How To Make (Almost) Anything Usable

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Usability

The art & science of designing stuff that works great for people

- More useful & convincing final project
- For your future startup
- Fab Fame™
Today

1. Golden rules

2. Process tips
I. Simplicity
User • Task • Context
I. Simplicity

User • Task • Context
2. Visibility and Feedback

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2. Visibility and Feedback
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1. Current state?
2. Available features?
3. How to access?
2. Visibility and Feedback

1. Current state ✔
2. Available features ✔
3. How to access ✔
2. Visibility and Feedback
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Read: Bret Victor’s rant on future of interaction design
3. Gestalt Laws
4. Natural Mappings
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4. Natural Mappings
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5. User’s Language
6. Avoid Modes
6. Avoid Modes
7. Principle of Least Surprise

Your battery is now fully charged!
7. Principle of Least Surprise

Timeouts are evil!
8. Dialog, not Monolog

Find alternative... 0:43

- Calculate alternative
- Avoid roadblock
- Travel via...
- Recalculate original
- Avoid part of route
- Minimise traffic delays

Destination: London

Back
9. Tolerate Errors

Operation Could not be completed.
client-error-not-possible
10. Visual Design
Today

1. Golden rules
2. Process tips
The DIA Cycle
Design is Iterative & Agile
Observe and Ask First, Then Start Solving

• Are you looking for a problem for your solution?

• **What** problem to solve, not **how** to solve it

• **Users:** Who is it for? Other stakeholders?

• **Task:** What is their *actual* problem?

• **Context:** When & where does it occur?
Design: Search the Solution Space
Implement: Prototype

- Create quick prototypes to get feedback on from others, to improve and fill in your idea(s!). For each idea:
  - Write one-paragraph success story, test it
  - Then draw 3-panel success comic, test it
  - Fake features with Wizard of Oz
Bob Walking Somewhere

Bob Never Remembers Faces...

If he had Recognition Glasses...

glasses register Tim's Name

Bob Remember's Tim Brown's Start-up, "Brown.com"

Hi, Bob!

Hi Tim! How's Your Startup?
Analyze: Observe & Ask
Constructive Interaction

Now, why did it do that?

Oh, I think you clicked on the wrong icon

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Analyze:
Retrospective Testing

Do you know why you never tried that option?

I didn’t see it. Why don’t you make it look like a button?
Iterate to Expand and Focus Solution

Concept generation

Iterative:
- General
  - overall concepts

Granularity:
- General
  - overall concepts

- Iteration 1
  - exploratory
  - Coarse
    - significant alternatives

- Iteration 2
  - clarification
  - Medium
    - intermediate development

- Iteration 3
  - resolution
  - Fine
    - detailed refinement

- Further addition
  - Further reduction

- Convergence
  - generation
Empathize → Define → Ideate → Prototype → Test

Reflection and takeaways.
Here is language to support how to facilitate these steps.

10—Group gather and debrief

5. What principle, what tool, would you infuse into the work tomorrow?

After the video questions, try these exercises:

1. How did engaging with a real person, testing with a real person, change the direction your prototype took?

2. What would you do over again?

3. What level of resolution impact your experience as a user?
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Why to Make (almost) Everything Useable

- Designing the user experience is a tradeoff
  - Perfect for one — OK for many
- I teach making skills to CS students
  - Iterative SW+HW prototyping is invaluable
- Electronics = glue between form (mechanics) and function (software)
For Persistent Storage

Paying attention to your user experience pays off

Universal Golden Rules

- Simplicity
- Visibility & Feedback
- Gestalt Laws
- Natural Mappings
- User’s Language
- Avoiding Modes
- Princ. of Least Surprise
- Dialogs
- Error Tolerance
- Visual Design

Process Tips: Iterative DIA Cycle (Design Thinking)

- Design: Explore problem space first
- Implement: Storyboard before building
- Analyse: Observe and ask others