Übung zur Vorlesung

# Mensch-Maschine-Interaktion 1

Aurelien Tabard

Ludwig-Maximilians-Universität München

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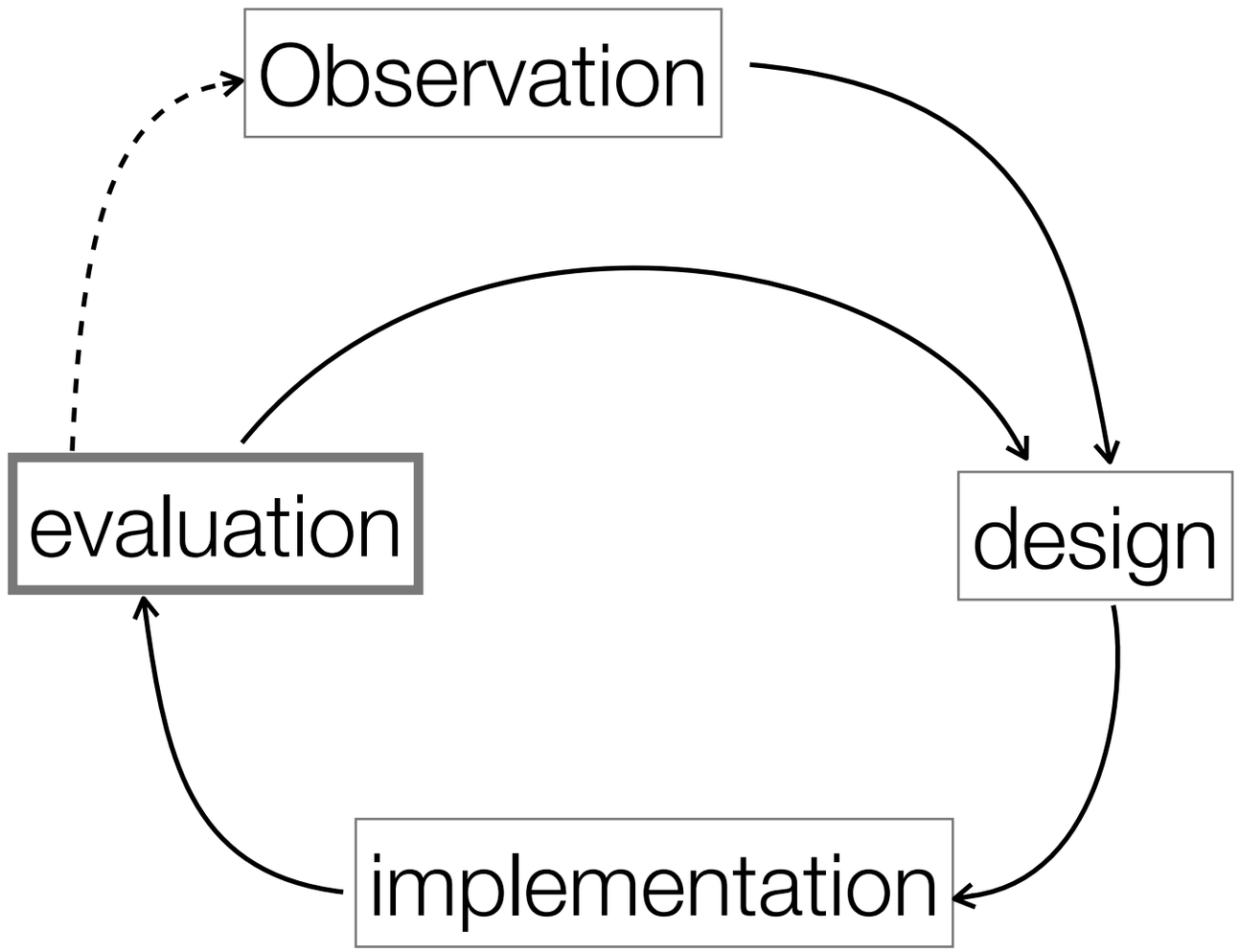
# Evaluate your project

# Iterative design



# Heuristic Evaluation

Heuristic evaluation is a “discount” usability inspection method

- Quick, cheap and easy evaluation of UI design
- http://www.useit.com/papers/heuristic/

Implicit assumptions:

- There is a fixed list of desirable properties of user interfaces (the “heuristics”)
- These heuristics can be checked by experts with a clear and defined result

# Ten Usability Heuristics

http://www.useit.com/jakob/photos/

- Meet expectations
  1. Match the real world
  2. Consistency & standards
  3. Help & documentation
- User is boss
  4. User control & freedom
  5. Visibility of system status
  6. Flexibility & efficiency
- Errors
  7. Error prevention
  8. Recognition, not recall
  9. Error reporting, diagnosis, and recovery
- Keep it simple
  10. Aesthetic & minimalist design

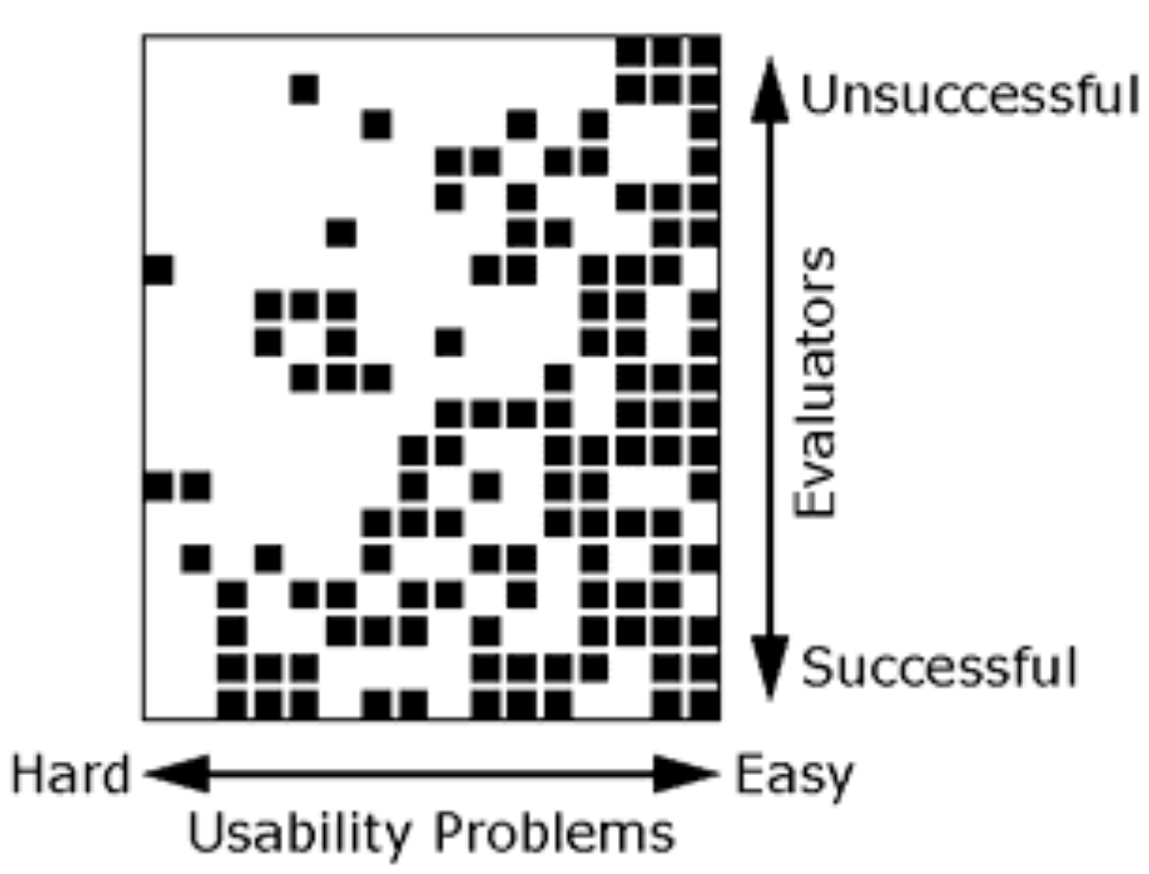
# Procedure

- Small set of evaluators examine the interface and judge its compliance with recognized usability principles (the "heuristics").
- Either just by inspection or by scenario-based walkthrough
- Critical issues list, weighted by severity grade
- Opinions of evaluators are consolidated into one report

# Number of evaluators

Every evaluator doesn't find every problem

Good evaluators find both easy & hard ones

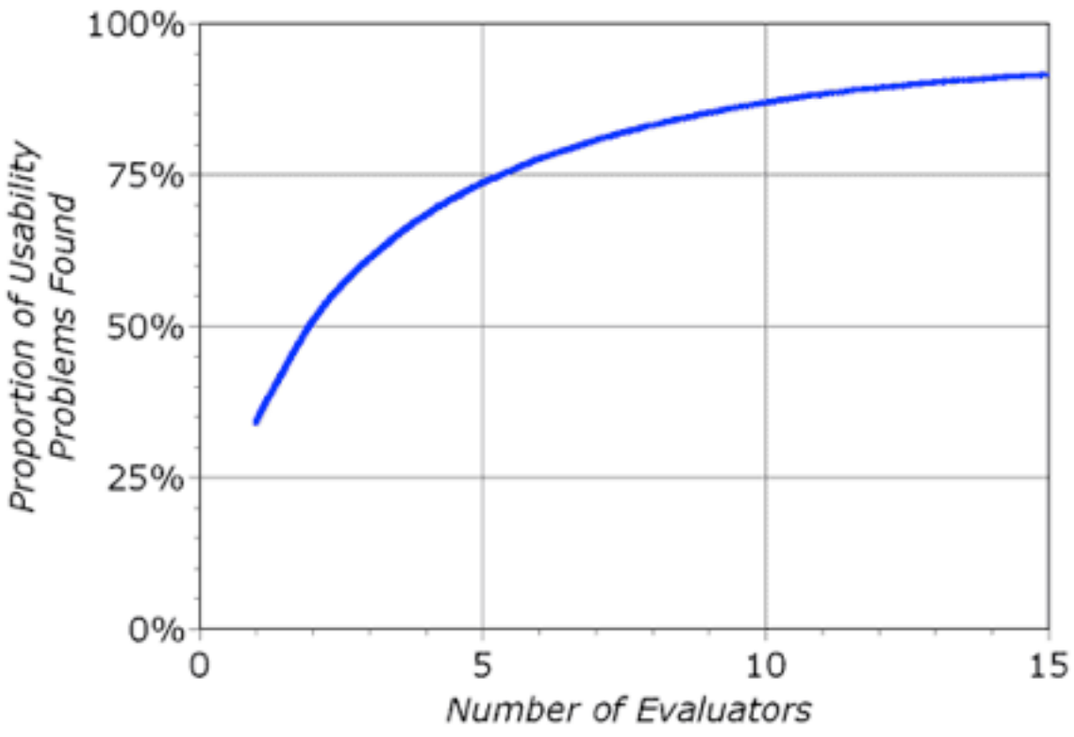


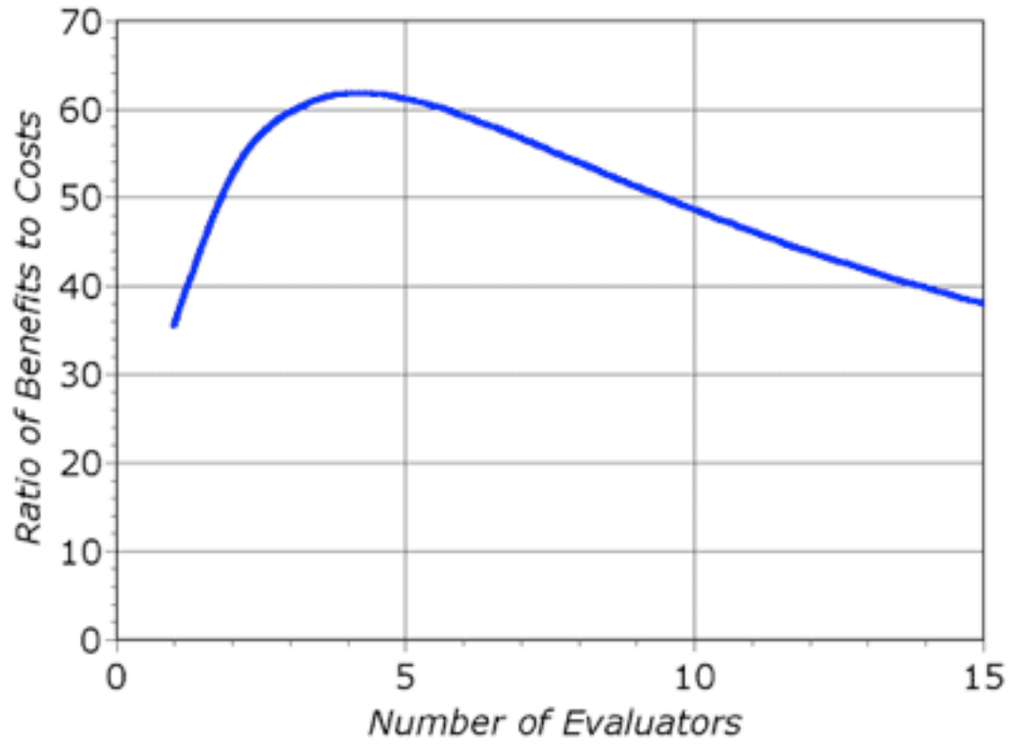
# Number of evaluators

Single evaluator achieves poor results

Only finds 35% of usability problems

5 evaluators find ~ 75% of usability problems



# Heuristics

- Visibility of system status
- Match between system and the real world
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetic and minimalist design
- Help users recognize, diagnose, and recover from errors
- Help and documentation

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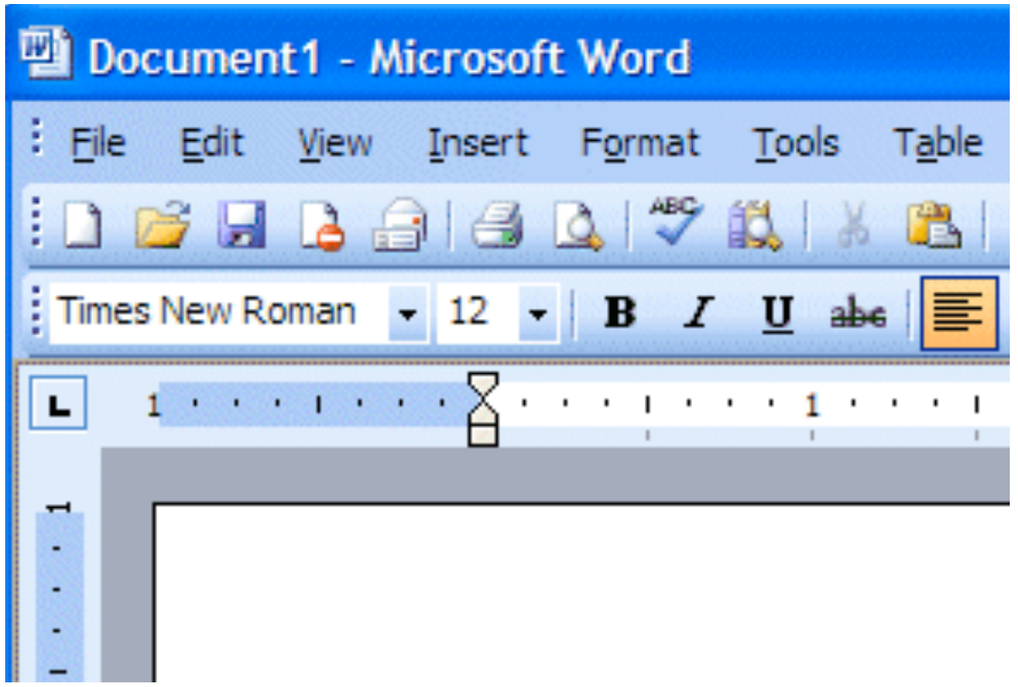

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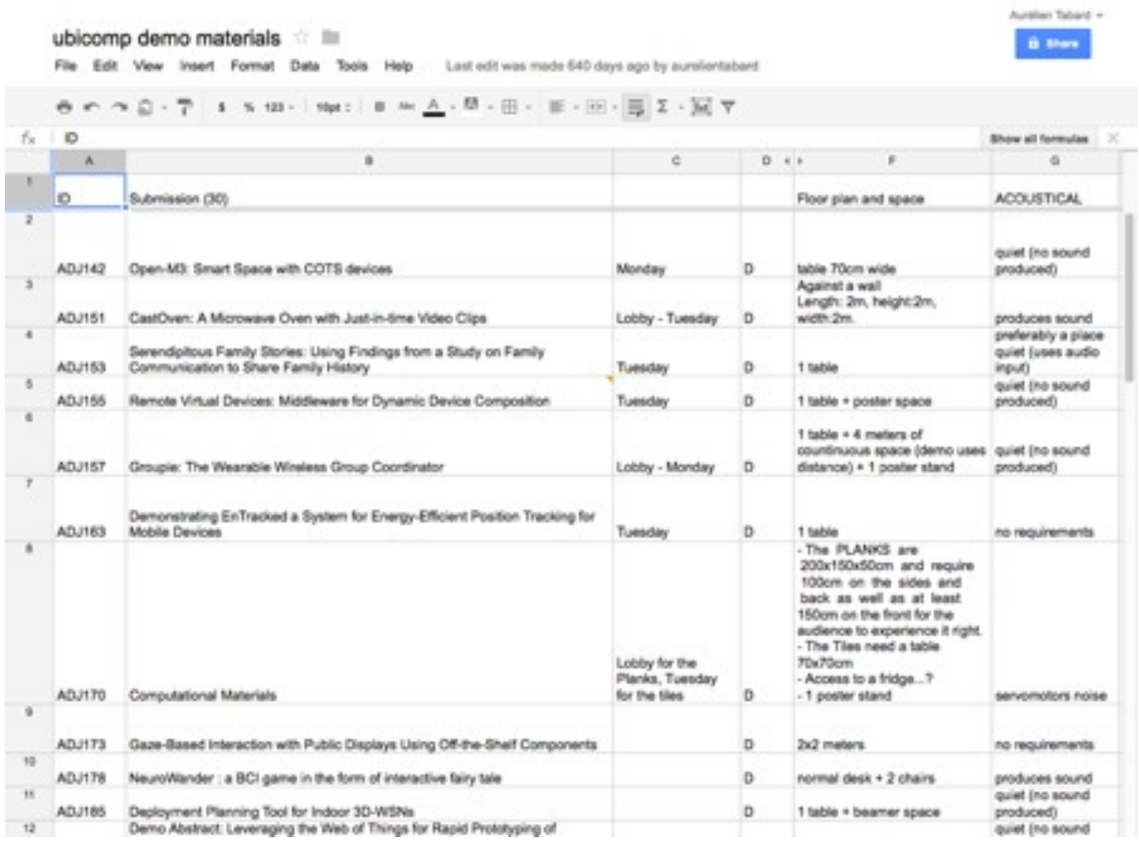

ubicomp demo materials

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Share

| | ID | Submission (30) | | | Floor plan and space | ACOUSTICAL |
|---|---|---|---|---|---|---|
| 2 | ADJ142 | Open-M3: Smart Space with COTS devices | Monday | D | table 70cm wide | quiet (no sound produced) |
| 3 | ADJ151 | CastOven: A Microwave Oven with Just-in-time Video Clips | Lobby - Tuesday | D | Against a wall Length: 2m, height:2m, width:2m. | produces sound |
| 4 | ADJ153 | Serendipitous Family Stories: Using Findings from a Study on Family Communication to Share Family History | Tuesday | D | 1 table | preferably a place quiet (uses audio input) |
| 5 | ADJ155 | Remote Virtual Devices: Middleware for Dynamic Device Composition | Tuesday | D | 1 table + poster space | quiet (no sound produced) |
| 6 | ADJ157 | Groupie: The Wearable Wireless Group Coordinator | Lobby - Monday | D | 1 table + 4 meters of countinuous space (demo uses distance) + 1 poster stand | quiet (no sound produced) |
| 7 | ADJ163 | Demonstrating EnTracked a System for Energy-Efficient Position Tracking for Mobile Devices | Tuesday | D | 1 table | no requirements |
| 8 | ADJ170 | Computational Materials | Lobby for the Planks, Tuesday for the tiles | D | - The PLANKS are 200x150x50cm and require 100cm on the sides and back as well as at least 150cm on the front for the audience to experience it right. - The Tiles need a table 70x70cm - Access to a fridge...? - 1 poster stand | servomotors noise |
| 9 | ADJ173 | Gaze-Based Interaction with Public Displays Using Off-the-Shelf Components | | D | 2x2 meters | no requirements |
| 10 | ADJ178 | NeuroWander : a BCI game in the form of interactive fairy tale | | D | normal desk + 2 chairs | produces sound |
| 11 | ADJ185 | Deployment Planning Tool for Indoor 3D-WSNs | | D | 1 table + beamer space | quiet (no sound produced) |
| 12 | | Demo Abstract: Leveraging the Web of Things for Rapid Prototyping of | | | | quiet (no sound |

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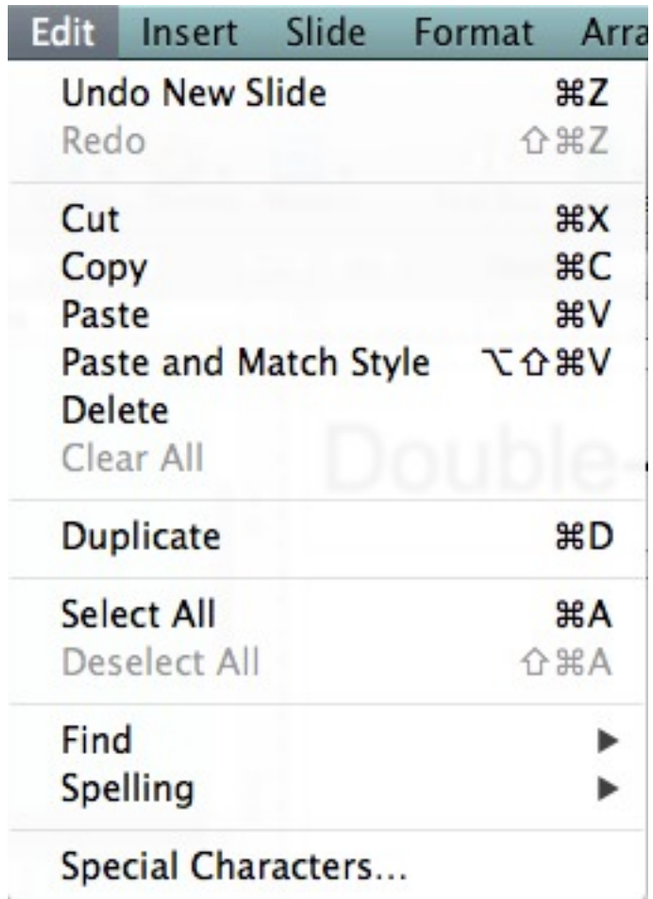

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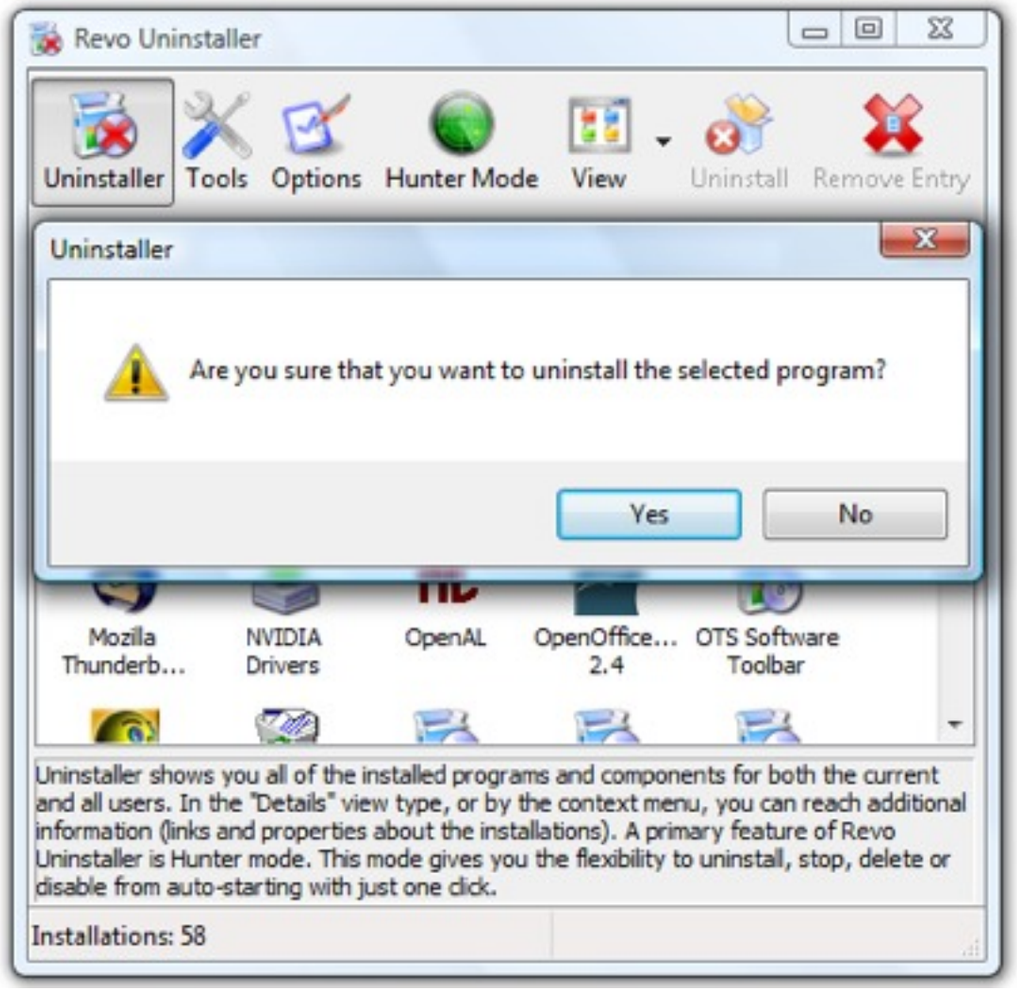

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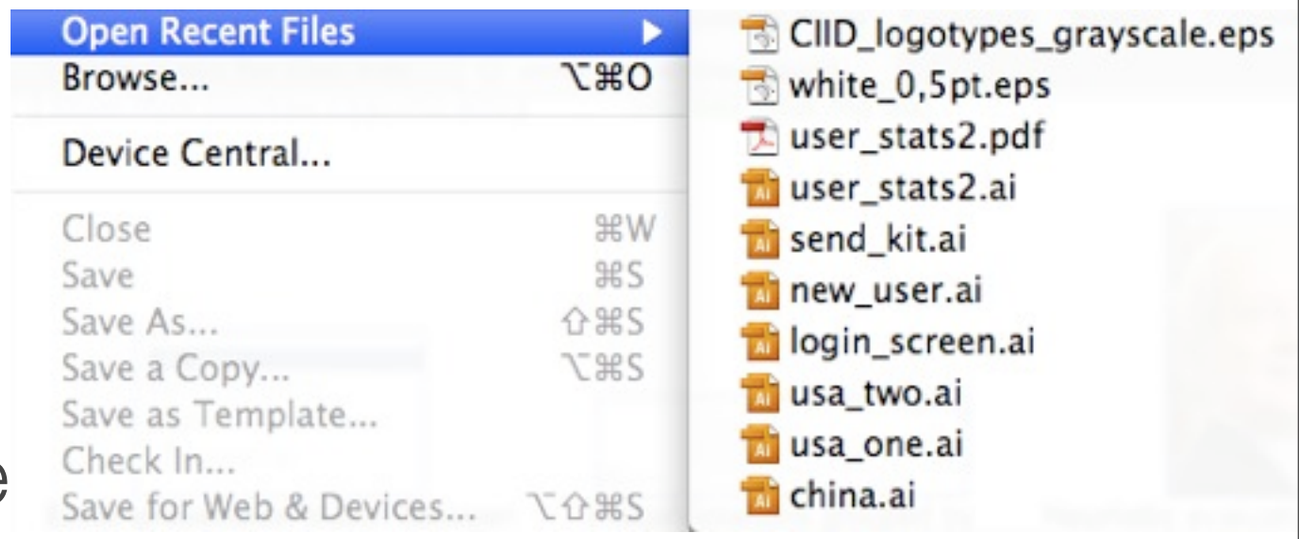

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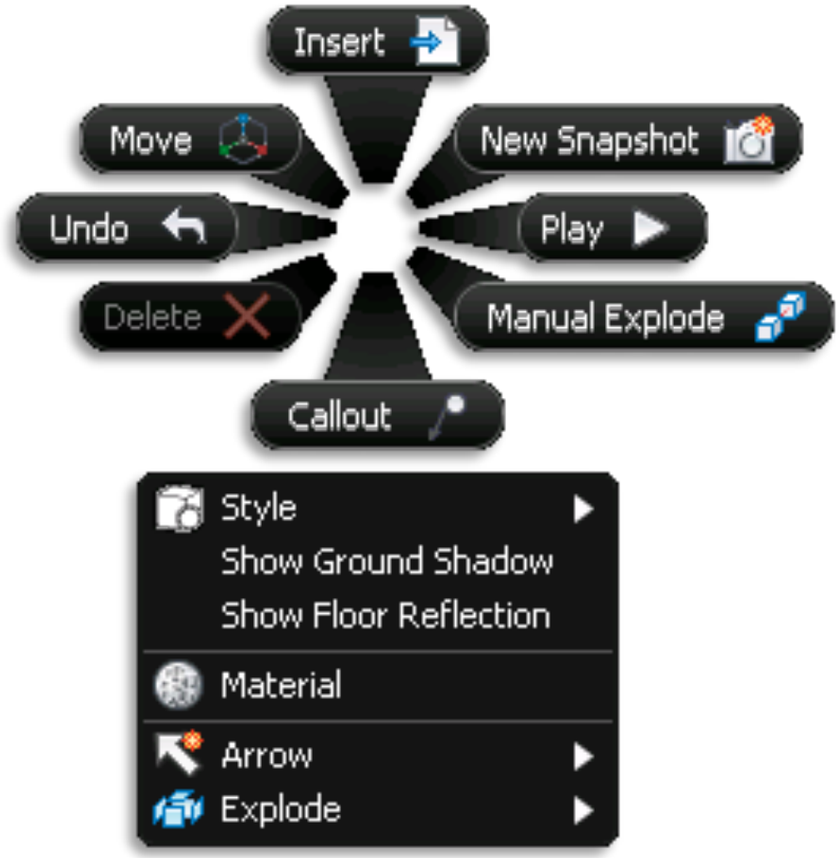

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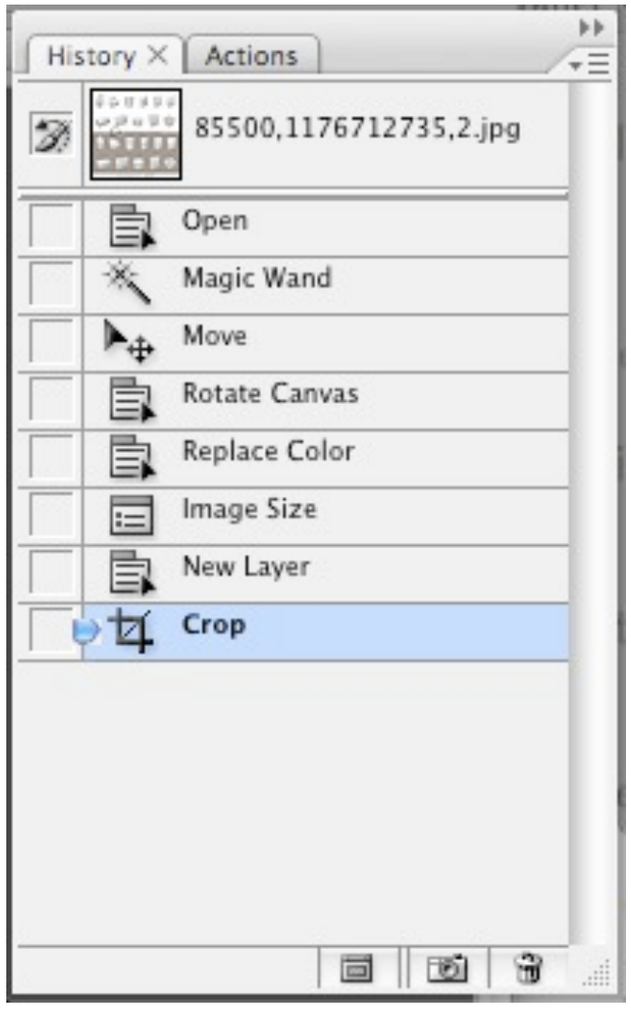

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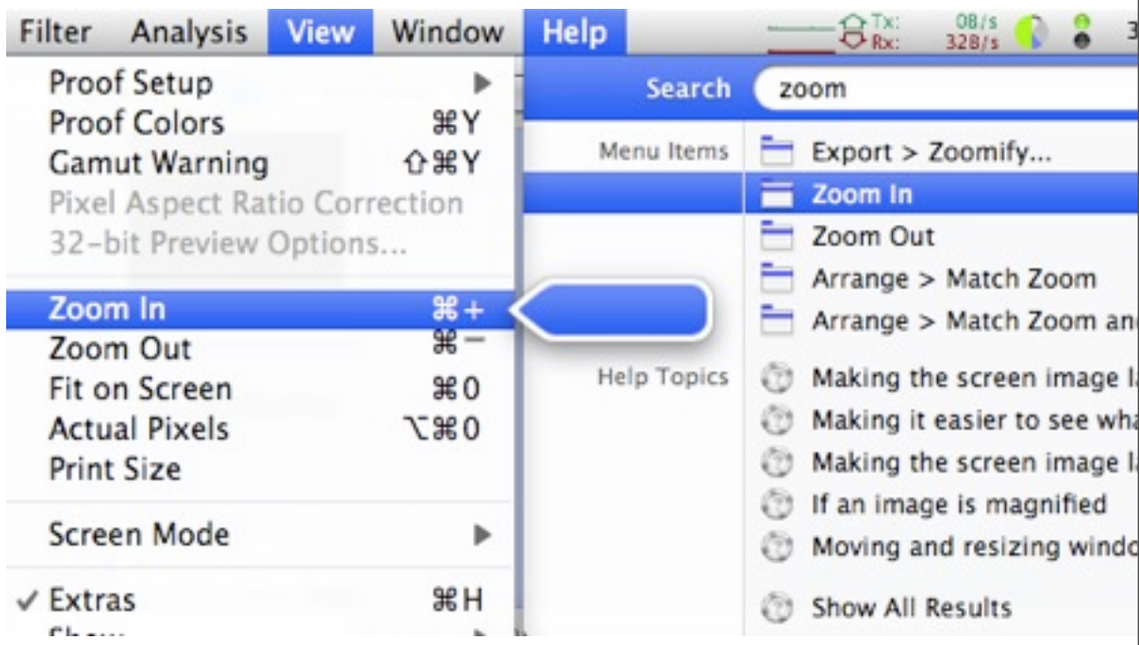

# Severity scale

Contributing factors

- Frequency: how common?
- Impact: how hard to overcome?
- Persistence: how often to overcome?

Severity scale

- Cosmetic: need not be fixed
- Minor: needs fixing but low priority
- Major: needs fixing and high priority
- Catastrophic: imperative to fix

# Writing good heuristic evaluations

- Heuristic evaluations must communicate well to developers and managers
- Include positive comments as well as criticisms
  - Good: Toolbar icons are simple, with good contrast and few colors (minimalist design)
- Be tactful
  - Not: the menu organization is a complete mess
  - Better: menus are not organized by function
- Be specific
  - Not: text is unreadable
  - Better: text is too small, and has poor contrast (black text on dark green background)

# Example

What to include:

- Problem
- Heuristic
- Description
- Severity
- Recommendation (if any)
- Screenshot (if helpful)

Severe: User may close window without saving data (error prevention)

If the user has made changes without saving, and then closes the window using the Close button, rather than File >> Exit, no confirmation dialog appears.

Recommendation: show a confirmation dialog or save automatically

# Summary

- Heuristic evaluation is a discount method
- Have evaluators go through the UI twice
  - Ask them to see if it complies with heuristics
  - Note where it doesn't and say why
- Have evaluators independently rate severity
- Combine the findings from 3 to 5 evaluators
- Discuss problems with design team
- Cheaper alternative to user testing
- Finds different problems, so good to alternate