

Rapid Ideation and Creative Problem Solving

# Heuristics, Conventions, and Affordances

Matt Franks & Lauren Serota



ac4d

At this point in the creative process, you may have realized that:

There are an infinite number of ways to solve a design problem

**How do I know when I've created something useful, usable, and desirable?**

## Heuristics, Conventions, and Affordances

In short - it is impossible know **the** right answer..

However, through experience, creativity, and the consideration of common design heuristics and conventions, it is possible **quickly get to a** right answer.

## Heuristics, Conventions, and Affordances

### Heuristics

Jakob Nielsen (and Donald Norman) created a total 2,397 usability guidelines. The top ten are commonly referred to as the ten usability heuristics. Aka - they are ten general principals for user interface design.

The 10 heuristics: [Ten usability heuristics](#)

Link to all 2,397: <http://www.nngroup.com/reports/>

## Conventions

‘Design conventions are informal rules that have been adopted over time, and have become embedded in culture’ - Ben Hunt

Ultimately, they reduce the amount of time a user spends decoding the interface.

**What are some considerations that inform the designer on the appropriate set of conventions?**

**Can you think of any “Conventions” right now?**

There are many examples of web design conventions, yet very little examples of tablet / app conventions why would this be the case?

### **Affordances**

Donald Norman coined the term “Affordance” as we commonly refer to it in design. In the world of design, he refers to an affordance as - a set of characteristics in which the user perceives an action is possible / or not possible

**What are some examples of an affordance?**

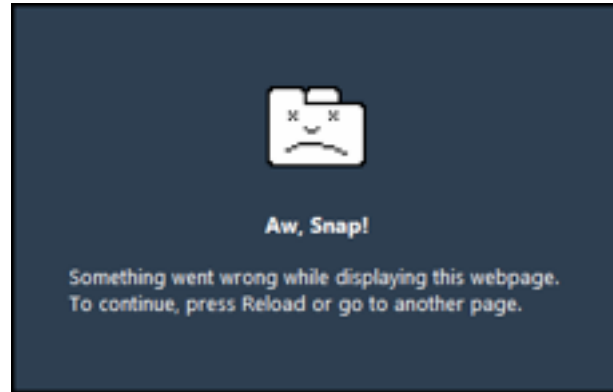
**Is a mouse pointer considered an affordance?**

Design heuristics, conventions, and affordances are not mutually exclusive.

**There tends to be a lot of overlap.  
Lets look at some examples**

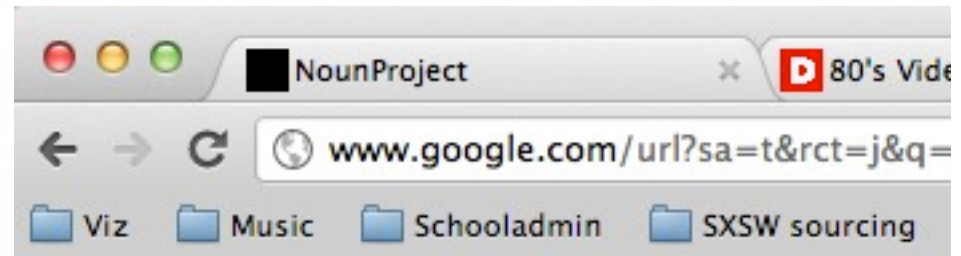
# 1. Visibility of system status

The system should always keep the user informed - through appropriate feedback, within a reasonable amount of time.



## 2. Match between the system and the real world

The system should speak the users' language, 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.



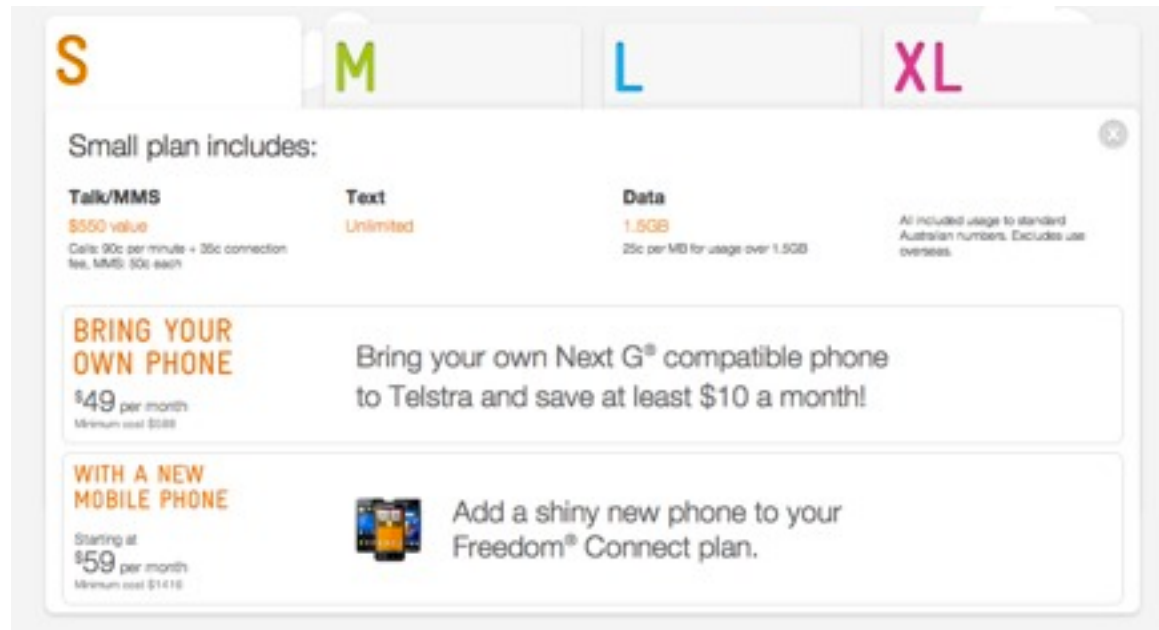
Each of these examples have more than one convention & affordance - what are they?

## 3. User control and freedom

Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue.



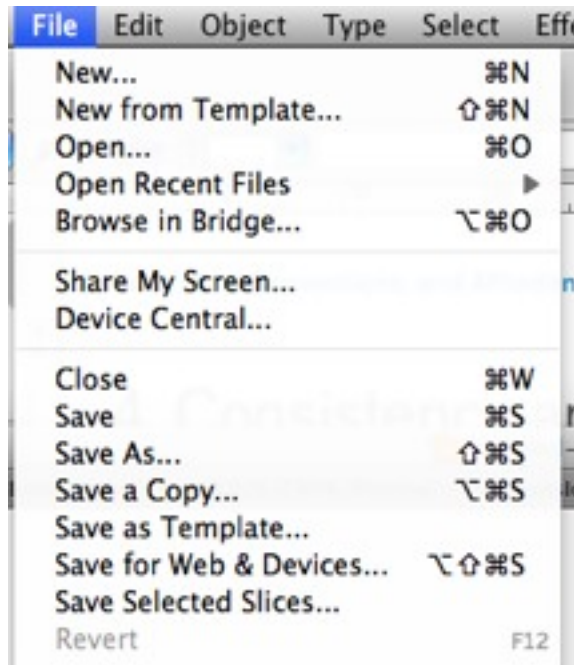
Undo and Redo



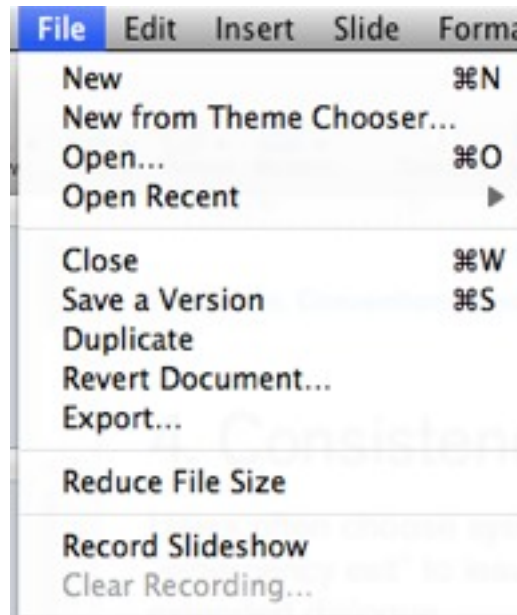
Back - Cancel - X - Progressive Disclosure

## 4. Consistency and standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.



Windows - and Pre OSX Lion



OSX - Lion

## 5. Error prevention

Even better than a good error message is a careful design which prevents a problem from occurring in the first place. Eliminate error prone conditions, or check for them before users commit to the action.



Already have a BBC ID? [Sign in](#)

**Username \***  
 ✘ That username is already taken.

**Password \***  
 ✘ This password is too short. Please use between 6 and 50 characters.

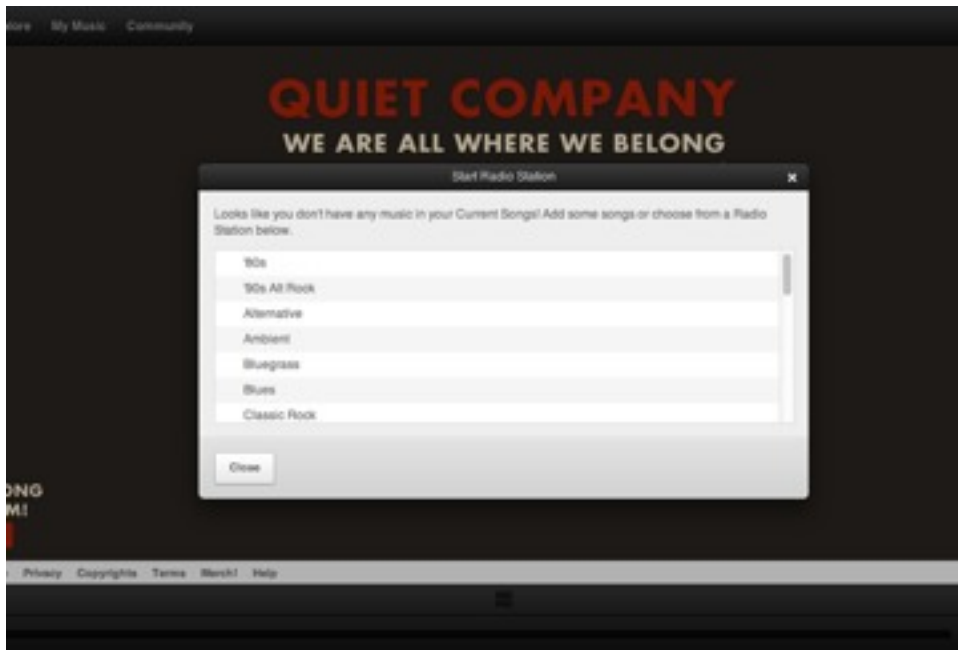
**Confirm password \***

**Date of birth \***  
    
Day Month Year  
We need this for child protection. [Explain this](#)

Username & Password Creation

## 6. Recognition rather than recall

Minimize the user's memory load by making 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.



How many ways can this modal be dismissed?

# 7. 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.



**Keyboard Shortcuts**

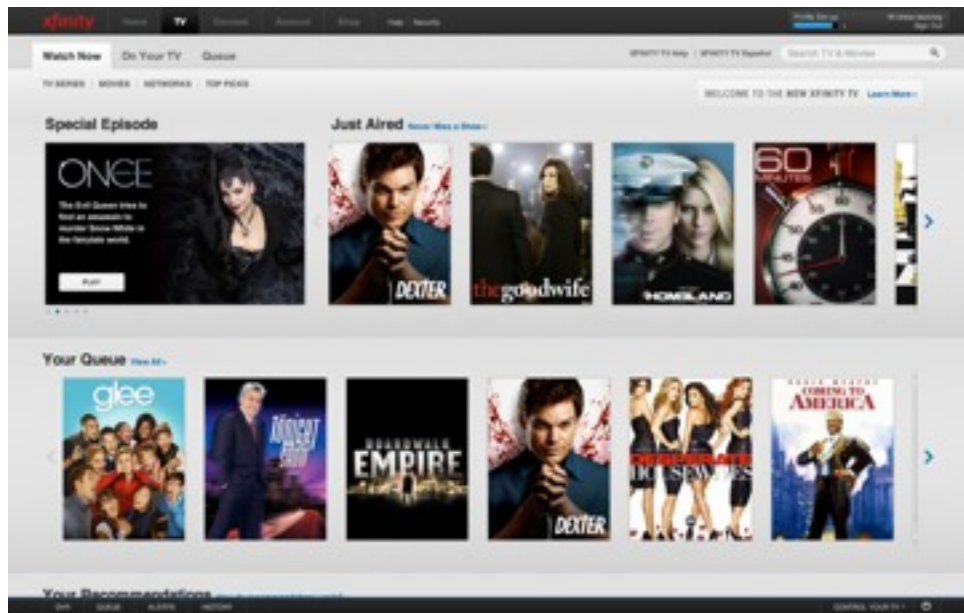
You can use your keyboard, mouse, and trackpad to quickly accomplish many tasks in Keynote. To find the shortcuts for common menu commands, look in the menus (or see the menu shortcuts listed here). To complete an action, press the shortcut keys in the order shown.

ACTION	SHORTCUT
<b>Working with objects</b>	
Select the next object on the canvas	Tab
Select the previous object on the canvas	Shift-Tab
Move selected object by one pixel	Arrow keys
Move selected object by ten pixels	Shift-arrow key
Add objects to (or remove them from) previously selected objects	Shift-click or Command-click
Add range to (or remove it from) previously selected range	Shift-drag or Command-drag
Constrain movement of object to 45° angles	Shift-drag
Resize object	Drag handle
Resize object from center	Option-drag handle
Constrain aspect ratio when resizing object	Shift-drag handle
Constrain aspect ratio when resizing object from center	Option-Shift-drag handle

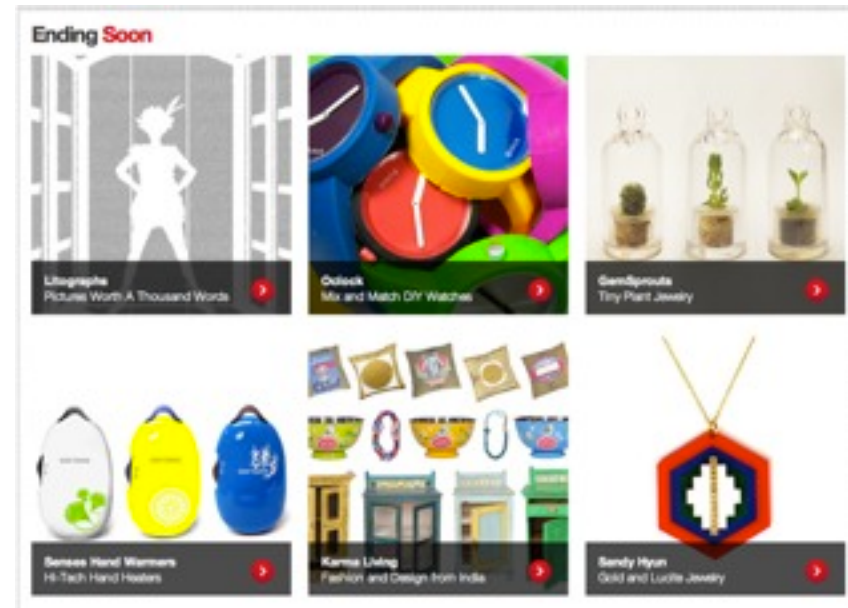
Almost every program has a specific set of keyboard shortcuts. What are some universal keyboard shortcuts?

## 8. 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.



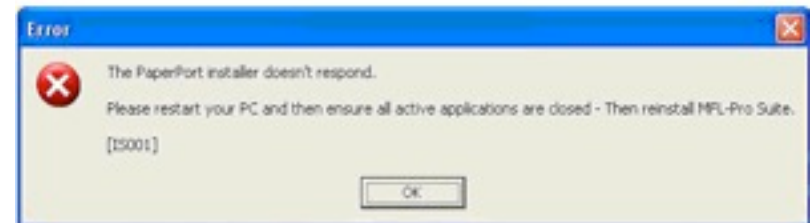
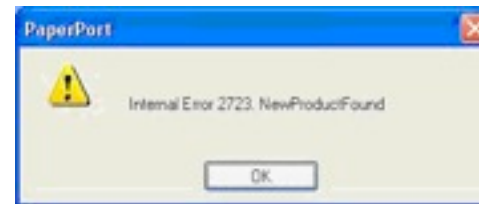
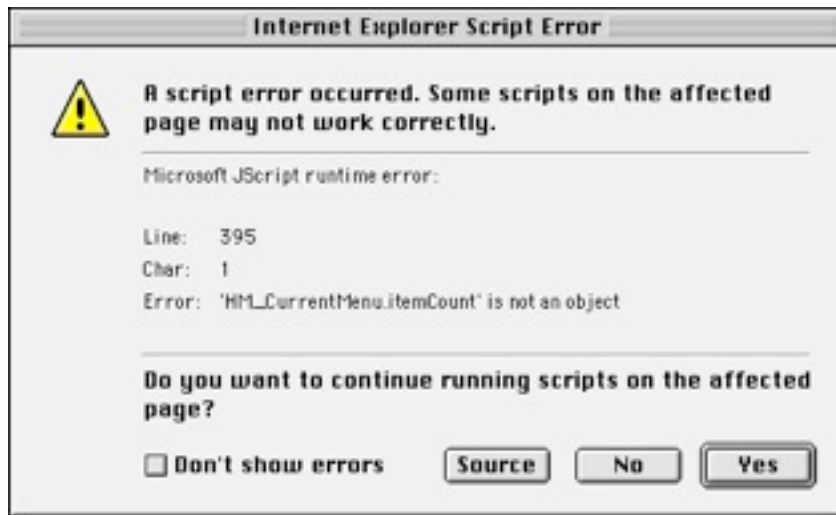
Xfinity.net



fab.com

# 9. 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.

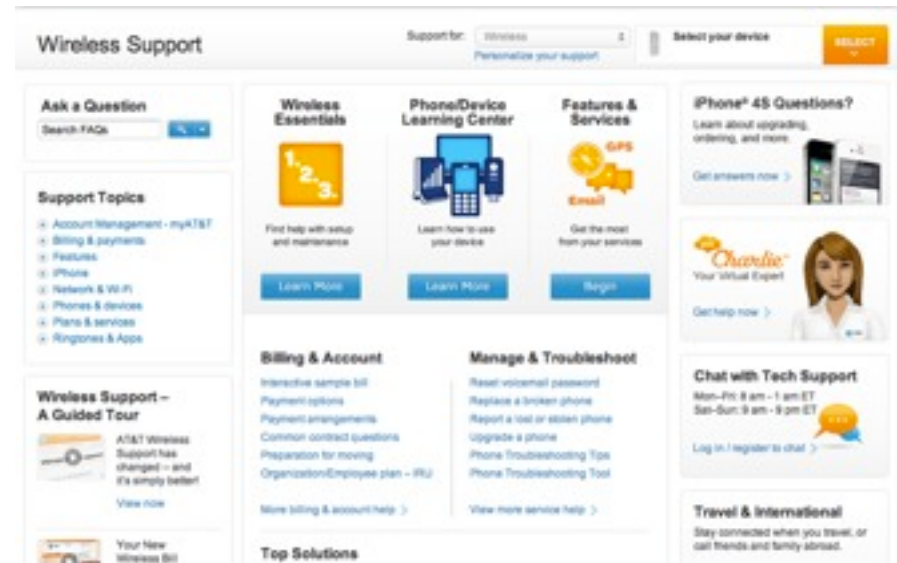


# 10. Help and documentation

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.



xbox.com



att.com

Why are we only learning  
about this right now?

ac4d