Scenarios
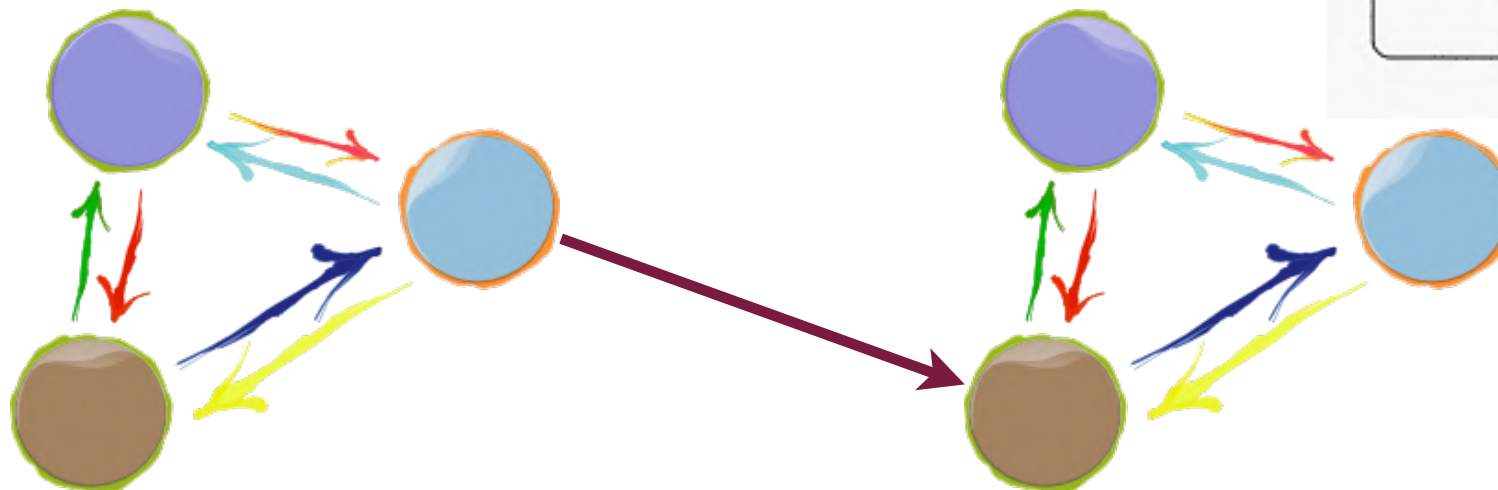
stories for design
use and reuse

Scenarios

- **Stories for design**
  - communicate with others
  - validate other models
  - understand dynamics

- **Linearity**
  - time is linear - our lives are linear
  - but don't show alternatives

Scenarios ...

- **What will users want to do?**

  – how would they **react** to this ...

- **Step-by-step walkthrough**

  – what can they **see** (sketches, screen shots)

  – what do they **do** (keyboard, mouse etc.)

  – what are they **thinking**?

- **Use and reuse throughout design**

Also play and act ...

- **Mock up device**
- **Pretend you are doing it**
- **Internet-connected swiss army knife ...**

use toothpick as stylus 🙂

- **Mock up device**
- **Pretend you are doing it**
- **Internet-connected swiss army knife ...**
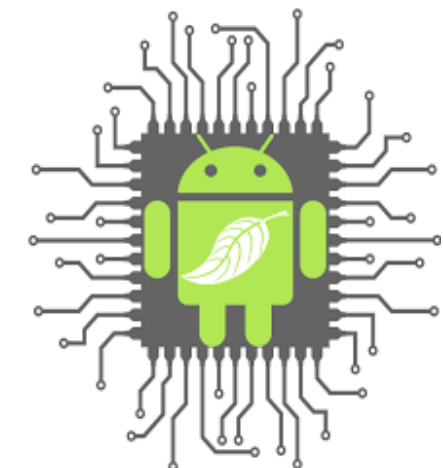
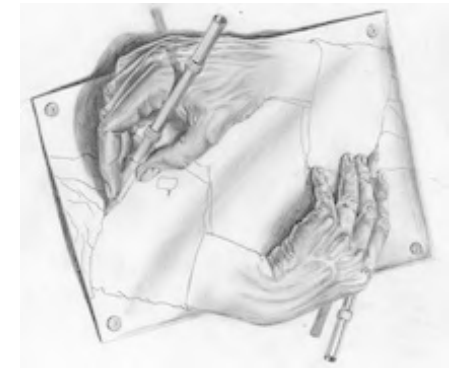but where is that thumb?

voice interface?

With scenarios, explore the depths

- **Explore interaction**
  - what happens when

- **Explore cognition**
  - what are the users thinking

- **Explore architecture**
  - what is happening inside

Use scenarios to ...

- **Communicate with others**
  - designers, clients, users

- **Validate other models**
  - 'play' it against other models

- **Express dynamics**
  - **screenshots** – appearance (static view)
  - **scenario** – behavior (active understanding)

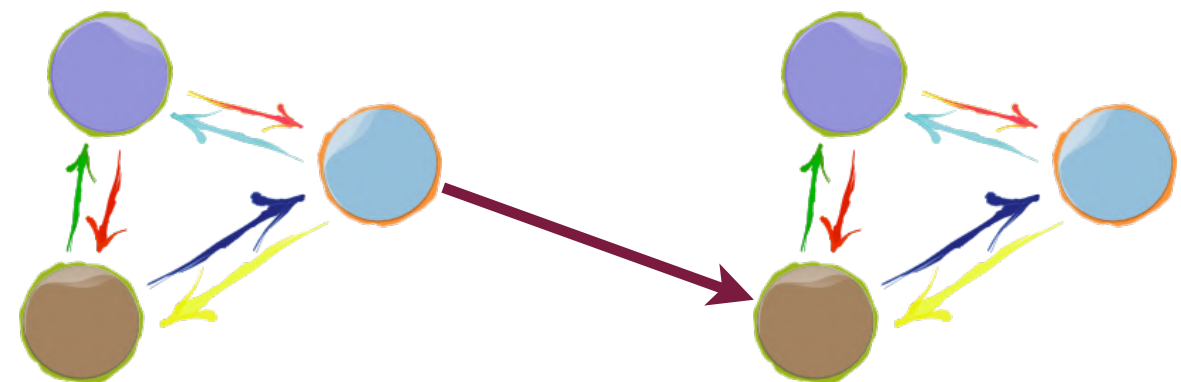## Scenarios – one linear path through the system

Pros:
– life and time are linear
– easy to understand (stories and narrative are natural)
– concrete (errors less likely)

Cons:
– no choice, no branches, no special conditions
– miss the unintended

• So:
– use several scenarios
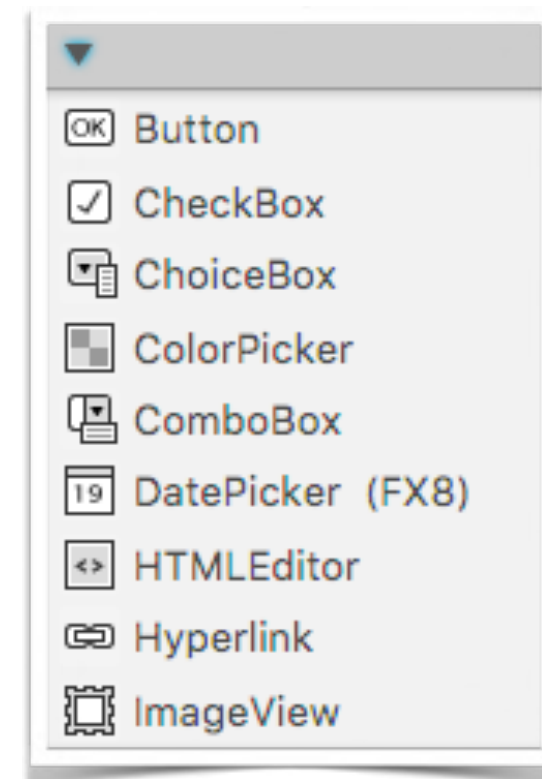– use other methods

Navigation Design

local structure – single screen
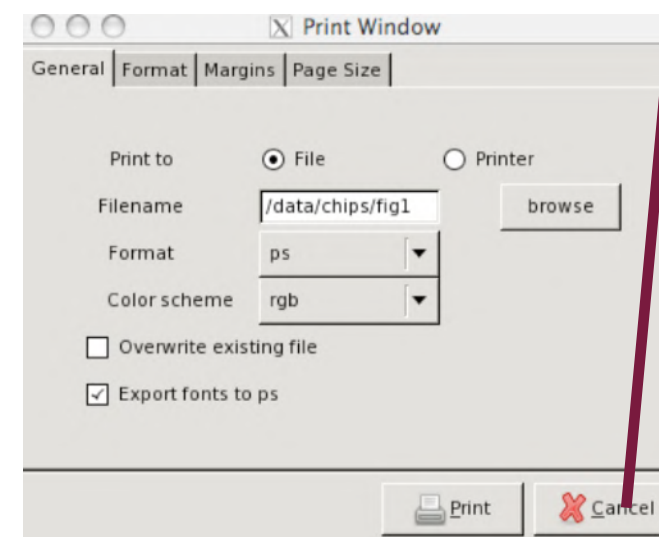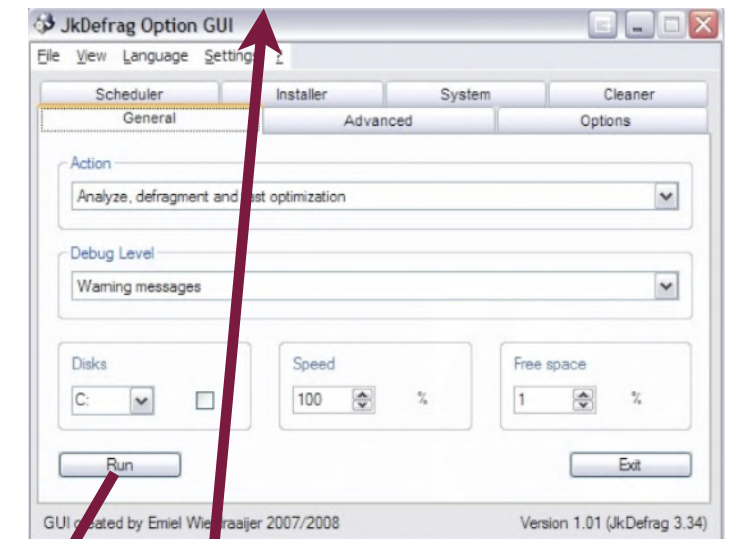global structure – whole site

Four Levels of Design

- **Widget choice**

  – menus, buttons, labels etc.

- **Screen design**

  – find things, grouping.

- **Application navigation design**

  – what will happen …

- **Environment**

  – other apps, OS

OK	Button
☑	CheckBox
	ChoiceBox
	ColorPicker
	ComboBox
19	DatePicker (FX8)
<>	HTMLEditor
	Hyperlink
	ImageView

Think about structure

- **Within a screen**
  - later ...

- **Local**
  - looking from this screen out

- **Global**
  - structure of site, movement between screens

- **Wider still**
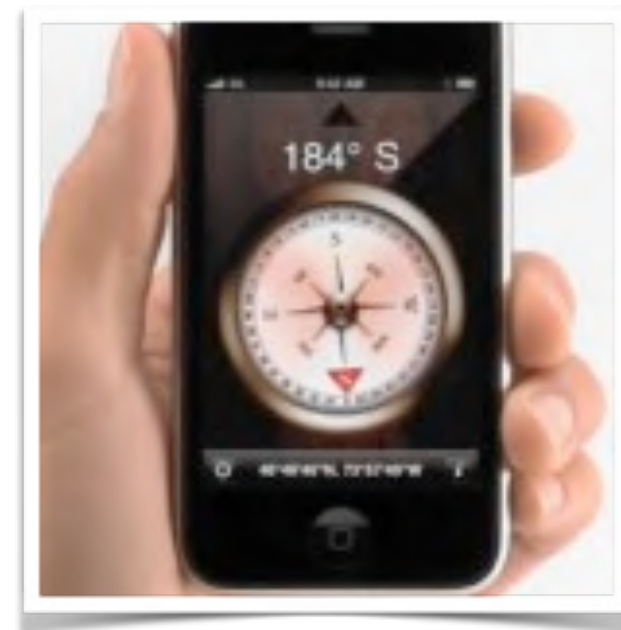 - relationship with other applications

A Sense of Location

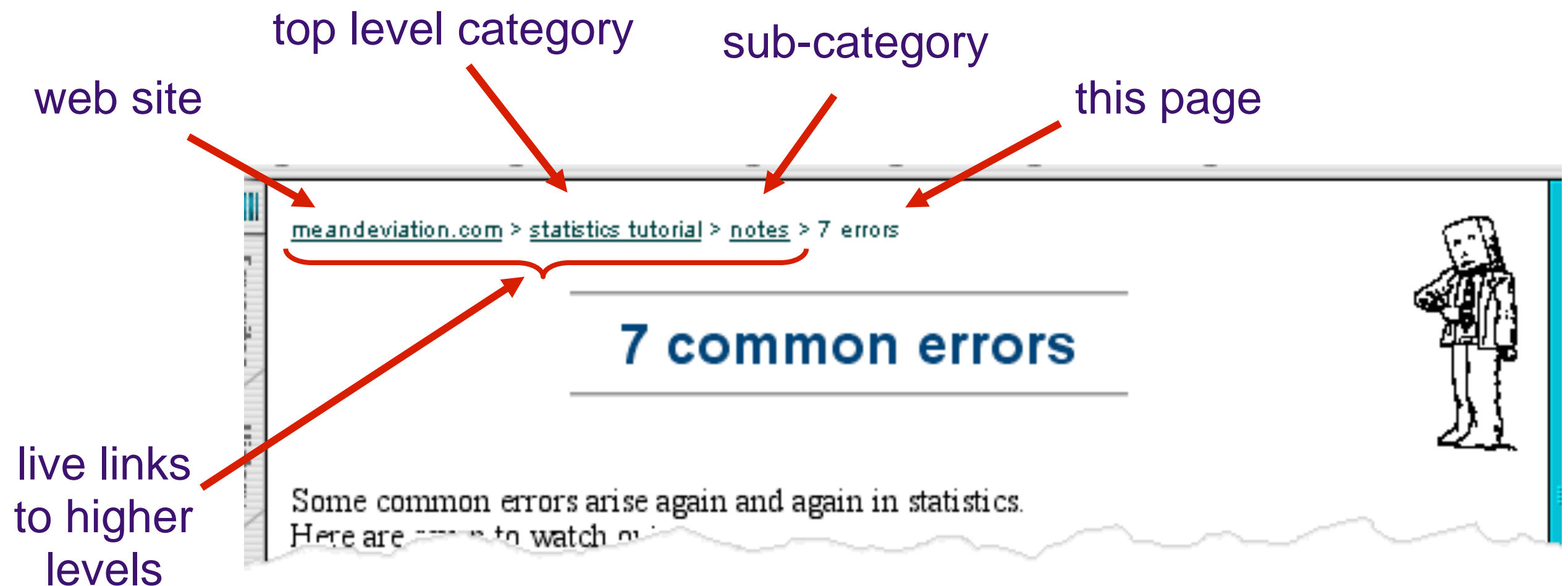- knowing where you are

- knowing what you can do

- knowing where you are going

  – or what will happen

- knowing where you've been

  – or what you've done

shows path through web site hierarchy

top level category

sub-category

web site

this page

meandeviation.com > statistics tutorial > notes > 7 errors

7 common errors

live links
to higher
levels

Some common errors arise again and again in statistics.
Here are ~~~~ to watch ~~~

Where you are

- **Lock to prevent accidental use …**
  - remove lock - 'c' + 'yes' to confirm
  - frequent practiced action

- **But: if lock forgotten**
  - in pocket 'yes' gets pressed
  - goes to phone book
  - in phone book …
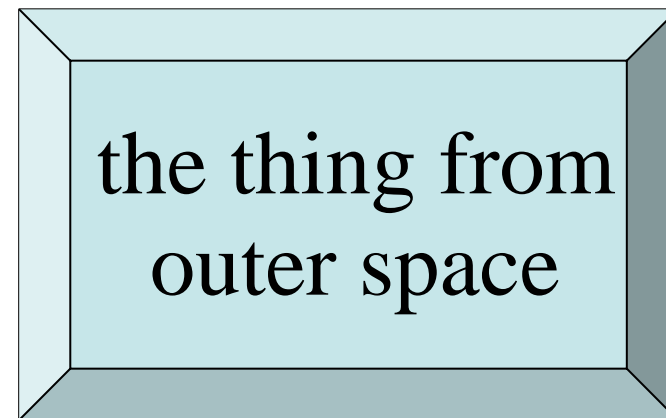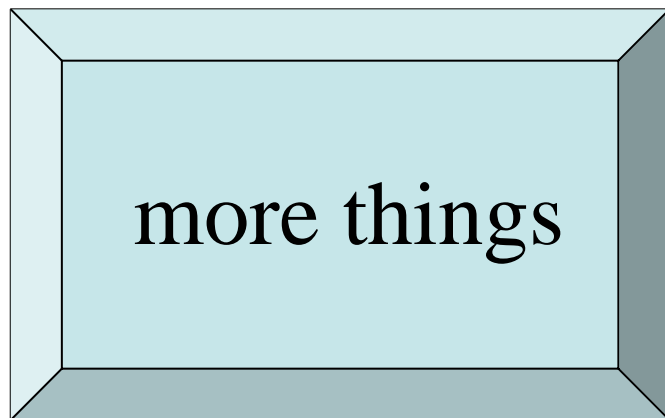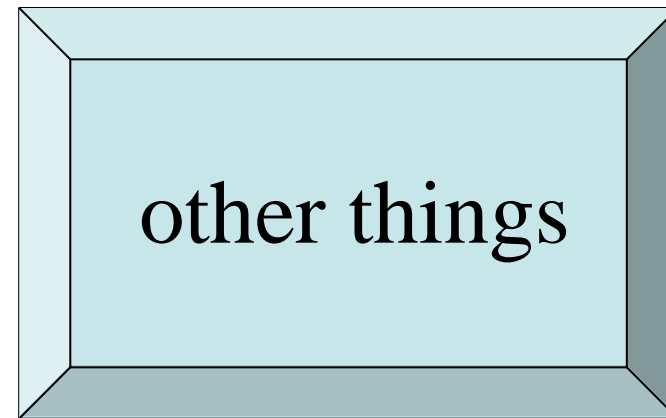   'c' – delete entry
      'yes' – confirm
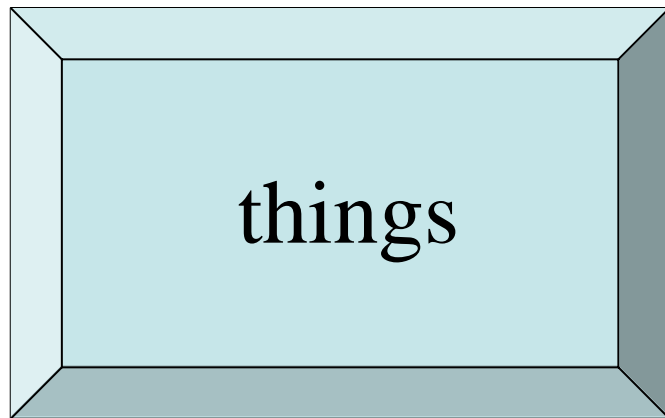   … oops !

Global

between screens
within the application

Beware the big button trap

things

other things

more things

the thing from outer space
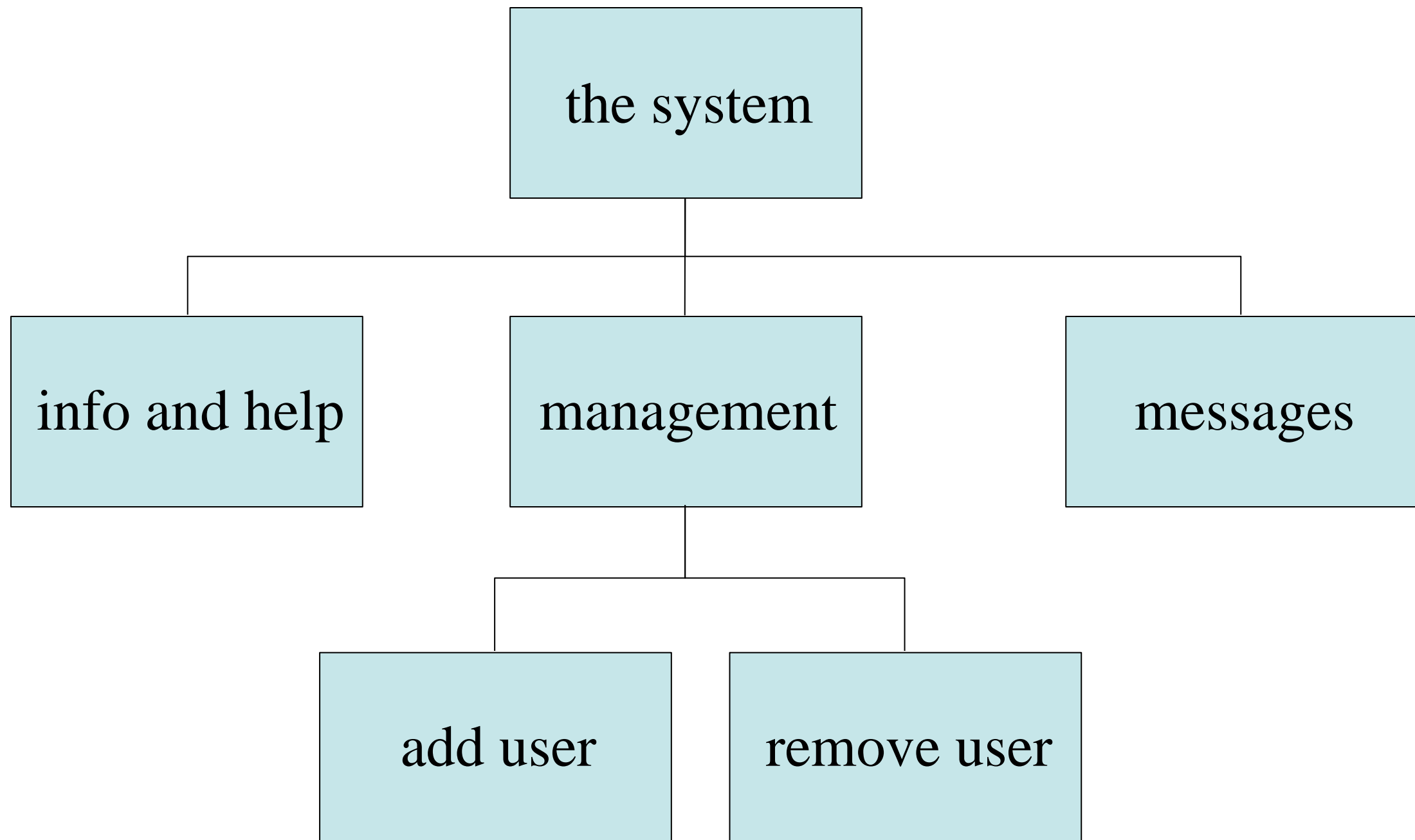
- **Where do they go?**
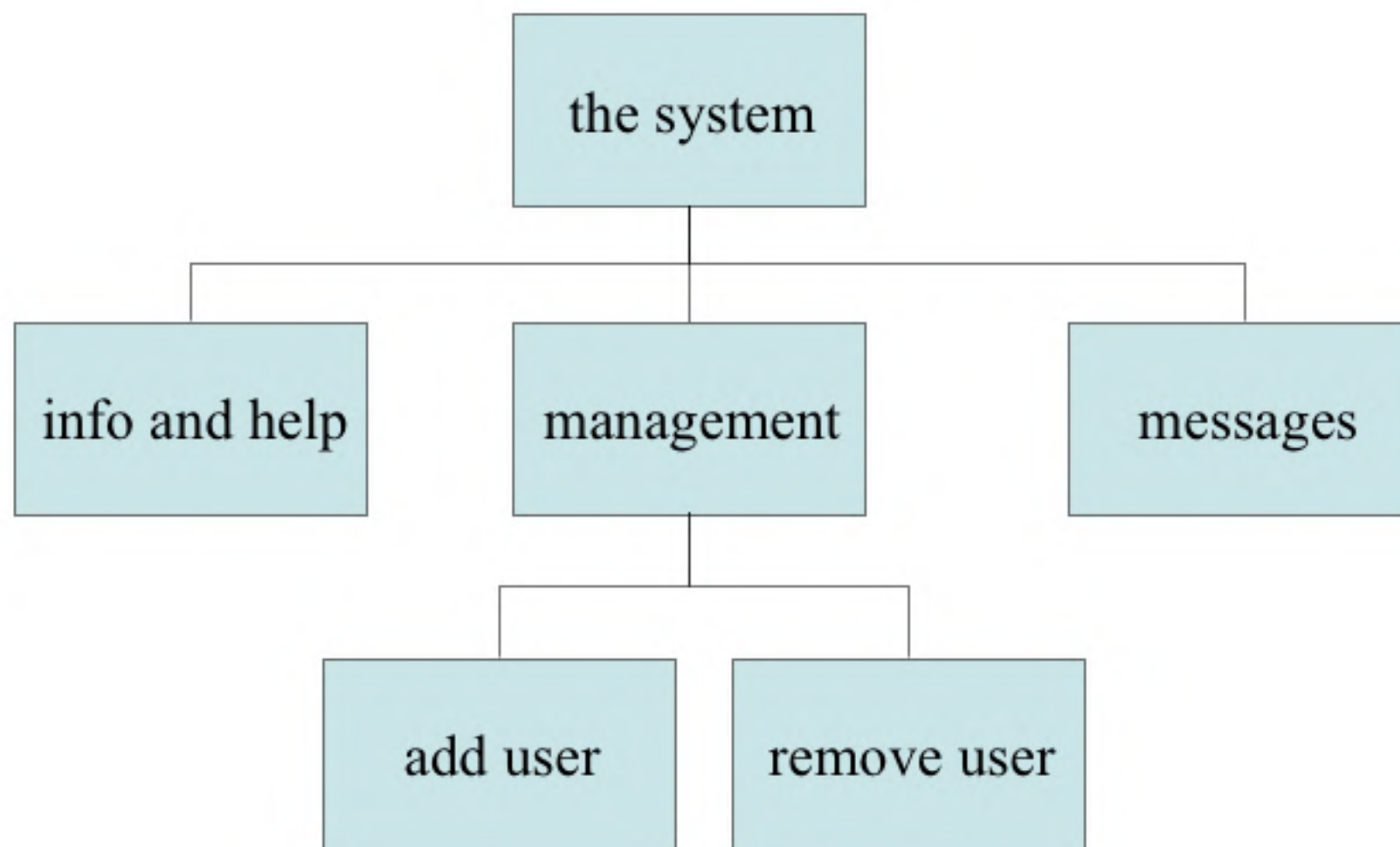 - Lots of room for extra text!
  - Sacrifice **form** for the sake of **function**!

hierarchical diagrams
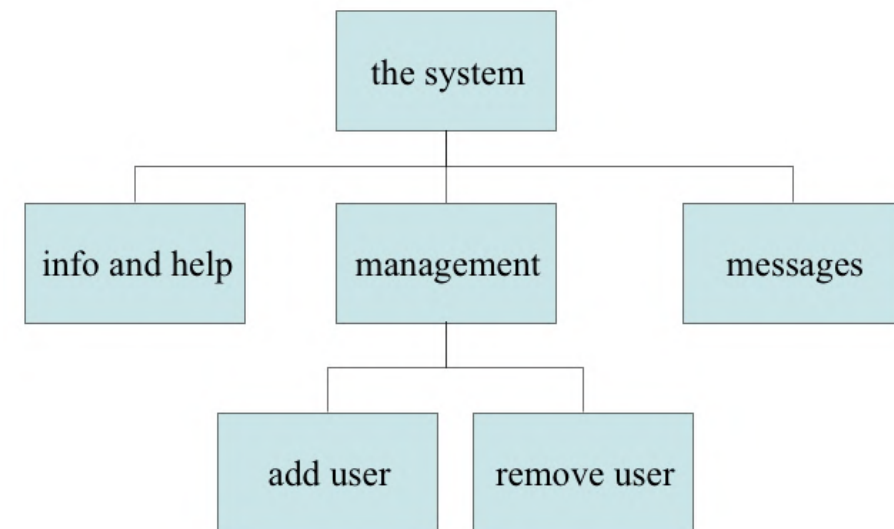
- **Parts of application**
  - screens or groups of screens

- **Typically functional separation**
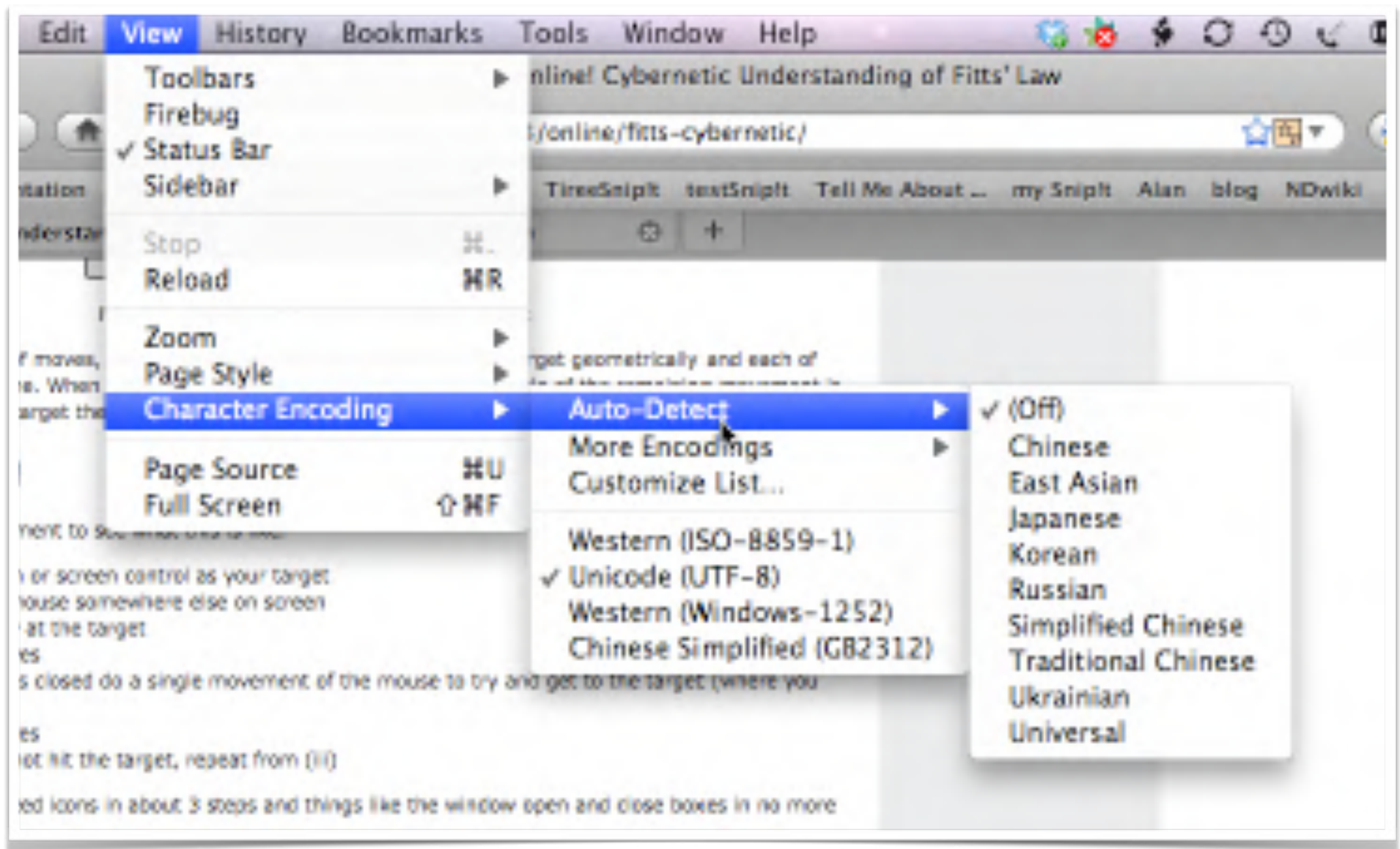
- **Deep is difficult!**
  - people find simpler than most
- **Misuse of Miller's 7 ± 2**
  - short term memory, not menu size, not visual search.   see also: http://www.hcibook.com/e3/online/menu-breadth/
- **Optimal?**
  - many items on each screen
  - but structured within screen
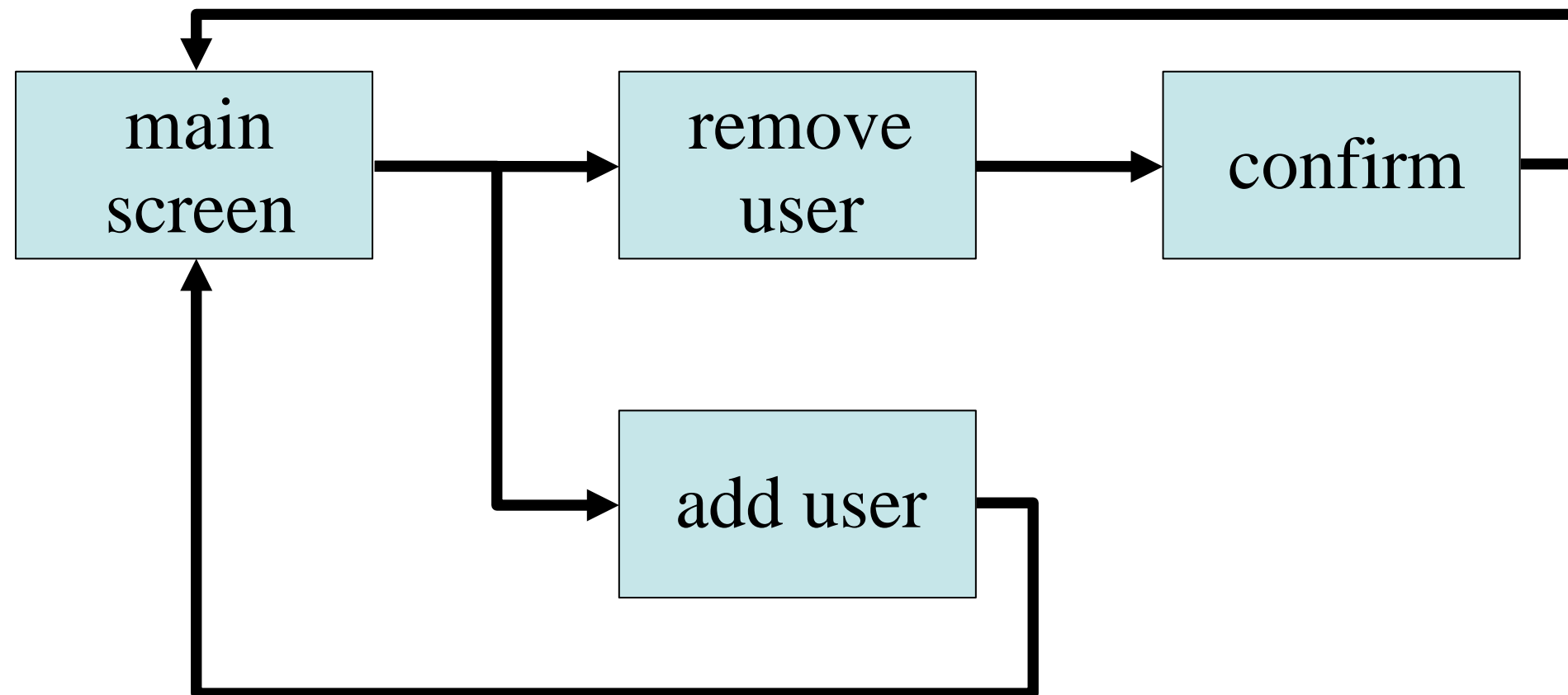 - the <u>naturalness</u> of the classification, which depends from <u>knowing the user</u>.

Navigating hierarchies

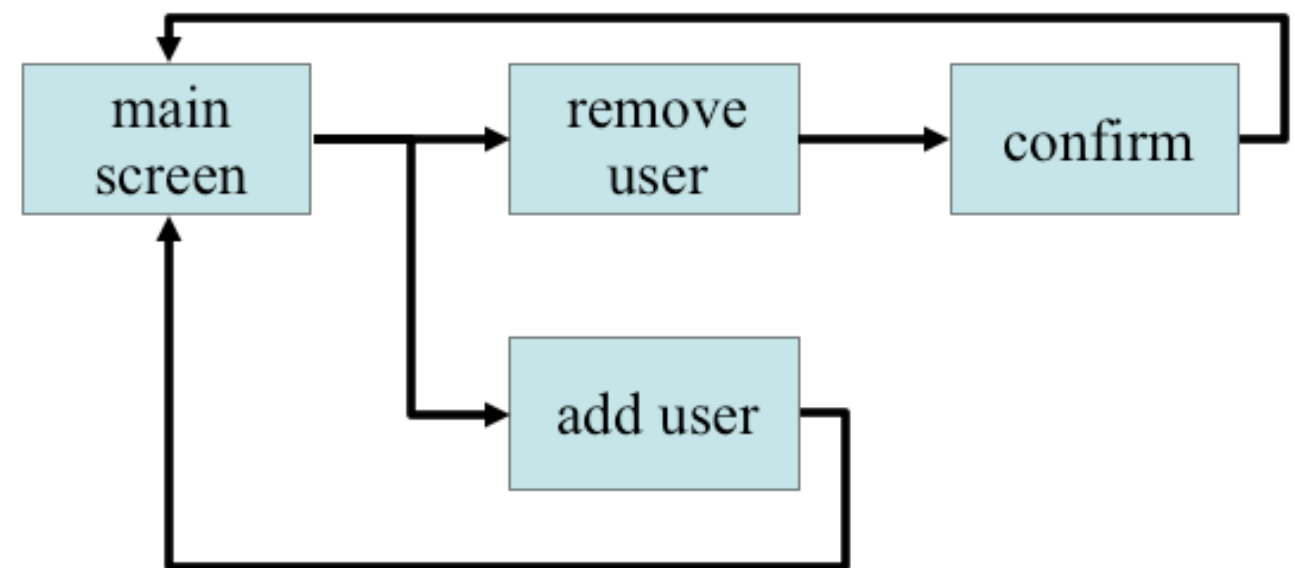see also: http://www.hcibook.com/e3/online/menu-breadth/

Network diagrams

```
          ┌──────────────────────────────────────────────────┐
          │                                                  │
          ▼                                                  │
    ┌───────────┐        ┌───────────┐        ┌───────────┐  │
    │   main    │───┬───▶│  remove   │───────▶│  confirm  │──┘
    │  screen   │   │    │   user    │        │           │
    └───────────┘   │    └───────────┘        └───────────┘
          ▲         │
          │         │    ┌───────────┐
          │         └───▶│ add user  │──┐
          │              └───────────┘  │
          └──────────────────────────────┘
```

- **show different paths through system, and even loops.**

Network diagrams

- What leads to what

- What happens when

- Including branches

- More task oriented than hierarchy

Wider still

from one screen looking out

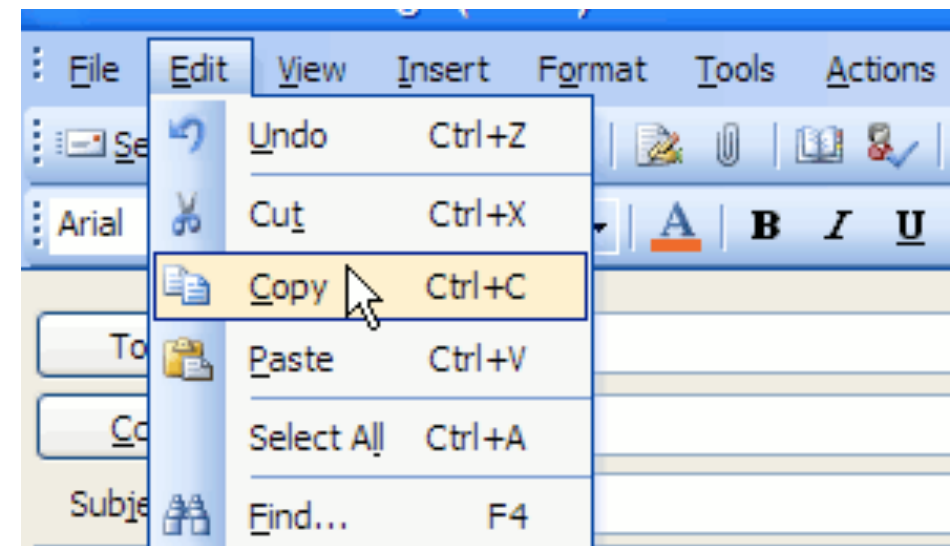# Wider still

- **Style issues:**

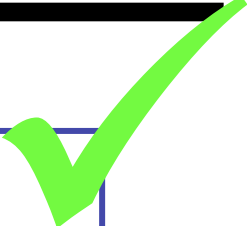   – platform standards, consistency

- **Functional issues**

    – e.g. cut and paste

- **Navigation issues**

    – embedded applications

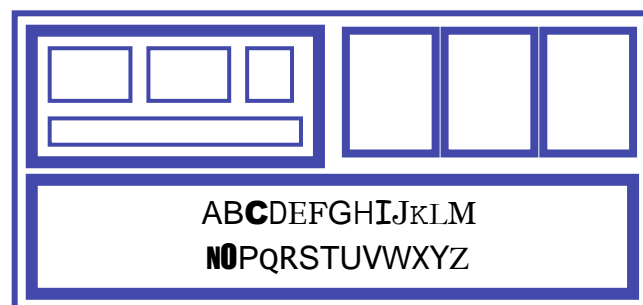   – links to other apps ... the web

    ▸ example: view PDF in browser.

Dix , Alan
Finlay, Janet
Abowd, Gregory
Beale, Russell

Screen Design

Basic principles;

Grouping; Structure, Order;

Alignment and Counter;
Aesthetics and Color Theory

ABCDEFGHIJkLM
NOPQRSTUVWXYZ

HUMAN-COMPUTER
INTERACTION   THIRD
EDITION

Basic principles

- **Ask**

    What is the user doing?

- **Think**

    – What information required?

    – Comparisons to make?

    – Order of things?

- **Design**

    form follows **function**
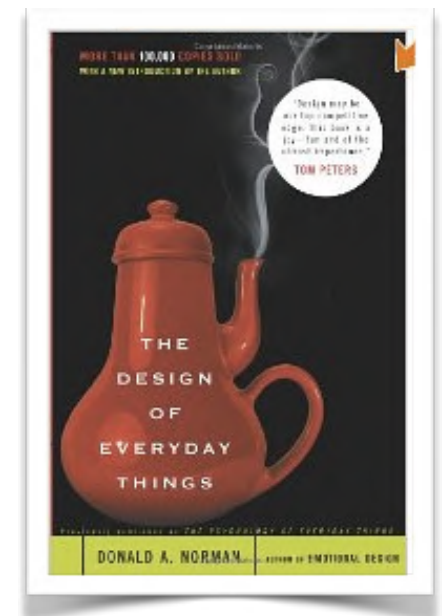
Available ingredients for design

- **Grouping of items**

  – remember: "memory chunking"

- **Order of items**

- **Decoration - fonts, boxes etc.**

- **Alignment of items**

- **White space between items**

Grouping and structure

logically together ⇒ physically together

Order of groups and items

- **Think well about what is the user's natural order, in his mental model.**

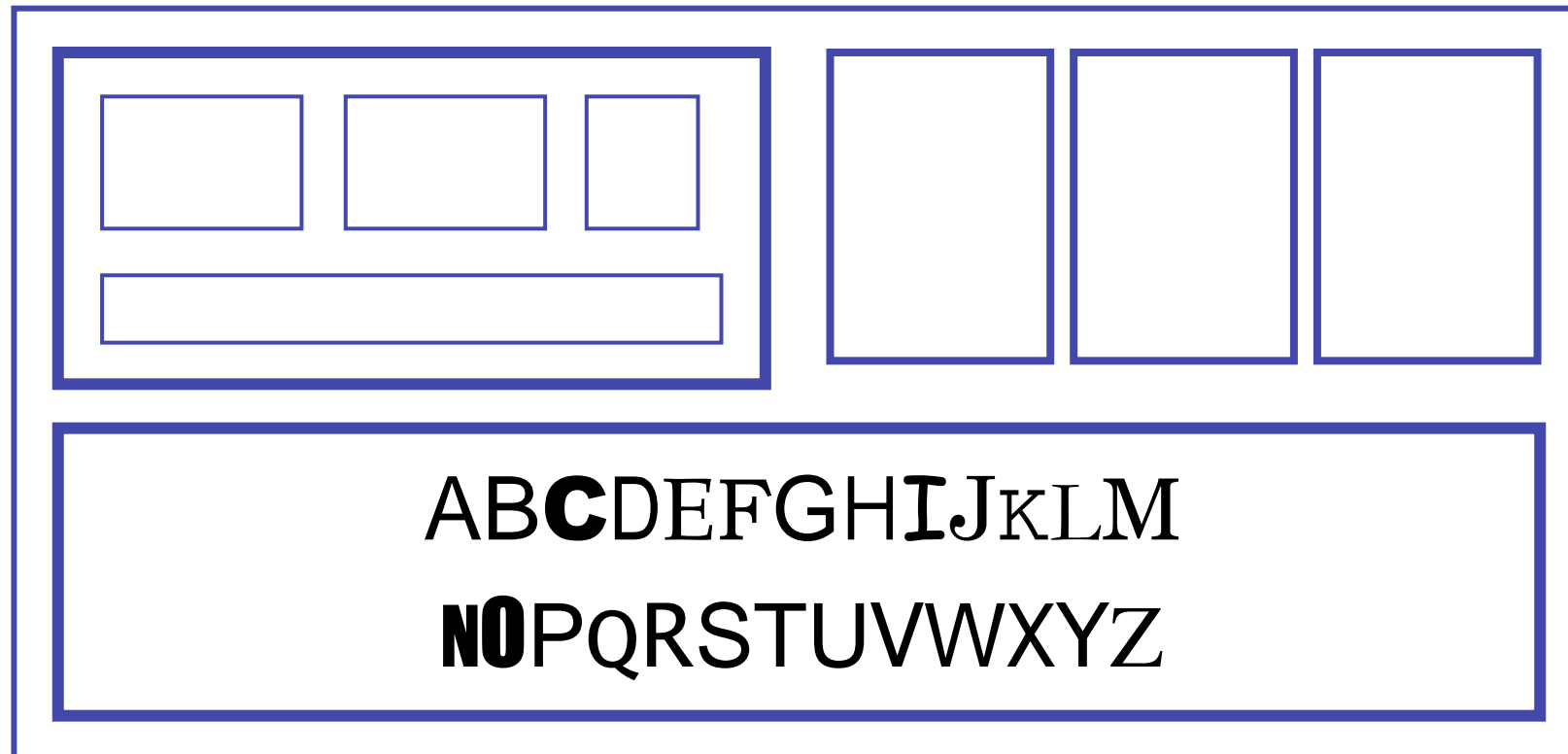- **It should match screen order!**
  - Use boxes, space, etc;
  - Set up tabbing right

Decoration

- **Use boxes to group logical items**

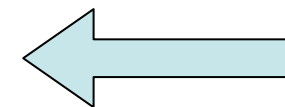- **Use fonts for emphasis, headings**

- **But not too many!!**
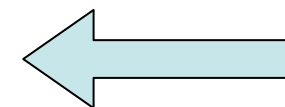
ABCDEFGHIJKLM
NOPQRSTUVWXYZ

Text Alignment

- **Reading from left to right, but …**
- **In western culture:** left hand side text alignment

Willy Wonka and the Chocolate Factory
Winston Churchill - A Biography
Wizard of Oz
Xena - Warrior Princess

← **Readable**

Willy Wonka and the Chocolate Factory
Winston Churchill - A Biography
Wizard of Oz
Xena - Warrior Princess

← **Hard to scan**

Alignment / Names

- **What is easy/convenient/ergonomic for the user? Example:**

Alan Dix
Janet Finlay
Gregory Abowd
Russell Beale

❌

Dix ,   Alan
Finlay,   Janet
Abowd,   Gregory
Beale,   Russell

✔

Alan   Dix
Janet   Finlay
Gregory   Abowd
Russell   Beale

✔

Think about convenience:

What is the purpose?

Which one is bigger?

```
  9.497895
   532.56
    179.3
  256.317
       15
   73.948
     1035
    3.142
 497.6256
     3546
```

Alignment / Numbers

Visually: long numbers are big numbers! **False**!

For the sake of truth: align decimal points or right align integers

```
  9.497895
532.56      |
179.3       |
256.317     |
 15         |
 73.948     |
1035        |
  3.142     |
497.6256    |
3546        |
```

Alignment / Numbers

Visually: long numbers are big numbers! **False**!

For the sake of truth: align decimal points or right align integers

For the sake of beauty: reduce to the same decimal places

```
   9.497895
 532.560000
 179.300000
 256.317000
  15.000000
  73.948000
1035.000000
   3.142000
 497.625600
3546.000000
```

Visually: long numbers are big numbers! **False**!

For the sake of truth: align decimal points or right align integers

For the sake of beauty: reduce to the same decimal places. **If safe, sacrifice precision**.

```
   9.498
 532.560
 179.300
 256.317
  15.000
  73.948
1035.000
   3.142
 497.626
3546.000
```

Multiple Columns

- **Scanning across gaps hard:**
  (often hard to avoid with large data base fields)

sherbert	75
toffee	120
chocolate	35
fruit gums	27
coconut dreams	85

Multiple Columns

- **Use leaders:** replaces the conventional ruler

sherbert 75
toffee 120
chocolate 35
fruit gums...27
coconut dreams.......................................85

Multiple Columns

- **Use different tones/shades**

sherbert	75
toffee	120
chocolate	35
fruit gums	27
coconut dreams	85

An old typographic thecnique

WHAT YOU SEE

THE GAPS BETWEEN

The "Counter"

Familiar home appliances

- **Grouping of elements**

- **Ordering of elements**

- **Different decorations**

- **Alignments**

- **Spacing**

Uniform Spacing

Uniform Spacing

Hierarchical Spacing

Space to separate

Hierarchical Spacing

Space to separate

Hierarchical Spacing

Highlight with spacing

Space to separate

Space to separate

Space to separate

The aesthetic impact of a GUI

The aesthetic impact of a GUI

The importance of a good alignment

The aesthetic impact of a GUI

The aesthetic and functional importance of spacing

Knowing what to do

- **What is active what is passive**
  - where do you click
  - where do you type

- **Consistent style helps**
  - e.g. web <u>underlined links</u>

- **Labels and icons**
  - standards for common actions
  - language – bold = current state or action

Affordances (facilitadores)

- **Psychological term for physical objects**
  - shape and size suggest actions
    - pick up, twist, throw
  - also cultural – buttons '**afford**' pushing

- **For screen objects**
  - button–like object 'affords' mouse click
  - physical-like objects suggest use

- **Culture of computer use**
  - icons 'afford' clicking
  - or even double clicking … not like real buttons!

'affords'
grasping

Affordances

A good implementation of natural affordances provides an intuitive interface.
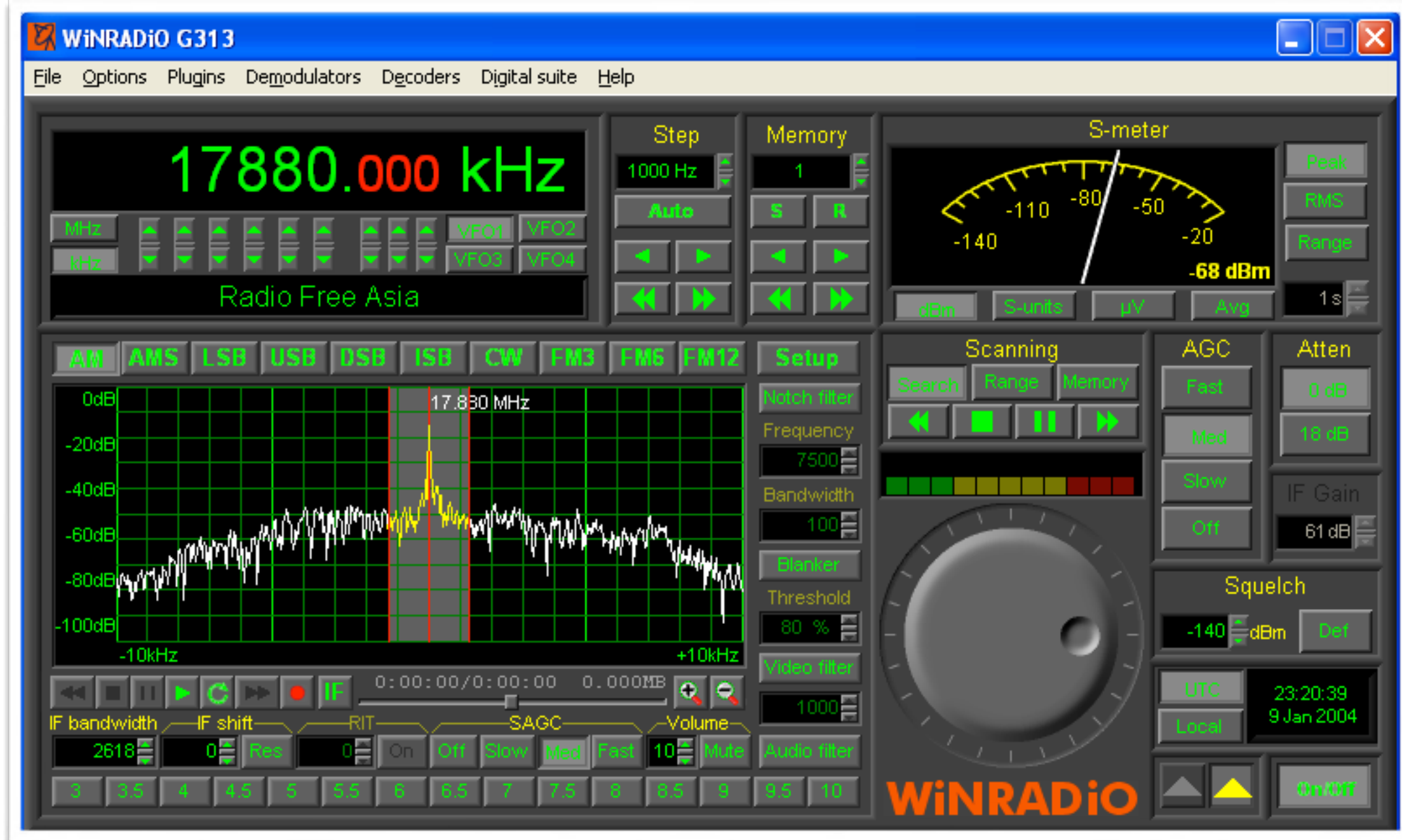
Web Design

- Web Design share some principles, guidelines and standards, with other more general applications.

- There are, however, **specific features** in Web Design that are different from applications in general, both at the **aesthetic** and **functional** level (interaction):

- Navigation is part of an **integral experience**:

    - The user controls the navigation

    - Diversity of devices and contexts

Web Design: The 10 mistakes

1. Bad search
2. PDF files for online reading (disruptive leap)
3. Not changing the color of visited links
4. Non-scannable Text
5. Fixed font size
6. Page titles with low search engine visibility
7. Anything that looks like an advertisement
8. Violating design conventions (e.g. search bar location)
9. Opening new browser windows
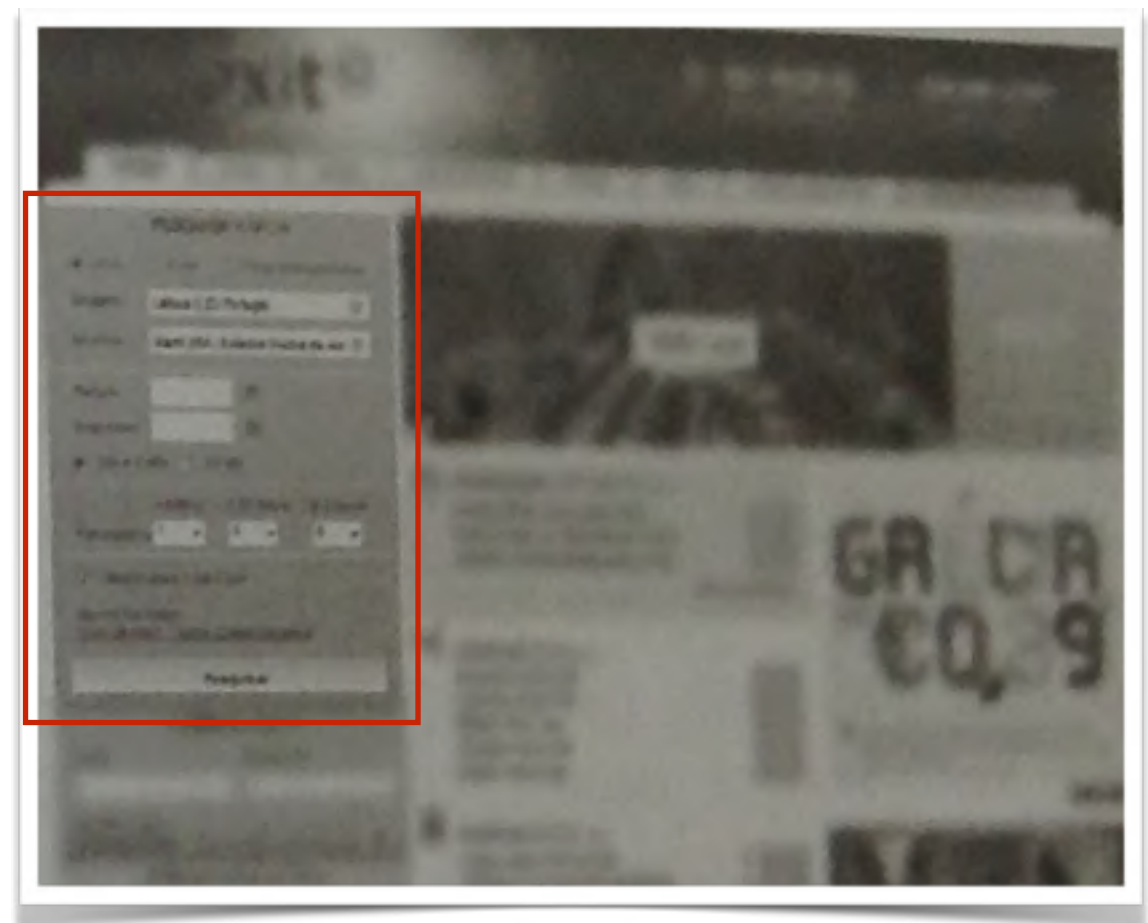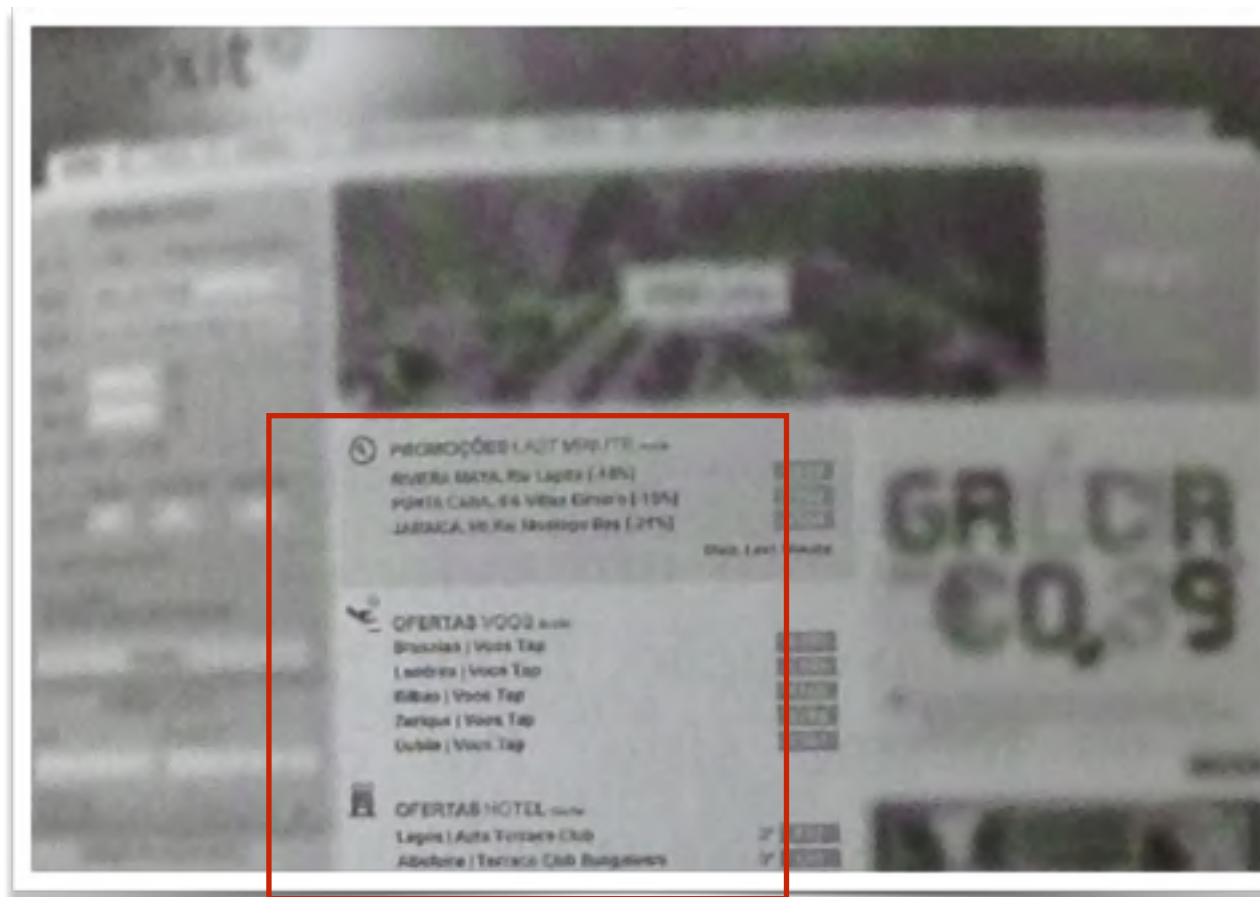10. Not answering users' questions (e.g. lacking prices).

[source]   *Jakob Nielsen*

Layout Design

- Requires notions of **graphic design** and color theory. It also requires **knowing the users** in order to efficiently dispose the elements. Remember that: **Human attention is selective**

Minimalist Design

- It is visually appealing to users

- There must be consistency throughout the site

- However, a web page is not a static medium, it is not intended for passive (magazine) consumption.

- Expect interaction ==> balance between aesthetics, functionality / usability.

- Layout can be very different on the client device.

- There must be a commitment, to get functional, adaptable and standards-compliant sites.

Signal versus Noise

- Omit unnecessary / superfluous items of information!

What is relevant here?

Problems:

Uniform spacing

Multiple icons repeated for all trips

Gradients of color in travel titles make it difficult

Signal versus Noise

- Omit unnecessary / superfluous items of information!

Only 20% of the space used !

Highlight and Hierarchy

- Ensure the presence of **highlighted** elements ==> implicitly and visually define a structure.

Highlight and Hierarchy

- A clear visual hierarchy: which elements are subordinate to others.

- Three ways to make the relationships clear are:

  - **Degree**: more important => more highlighted with different fonts, weight, color.

  - **Proximity**: related elements are together

  - **Framing** (enquadramento)**:** Subordinated elements should appear nested/indented.

  - **Above the fold** (acima da dobra): choose well what is shown in this area. It is a concept brought from the *press*, taking into account the folding of a newspaper

Highlight and Hierarchy

- **Above the fold** (acima da dobra): choose well what is shown in this area. It is a concept imported brought from the *press*, taking into account the folding of a newspaper
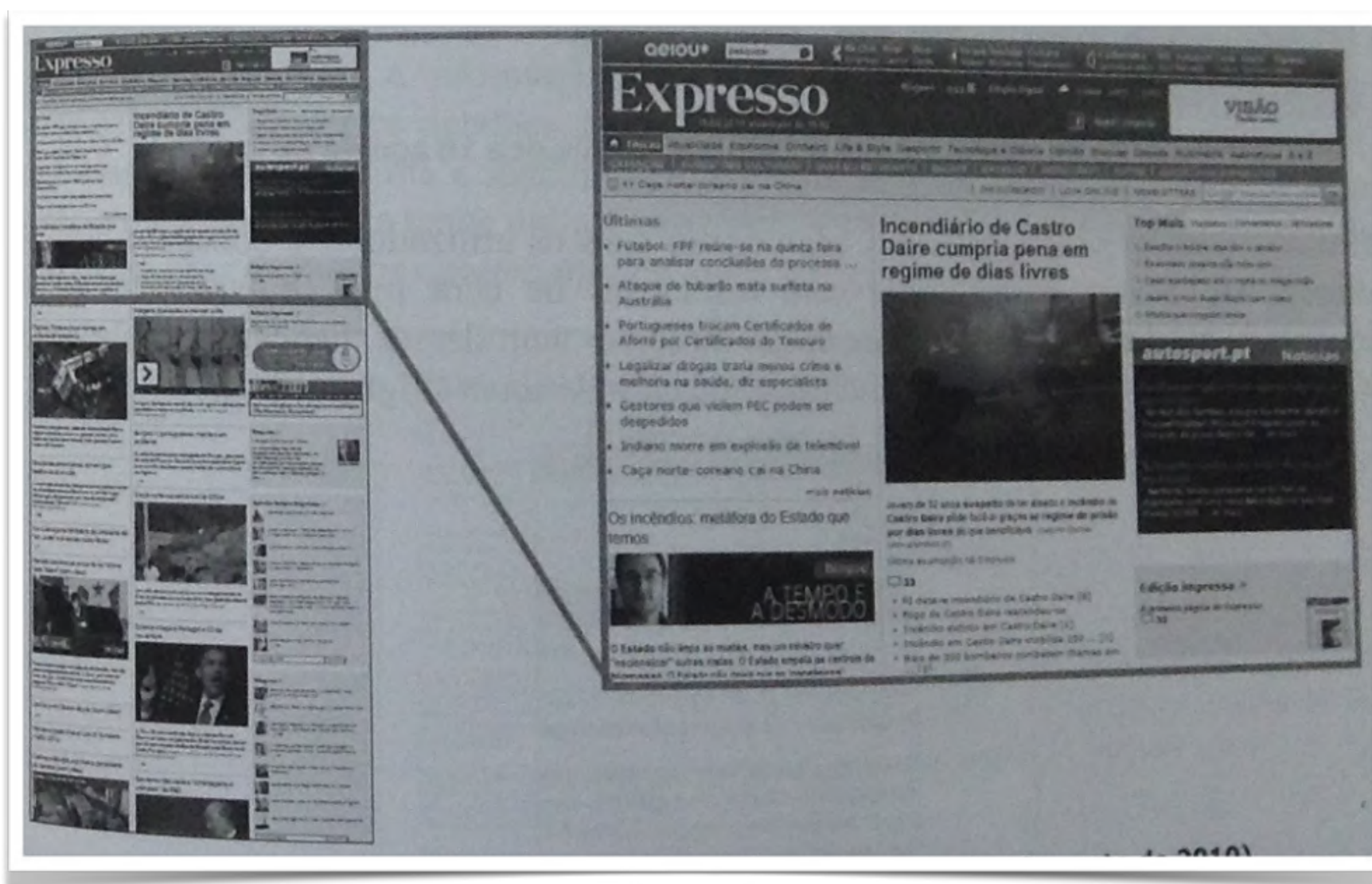
Content

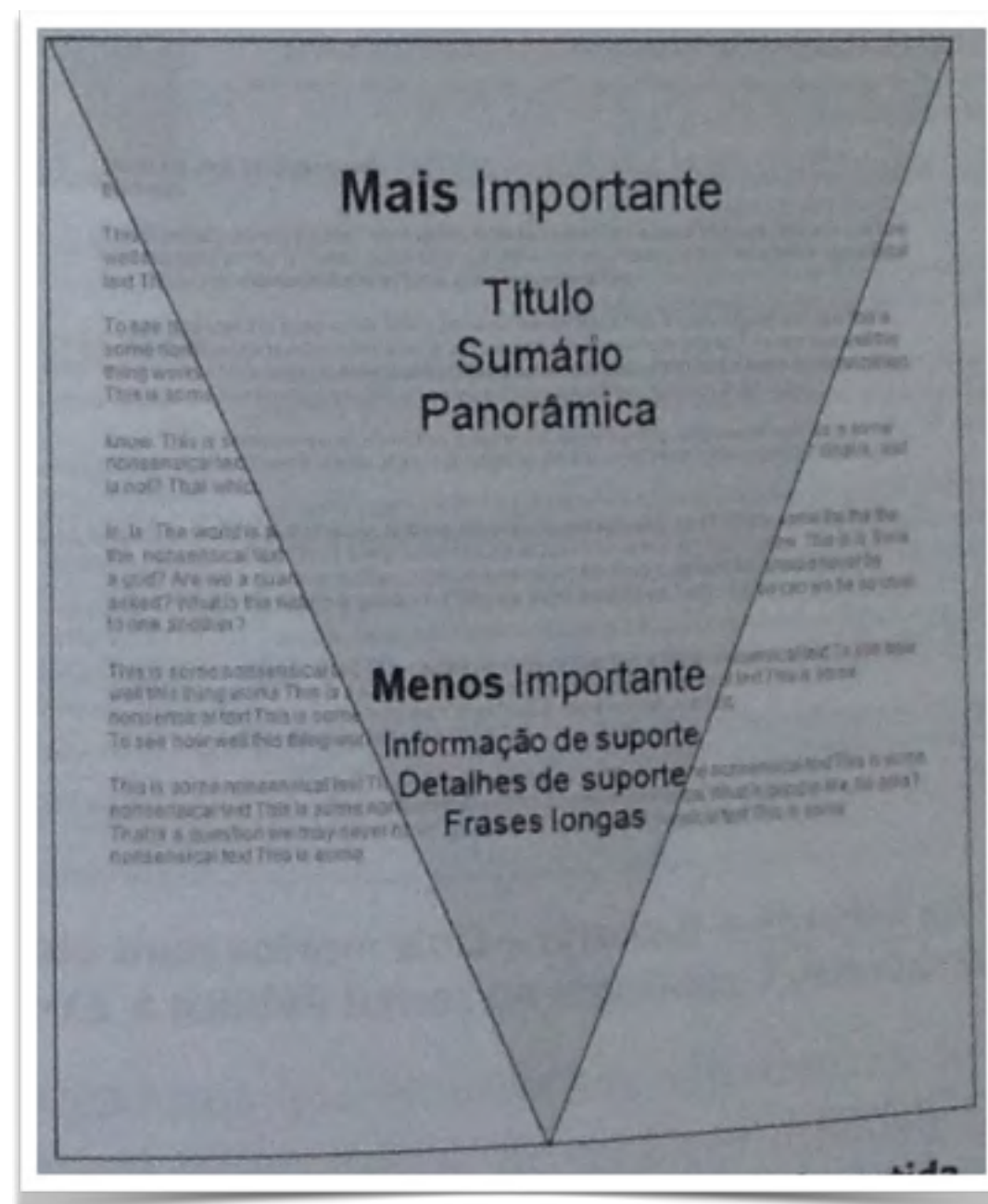- The quality of a page is not only layout but also content. This determines whether the user will return to the site repeatedly.

- How to present the content?

- The **inverted pyramid** technic:

    - Used in the press

    - Principle of progressive complexity: Concise title; Concise text; Details support and enlarge the story

Mais Importante

Título
Sumário
Panorâmica

Menos Importante

Informação de suporte
Detalhes de suporte
Frases longas

Concise text <== self-evident

Ajude-nos a melhorar o nosso serviço, preenchendo o questionário apresentado em seguida. Não é estritamente necessário preencher todos os campos, apenas os preenchidos com (*). Se quiser deixar comentários adicionais, existe uma caixa de texto no final do questionário que pode preencher. (**40 word**)

Por favor ajude-nos preenchendo este questionário. Os campos obrigatórios estão assinalados com um (*). (13 **words**)

Concise text <== self-evident

Instead of:

Welcome to our website! We are Consulta, a consulting company in the field of computer science that will do everything at your disposal to help you. (**13 words**)

Use:

Nothing. (**0 words**)