Topics

- Design Evaluation
- 10-Step Design Process
- Ideas of Innovation
Homework
Critique Of Design

- What did you do?
- What makes for a good critique?
The 10-Step Design Process
Research (steps 1-6)

- 1) Identify Needs
  - What's the problem?
- 2) Information Phase
  - What exists?
- 3) Stakeholder Phase
  - What's wanted? And who wants it?

Image by [Taco Witte](http://en.wikipedia.org/wiki/Taco_Witte) on Wikimedia. License CC BY.
Research (steps 1-6)

- 1) Identify Needs
  - What's the problem?
- 2) Information Phase
  - What exists?
- 3) Stakeholder Phase
  - What's wanted? And who wants it?
Research (cont.)

- **4) Planning/Operational Research**
  - What's realistic? What limits us?

- **5) Hazard Analyses**
  - What's safe? (What can go wrong?)

- **6) Specifications**
  - What's required?
Design (steps 7-9)

- 7) Creative Design
  - Ideation
- 8) Conceptual Design
  - Potential solutions
- 9) Prototype Design
  - Create a version of the preferred design
Verification (step 10)

- 10) Verification
  - Does it work? If not, redesign
- End Solution
Verification (step 10)

- 10) Verification
  - Does it work? If not, redesign
- End Solution............................................?
Design Process Exercise – Map steps to cooking dinner

- 1) Identify Needs
- 2) Information Phase
- 3) Stakeholder Phase
- 4) Planned Research
- 5) Hazard Analyses
- 6) Specifications
- 7) Creative Design
- 8) Conceptual Design
- 9) Prototype Design
- 10) Verification
Design Process Exercise – Map steps to throwing a surprise party for your best friend!

- 1) Identify Needs
- 2) Information Phase
- 3) Stakeholder Phase
- 4) Planned Research
- 5) Hazard Analyses
- 6) Specifications
- 7) Creative Design
- 8) Conceptual Design
- 9) Prototype Design
- 10) Verification
Design Process Exercise – Map steps to making a car fueled a nuclear reactor

- 1) Identify Needs
- 2) Information Phase
- 3) Stakeholder Phase
- 4) Planned Research
- 5) Hazard Analyses
- 6) Specifications
- 7) Creative Design
- 8) Conceptual Design
- 9) Prototype Design
- 10) Verification
On Innovation
Innovation: a design-consultant’s view
The Reality of Innovation

Innovation is the result of resolving...

Desire  
Require
The Reality of Innovation

A designer reconciles the seemingly irreconcilable Desire & Require
Homework

1) Design a 2-player game
2) Maximum cost of materials < $5
3) **Must** include an element of chance
4) **Must** be able to be taught within 3 minutes