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- Heuristic evaluation
  - Popular method of usability inspection methods developed by Jacob Nielson
  - Inspecting a user interface design for usability
  - Goal:To find the usability problems in the design so that they can be attended to
  - Small set of evaluators analyse the interface and judge its compliance with recognized usability principles or heuristics
  - Heuristics: Guides for good design developed by usability professionals
  - ISO 9241-110:2006 Ergonomics of human-system interaction -- Part 110: Dialogue principles

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- Heuristic evaluation is the most popular of the usability inspection methods
  - Cheap
    - http://www.useit.com/papers/heuristic/
  - Fast
  - Easy to use
- Why multiple evaluators?
  - Every evaluator doesn’t find every problem
  - Good evaluators find both easy & hard ones

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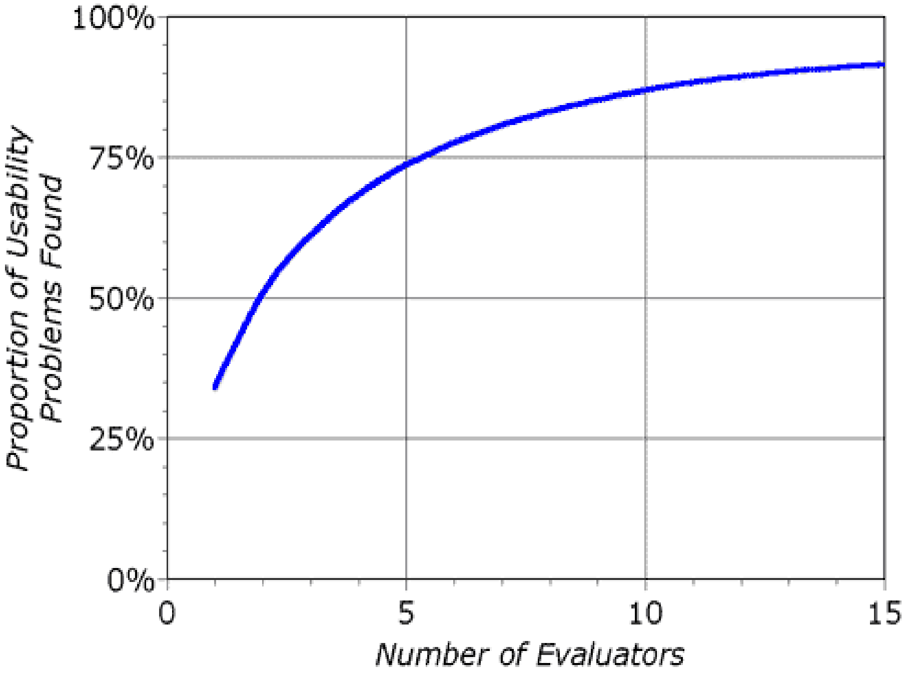

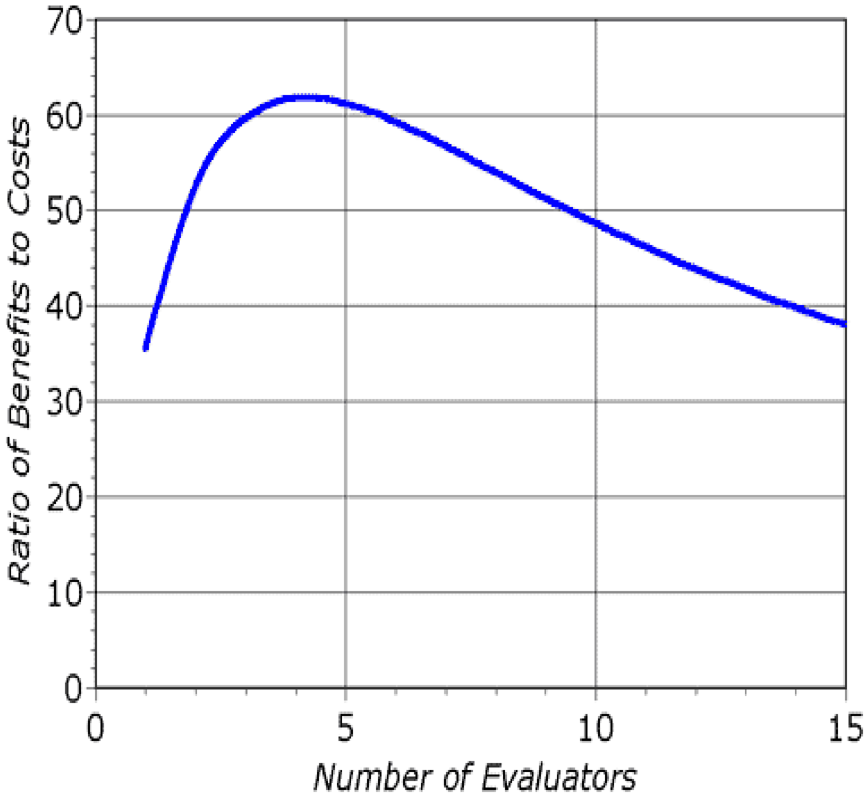

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- Heuristic Evaluation guide
  - Establish the aims of the evaluation
    - Who are the intended users?
    - In what context is the system used?
  - Select the design heuristics
  - Each evaluator makes a first pass through the system
  - Each evaluator then examines the design in more detail
    - Working through typical scenarios of use (task)
  - Evaluators then consolidated problems linked to heuristics

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- Example Heuristic evaluation report

  http://www.alexpoole.info/commercial/eurostarevaluation.html

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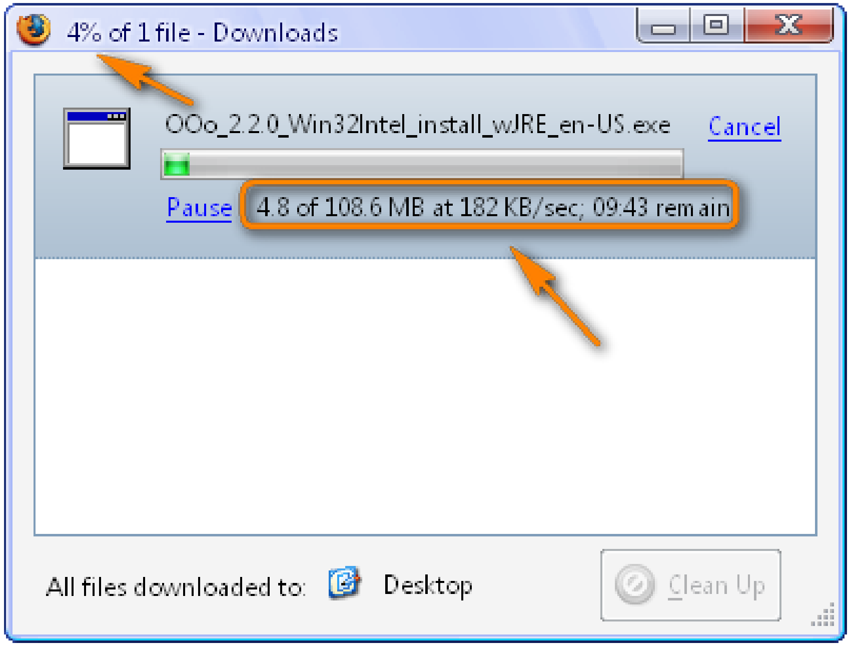
- **Visibility of system status**
  - The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.
  - Good example



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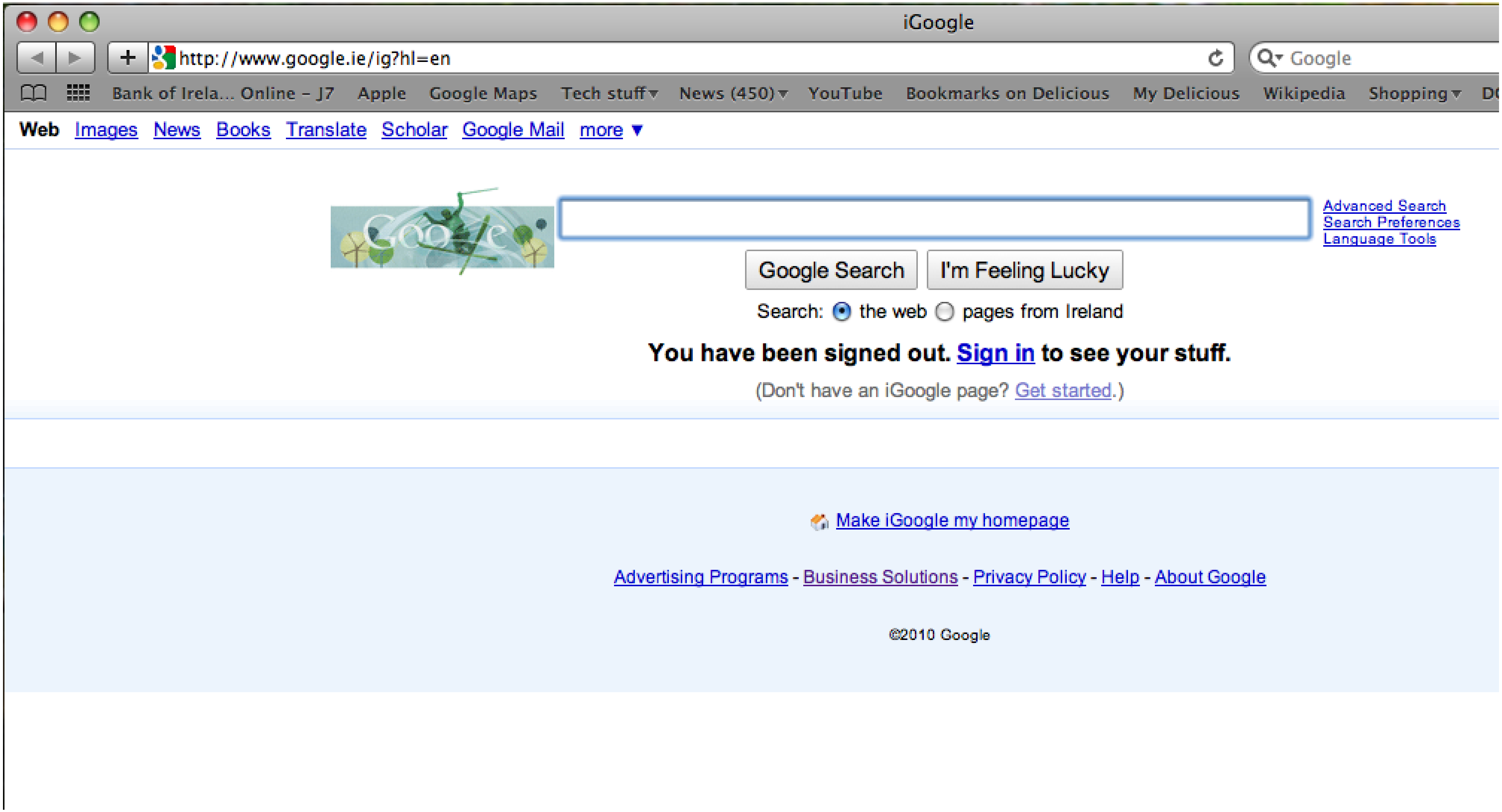
- **Match between system and the real world**
  - The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.



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- **User control and freedom**
  - Users often choose system functions by mistake and will n eed a clearly marked "emergency exit" to leave the unw anted state without having to go through an extended dialogue. Support undo and redo
- **Consistency and standards**
  - Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions

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- **Error prevention**
  - Even better than good error messages is a careful design which prevents a problem from occurring in the first place.
- **Recognition rather than recall**
  - Make objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

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- **Flexibility and efficiency of use**
  - Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions. (Ctrl + V to paste, Ctrl + C to copy, etc)

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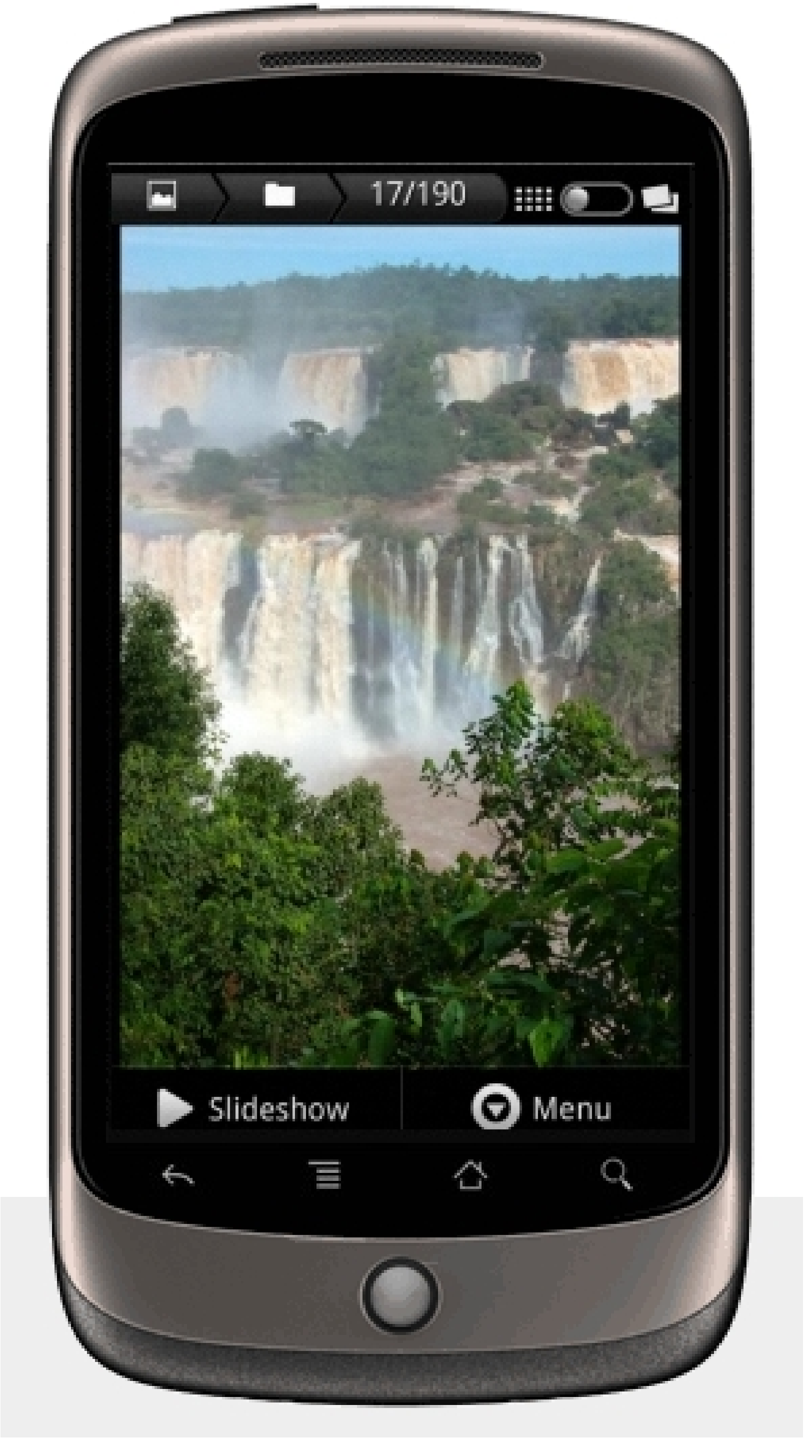
- **Aesthetic and minimalist design**
  - Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.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Slideshow
Menu

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- **Help users recognize, diagnose, and recover from errors**
  - Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.
- **Help and documentation**
  - Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

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- Heuristic Evaluation checklist for GUI based software systems (Not applicable to all systems)
  - http://www.stcsig.org/usability/topics/articles/he-checklist.html
- Severity ratings
  - The severity of a usability problem is a combination of three factors:
    - The frequency with which the problem occurs
    - The impact of the problem if it occurs
    - The persistence of the problem
  - Why?
    - Used to allocate resources to fix problems
    - Estimate need for more testing/evaluation

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- Summary
  - Each individual inspects the interface alone
  - Output: Evaluation is list of usability problems with references to the guidelines (heuristics) that were violated by the design
  - After evaluations evaluators aggregate their findings
  - Be specific as possible and take each usability problem separately