



Interação Humano-Computador

Fatores Humanos

Profª. Renata P. M. Fortes

PAE André de Lima Salgado

PAE Humberto Lidio Antonelli

Instituto de Ciências Matemáticas e Computação - USP

Vamos falar sobre HUMANO(A)S

CONHECENDO SEUS USUÁRIOS

- Primeiro, é preciso saber quem são seus usuários
- Questionários e entrevistas
 - Questionários: formulário impresso ou on-line
 - Grande número de pessoas
 - Não há como tirar dúvidas (incluir opções como “não sei” e “não quero responder”)
 - Entrevistas: conversa guiada por roteiro
 - Perguntas abertas ou fechadas
 - Entrevista estruturada ou não

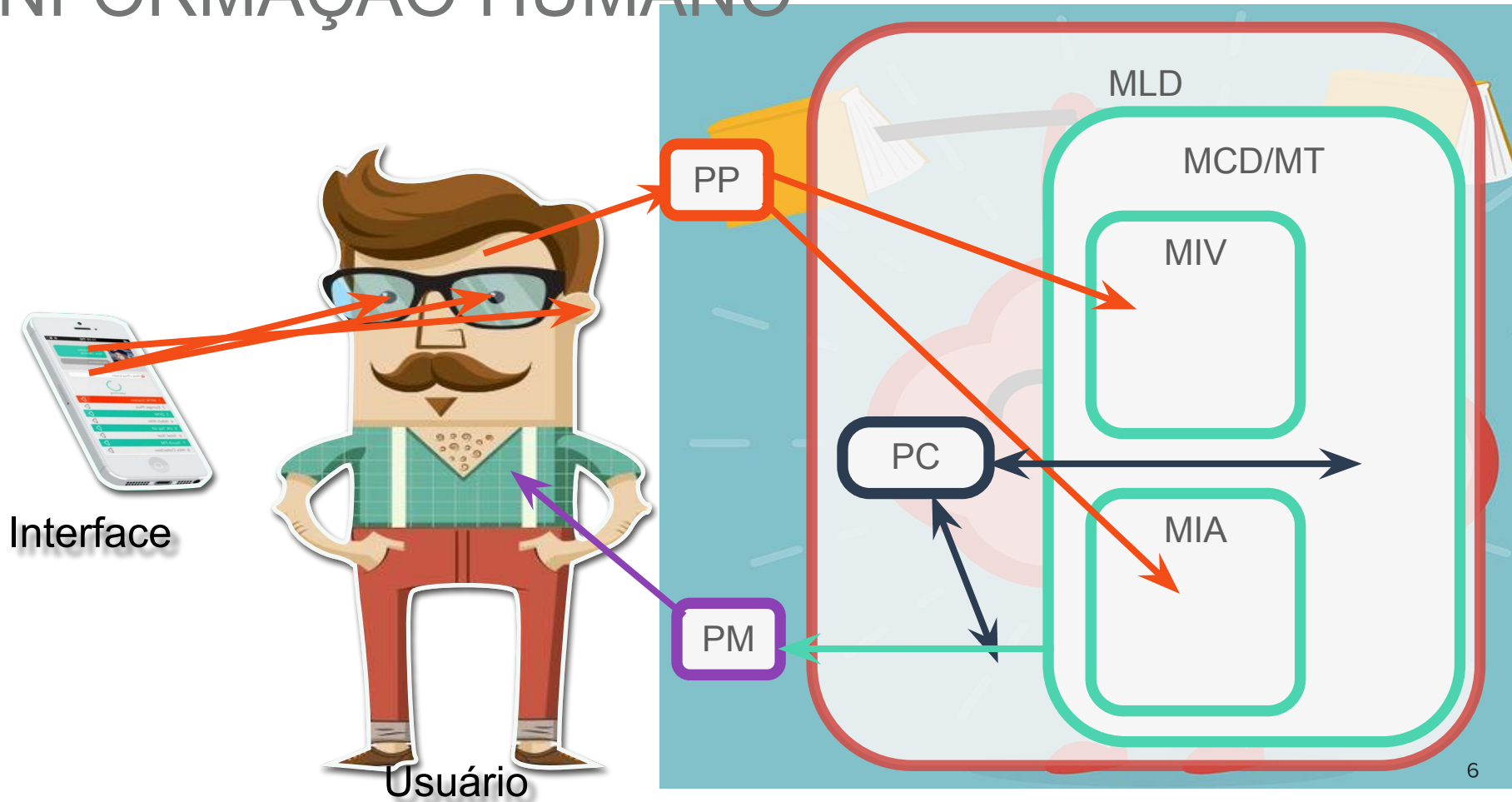
CONHECENDO SEUS USUÁRIOS

- Que dados coletar?
 - Demográficos
 - Experiência no cargo
 - Informações sobre a empresa
 - Educação
 - Experiência com computadores
 - Experiência com um produto específico ou ferramentas similares
 - Tecnologia disponível

CONHECENDO SEUS USUÁRIOS

- Que dados coletar?
 - Treinamento
 - Atitudes e valores
 - Conhecimento do domínio
 - Objetivos
 - Tarefas
 - Gravidade dos erros
 - Motivação para o trabalho
 - Idiomas e jargões

MPIH - MODELO DO PROCESSADOR DE INFORMAÇÃO HUMANO



PERCEPÇÕES E EXPECTATIVAS

- Nossas expectativas e percepções são influenciadas por três principais fatores:
 - Passado: nossas experiências
 - Presente: o contexto corrente
 - Futuro: nossos objetivos

PERCEPÇÕES INFLUENCIADAS PELA EXPERIÊNCIA

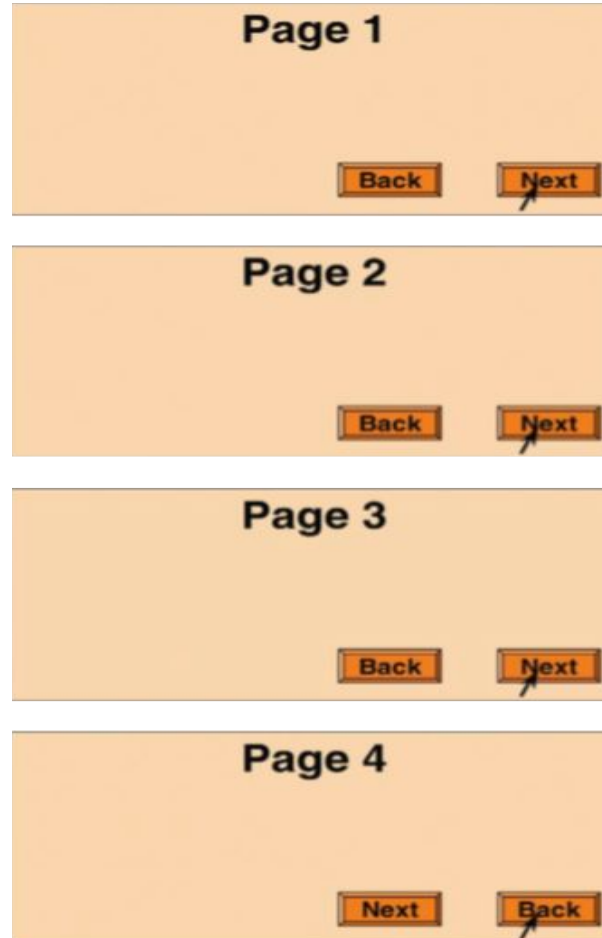
- Uma planta/mapa ou uma palavra?



PERCEPÇÕES INFLUENCIADAS PELA EXPERIÊNCIA



PERCEPÇÕES INFLUENCIADAS PELA EXPERIÊNCIA



PERCEPÇÕES INFLUENCIADAS PELO CONTEXTO
CORRENTE

THE CHT

PERCEPÇÕES INFLUENCIADAS POR OBJETIVOS

- Encontre a tesoura na figura seguinte.

PERCEPÇÕES INFLUENCIADAS POR OBJETIVOS



PERCEPÇÕES INFLUENCIADAS POR OBJETIVOS

- Onde estava a tesoura?
- E o compressor?

PERCEPÇÕES INFLUENCIADAS POR OBJETIVOS

- Onde estava a tesoura?
- E o compressor?



PERCEPÇÕES INFLUENCIADAS POR OBJETIVOS

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UC
UNIVERSITY OF
CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

University of Canterbury

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For

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- [Current Students](#)
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Congratulations! You have been randomly chosen to receive 100 dollars. Claim at Bursars office.

Welcome to the University of Canterbury

Nau Mai, Haere Mai ki te Whare Wānanga o Waitaha

Mid-Year Enrolment

- [Apply now for mid-year](#)
- [Change/add courses at UC Student Web](#)
- [Courses starting July](#)



Stand Up
Don't wait until 2007!
Start your degree this July

Announcements

- [Mid-Year Examinations 2006](#)
- [Proposed Merger between UC and CCE](#)
- [UCi3, ICT Innovation Institute](#)
- [Information Days 4 - 5 July 2006](#)

News

[Young UC researchers win prestigious science prizes \(8 June 2006\)](#)



UC research into replicating the spider web process to produce new fibres, generating power using wind at Scott Base and creating technologies to detect chemical weapon agents have been recognised at the annual MacDiarmid Young Scientists of the Year Awards.

Search

Student Profiles



Tim Kerr
[More Profiles](#)

Quick Links

- [UC Student Web](#)
- [Intranet](#)
- [Key Dates](#)
- [Enrolment](#)
- [UC Diary](#)
- [Campus Maps](#)

IMPLICAÇÕES NO DESIGN

- Ambiguidade



- Seja consistente
- Entenda os objetivos dos usuários (modelo mental, HTA)

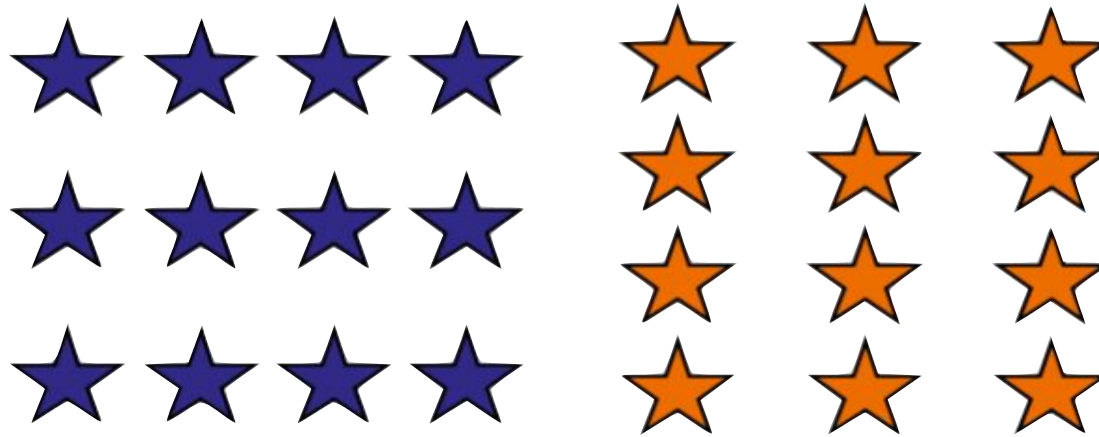
VISÃO HUMANA

- Nossa visão é otimizada para enxergar estruturas.
- Princípios de **Gestalt**:

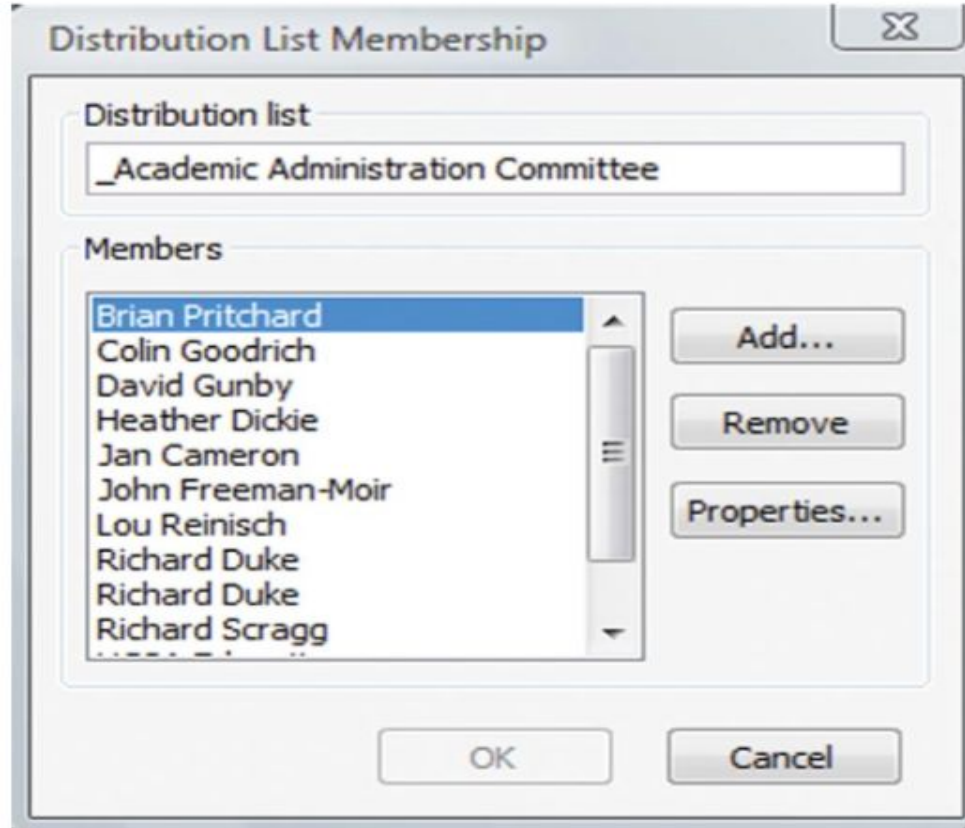


- Proximidade
- Similaridade
- Continuidade
- Fecho
- Simetria
- Figura/Fundo
- Destino Comum

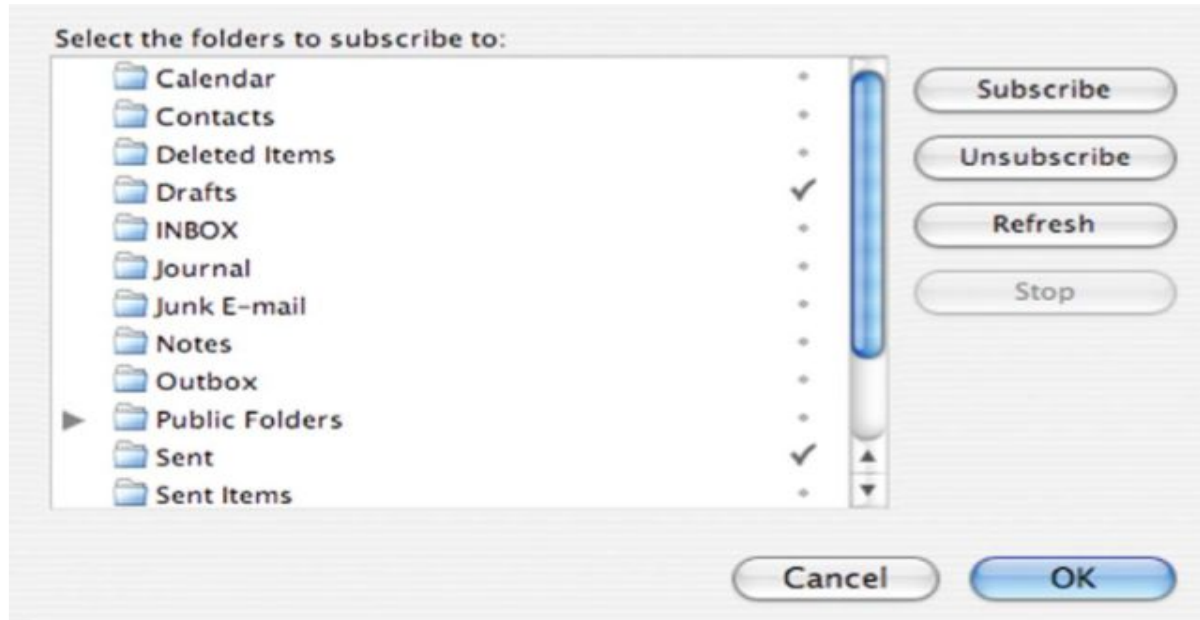
GESTALT - PROXIMIDADE



GESTALT - PROXIMIDADE



GESTALT - PROXIMIDADE




GESTALT - PROXIMIDADE

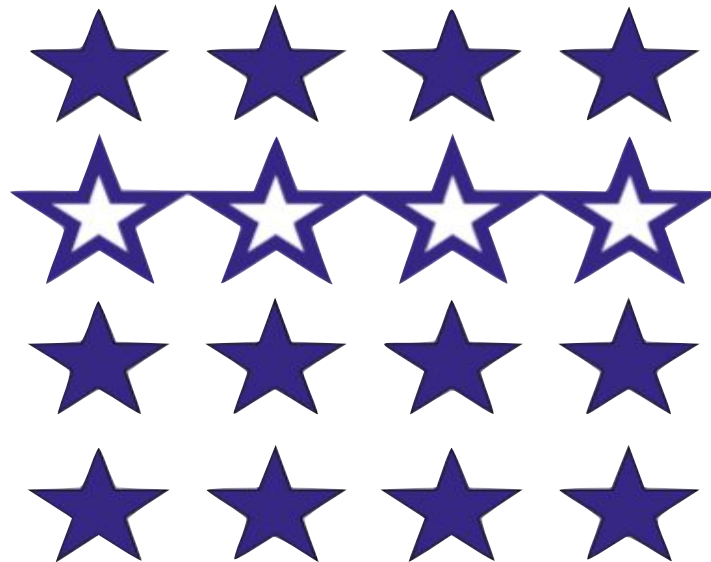
3ds max 6 components				
Add	Remove			installation action
<input checked="" type="radio"/>	<input type="radio"/>	3ds max 6	application	install
<input checked="" type="radio"/>	<input type="radio"/>	3ds max 6	documentation	install
<input checked="" type="radio"/>	<input type="radio"/>	3ds max 6	samples	install
<input checked="" type="radio"/>	<input type="radio"/>	3ds max 6	architectural materials	install
<input type="radio"/>	<input checked="" type="radio"/>	3ds max 6	SDK	remain uninstalled
<input checked="" type="radio"/>	<input type="radio"/>	character studio 4.2		install

Add will install any components not currently installed.
Remove will uninstall any components currently installed.

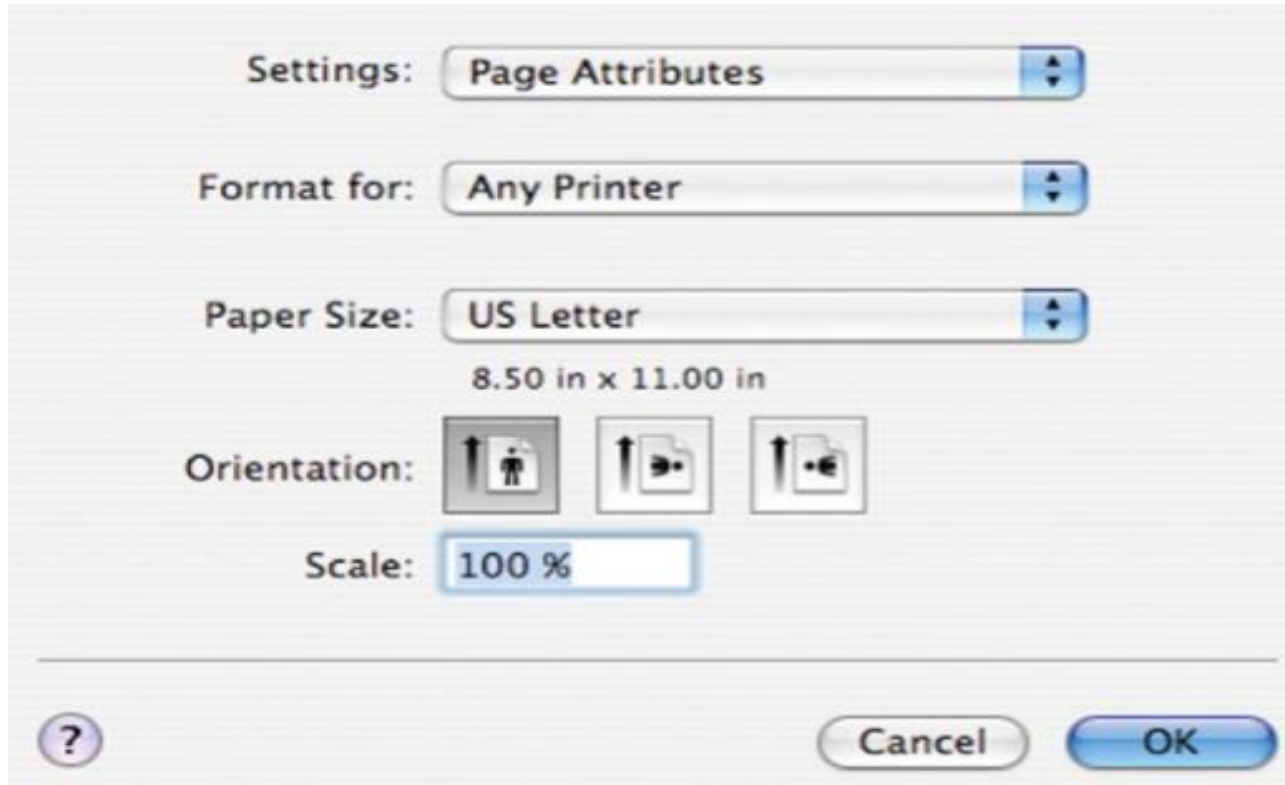
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GESTALT - SIMILARIDADE



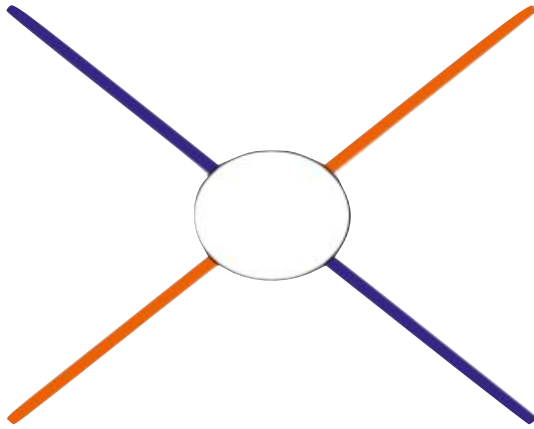
GESTALT - SIMILARIDADE



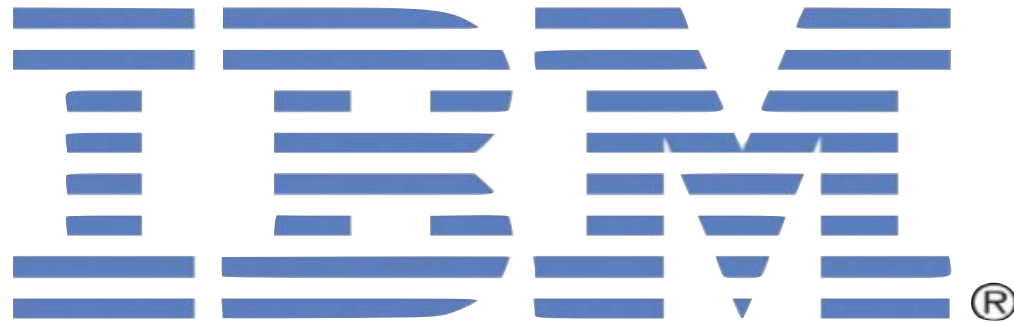
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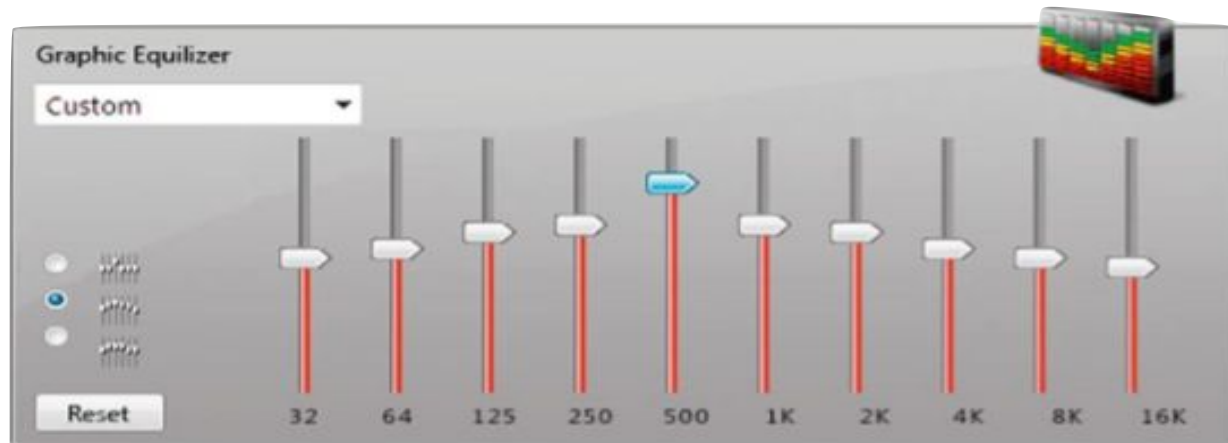
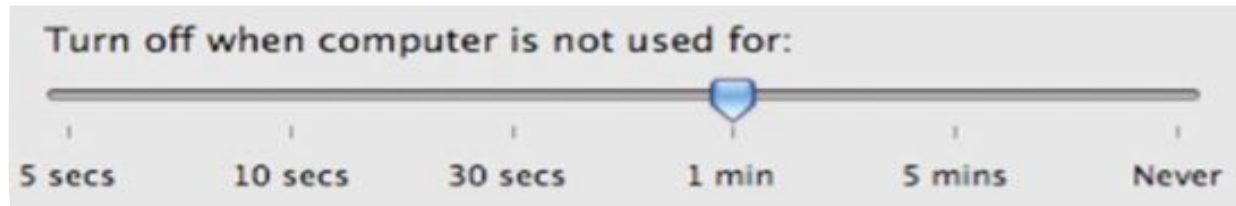
GESTALT - CONTINUIDADE




GESTALT - CONTINUIDADE



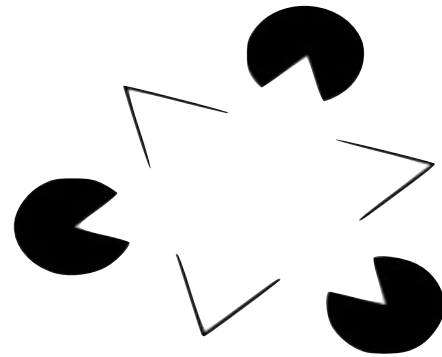
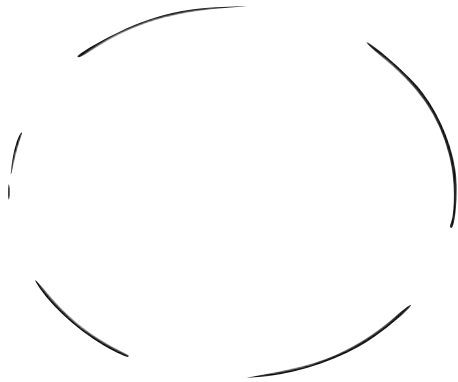
GESTALT - CONTINUIDADE



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GESTALT - FECHO



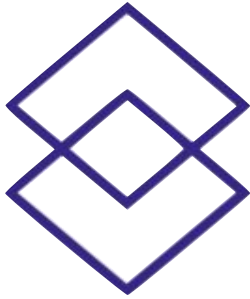
GESTALT - FECHO



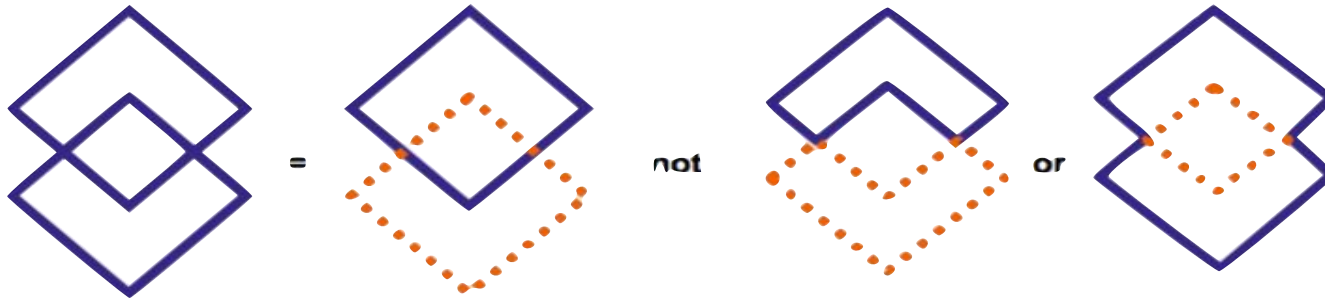
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 -  • Simetria
 - Figura/Fundo
 - Destino Comum

GESTALT - SIMETRIA



GESTALT - SIMETRIA




GESTALT - SIMETRIA



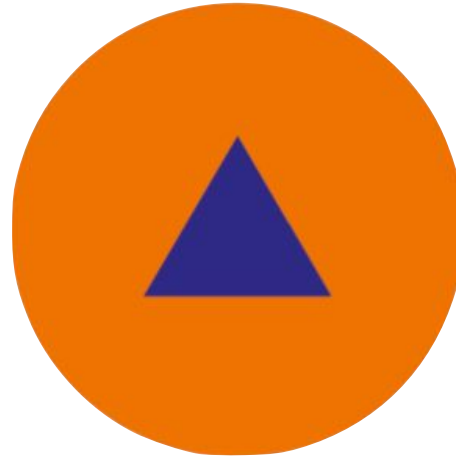
GESTALT - SIMETRIA



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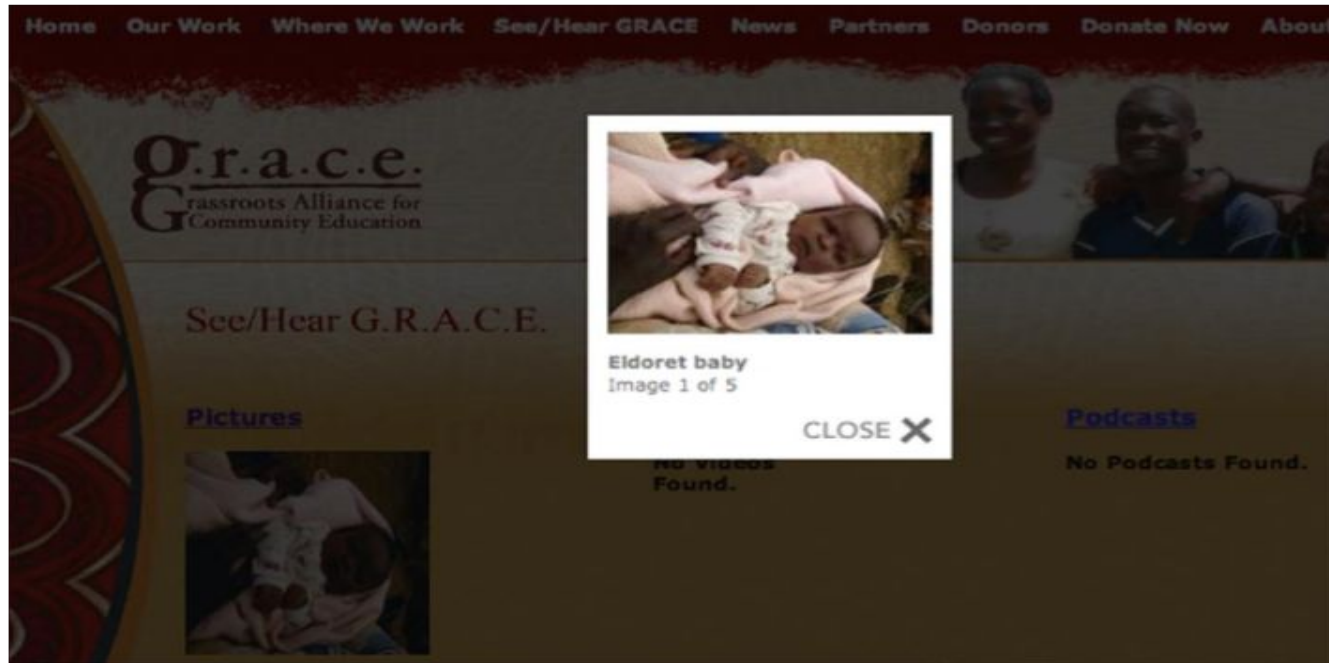
GESTALT - FIGURA/FUNDO



GESTALT - FIGURA/FUNDO



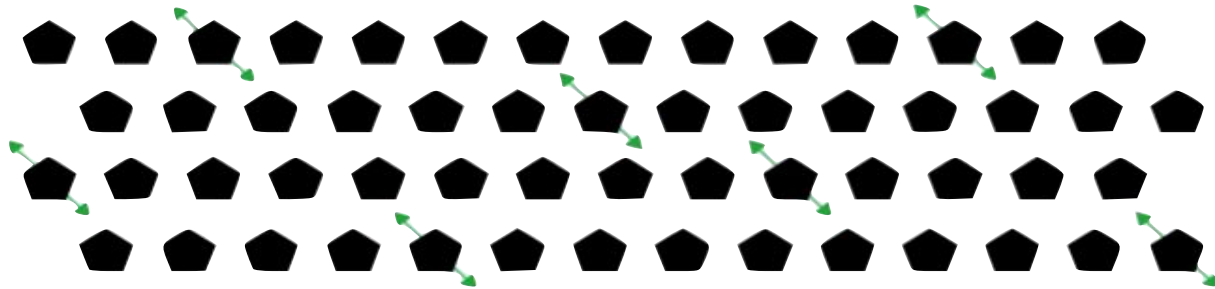
GESTALT - FIGURA/FUNDO



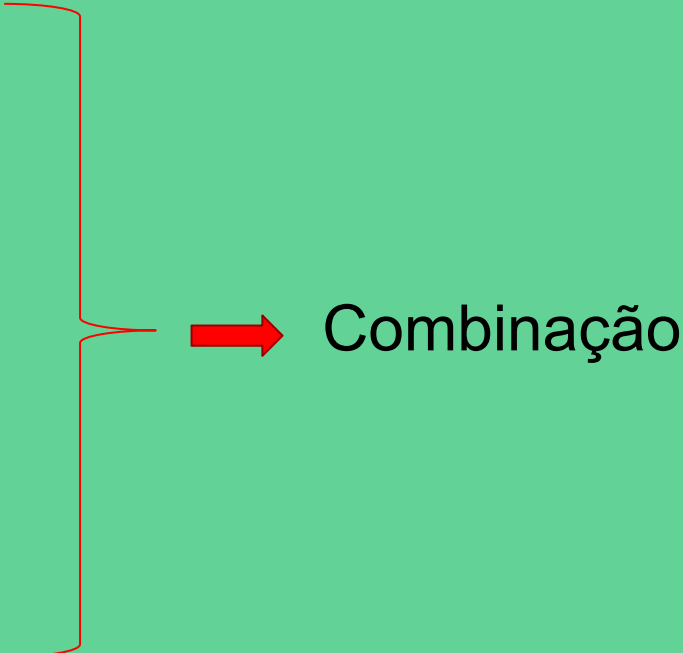
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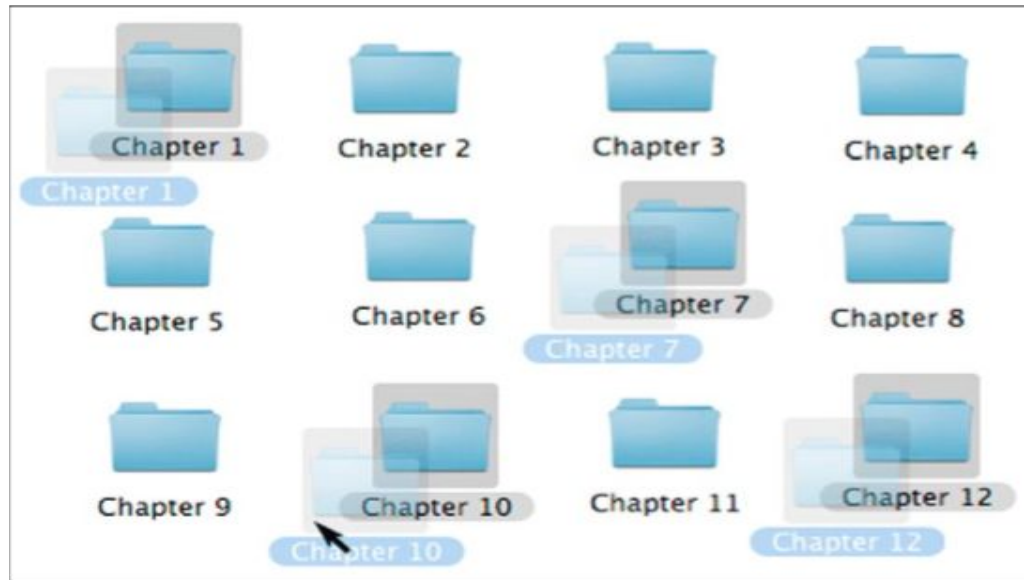
GESTALT - DESTINO COMUM



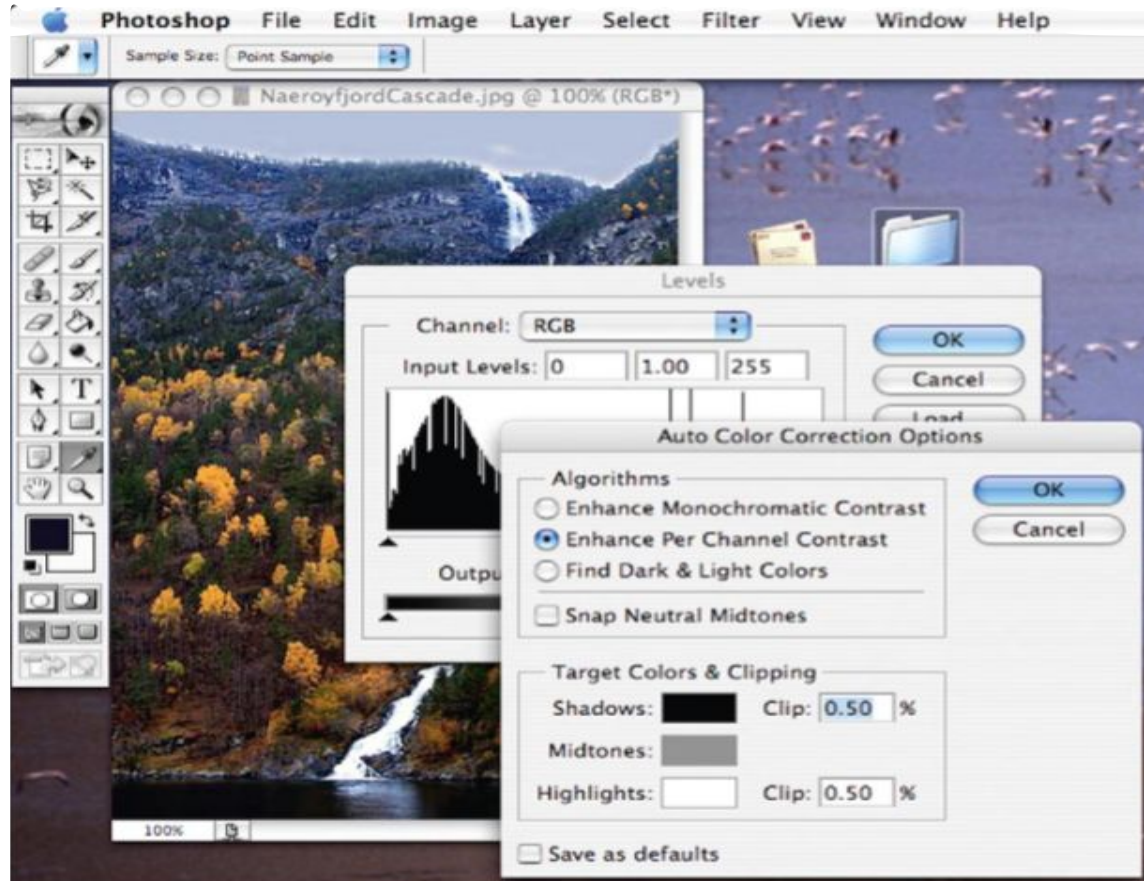
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 - Destino Comum
- 
- A red bracket groups the seven Gestalt principles listed on the left. A red arrow points from the bracket to the word 'Combinação' on the right.

GESTALT - COMBINAÇÕES



GESTALT - COMBINAÇÕES





Prática

Interação Humano Computador

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Exercício (em grupo)

Para cada slide a seguir (50--64), diga:

- qual é a opção boa e
- discuta um princípio de gestalt envolvido que sustente a opinião do grupo (de 2 a 3 pessoas).

→ Todos do grupo devem submeter as mesmas respostas (Ctrl+C, Ctrl+V).

Os próximos slides apresentam afirmações sobre comportamento humano frente a bons/maus exemplos.

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (1)

Unstructured:

You are booked on United flight 237, which departs from Auckland at 14:30 on Tuesday 15 Oct and arrives at San Francisco at 11:40 on Tuesday 15 Oct.

Structured:

***Flight:* United 237, Auckland → San Francisco**
***Depart:* 14:30 Tue 15 Oct**
***Arrive:* 11:40 Tue 15 Oct**

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (2)

Renewals, Duplicates, and Information Changes for Driver Licenses and/or ID Cards

- [How to renew your driver license in person](#)
- [How to renew your driver license by mail](#)
- [How to renew your driver license by Internet](#)
- [How to renew your instruction permit](#)
- [How to apply for a duplicate driver license or identification \(ID\) card](#)
- [How to change your name on your driver license and/or identification \(ID\) card](#)
- [How to notify DMV of my change of address](#)
- [How to register for the organ donor gift of life program](#)

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (3)

Licenses & ID Cards: Renewals, Duplicates, Changes			
• Renew license:	in person	by mail	by Internet
• Renew:	instruction	permit	
• Apply for duplicate:	license	ID card	
• Change of:	name	address	
• Register as:	organ donor		

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (4)

Search:

Search results

- » Buy HP Color LaserJet 1600 Printer(CB373A#ABA), HP color laser printers, HP LaserJets, HP printers, Printers direct from the ...
Buy HP Color LaserJet 1600 Printer(CB373A#ABA), HP color laser printers, HP LaserJets, HP printers, Printers direct from the HP Home & Home Office Store. On a budget but want ...
2006-12-05
- » Buy HP Color LaserJet 4700dn Printer(Q7493A#ABA), HP color laser printers, HP LaserJets, HP printers, Printers direct from ...
Buy HP Color LaserJet 4700dn Printer(Q7493A#ABA), HP color laser printers, HP LaserJets, HP printers, Printers direct from the HP Home & Home Office Store. Get ready to deliver ...
2006-12-20
- » Buy HP Color LaserJet 4700n Printer(Q7492A#ABA), HP color laser printers, HP LaserJets, HP printers, Printers direct from ...
Buy HP Color LaserJet 4700n Printer(Q7492A#ABA), HP color laser printers, HP LaserJets, HP printers, Printers direct from the HP Home & Home Office Store. Classy, brilliantly ...
2006-12-20
- » Buy supplies for Color laser specialty paper, Paper for laser printers, Paper direct from the HP Home & Home Office Store
Buy supplies for Color laser specialty paper, Paper for laser printers, Paper direct from the HP Home & Home Office Store. Hewlett Packard computer and printer store. Shop for, ...
2006-12-09
- » Buy supplies for Color laser specialty paper, Paper for laser printers, Paper, Printing supplies direct from the HP Home & ...
Buy supplies for Color laser specialty paper, Paper for laser printers, Paper, Printing supplies direct from the HP Home & Home Office Store. Hewlett Packard computer and printer ...
2006-12-06



Search:

Search results

- » HP® Official Store — Buy an HP Tri-fold Color Laser Glossy Brochure Paper (150 sheets, 8.5 x 11-inch) (Q6612A) from HP
Why outsource brochure printing when you can do it expertly on your own laser printer, in small batches tailored to your unique projects and clients? Ideal for use with HP Color ...
- » Color Laser Printers At a glance - HP Small & Medium Business products
Summary of all HP Color Laser Printers currently available for purchase and recommended for Small & Medium Business. Includes links to compare products, obtain more information about a ...
- » HP Color laserjets - color laser printers for large business - HP Large Enterprise Business
HP Large Enterprise Business - Find and compare color laser printers. Review the business features of HP Color LaserJets
- » HP® Official Store — Color laser specialty paper, Paper for laser printers, Paper
Use these papers with your HP Color LaserJet printer for outsource-quality marketing materials and photos
- » HP Press Release: Hewlett-Packard Color LaserJet 4550 Family Establishes New Generation of Internet-enabled Color Laser ...
Successor to the World's Best-selling Color Laser Printer
Features Embedded Web Technologies Designed to Improve Ease of Use and Manageability.
- » Laser Printers, Inkjet Printers, Photo Printers - HP
Choose from a wide variety of dependable HP printers, including laser printers and ink printers, all in one/multifunction printers and photo printers.



PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (5)



Mortgage Summary	
\$1,840.59	\$662,611.22
Monthly Payment	Total of 360 Payments
\$318,861.22	Sep, 2037
Total Interest Paid	Pay-off Date
\$93,750.00	\$0.00
Total Tax Paid	Total PMI Paid



Mortgage Summary	
Monthly Payment	\$ 1,840.59
Number of Payments	360
Total of Payments	\$ 662,611.22
Interest Total	\$ 318,861.22
Tax Total	\$ 93,750.00
PMI Total	\$ 0.00
Pay-off Date	Sep 2037

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (6)



(A)


Credit Card Number:
1234 5678 9012 3456







Expiration Date:
Month ▼ Year ▼



(B)

Payment Options

 **Credit Card**

1234567890123456

(* Please, do NOT use spaces or dashes. Example: 4321432143214321)

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (7)

Date of Birth

You must be at least 18 years of age and either a United States citizen or a permanent resident of the U.S., or at least 21 years of age and a permanent resident of Puerto Rico.

/ / **MM/DD/YYYY**

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (8)



E-mail Address: @ .

PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (9)

- Hierarquia visual nos faz focar no mais importante.

Create a Clear Visual Hierarchy

Organize and prioritize the contents of a page by using size, prominence, and content relationships. Let's look at these relationships more closely. The more important a headline is, the larger its font size should be. Big bold headlines help to grab the user's attention as they scan the Web page. The more important the headline or content, the higher up the page it should be placed. The most important or popular content should always be positioned prominently near the top of the page, so users can view it without having to scroll too far. Group similar content types by displaying the content in a similar visual style, or in a clearly defined area.

Create a Clear Visual Hierarchy

Organize and prioritize the contents of a page by using size, prominence, and content relationships.

Let's look at these relationships more closely:

- **Size.** The more important a headline is, the larger its font size should be. Big bold headlines help to grab the user's attention as they scan the Web page.
- **Prominence.** The more important the headline or content, the higher up the page it should be placed. The most important or popular content should always be positioned prominently near the top of the page, so users can view it without having to scroll too far.
- **Content Relationships.** Group similar content types by displaying the content in a similar visual style, or in a clearly defined area.

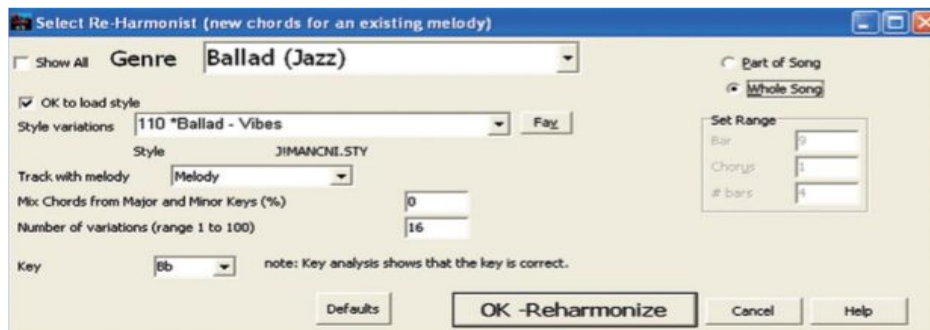
PROCURAMOS E USAMOS ESTRUTURAS VISUAIS

Nro. (10)

- Hierarquia visual nos faz focar no mais importante.



(A)



(B)



LER NÃO É NATURAL

Nro. (11)

- O sistema de leitura nos treina a identificar padrões

አዲስ አበባ ሰኔ 15/93/ኢ.ዜ.አ/ -- ኢ.ጣሊያ ለኢትዮጵያ የ375 ሚሊዮን
ዶላር ዕዳ ሰረዛ ለማድረግ መወሰኗን አዲስ አበባ የሚገኘው የአገሪቱ ኤምባሲ

Brilha brilha estrelinha

Your session has expired. Please reauthenticate.

LER NÃO É NATURAL

Nro. (12)

- O sistema de leitura nos treina a identificar padrões

ABRAHAM LINCOLN'S GETTYSBURG ADDRESS

FOURSCORE AND SEVEN YEARS AGO, OUR FOREFATHERS BROUGHT FORTH ON THIS CONTINENT A NEW NATION, CONCEIVED IN LIBERTY AND DEDICATED TO THE PROPOSITION THAT ALL MEN ARE CREATED EQUAL.

NOW WE ARE ENGAGED IN A GREAT CIVIL WAR, TESTING WHETHER THAT NATION, OR ANY NATION SO CONCEIVED AND SO DEDICATED, CAN LONG ENDURE. WE ARE MET ON A GREAT BATTLEFIELD OF THAT WAR. WE HAVE COME TO DEDICATE A PORTION OF THAT FIELD, AS A FINAL RESTING PLACE FOR THOSE WHO HERE GAVE THEIR LIVES THAT THAT NATION MIGHT LIVE. IT IS ALTOGETHER FITTING AND PROPER THAT WE SHOULD DO THIS.

BUT, IN A LARGER SENSE, WE CAN NOT DEDICATE - WE CAN NOT CONSECRATE - WE CAN NOT HALLOW - THIS GROUND. THE BRAVE MEN, LIVING AND DEAD, WHO STRUGGLED HERE, HAVE CONSECRATED IT, FAR ABOVE OUR POOR POWER TO ADD OR DETRACT. THE WORLD WILL LITTLE NOTE, NOR LONG REMEMBER WHAT WE SAY HERE, BUT IT CAN NEVER FORGET WHAT THEY DID HERE. IT IS FOR US THE LIVING, RATHER, TO BE DEDICATED HERE TO THE UNFINISHED WORK WHICH THEY WHO FOUGHT HERE HAVE THUS FAR SO NOBLY ADVANCED. IT IS RATHER FOR US TO BE HERE DEDICATED TO THE GREAT TASK REMAINING BEFORE US - THAT FROM THESE HONORED DEAD WE TAKE INCREASED DEVOTION TO THAT CAUSE FOR WHICH THEY GAVE THE LAST FULL MEASURE OF DEVOTION - THAT WE HERE HIGHLY RESOLVE THAT THESE DEAD SHALL NOT HAVE DIED IN VAIN - THAT THIS NATION, UNDER GOD, SHALL HAVE A NEW BIRTH OF FREEDOM - AND THAT GOVERNMENT OF THE PEOPLE, BY THE PEOPLE, FOR THE PEOPLE, SHALL NOT PERISH FROM THE EARTH.

LER NÃO É NATURAL

Nro. (13)

- Fontes pequenas atrapalham

We the people of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

- Texts em fundo “barulhento”

Hero Amps
Hero Amps is the direct result of two Colorado Springs guitar players in search of the perfect tones. The tones needed by today's musicians. Given our technical backgrounds, this product is the result of three years of research and development in pursuit of the ultimate guitar amplifier. Our goal is to build solid, great sounding amplifiers. Amps built using quality parts and construction with the features player want and need. Legends are made with a Hero!

z t f g z i

Type the characters you see in the picture above.

LER NÃO É NATURAL

Nro. (14)

- Centralização atrapalha

BUYER'S! MORE Searches HERE
.....if you don't have a Realtor click [Here](#)

1. Search All The Fargo Moorhead Listings [CLICK HERE](#) Step One (Very Important).... if you don't have a Realtor click [Here](#)

[Dream Home Finder](#) request form: All area Best listings from [Top Area Realtors](#) for Fargo, Moorhead, and FM Area real estate. Moorhead homes. Moorhead Real Estate. West Fargo homes and West Fargo Real Estate

2. Todays **HOT SHEET** [Click Here:](#) **New Listings in Fargo, Moorhead area**

3. Rural Minnesota... [Featured Listings](#)

4. Multiple Listing Number search [Click Here](#)

5. <http://www.fargoMLS.com> - Blog - MLS "Value of the Day"

6. Eid - Co Builders - Access to Models, New Developments in Fargo, West Fargo, Moorhead, and Dilworth, and Floor Plan Options [Click Here](#)

6b - New "Heritage Homes" - [Available Properties](#)

Minnesota Lake and River Property
[Detroit Lakes Resorts, Lots, and Cabins Search](#)
with Tom Ackman, Coldwell Banker At The Lakes
[Detroit Lakes Find-A-Listing - Search Here](#)

LER NÃO É NATURAL

Nro. (15)

- Leituras desnecessárias



2002

Jeep

FIND A DEALER

It's easy to locate a dealer. 1. Click and hold box number 1 to select your search by Zip Code, City, Dealership Name or State. 2. Enter the Zip Code, City, or Dealership Name in the box marked number 2. 3. If searching by State only, select the state from the pull-down menu in box number 3. * If choosing to search by city or state, type the city in box 2 then select a state in the box marked number 3 to make your search complete. 4. Once finished, simply click the "Search" button.

Search by: 1 2

Select a State: 3 4

If you are a member of the U.S. Military, an executive, or a diplomat living outside the U.S., [click here](#) for special options.



2003

Jeep

FIND A DEALER

It's easy to locate a Jeep Dealer near you.

- Select Zipcode, City or Dealership Name
(If you choose to search by city, you will be prompted to provide the state.)
- Provide the Zip Code, City or Dealership Name
- Click on Search

Search by: 1 2

3



2007

Jeep

FIND A DEALER

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