

Mental Models and Perception

Mental Models

- Users develop an understanding of a system through learning and using it
- They develop knowledge of:
 - How to use the system (what to do next)
 - To a lesser extent, how the system works
 - People make inferences using mental models of how to carry out tasks
- Mental models can be described as **“internal constructions of some aspect of the external world enabling predictions to be made”**

Mental Models

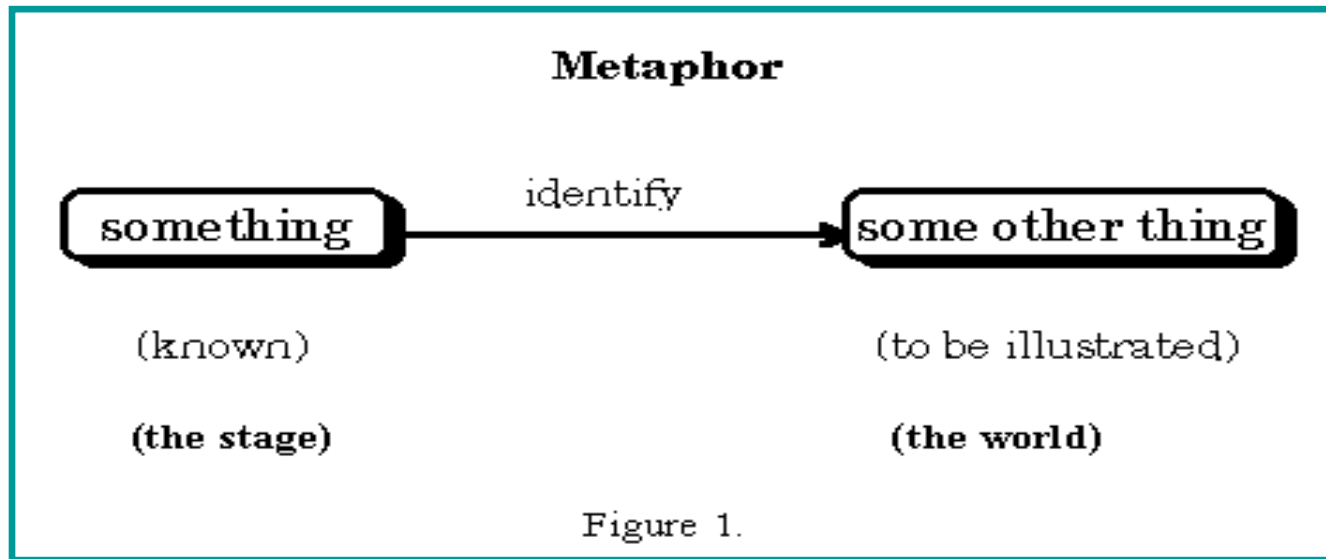
- You arrive home on a cold winter's night to a cold house. How do you get the house to warm up as quickly as possible?
 - Set the thermostat to be at its highest ?
 - Set the thermostat to the desired temperature?

Mental Models

- Typically, people select to set the heat to its highest setting to “get it to heat up as fast as possible”
- However, the thermostat will not heat any faster at a higher setting - **erroneous mental model**

Metaphor

- Metaphor is a figure of speech in which an expression is used to refer to something that it does not literally denote in order to suggest a similarity

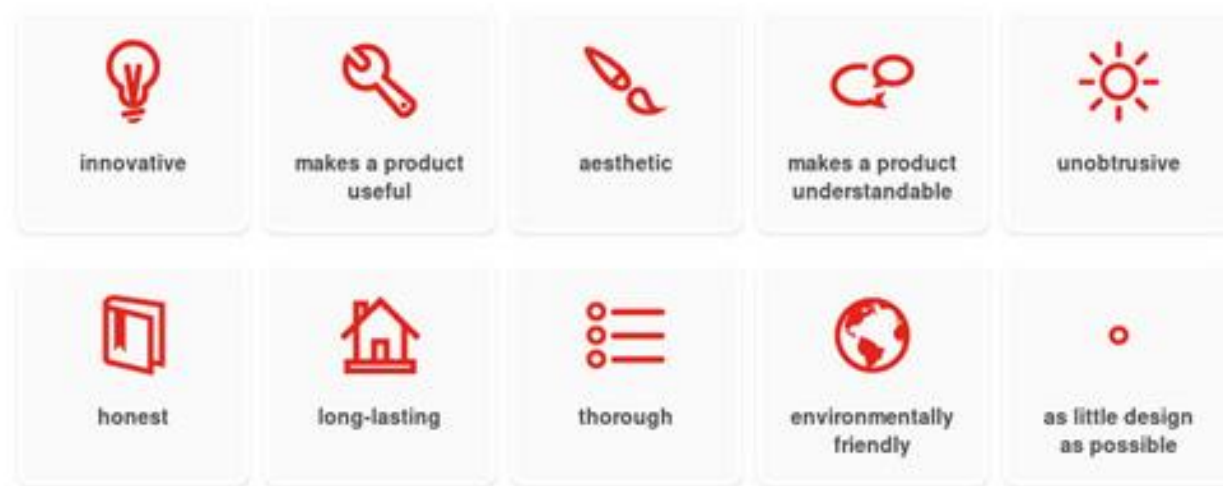


Interface Metaphors

Applying knowledge from a different domain to the interface of a system in order to assist the user in developing their mental model of the system

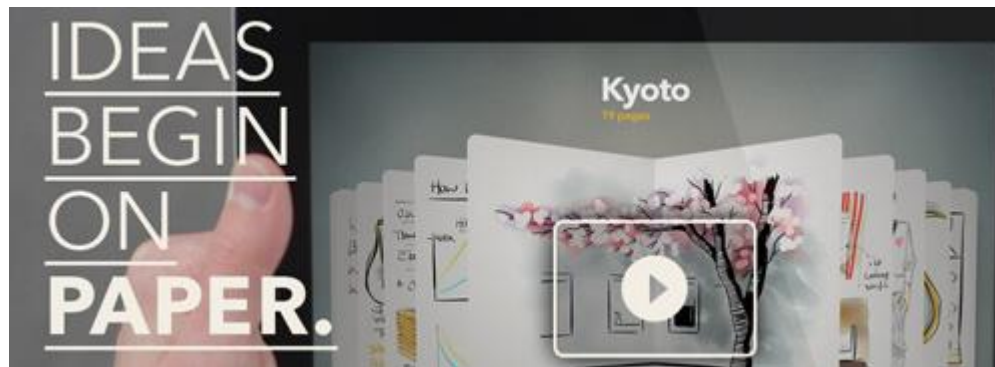
Interface Metaphors

- Metaphors Can Put Abstract Concepts in Concrete Terms
 - Consider these icons



Interface Metaphors

- Metaphors Create Familiarity
 - Consider this sketchbook



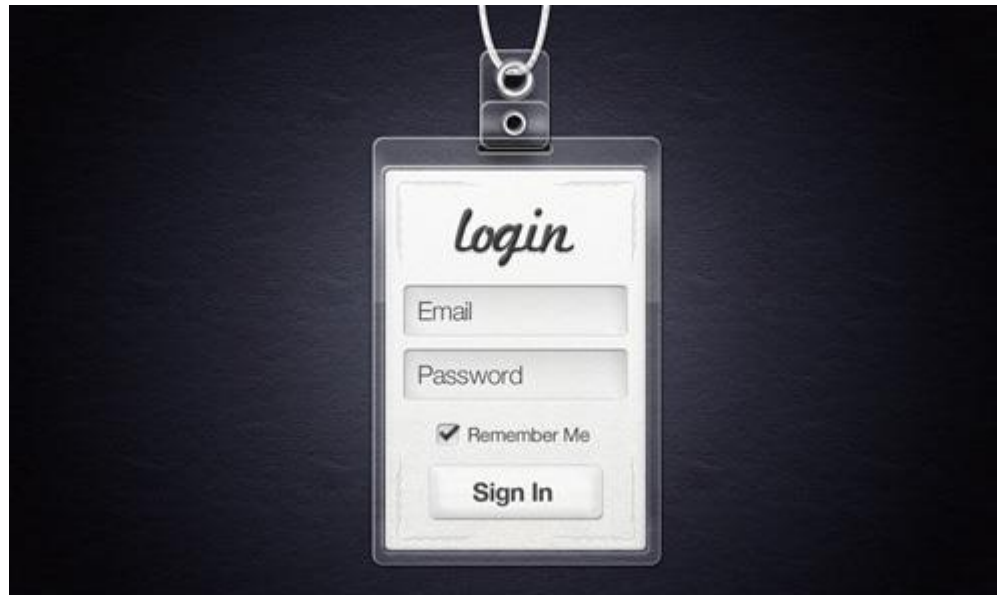
Interface Metaphors

- Metaphors Can Trigger Emotions
 - Emotions not only make your design appealing to people, but also more effective, pleasurable and memorable



Interface Metaphors

- Metaphors Can Draw the Attention of Users
 - Things we recognize draw our attention, just like when we recognise familiar faces in a big crowd of unfamiliar people



Interface Metaphors

- Metaphors Can Motivate Users into Action
 - By translating interactions that we know from the real world to the Web, we can also transfer our knowledge to the screen



Exercise

- Identify three interface metaphors with which you are familiar
- Identify one metaphor what might help users understand a system you have had poor experience with
- Share with your neighbour

Perception

- Perception is fundamental to interacting with computers
- To use a computer, a user needs to perceive information that is presented by the interface
- Perception can involve all the different senses (visual, hearing, touch, smell..)
- To date, mostly concerned with visual perception because screen is usually the interface

Perception

- Two classes of Visual Perception Theory
 - Constructive
 - Ecological

Constructive perception

- Anything perceived on a screen is also a result of our prior knowledge and expectations



Constructive Perception

- Prior knowledge of what a dalmation looks like helps us to construct the image
- Without prior knowledge, we would not be able to make sense of the picture
- Once we know what the picture depicts it is impossible to perceive it as random dots again, we have a meaningful interpretation

Constructive Perception

- Constructivism uses context to interpret and understand what we perceive
- Not initially concerned with specific detail, more interested in the overall meaning of the scene

Gestalt Laws

- ‘Laws’ of perception that are regarded as being innate
 - Proximity
 - Similarity
 - Closure
 - Continuity
 - Symmetry

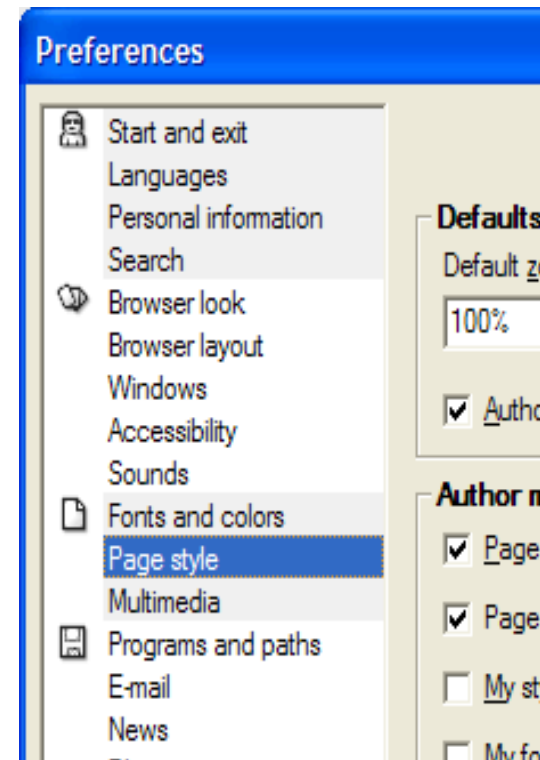
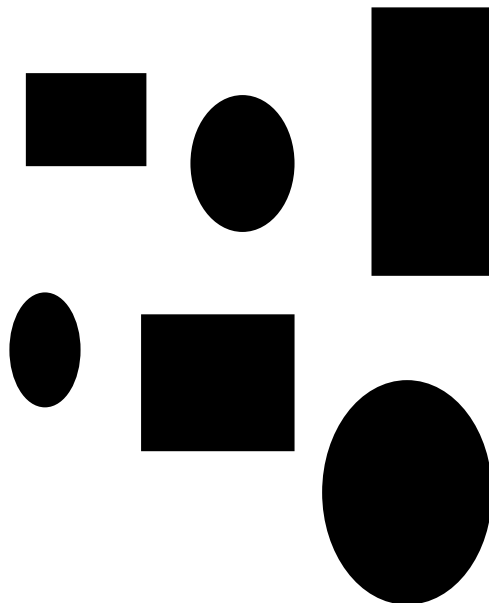
Gestalt Laws: Proximity

- The elements appear as groups rather than a random cluster of elements



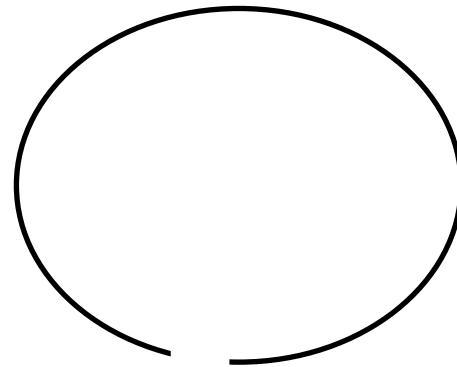
Gestalt Laws: Similarity

- There is a tendency for elements of the same shape or colour to be seen as belonging together



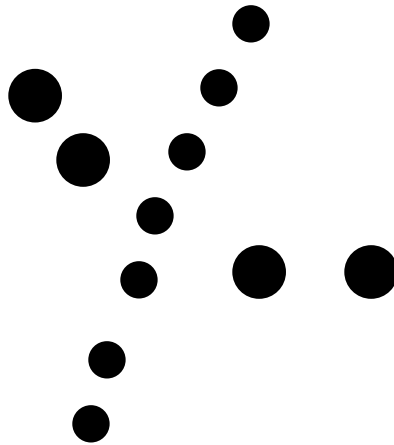
Gestalt Laws: Closure

- Missing parts of the figure are filled in to complete it, so that it appears as a whole circle



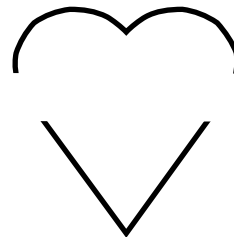
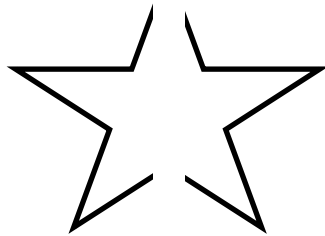
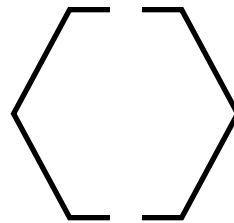
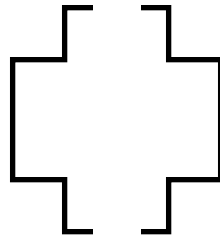
Gestalt Laws: Continuity

- The stimulus appears to be made of two lines of dots traversing each other, rather than a random set of dots



Gestalt Laws: Symmetry

- Regions bounded by symmetrical borders tend to be perceived as coherent figures



Exercise

- Which Gestalt laws apply to each of the following pages:

FROM REFLECTIONS, REWARDS,
REGRETS.

The Quest for Knowledge



by [Patrick Coyne](#)

Jan 09, 2009 | [💬 \(3\)](#)

The designer and editor of *Communication Arts* sees each day as an opportunity to be a cultural sponge.

FROM VOICE

Privatizing the Commons: The Commodification of New Deal Public Art



by [Lincoln Cushing](#)

Jan 06, 2009 | [💬 \(3\)](#)

Who today profits from the creative works of the WPA era? Cushing calls for putting the “public” back in this public art.

“*Is graphic design that causes the viewer to laugh out loud often too ‘in your face’ to be effective, or is it just harder to accomplish successfully?*”

ALISON

commenting on [Is There Anything Funny about Graphic Design?](#)

💬 RECENT COMMENTS

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Visit the AIGA National Design Center

Visiting New York this month? Come to the National Design Center to experience selections from the 29th annual [365: AIGA Design Competition.](#)

Read up on current design thinking

In partnership with New Riders, AIGA has published three new books to help designers at each stage of their careers: [Digital Foundations](#) teaches design fundamentals using Adobe Creative Suite tools; [The Designful Company](#) explains why successful businesses must “design” the way forward; and [Do Good Design](#) calls on designers to be responsible and sustainable.

Apply for a Worldstudio AIGA Scholarship by April 3

Worldstudio AIGA Scholarship applications are now available for the fall 2009/spring 2010 academic year, for minority and economically disadvantaged students studying art and design disciplines in the United States. Support the program by spreading the word to eligible students or making a contribution.

Tell us what you think of the new annual

[365: AIGA Year in Design 29](#), this year's expanded annual, was sent to all current members in late December. Tell us what you think about the new format by taking a [brief survey online](#).

Register for “Make/Think: AIGA Design Conference” by May 20

Join us in Memphis this October as we examine designers' dual roles as creators and strategists, through enlightening presentations, breakout sessions, special events, tours, networking, training and more—all designed to expand your mind and improve your practice. [Register now](#) to get the lowest rate!



HIDE CHANNELS

+ WORLD NEWS CHANNELS

TOP WORLD NEWS	CONFLICT IN IRAQ	TERRORISM	AFRICA	AMERICAS
ASIA-PACIFIC	EUROPE	MIDEAST & N. AFRICA	SOUTH & CENTRAL ASIA	

Quais são os profissionais mais felizes?

TEXTO: ANA BALLOUQUE E EMILIANO URBIM

O tipo é solitário, mas satisfeito. No Brasil, e supõe-se em outras partes, é um cantor-chorista - o dono, de um R\$ 20 mil - e é justamente o que se declara mais feliz com sua profissão. Em compensação, alguns funcionários salariais, como porteiros e office-boys, estão mais contentes do que muitos advogados e jornalistas por aí.

As conclusões vêm de uma pesquisa do Instituto Ceteris, maior portal de recursos humanos da América Latina, que pediu a 43 mil profissionais que avaliassem 11 itens: comprometimento dos colegas, integração entre as áreas, possibilidade de crescimento, satisfação das pessoas, comunicação entre comando e comandados, serviços de RH, investimento no desenvolvimento dos funcionários, sentimento de recompensa no trabalho, métodos das avaliações de desempenho, salários e critérios de promoção.

Com base nos dados, o economista Mário Fagundes estipulou o Índice de Variabilidade, um barômetro da felicidade no trabalho. Fagundes descobriu que, para a brasileira, pagar no botequim não é sendo fácil: só em 21 dos 963 cargos pesquisados houve 50% ou mais de satisfação - a média ficou em 27%.

Pesquisas desse gênero são vistas com reserva pelo Ph.D. em psicologia quantitativa pela Universidade de Illinois, Michael Bateman. "Não há felicidade, mas importantes lições. Com uma pesquisa destas, você tem uma foto, não o filme todo." Um fato revelado pelos números é que um bom futuro melhora o presente: quanto mais chance de crescer na carreira, maior a satisfação no cargo. Certo já havia sido dito Thomas Jefferson, o importante não é ter a felicidade, mas buscá-la. ■

É que fortuna é medida das coisas e o seu alto índice de comprometimento com a profissão é 32%.

SALÃO - a área de atendimento, onde o cliente se encontra com o profissional. A maioria dos profissionais avaliados, em especial, os de serviços de RH, investiram no desenvolvimento dos funcionários, sentimento de recompensa no trabalho, métodos das avaliações de desempenho, salários e critérios de promoção.

De R\$ 2 mil por mês de salário, a 1% acima da média de propagação, não importa que ele seja relativamente baixo.

A satisfação de materialidade da carreira é 1% acima da média de materialidade comum.

PROLETARIADO

Apesar de ser mais pobre e solitário, alguns desses profissionais têm índice de felicidade superior ao 27% da média, se não de outros com mais status.

O engenho é o "mais triste", com 6% de satisfação em 6 dos 11 quesitos pesquisados.

TECNOLOGIA - apesar de o setor ser mais "profissionalizado", não é o que se declara mais feliz com sua profissão.

COMUNICAÇÃO - apesar de o setor ser mais "profissionalizado", não é o que se declara mais feliz com sua profissão.

Curiosamente, quem está abaixo (porteiros) e acima (diretores de rede) declarou 50% de satisfação.

EDUCAÇÃO - apesar de o setor ser mais "profissionalizado", não é o que se declara mais feliz com sua profissão.

Contrastando a lógica dos outros profissões, professores que chegam ao nível de doutor têm uma satisfação por 17%. Porém, a 8% se declara insatisfeita no cargo exercido.

Buscam mais "felicidade" acima da média e em todos os quesitos, com exceção de 70% de comprometimento dos colegas e também de possibilidade de crescimento na carreira.

DIVERSOS - apesar de o setor ser mais "profissionalizado", não é o que se declara mais feliz com sua profissão.

As engenharias, além de pagarem 10% acima da média, têm o mais "feliz" dos 963 cargos pesquisados: o diretor de engenharia de projetos, que tem 77% de satisfação.

Nos 17 profissões da área jurídica pesquisadas, há desde a felicidade de auxiliar de direito administrativo (2%) até a felicidade de advogado de direito tributário (50%).

ADMINISTRATIVOS

Esta categoria inclui desde diretores profissionais, aos funcionários, aos estagiários, aos aprendizes, aos aprendizes de uma secretaria bilíngue em 50%.

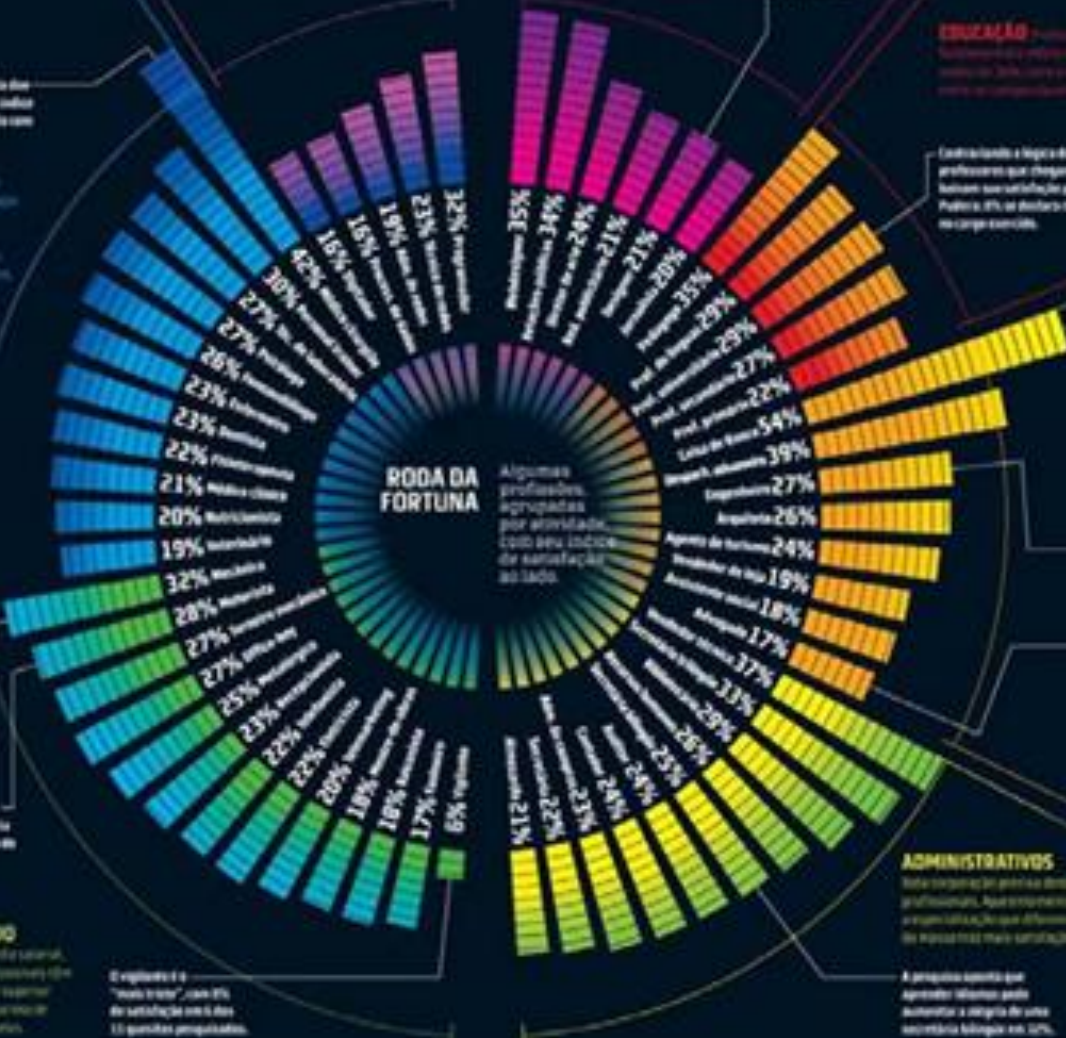
A pesquisa aponta que aprendizes bilíngues estão aumentando a oferta de uma secretaria bilíngue em 50%.

VALE A PENA

Entre os 963 cargos pesquisados, vários representam diferentes níveis de remuneração, de estagiários a diretores. Dentro de uma mesma profissão, encontramos a que a pesquisa chama de "gênero" - a profissional não quer nem saber, em meio de carreira.

RODA DA FORTUNA

Algumas profissões, agrupadas por atividade, com seu índice de satisfação assado.



OUR WORK

We craft compelling identities and user experiences. We work with businesses, startups, and organizations to improve communication and conversion. We also [publish articles](#) on these subjects to help infect others with our passion. Below, you'll find just a bit of what we've accomplished in that effort, for our clients and ourselves.

HERE IS A SAMPLING OF THE WORK WE'VE DONE...

WEBSITES



APPLICATIONS



Ecological Theory

- Ecological theory argues that visual perception is a direct process
- Information is simply detected, not constructed
- A central concept of the ecological approach is the notion of affordance

Affordance

"...the term affordance refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used. [...] Affordances provide strong clues to the operations of things. Plates are for pushing. Knobs are for turning. Slots are for inserting things into. Balls are for throwing or bouncing. When affordances are taken advantage of, the user knows what to do just by looking: no picture, label, or instruction needed."
(Norman 1988, p.9)

Affordance

- Affordance is very important with regards to interface objects such as buttons, scrollbars etc. (direct manipulation systems)



Affordance

- An element that looks like it can be pushed or clicked because it is raised from its surroundings
- A logo image that returns users to the root of the domain
- A word that displays like a link (colored and underlined)
- A green button (a pattern to signify the affordance of creating something)
- A red button (a pattern to signify the affordance of deleting something)
- A grayed-out word - affords no action
- An envelope icon for sending an email