Jakob Nielsen’s heuristics

The list

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

Visibility of system status

- System should continuously inform the user about what the system is doing and how it’s interpreting the user’s input
  - < 1 sec – no special feedback required
  - > 1 sec – provide feedback (e.g., hourglass)
  - > 10 sec – allow user to do other tasks simultaneously
- Report on system failure
- Ensure that feedback is meaningful and helpful

Match between system & real world

- Support users in doing what they want to do, how they want to do it
- Use terms that users understand
  - don’t speak ‘computer’
  - don’t speak ‘business’
- Use metaphors wisely (e.g., typewriter for a word processor, post office for email)
  - ensure they are understood
  - ensure they are applicable to the domain
  - ensure they can be translated, if necessary

User control & freedom

- Ensure that the user drives the interaction, not the computer
- Do not ‘trap’ users
- Provide exit points at logical places (including canceling operations)
- Make it obvious how to exit
consistency & standards

- Use same command/action to produce the same result
- Present same information in the same location, in the same format
- Use the same interaction style as appropriate
  - people will more confused when switching between command line interfaces on a mainframe and PC than between command line on PC and GUI

recognise, diagnose & recover from errors

- Provide feedback where and when users need it
- Use clear language and avoid obscure codes
  - WZ54??
- Make messages precise, not vague
- Provide constructive help
- Be polite, not intimidating
  - you have performed an illegal operation???

error prevention

- Rather than good error messages, try to avoid errors in the first place
- Require confirmation of ‘dangerous’ actions
- Allow users to undo actions
- Avoid modes (e.g., text editors where there is an insert mode and an edit mode)
  - in insert mode, all typing interpreted as text
  - in edit mode, interpreted as commands

recognition rather than recall

- Provide prompts
- Use a small set of pervasive rules (e.g., paste command used for a number of different objects)
- Don’t display information on one page that users require on another

flexibility & efficiency of use

- Provide default selections and operations
- Support type ahead
- Provide jumps to logical places
- Provide mnemonics (Alt+character) and shortcuts (Ctl+key)

aesthetic & minimalist design

- Avoid elements that are irrelevant or rarely used
  - this includes content, functions, and visuals
- Match the tasks, presenting what is needed, where it is needed
- “Less is more”, but remember that alternatives may be necessary (to support different user types and ways of working)
help & documentation

- Most users won’t read help/documentation
- When they are motivated to read it, they usually need the information quickly – this means they need to locate and use the information
- Support the use of help and documentation:
  - searching
  - understanding
  - applying

visibility of system status

- Lets me know that I’m in a secure area
- Lets me know whether people are coming to my meeting
- Lets me know what I can (not) do at this point

visual feedback

- Help is available via this hidden link

match between the system & real world

- Navigation presented the same way as a calendar (as long as yours starts with Monday)

user control & freedom

- Thoughtful about interrupting others unnecessarily

flexibility & efficiency of use

- Different search strategies supported
Microsoft standard warning message
"Yes" saves the document
"Yes" loses the document

A more idiosyncratic design (and less predictable for users)
Error message clearly evident
Tells me what the problem is
Tells me where the problem is

Tells me upfront what I have to complete

Common commands and available objects are presented to me

Error prevention
Error recovery
Recognition rather than recall
Help & documentation

What is an "applicable Guest Contact Centre fare level"?
make the user smart

how severe is an issue?

This "simple" issue is a severe problem:

- **High impact**: wrong button = lose your work
- **High frequency**: encountered every time you change a file
- **High persistency**: you repeatedly have to learn two ways of doing this

example

• On-line system for purchasing flowers
  (www.interflora.com.au)

working with the heuristics

key questions asked

• What would you expect to find on a website called 'interflora'?
• Have you ever purchased flowers on-line? Ever used interflora? Any other sites?
• What kinds of things do you think you would be able to do on such a site?
• If the site did everything you described, do you think you would use it?

typical users interviewed

• University student (male)
• University student (female)
• Local florist
### sample results - male
- The name ‘interflora’ meant nothing to him
- Never ordered flowers on-line
- Would want to order flowers for particular occasions, but sometimes would want to order based on price (e.g., spend $25)
- Might use it if he had a girlfriend!

### sample results - female
- Had heard of interflora
- Has ordered flowers on-line, but couldn’t remember from which site
- Would want to see exactly what she is getting; would like to build her own bouquet
- Would be great for sending flowers to family on special occasions

### sample results - florist
- Definitely knows about interflora (she loses business to it)
- Has used the site frequently because she is a very small florist without any affiliation to worldwide delivery services
  - uses the site herself when a customer comes in and wants flowers delivered across the world – she figures that she’ll make money on the customer coming in for flowers again when they want something for themselves or someone local

### sample results - florist (continued)
- Would like a special area of the site for people in the business
  - would like to be able to track orders to make sure they were delivered properly; would like to be able to make a commission on sales that she brought in through her store
- Would use it all the time
  - both for taking delivery orders for customers and seeing what deliveries she has to make for other customers around the globe when they want flowers delivered to people in Sydney

### review against the heuristics
- Support workflow
- Be consistent
- Provide clear navigation and orientation
- Give users control
- Increase learnability
- Reduce memory load
- Provide effective feedback
- Optimise visual clarity

### support workflow
- Users will likely want to know total cost (including delivery charges) before making the selection
  - the site doesn’t work this way, however
- Order of the flowers is extremely odd
  - Mother’s Day intermixed with Valentine’s Day, and not at all relevant given today’s date
- The length of the order form may put people off
  - the survey at the end makes the whole process seem to take forever!
be consistent
- Visual design of the home page is gives a very different feel than the rest of the site (the graphics on the home page are very attractive, but the pictures of the individual flower options are not)
- Description of flowers is not always consistent with product (there are actually three choices for small and large arrangements!)

clear navigation and orientation
- Site does not allow users to easily go back and change flower selection, once they start filling out details
- It is pretty obvious where you are in the system (it says ‘international catalog – USA’ as you go through the selection of flowers); however, it is not clear whether you got to it from ‘browse our catalogue’ or ‘order online’

give users control
- Site uses strange defaults (I’ve come to this from Australia, I’ve said I want to send the flowers internationally to the US, so that should assume that I’m current in Australia, not the US)
- It should not be mandatory to fill out a card to go with the flowers
- Would be a good feature (if possible) to allow users to ‘build their own bouquet’

increase learnability
- Some of the terms are not clear (e.g., what’s e-flowers?) and some of the terms sound too similar (browse our catalog versus order on-line)
- Some aspects of the ordering process (e.g., entering telephone numbers) could be made a lot clearer

reduce memory load
- Users will want a reminder of the price at the completion of filling out the order form, not just at the start
- Flowers are arranged in a strange order
  - It’s hard to remember what the different Mother’s Day options are, for instance, when it’s intermixed with other occasions; given that there’s no sense of how many different flower types there are, it will be difficult to go back and find the one you like

provide effective feedback
- Error messages (e.g., when enter wrong phone number) are not understandable
- Need confirmation of selection when you’ve completed order form
optimise visual clarity

- Fairly easy to read in terms of colours and font size
- Too much (ambiguous and extra) text makes the order form seem cluttered

heuristics vs. goals

- Heuristics (principles) refer to the rules of thumb for achieving the objective (in this context, a successful application)
  - e.g., be consistent and conform to standards
- Goals are what it is you are trying to achieve
  - e.g., make the application easy to learn
- Heuristics and goals are often confused
  - what's important is understanding their significance in designing successful systems

usability goals vs. user experience goals

- Usability goals are objective
- User experience goals tend to be more subjective
- They work together, however, to form the 'total package' from the users’ perspective

which goals are important? it depends…

- Usability goals: efficient, effective, safe, useful, learnable, re-learnable
- User experience goals: fun, satisfying, enjoyable, rewarding, creative, aesthetically pleasing, interesting, motivating, helpful, entertaining, useful, safe

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