

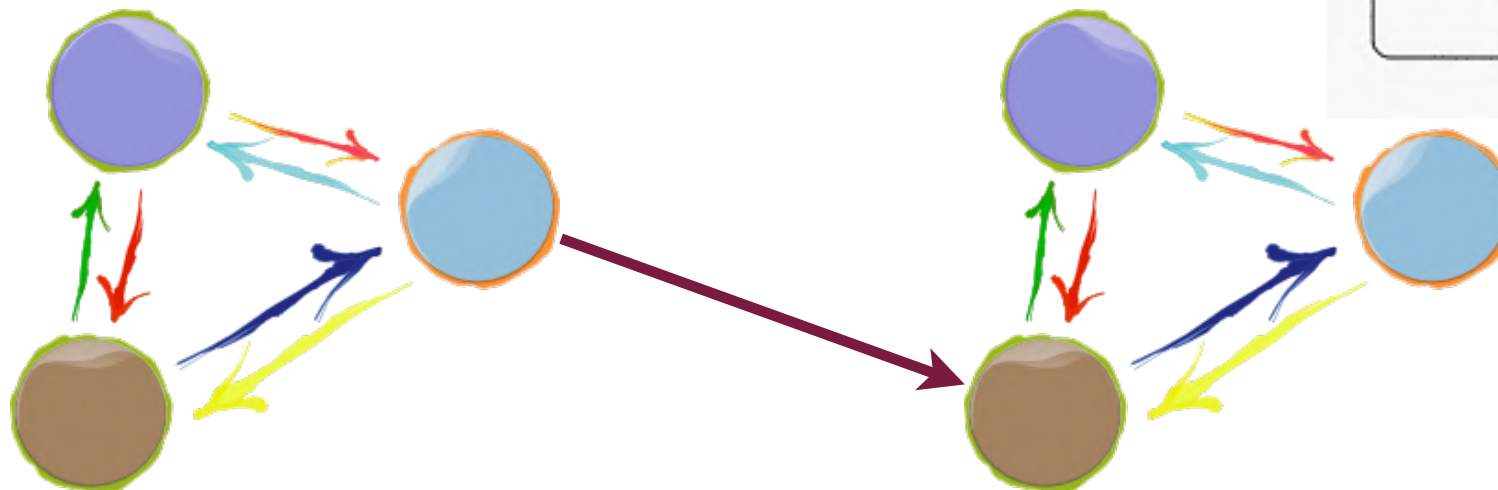


Scenarios

**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



STORYBOARD

NAME: A PORTRAIT OF ENNY PAGE: 4 OF
BY: E. GARCIA FOR: Scena DATE: 7-3-07

	ACTION: <u>(CONT'D)</u> <u>Jerry approaches Gillian's desk</u> <u>Gillian is typing</u> AUDIO: <u>keys typed on</u> COMMENTS: <u> </u>
	ACTION: <u>(over monitor) Gillian looks</u> <u>up at Jerry (takes mug)</u> AUDIO: <u>"Thanks!"</u> COMMENTS: <u>from above</u>
	ACTION: <u>J: "I figured you were busy..."</u> <u>OTS Gillian @ Jerry</u> AUDIO: <u> </u> COMMENTS: <u>from below centered</u>



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 😊



Also play act ...

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

but where is that thumb?

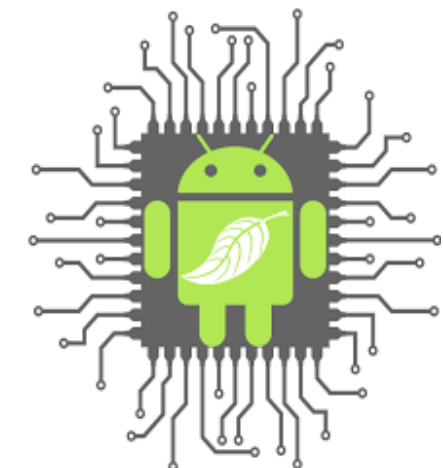
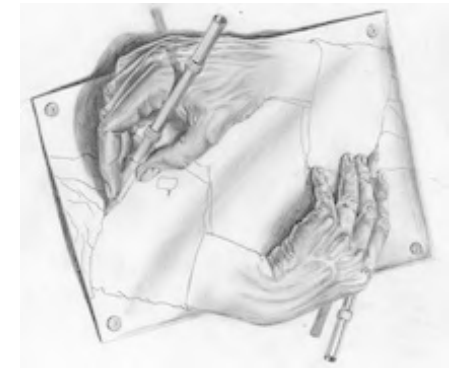


voice interface?



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)



Linearity vs Complexity of life

Scenarios - one linear path through the system

Pros:

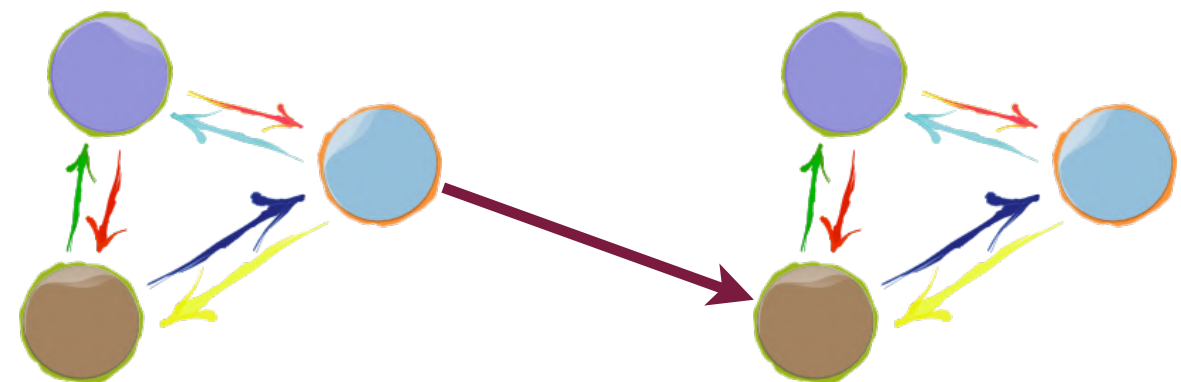
- life and time are linear
- easy to understand (stories and narrative are natural)
- concrete (errors less likely)

Cons:

- no choice, no branches, no special conditions
- miss the unintended

• So:

- use several scenarios
- use other methods





Navigation Design

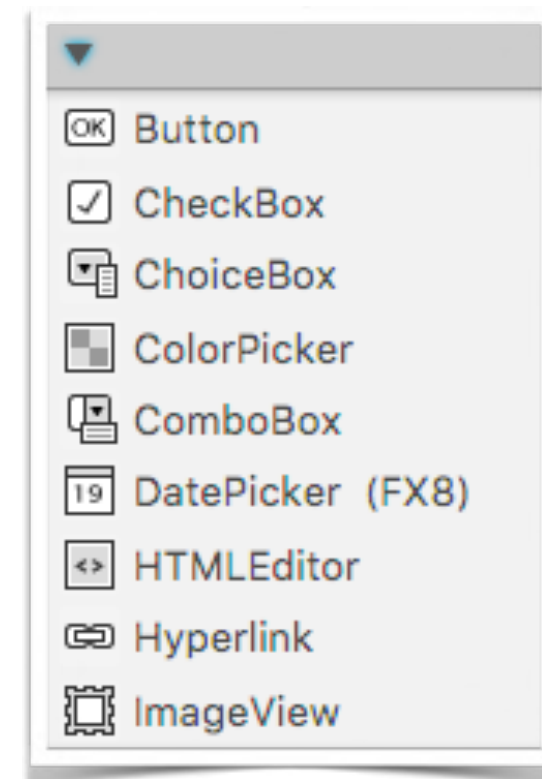
local structure - single screen

global structure - whole site



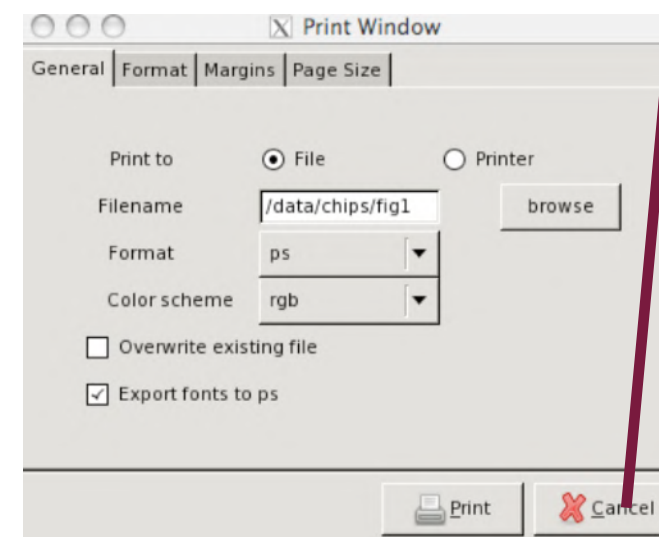
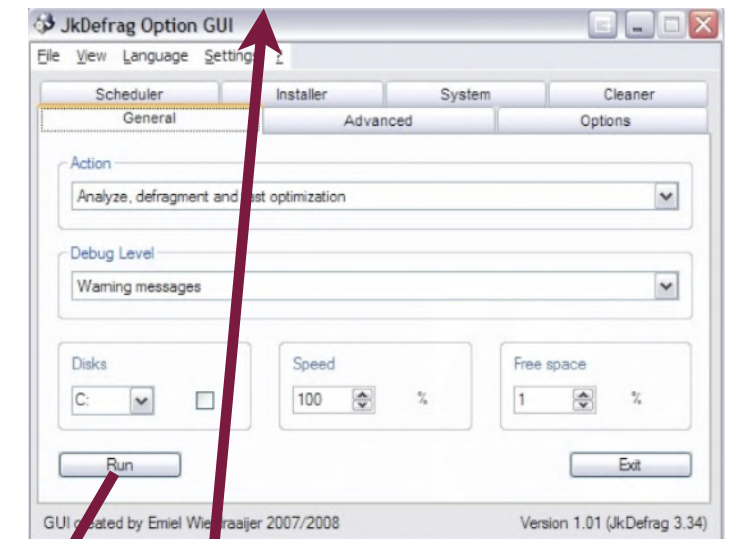
Four Levels of Design

- **Widget choice**
 - menus, buttons, labels etc.
- **Screen design**
 - find things, grouping.
- **Application navigation design**
 - what will happen ...
- **Environment**
 - other apps, OS



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

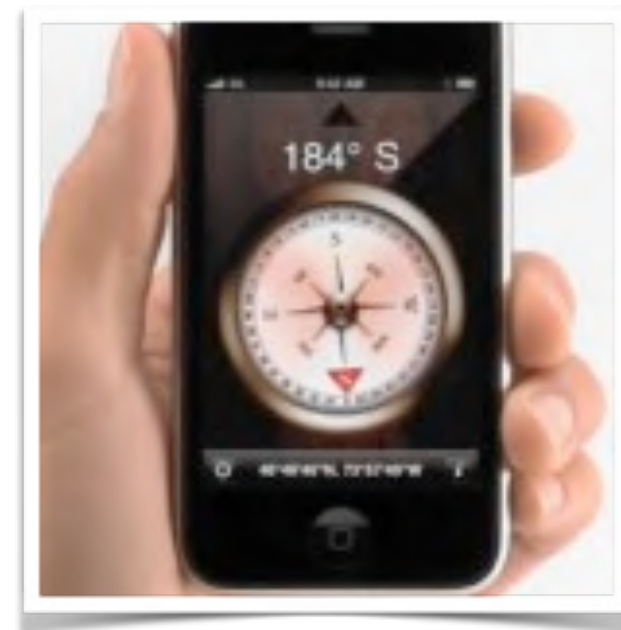




Four golden rules

A Sense of Location

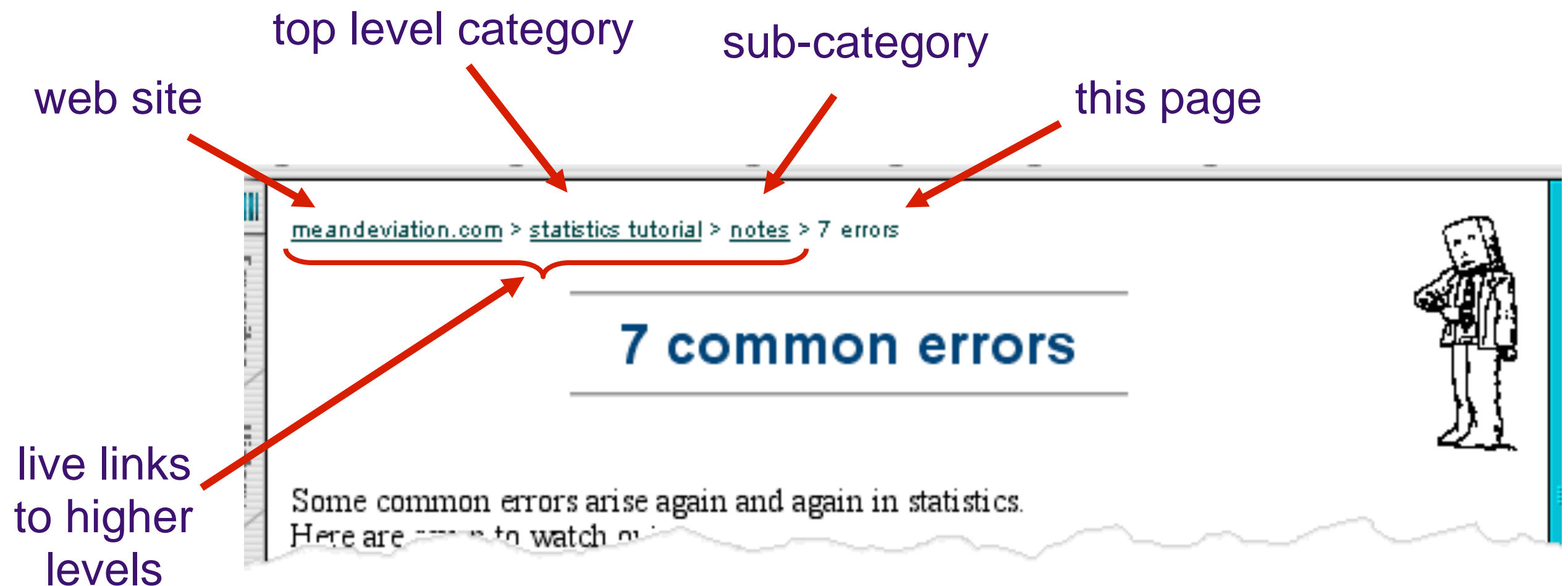
- knowing where you **are**
- knowing what you **can do**
- knowing where **you are going**
 - or what will happen
- knowing where you've **been**
 - or what you've done





Where you are

shows path through web site hierarchy





Where you are





Location and Modes

- **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 !





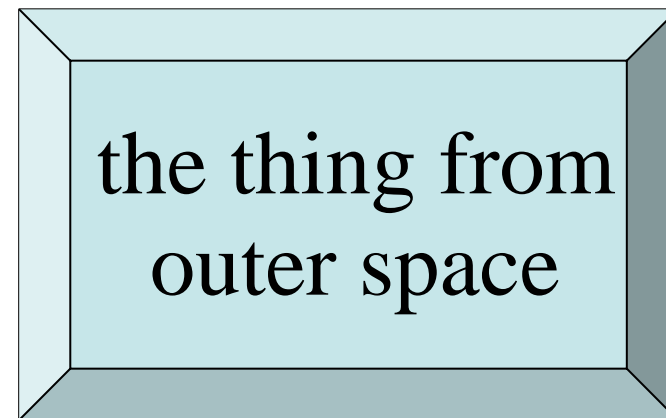
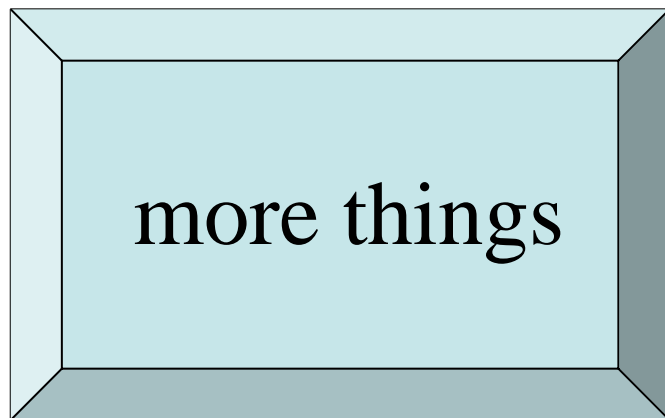
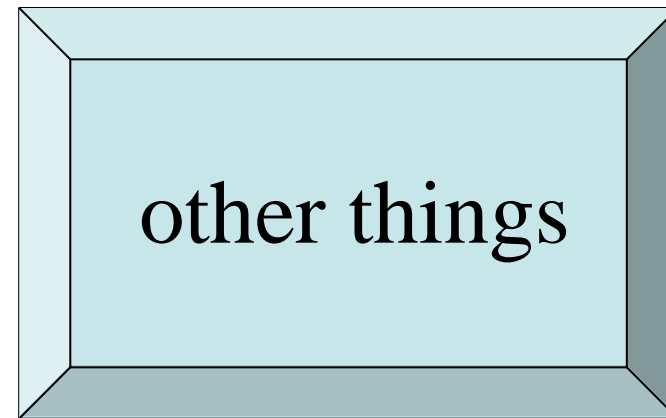
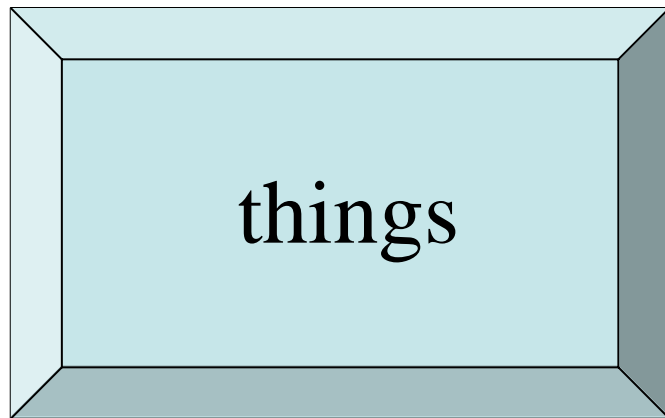
Structure

Global

**between screens
within the application**



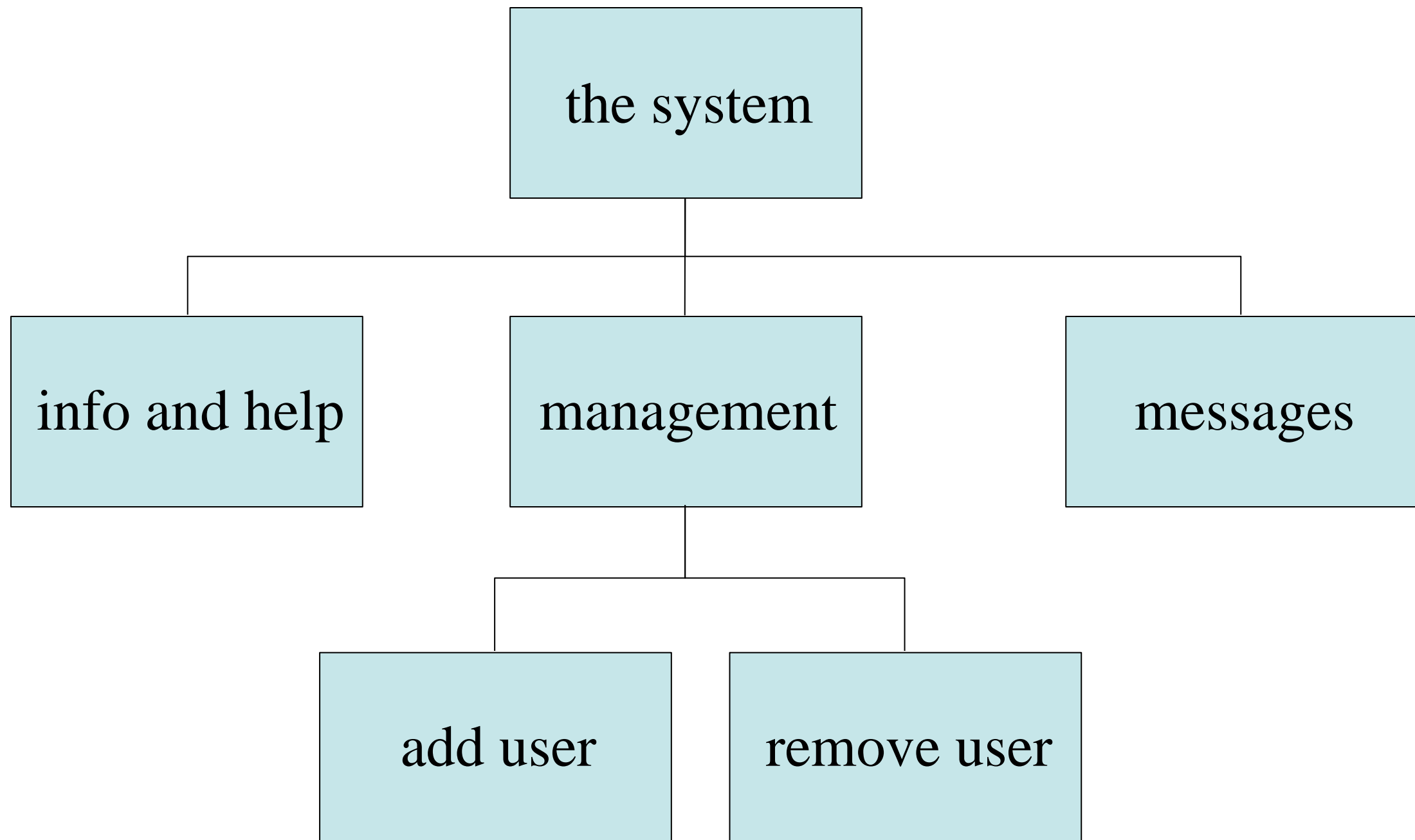
Beware the big button trap



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



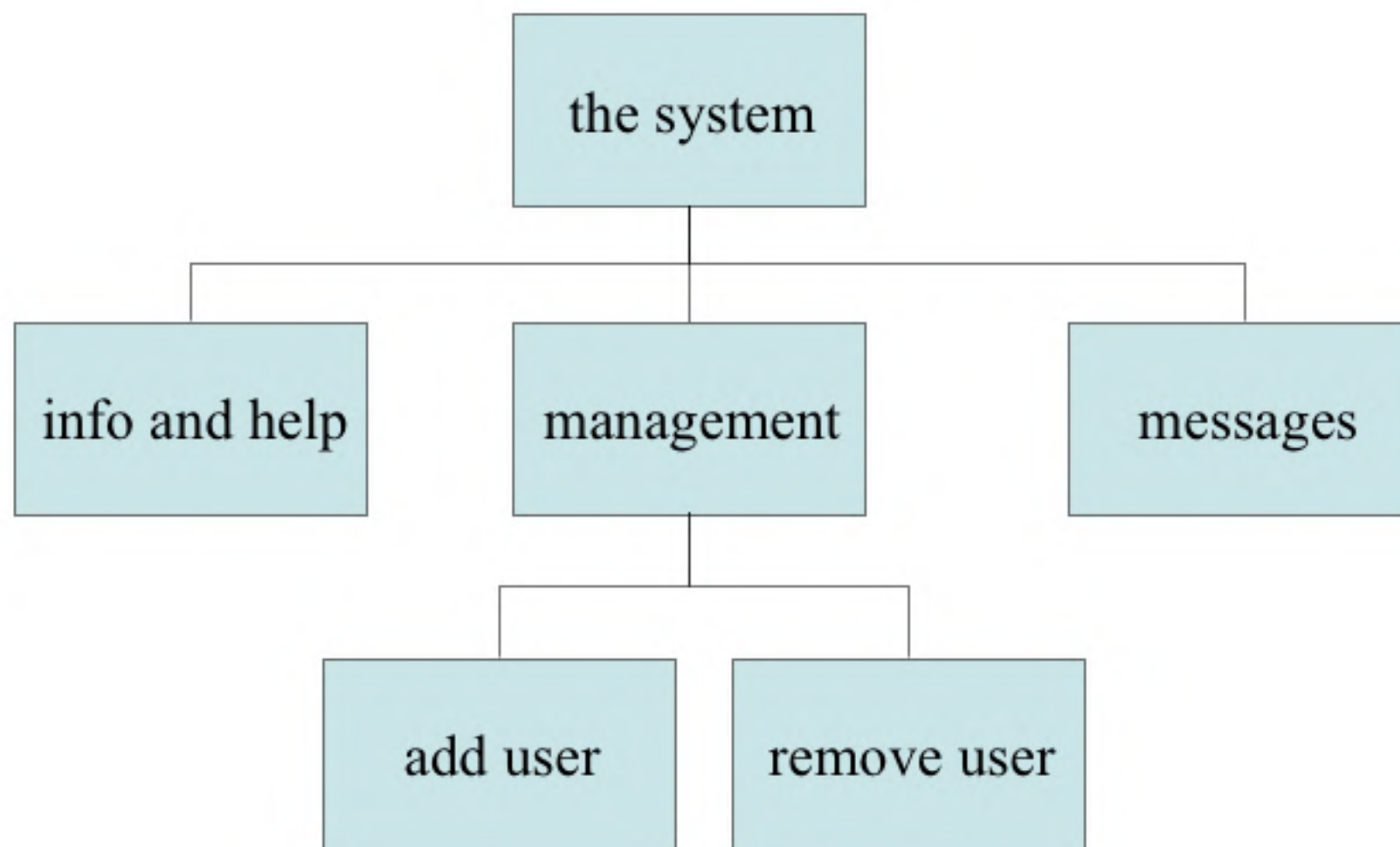
hierarchical diagrams





Hierarchical diagrams ctd.

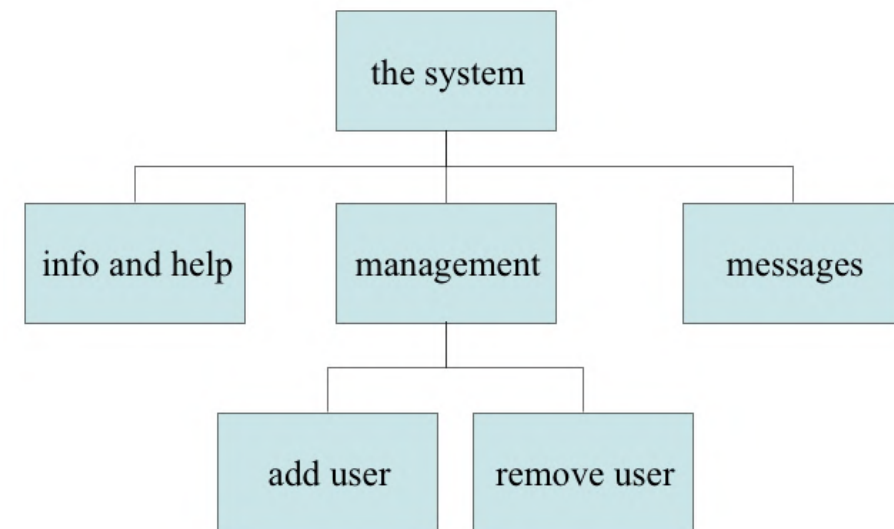
- **Parts of application**
 - screens or groups of screens
- **Typically functional separation**



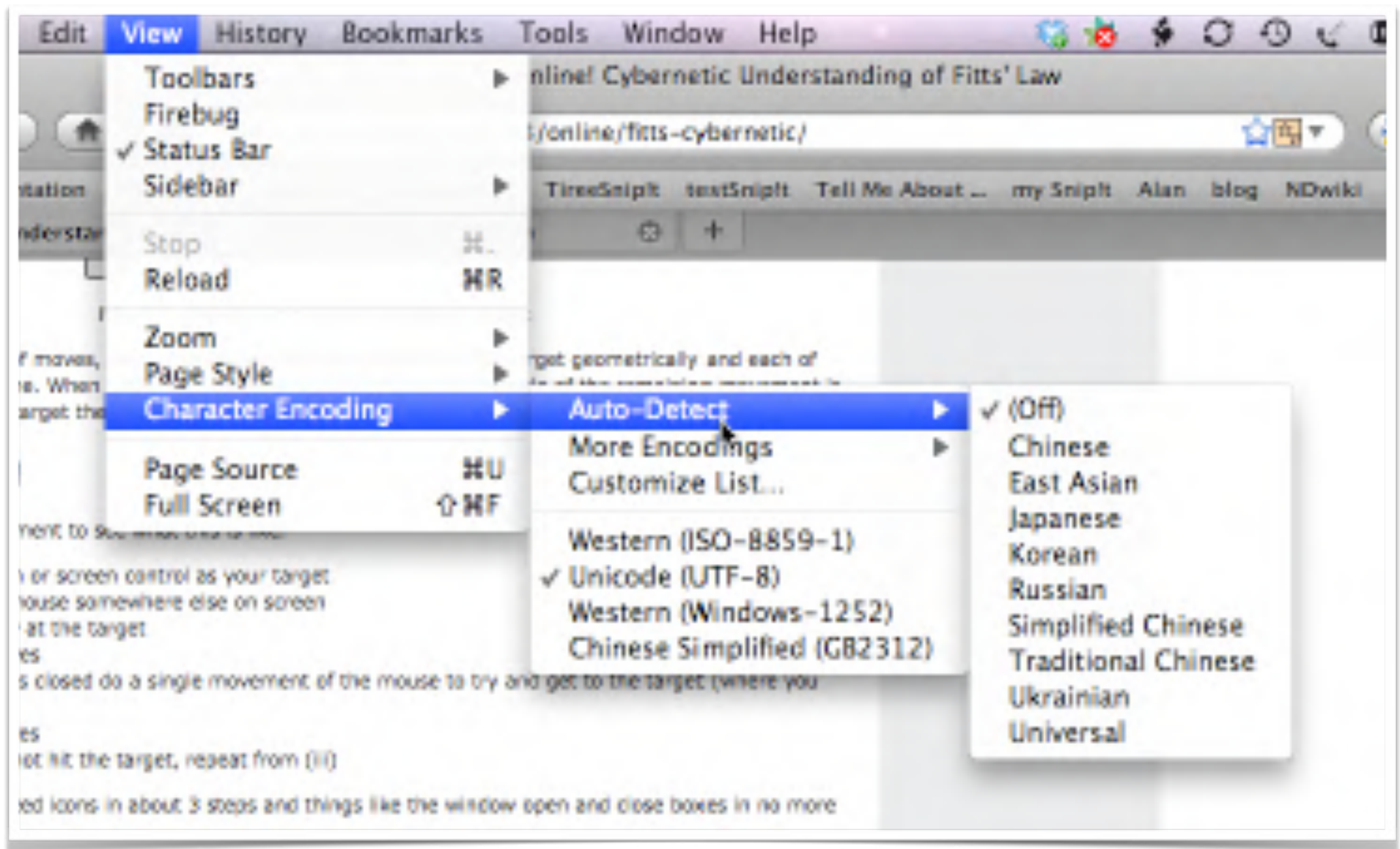


Navigating hierarchies

- **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 naturalness of the classification, which depends from knowing the user.



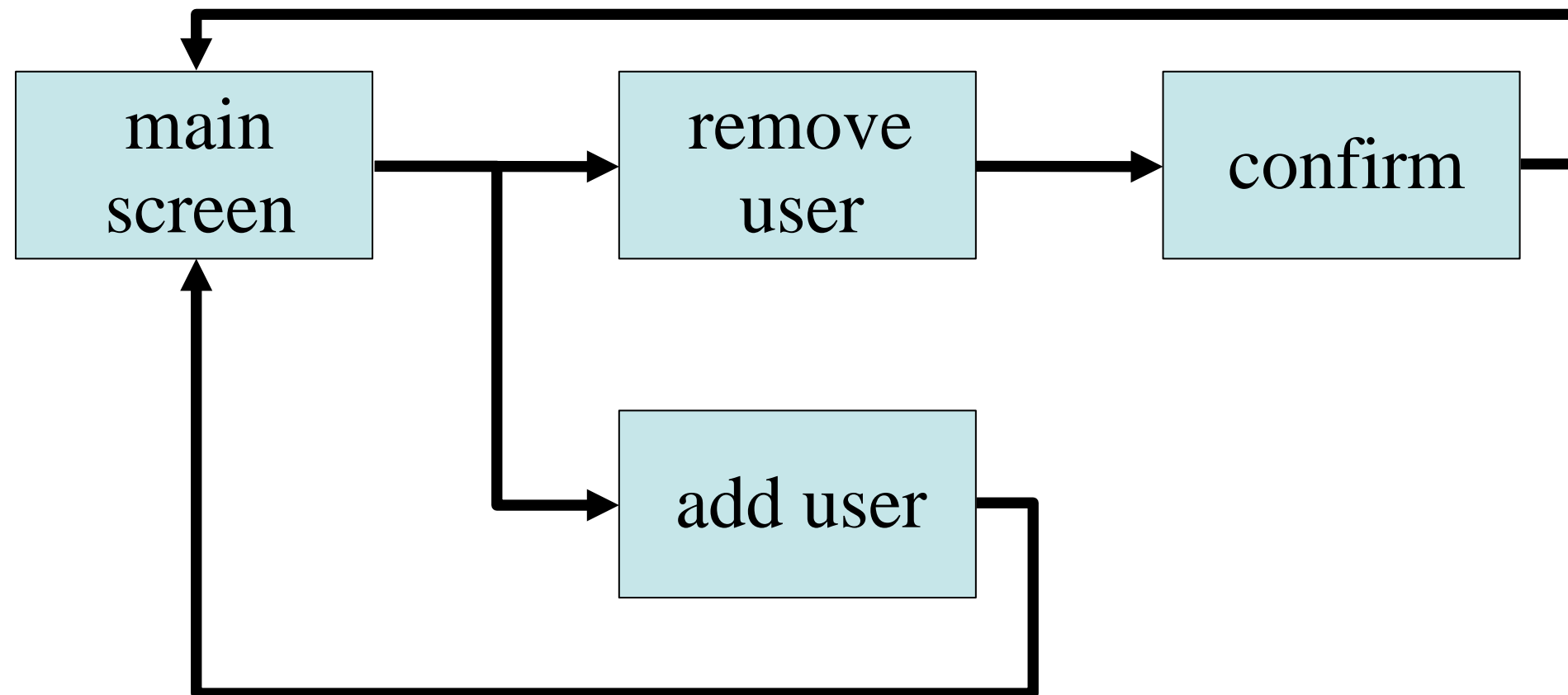
Navigating hierarchies



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



Network diagrams

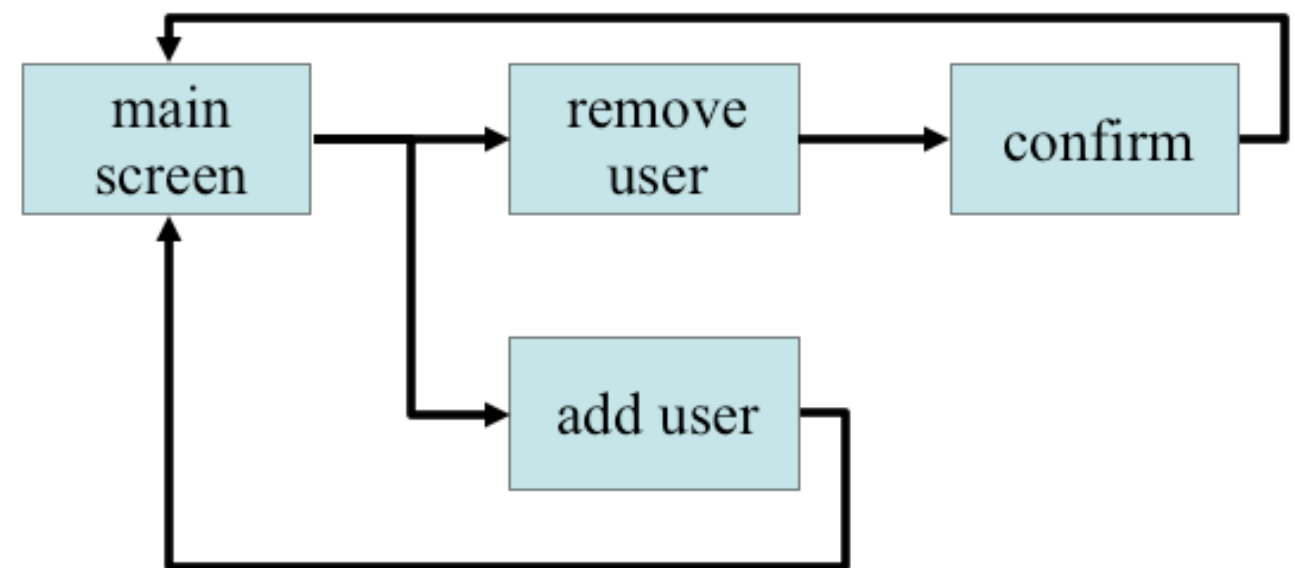


- show different paths through system, and even loops.



Network diagrams

- What leads to what
- What happens when
- Including branches
- More task oriented than hierarchy





Structure

Wider still

from one screen looking out



Wider still

- **Style issues:**

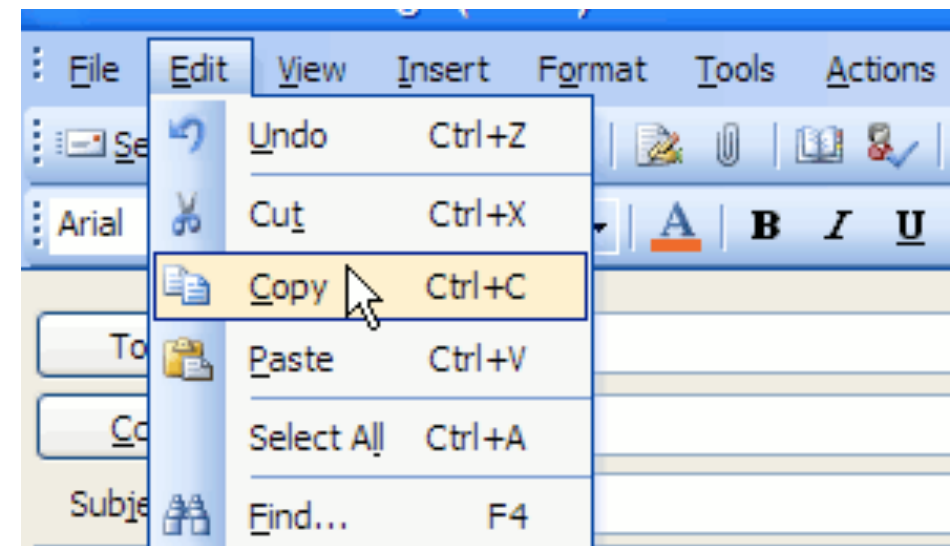
- platform standards, consistency

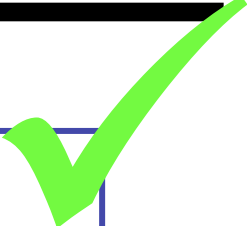
- **Functional issues**

- e.g. cut and paste

- **Navigation issues**

- embedded applications
- links to other apps ... the web
 - ▶ example: view PDF in browser.

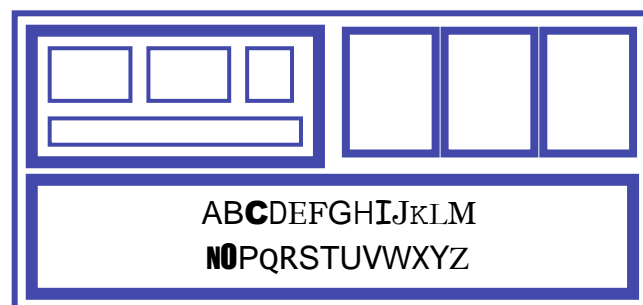




Dix , Alan
Finlay, Janet
Abowd, Gregory
Beale, Russell

Screen Design

**Basic principles;
Grouping; Structure, Order;
Alignment and Counter;
Aesthetics and Color Theory**





Basic principles

● Ask

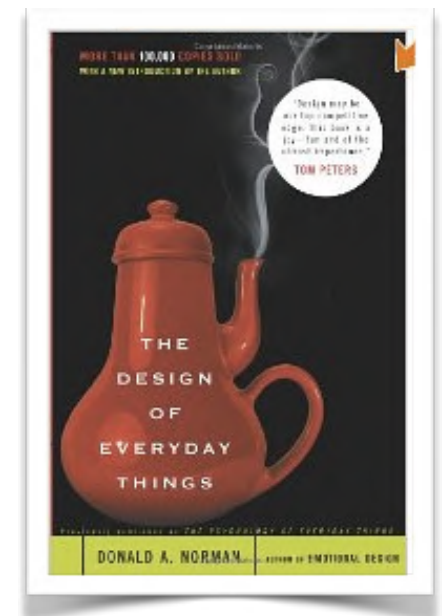
What is the user doing?

● 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 \Rightarrow **physically** together

*Controle GADENGÉ.gnucash - Editar Fatura - 000001 - GnuCash

Arquivo Editar Ver Ações Empresa Relatórios Ferramentas Janelas Ajuda

Gravar Imprimir Fatura Fechar Nova Fatura Editar Fatura Duplicate Invoice Registrar Cancelar Excluir Duplicar Up Down

Contas Editar Fatura - 000001

Informação da Fatura

Número da Fatura 000001

Data de Abertura 06/01/2012

☒ Ativo

Informações da Cobrança

Cliente Cliente 1 Editar...

Projeto Serviço 1 Editar...

ID da Cobrança

Formas de Pagamento Nenhum

Comentários

Notas pessoais são digitadas aqui. Estes dados não aparecem em faturas impressas.

Registros de Fatura

Data	Fz	Descrição	Ação	Conta de Receita	Quantidade	Preço Unit	Tip	Cor	Descont	Tri	It	Tab	Subtotal	Impost
06/01/2012	X	Pregos	Material	Receitas:Vendas	1.000,00	0,02	%	<		X			20,00	0,00
06/01/2012	X	Martelo	Material	Receitas:Vendas	1,00	35,00	%	<		X			35,00	0,00
06/01/2012		Descrição	Ação	Conta de Receita	Quantidade	Unitário	%	<	Descont	X		Estas	0,00	0,00

Total: R\$ 55,00 Subtotal: R\$ 55,00 Impostos: R\$ 0,00

sexta-feira 06 janeiro 2012





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

Área do Triângulo (UBI/IHC 2009)

Qual a área do Triângulo ?

a = 0.0

b =

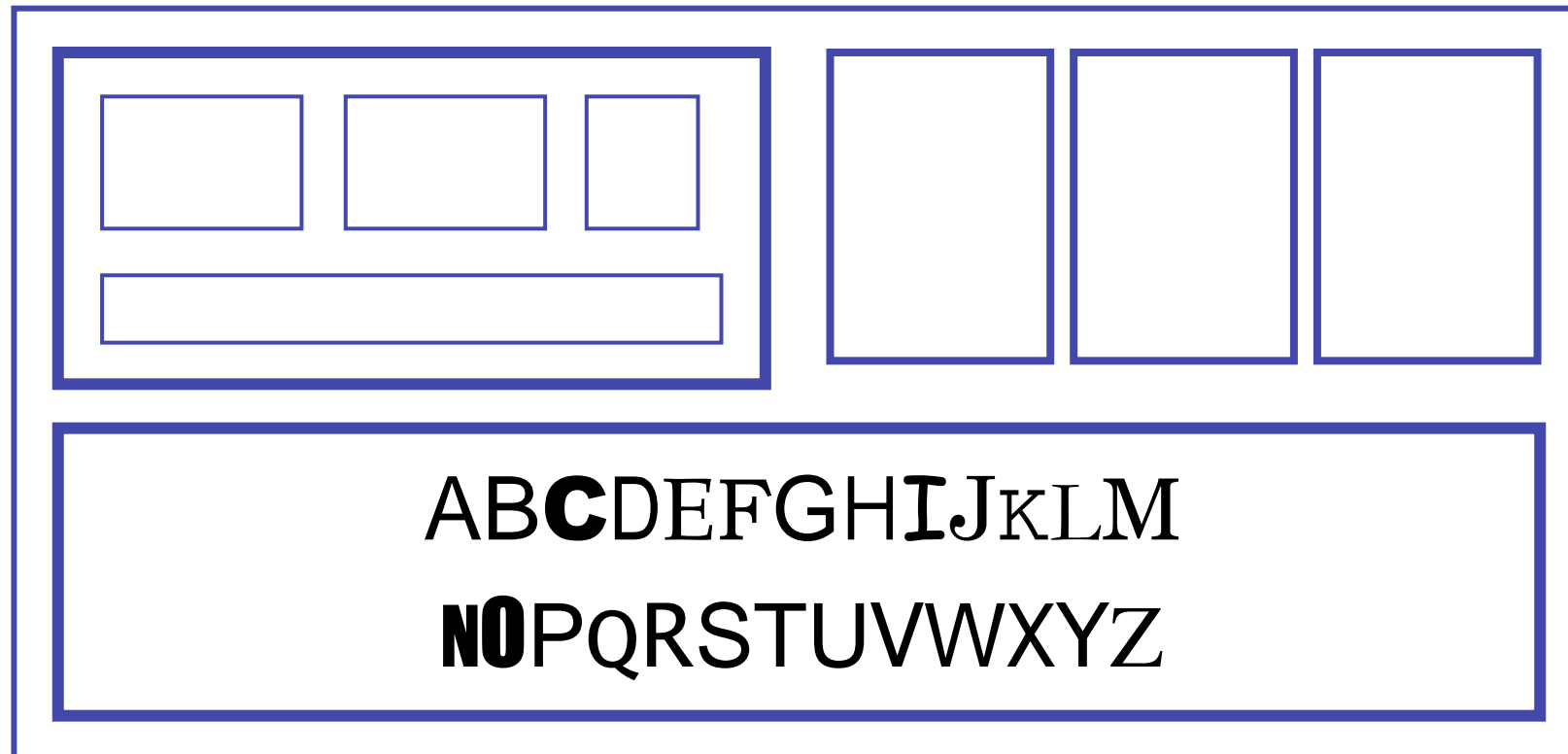
c =





Decoration

- **Use boxes to group logical items**
- **Use fonts for emphasis, headings**
- **But not too many!!**

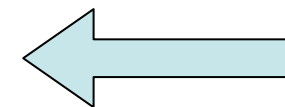




Text Alignment

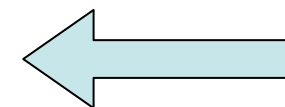
- **Reading from left to right, but ...**
- **In western culture:** left hand side text alignment

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





Alignment / Numbers

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





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. **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





The meaning of spacing

An old typographic technique

WHAT YOU SEE

THE GAPS BETWEEN

The “Counter”





Familiar home appliances

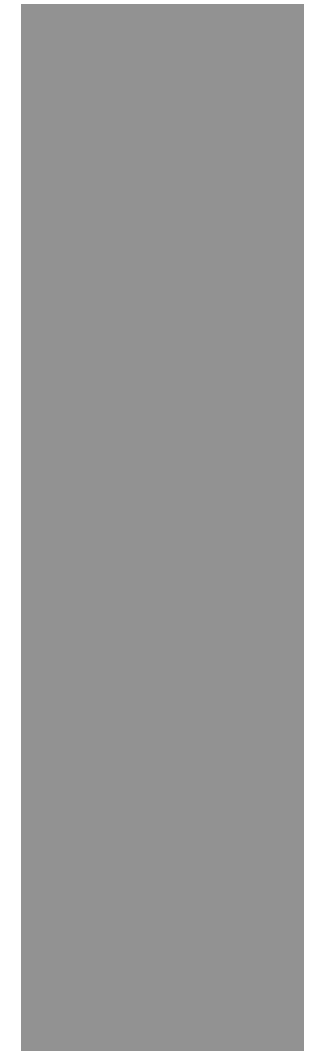
- **Grouping of elements**
- **Ordering of elements**
- **Different decorations**
- **Alignments**
- **Spacing**





Space to separate

Uniform Spacing



Space to separate

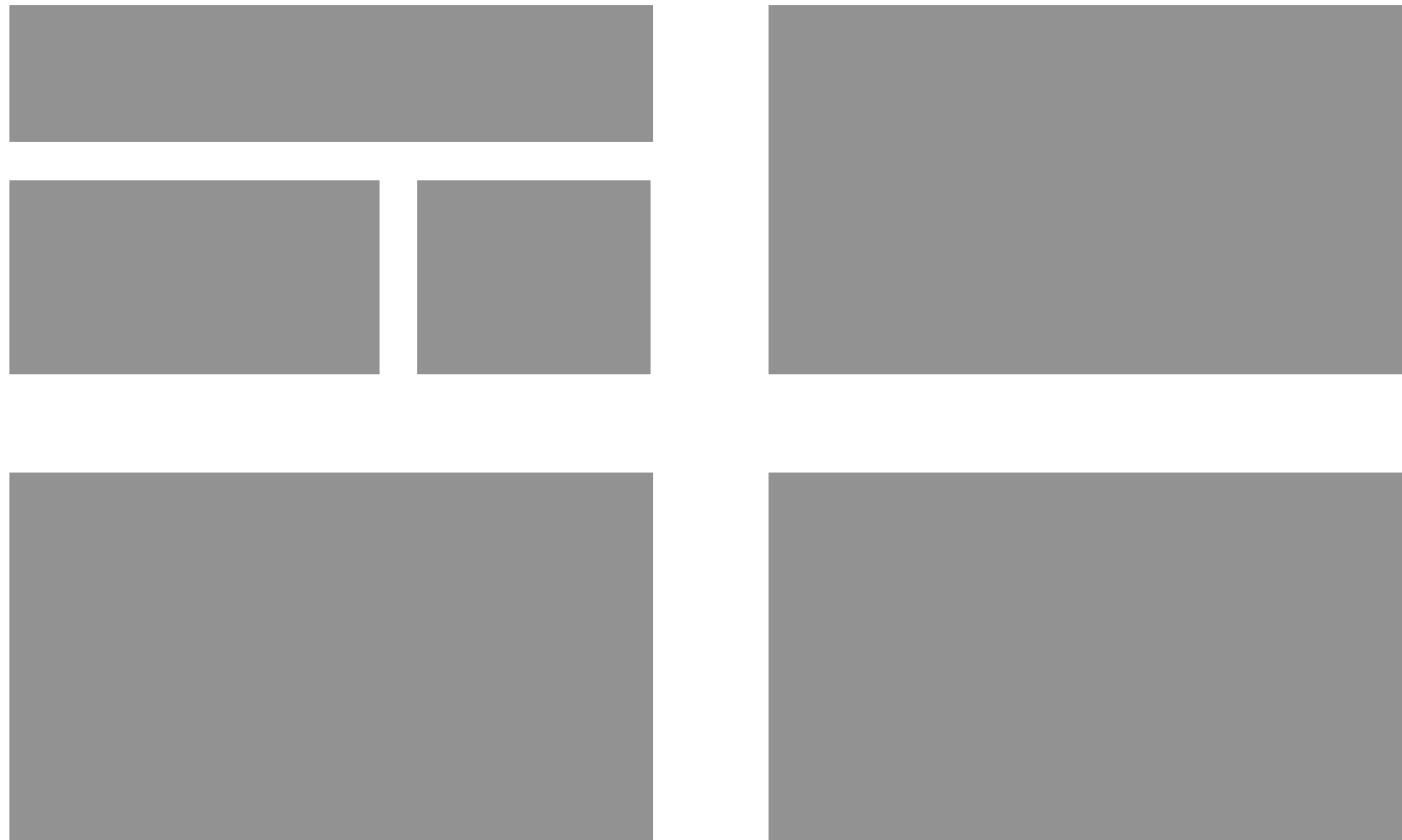
Uniform Spacing





Space to separate

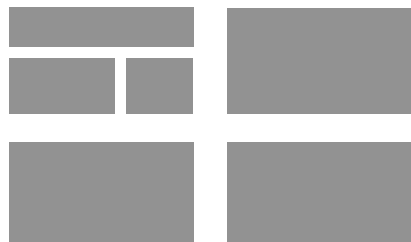
Hierarchical Spacing





Space to separate

Hierarchical Spacing



Space to separate

Hierarchical Spacing

*Controle GADENGE.gnucash - Editar Fatura - 000001 - GnuCash

Arquivo Editar Ver Ações Empresa Relatórios Ferramentas Janelas Ajuda

Gravar Imprimir Fatura Fechar Nova Fatura Editar Fatura Duplicate Invoice Registrar Cancelar Excluir Duplicar Up Down

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06/01/2012	X	Martelo	Material	Receitas:Vendas	1,00	35,00	%	<		X			35,00	0,00
06/01/2012		Descrição	Ação	Conta de Receita	Quantidade	Unitário	%	<	Desconto	X		Estos	0,00	0,00

Total: R\$ 55,00 Subtotal: R\$ 55,00 Impostos: R\$ 0,00

sexta-feira 06 janeiro 2012





Space to separate

Highlight with spacing



Space to separate

"All the News That's
Fit to Print."

The New York Times.

THE WEATHER.
Unsettled Tuesday; Wednesday,
fair, cooler; moderate southerly
winds, becoming variable.
For full weather report see Page 22.

VOL. LXXI. NO. 12,302

NEW YORK, TUESDAY, APRIL 16, 1912—TWENTY-FOUR PAGES.

ONE CENT In Greater New York, | Elsewhere,
Twenty Cents, and Newark, | TWO CENTS

TITANIC SINKS FOUR HOURS AFTER HITTING ICEBERG; 866 RESCUED BY CARPATHIA, PROBABLY 1250 PERISH; ISMAY SAFE, MRS. ASTOR MAYBE, NOTED NAMES MISSING

Col. Astor and Bride,
Isidor Straus and Wife,
and Maj. Butt Aboard.

"RULE OF SEA" FOLLOWED

Women and Children Put Over
in Lifeboats and Are Supposed
to be Safe on Carpathia.

PICKED UP AFTER 8 HOURS

Vincent Astor Calls at White Star
Office for News of His Father
and Leaves Weeping.

FRANKLIN HOPEFUL ALL DAY

Manager of the Line Insisted
Titanic Was Unsinkable Even
After She Had Gone Down.

HEAD OF THE LINE ABOARD

J. Bruce Ismay Making First Trip on
Gigantic Ship That Was to
Surpass All Others.

The admission that the Titanic, the
biggest steamship in the world, had
been sunk by an iceberg and had gone
to the bottom of the Atlantic, probably
carrying more than 1,600 of her pas-



Biggest Liner Plunges
to the Bottom
at 2:20 A. M.

RESCUERS THERE TOO LATE

Except to Pick Up the Few Hun-
dreds Who Took to the
Lifeboats.

WOMEN AND CHILDREN FIRST

Cunarder Carpathia Rushing to
New York with the
Survivors.

SEA SEARCH FOR OTHERS

The California Stands By on
Chance of Picking Up Other
Boats or Rafts.

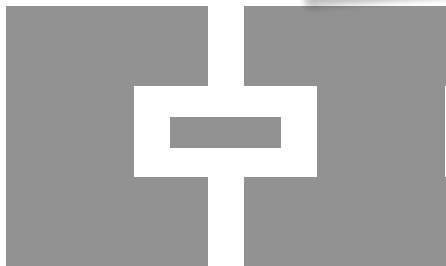
OLYMPIC SENDS THE NEWS

Only Ship to Flash Wireless Mes-
sages to Shore After the
Disaster.

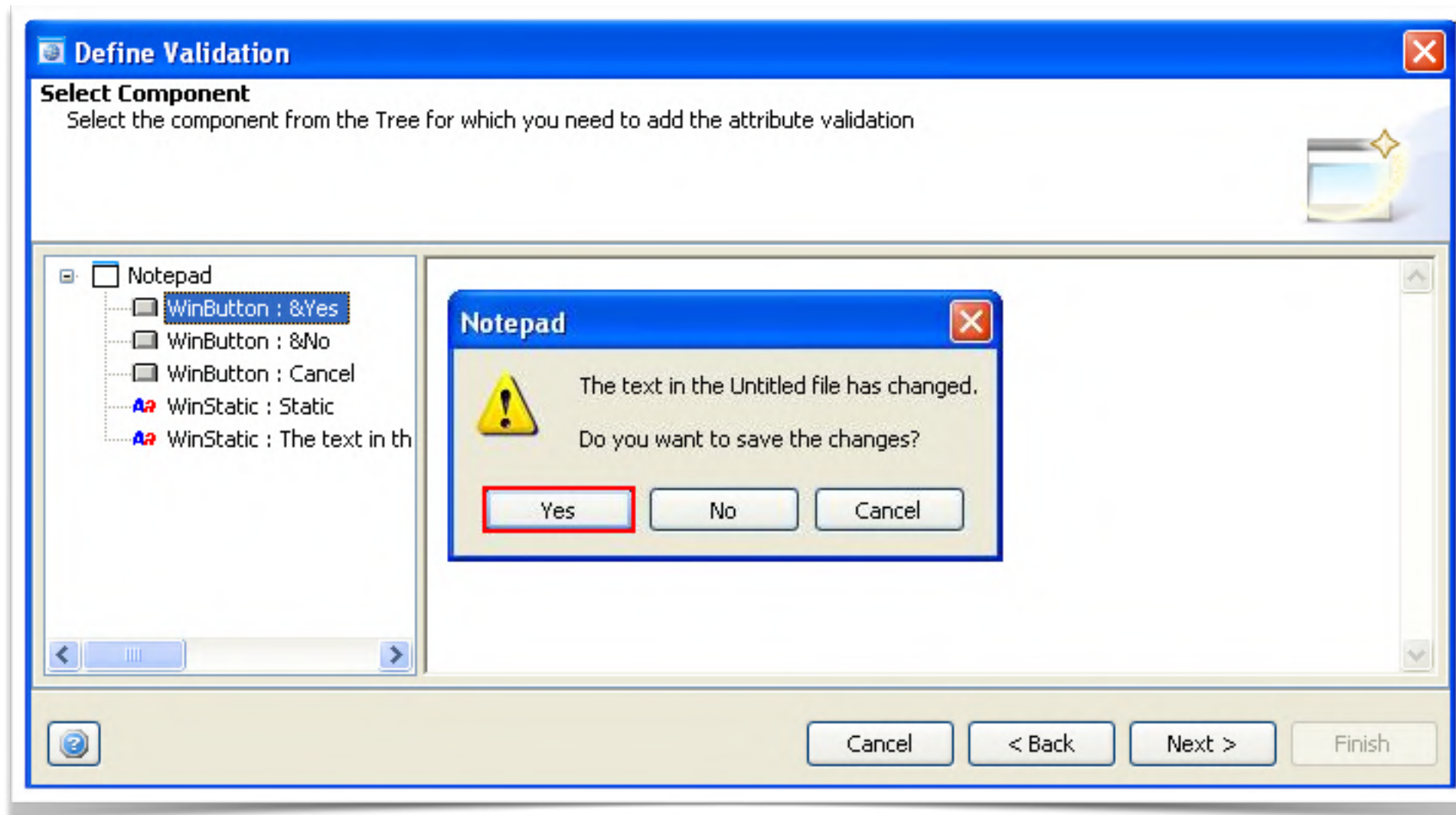
LATER REPORT SAVES 866.
BOSTON, April 15.—A wireless
message picked up late to-night,
relayed from the Olympic, says



Space to separate



Space to separate





The aesthetic impact of a GUI

Electronic Mail Options

File Attachment Method

- ☐ Binary Method
- ☒ Insert Text in Message
- ☐ Append Text to Message

Out Mail

- ☒ Keep Copies
- ☐ Delete
- ☐ Transfer to Out Mail Directory

Parameters

- ☒ Send at Start of Test
- ☐ Skip Large Messages
- ☒ Keep Password
- ☐ Leave Mail on Server

Check Mail Every: Min.

Maximun Size: Bytes

Operation Information

Internet Account Name:

Mail Server Name:

Real Name of:

☐ Work Offline ☐ Ignore Other Applications

Electronic Mail Options

☐ Attach File in the Binary Method

☒ Insert File in the Text of the Message

☐ Append File at the End of the Text

☒ Keep Copies of Out Mail

☐ Delete Out Mail

☐ Transfer to Out Mail Directory

Internet Account Name:

Mail Server Name:

Real Name of:

Network Connection Method:

☐ Work Offline

☒ Send at Start of Test

☐ Skip Large Messages

☒ Keep Password

☐ Leave Mail on Server

Electronic Mail Reception:

Check Mail Every: Min.

Maximun Size: Bytes

☐ Ignore Other Applications





The aesthetic impact of a GUI

The importance of a good alignment

The image displays two side-by-side screenshots of a GUI window titled "Entrega e Pagamento". Both windows contain the same set of form fields: "Nome", "Morada Factura", "Cód. Post.", "Cidade", "Morada Entrega", and "Cód. Post.", followed by "Ok" and "Cancel" buttons. The left window illustrates poor alignment, where the labels and input fields are not consistently aligned, leading to a cluttered and unprofessional appearance. The right window shows the same form with improved alignment, where the labels and input fields are consistently aligned, resulting in a cleaner and more aesthetically pleasing interface.





The aesthetic impact of a GUI

The aesthetic and functional importance of spacing

Entrega e Pagamento

Nome:

Morada Factura:

Cód. Post: Cidade:

Morada entrega:

Cód. Post: Cidade:

Ok Cancel

Entrega e Pagamento

Nome:

Morada Factura:

Cód. Post: Cidade:

Morada Entrega:

Cód. Post: Cidade:

Ok Cancel





Knowing what to do

- **What is active what is passive**

- where do you click
- where do you type

- **Consistent style helps**

- e.g. web underlined links

- **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!**

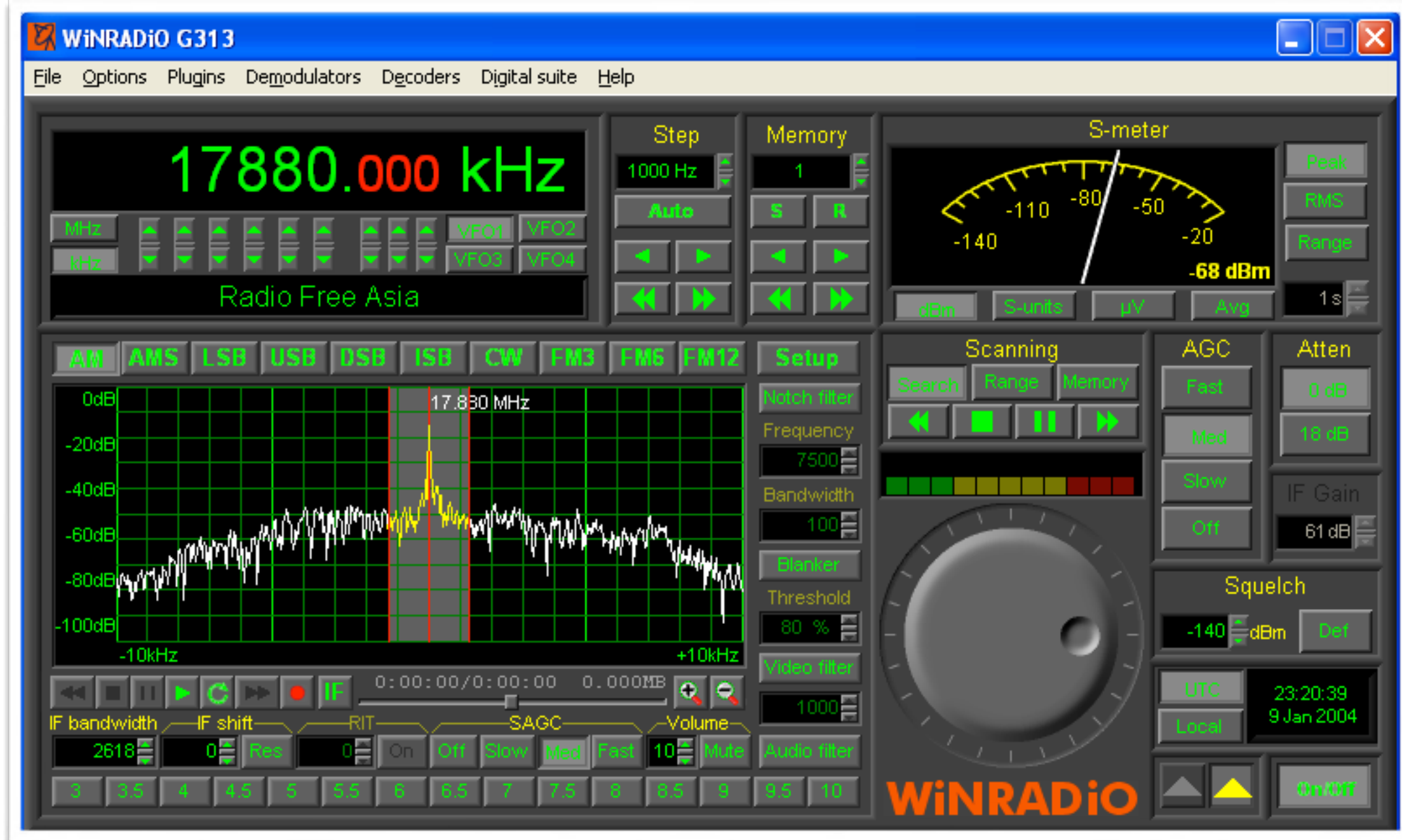
'affords'
grasping





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).

[\[source\]](#)

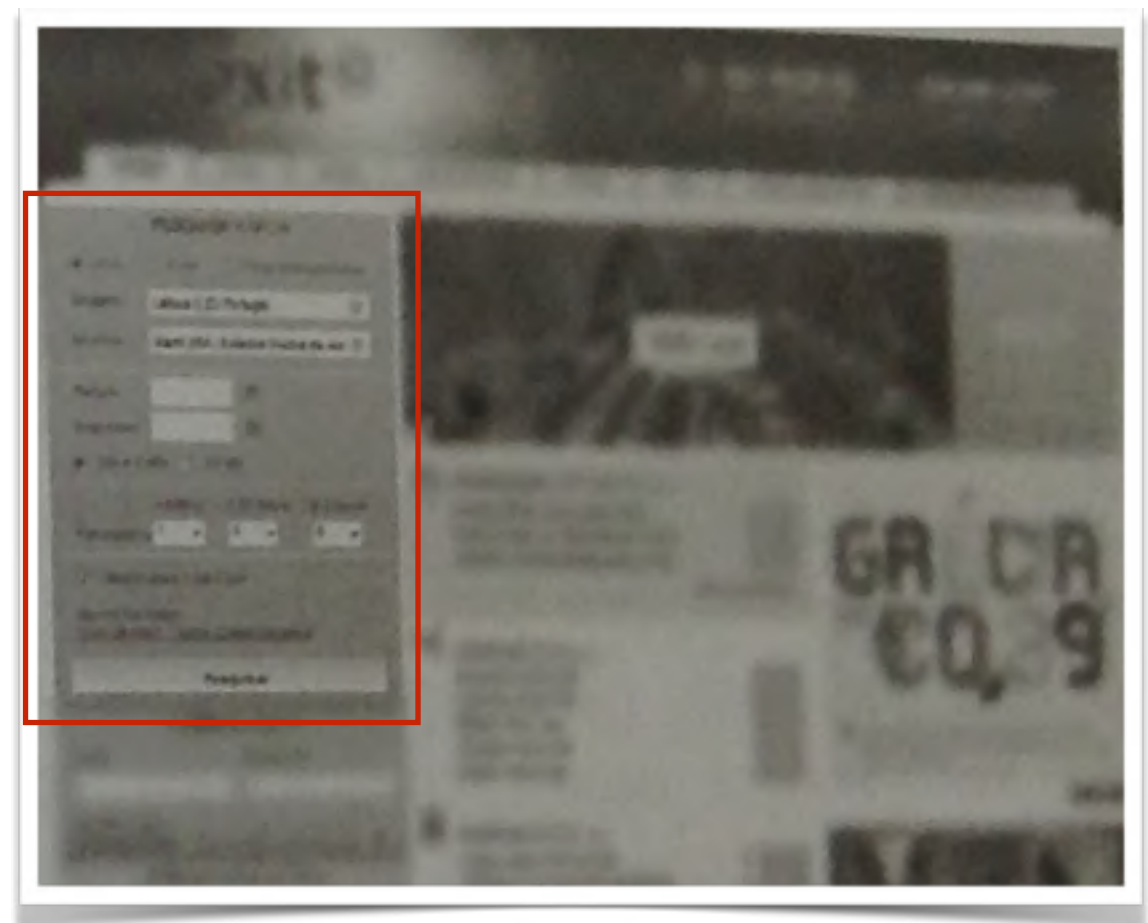
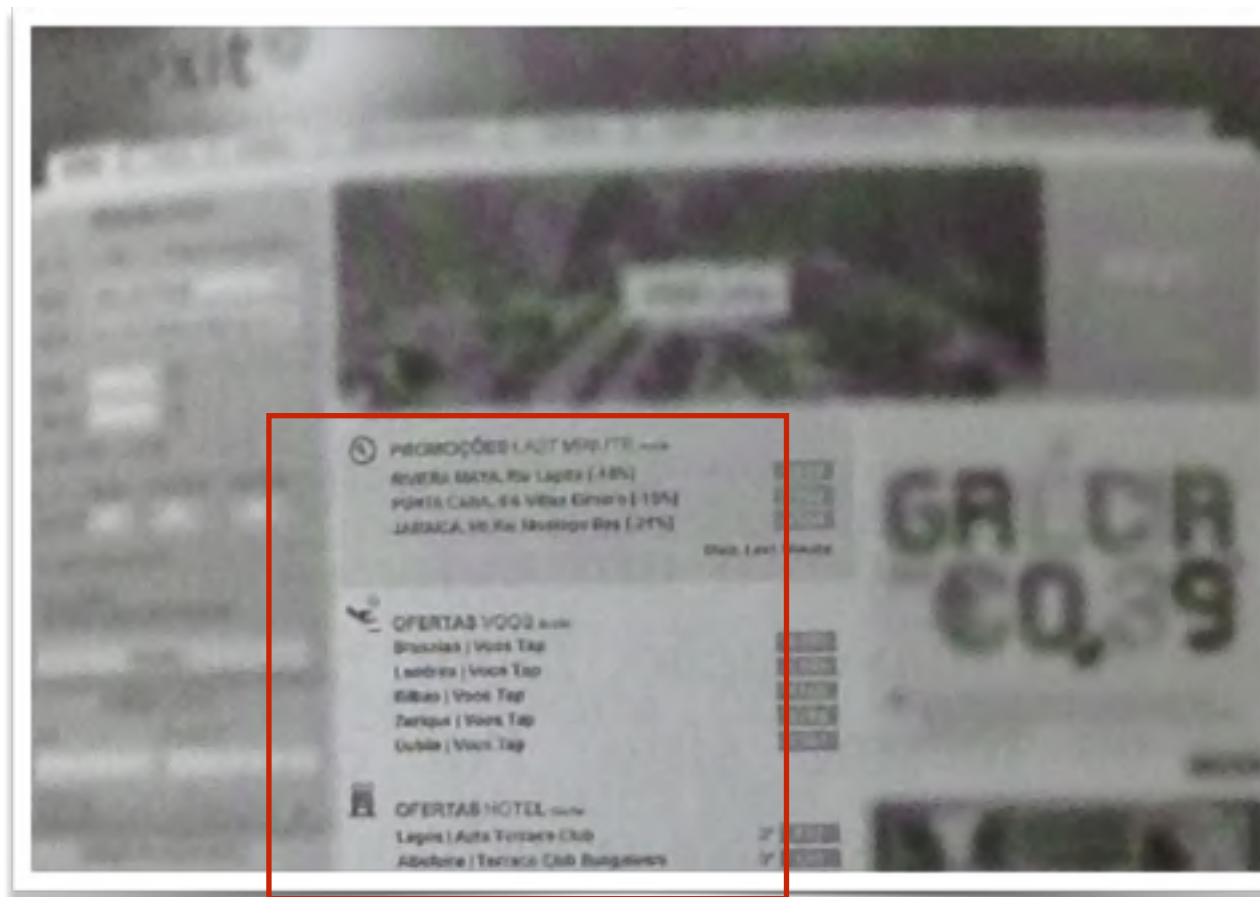
Jakob Nielsen





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!

Havana + Cayos	7		
Saída 28Agosto	DESDE:	€ 1082	
A Dois Passos		opções	
Oferta Tavira	5	APA	Free
Em Setembro!	DESDE:	€ 113	
City Breaks		opções	
Budapeste	4	APA	
Garanta Lugar!	DESDE:	€ 469	
Médio Curso		opções	
MEGA Lanzarote	7	SA	
26 e 29 Agosto	DESDE:	€ 339	
Fuerteventura	7	TI	
Saída 26Agosto	DESDE:	€ 495	
MEGA Creta	7	TI	
Saída 26Agosto	DESDE:	€ 685	

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.



↓ **POLÍTICA**

 **CDS-PP espera apoio do PSD para adiamento do Código Contributivo**

O líder parlamentar do CDS-PP afirmou esta quarta-feira esperar que o PSD "não fique ao lado" do Governo contra o diploma que (...)

15/08/2010  Comentários (0)

Estado perde 356 mil € por dia

O adiamento da cobrança de portagens nas três auto-estradas sem custos para o utilizador (Scut) custa à Estradas de Portugal (...)

↓ **ENSINO**

 **Lista de todas as escolas que vão fechar, concelho a concelho**

Veja a lista das escolas que vão fechar em cada concelho de Portugal.(...)

17 Agosto 2010  Comentários (9)

Educação contesta Finanças

O Ministério da Educação, em nota enviada ao CM, contestou a auditoria da Inspeção-Geral de Finanças, que segundo noticiou ontem (...)

17 Agosto 2010  Comentários (2)

↓ **SAÚDE**

 **Doentes cegos vão avançar para a Justiça**

Os familiares e amigos dos quatro doentes que cegaram na sequência de cirurgias aos olhos na clínica I-QMed, em Lagoa, Algarve, (...)

08/30  Comentários (1)

Hospitais demoram 349 dias para pagar

O crescimento da dívida dos hospitais à indústria farmacêutica é "um bocadinho descontrolada", admitiu ontem a Associação dos (...)

17 Agosto 2010  Comentários (0)



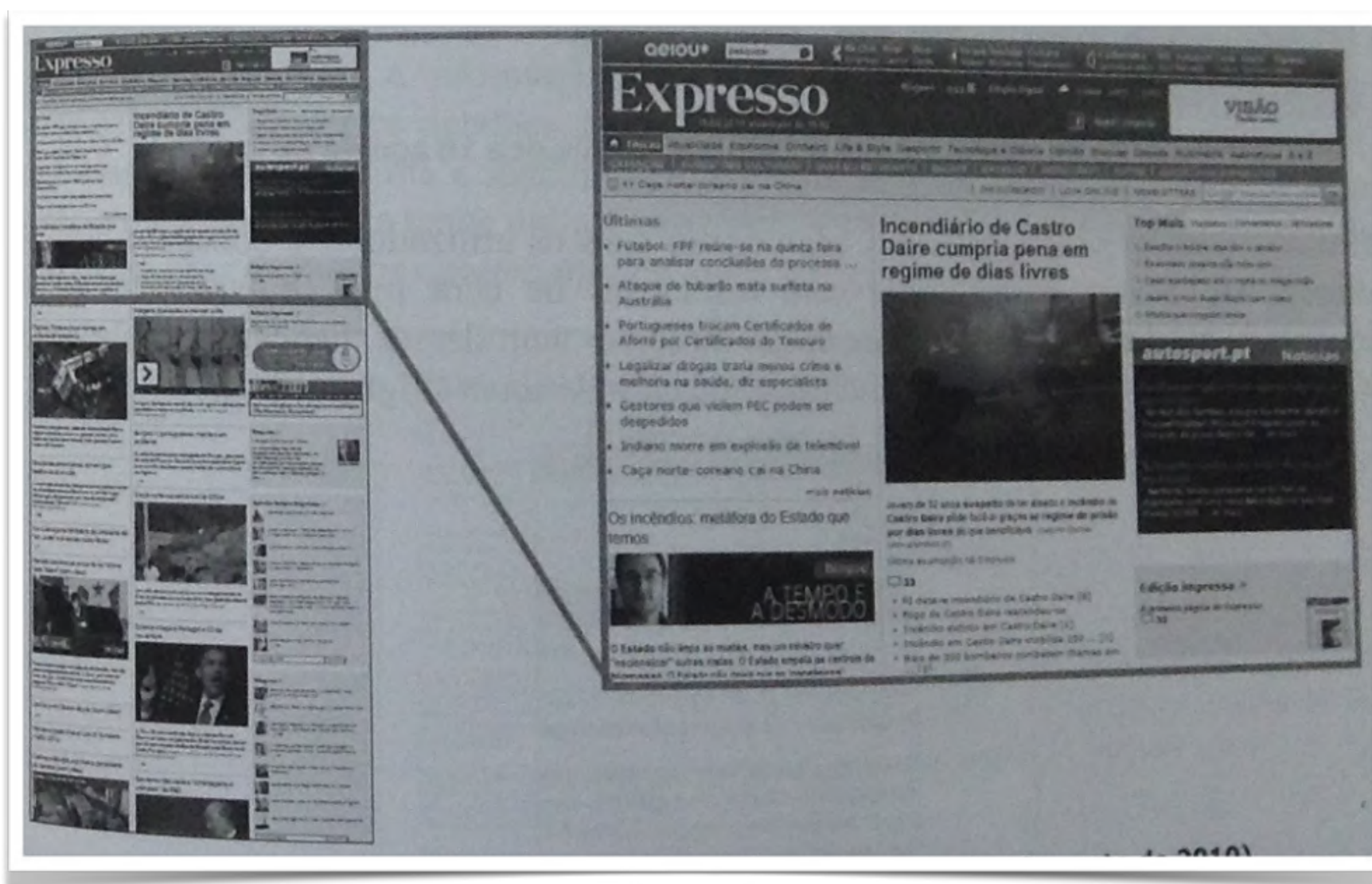
Highlight and Hierarchy

- 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

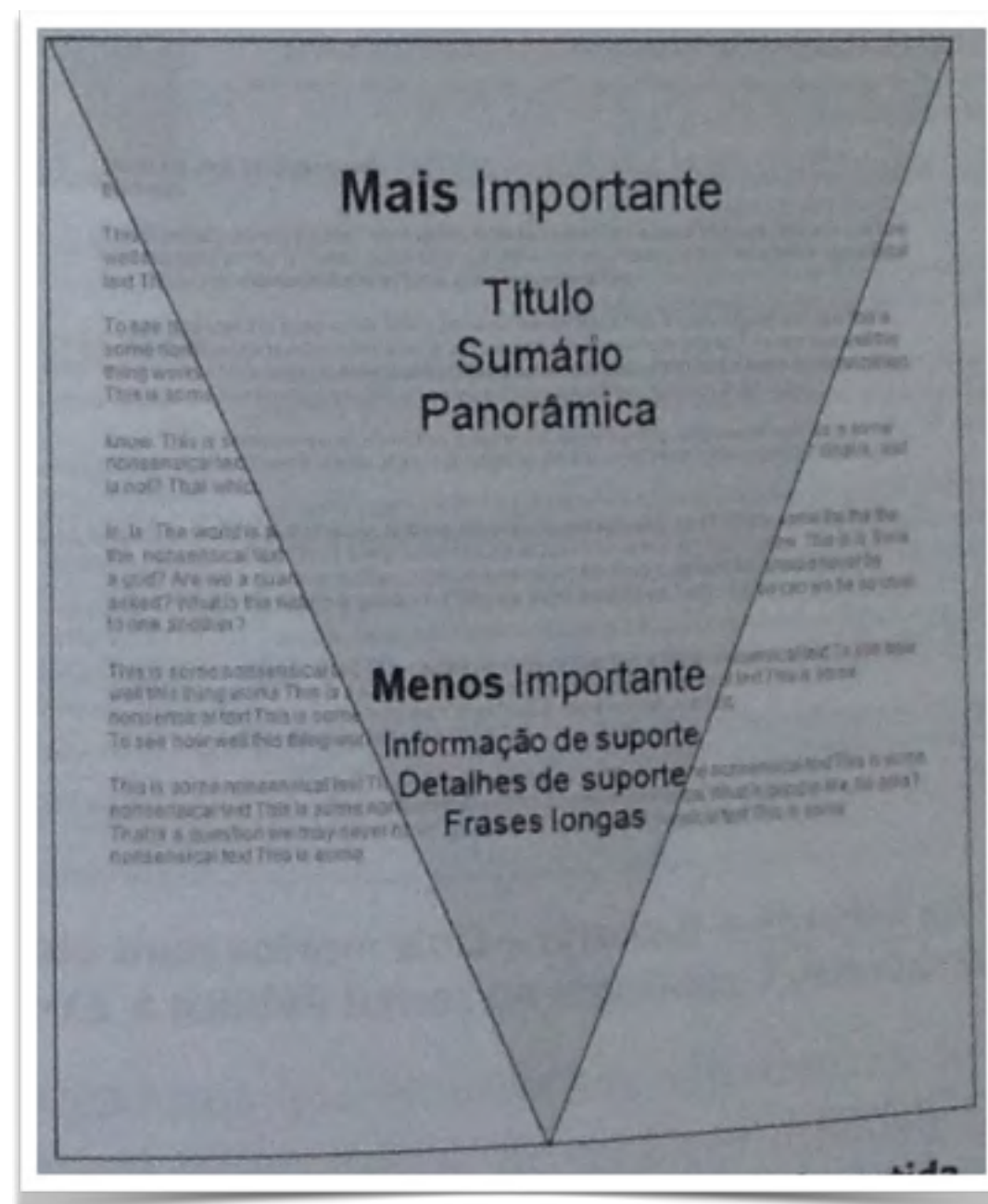
- **Above the fold** (acima da dobra): choose well what is shown in this area. It is a concept imported brought from the *press*, taking into account the folding of a newspaper





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





Concise text <== self-evident

Instead of:

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**)

Use:

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**)