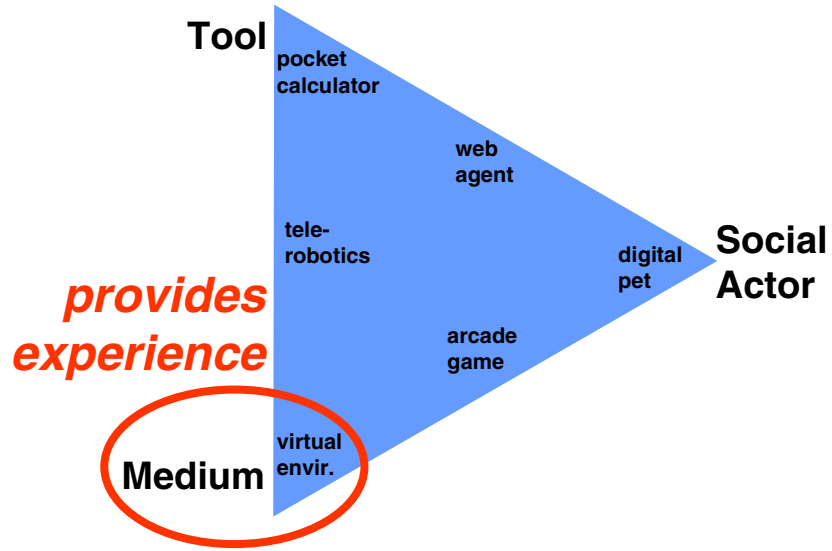- Get ready to report back to group

#21

7 ways tech tools persuade

Tunneling
Technology
leads users through a predetermined sequence of events, step-by-step

Tailoring
Technology
provides personally relevant information to change a person's attitudes

Conditioning
Technology
uses principles of operant conditioning, such as reinforcement and shaping, to change behaviors

Reduction
Technology
reduces a complex activity to a simple one

Suggestion
Technology
creates a well-timed decision point about a suggested behavior

Surveillance
Technology
allows one party to monitor the behavior of another to modify behavior in a specific way

Self-monitoring
Technology
allows people to monitor themselves so they can modify their attitude or behavior

#41

3 ways simulations persuade

Tool

pocket
calculator

web
agent

tele-
robotics

*provides
experience*

**Social
Actor**

digital
pet

arcade
game

virtual
envir.

Medium

#45

6 ways social actors persuade

Tool

pocket
calculator

web
agent

tele-
robotics

digital
pet

**Social
Actor**

arcade
game

*creates
relationship*

virtual
envir.

Medium

#49

The ethics of persuasive technology

– The power of persuasive technology can be used for good things and bad.

Six trouble areas:

1. The <u>novelty</u> of the technology can mask its persuasive intent.
2. Persuasive technology can exploit the positive <u>reputation</u> of computers.
3. Computers can be proactively <u>persistent</u>.
4. Computers <u>control</u> the interactive possibilities.
5. Computers can affect <u>emotions</u> but can't be affected by them.
6. Computers cannot shoulder <u>responsibility</u>.

#59

Future of captology

Six emerging trends

1. **Pervasive persuasive technologies**
2. **Growth beyond buying and branding**
   - healthcare, education, safety
3. **Increase in specialized persuasive devices**
4. **Focus on influence strategies**
5. **Focus on influence tactics**
6. **Mobile persuasion**

#65

How to learn more

- **Read the book *Persuasive Technology***
  - Published by Morgan Kaufmann
  - Available at CHI 03

- **Visit captology.stanford.edu**
  - This is the main website for the Stanford Persuasive Technology Lab.

- **Sign up for my lab's email newsletter**
  - Email me at bjfogg.stanford.edu

- **Watch for new examples and keep track of the best-in-class products (e.g., Quitnet.com)**
  - Better persuasive technology products are emerging each month.

#66

Mobile persuasion (extra credit -- 15 minutes during break)

Examples

- "m-commerce"
  - Likely failure of pushing ads

- Mobile = personal
  - Apps should empower users
  - Help people achieve their own goals
  - Avoid betraying users

Two approaches to mobile persuasion

- Specialized mobile devices
- Applications that run on mobile platforms

#67

What's special about mobile?

1. *Kairos* -- the opportune moment to influence

2. *Känny* -- extension of the hand

3. M^2 -- me & mine

4. Convenience -- always available & responsive

5. Simple interactions -- by necessity & design