

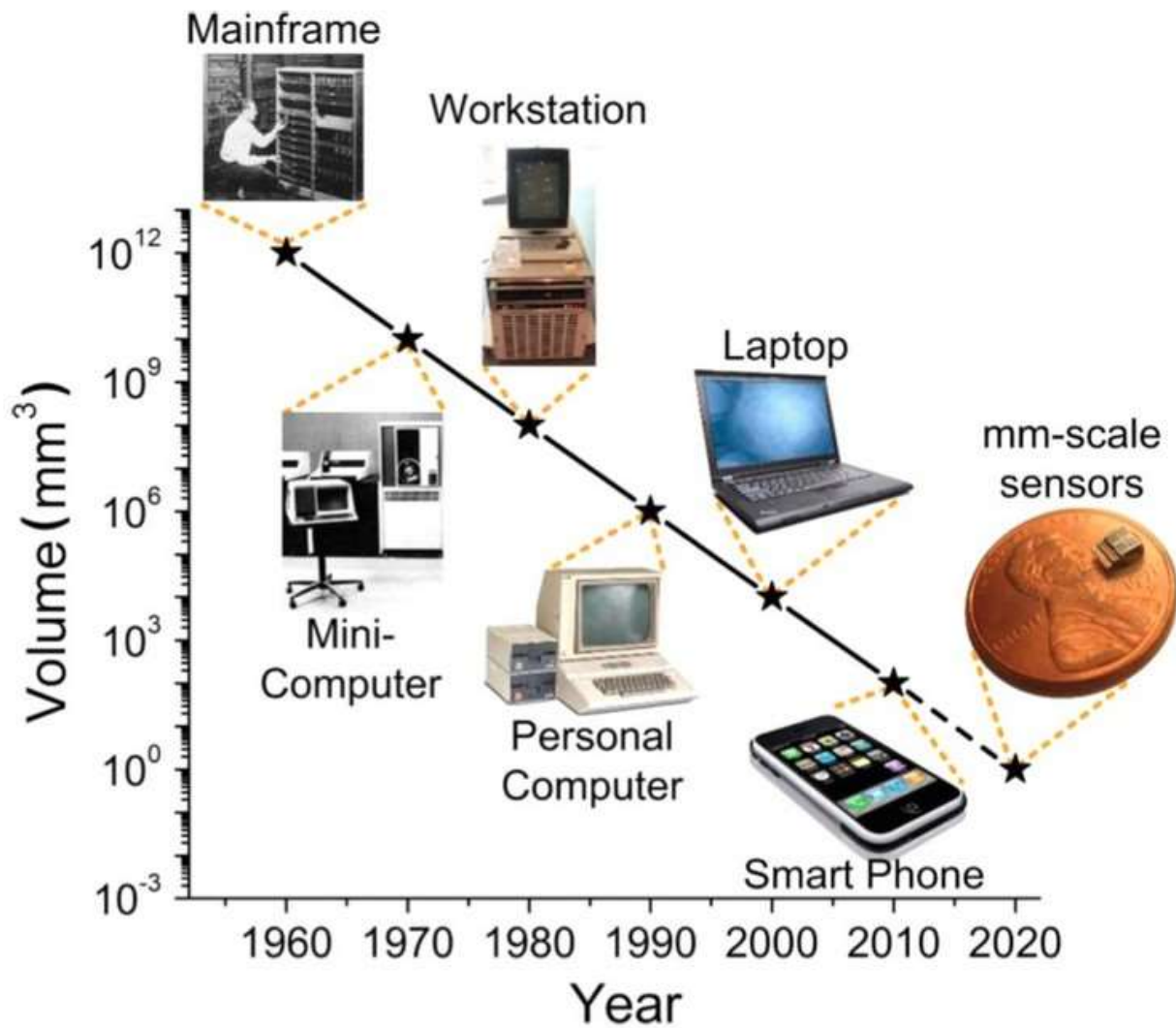
The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. They are located in the top left, top center, and bottom right areas of the slide.

# **DON'T MAKE ME THINK - REVISITED**

A COMMON SENSE APPROACH TO WEB AND MOBILE USABILITY

AUTHOR: STEVE KRUG

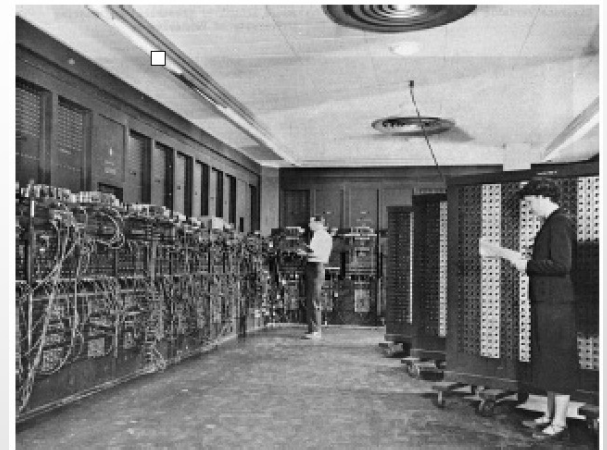
© STEVE KRUG, PRAVIN PAWAR



**TECHNOLOGY  
GOT ITS HANDS  
ON SOME  
STEROIDS**

# PROGRAMMABLE COMPUTERS

- ENIAC (ELECTRONIC NUMERICAL INTEGRATOR AND COMPUTER)
  - BUILT IN THE 1940S
  - AMONG THE FIRST COMPUTERS TO EMPLOY THE STORED-PROGRAM CONCEPT
- A MODERN COMPUTER HAS FOUR MAJOR KINDS OF COMPONENTS:
  - INPUT DEVICE(S) – EXAMPLES?
  - OUTPUT DEVICE(S) – EXAMPLES?
  - MEMORY – FOR DATA STORAGE, BOTH TEMPORARY & PERMANENT
  - PROCESSOR – FOR DOING COMPUTATIONS



# TRANSISTORS



- A VARIETY OF DEVICES HAVE BEEN USED TO REPRESENT DIGITS AND TO CONTROL THE OPERATION OF COMPUTING MACHINES
- IN THE 1940S:
  - BARDEEN, BRATTAIN, AND SHOCKLEY INVENTED THE **TRANSISTOR**, WHICH IS AN ELECTRONIC SWITCH WITH NO MOVING PARTS
- IN THE 1950S AND 1960S:
  - KILBY, NOYCE, AND OTHERS USED TRANSISTORS TO DEVELOP **INTEGRATED CIRCUITS**
  - DEvised A WAY TO MANUFACTURE THOUSANDS – LATER, MILLIONS AND BILLIONS – OF TRANSISTORS ON A SINGLE WAFER OF SILICON
- A SINGLE **CHIP** CONTAINS:
  - AN INTEGRATED CIRCUIT
  - A CERAMIC OR PLASTIC CASE
  - EXTERNAL PINS TO ATTACH IT TO A **CIRCUIT BOARD**



Noyce and businessman Gordon Moore commercialized this technology by co-founding Intel Corporation in 1968



Manufacturing technologies improved in the 1950s and 1960s:

engineers were able to pack many more transistors per unit area on silicon wafers

**Moore's law:** Moore observed that the number of components within an integrated circuit was doubling every 18 months.

- The trend has continued pretty steadily since then.
- But transistors can be only so small!



Combating miniaturization challenges:

Intel, AMD (Advanced Micro Devices) and others now make processors that feature multiple processing **cores** that perform calculations in parallel with each other

# TRANSISTORS

# MOORE'S LAW (TILL 2016)

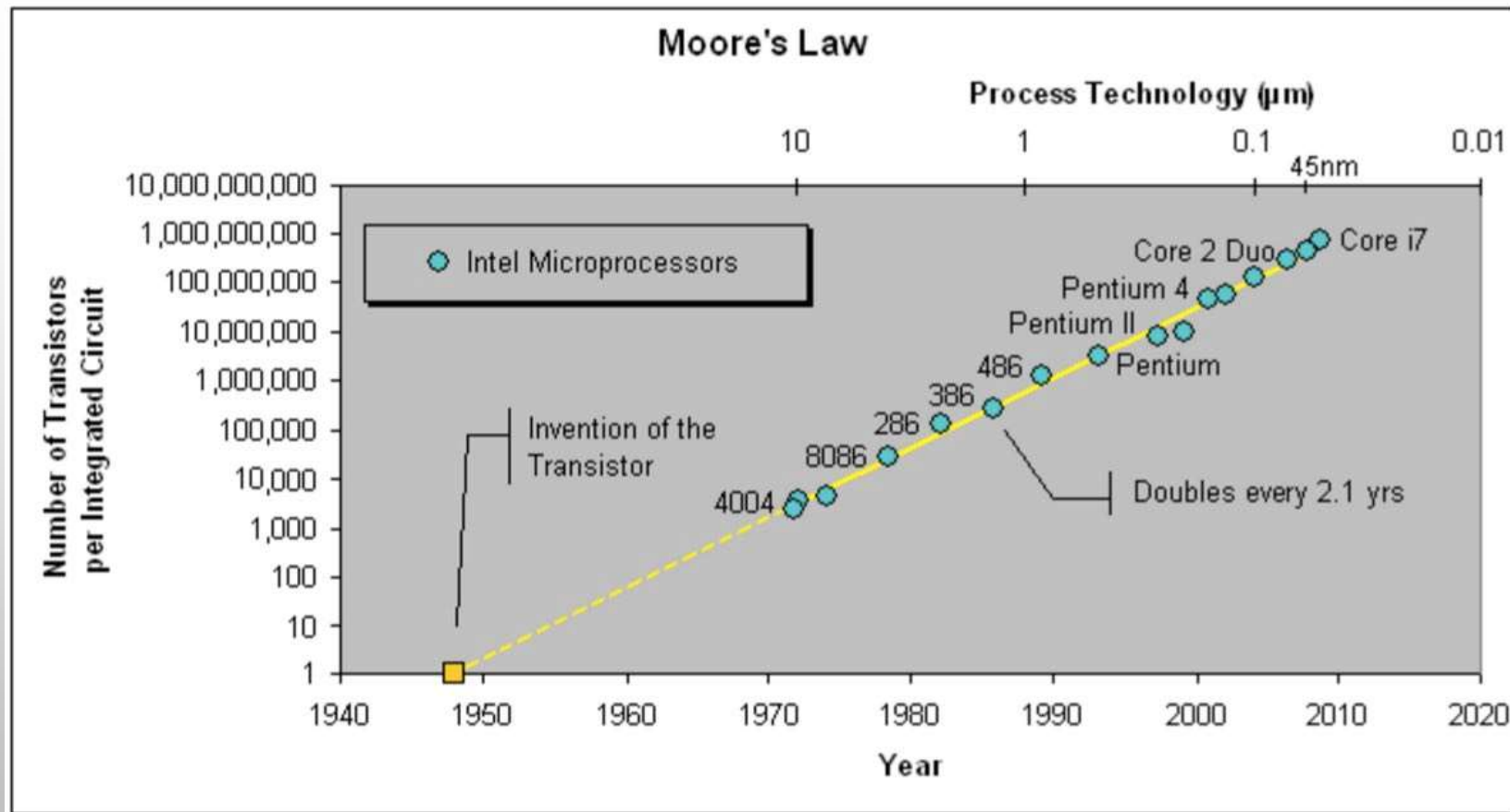


Figure taken from: <https://fossbytes.com/moores-law-is-finally-dead-rest-in-peace-moores-law/>

# MOORE'S LAW (TILL 2016)

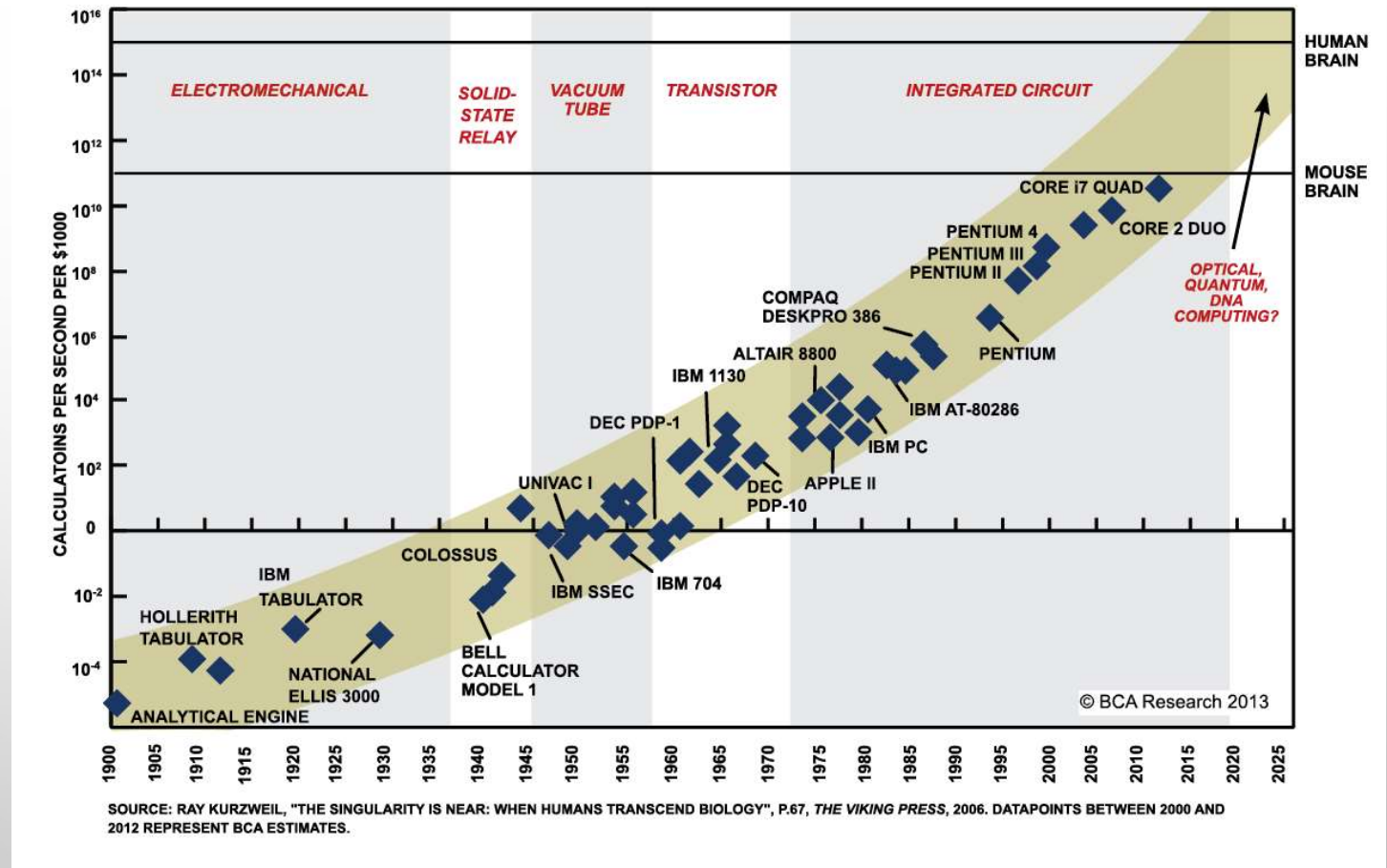
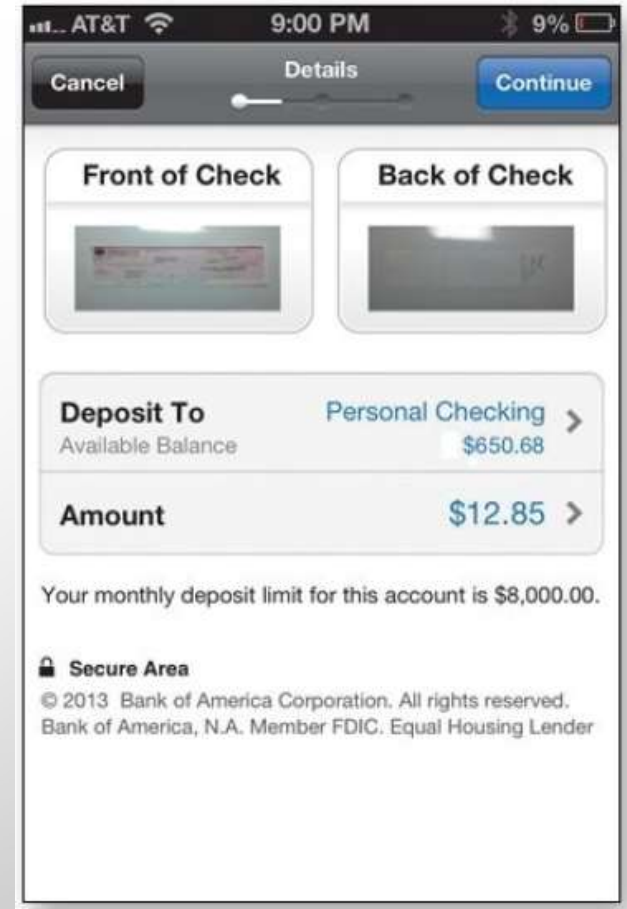
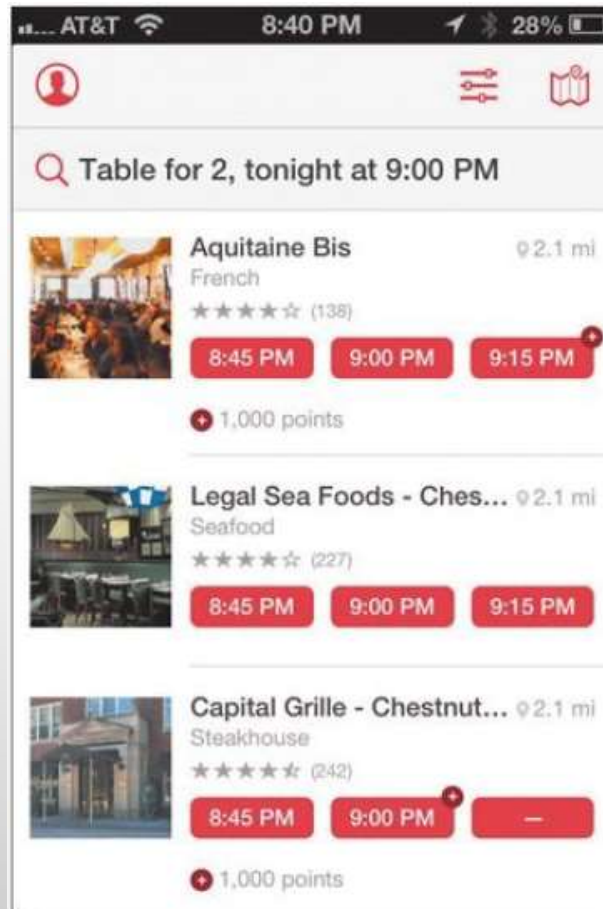
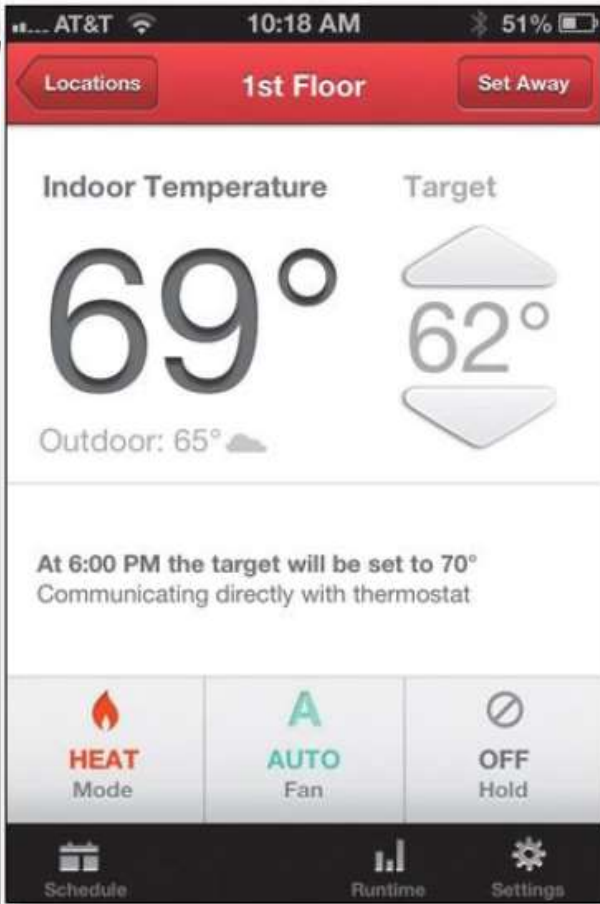


Figure taken from: <https://www.extremetech.com/extreme/210872-extremetech-explains-what-is-moores-law>





The image features a light gray gradient background with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text is centered in the upper half of the image.

**LIST MOBILE APPS YOU COMMONLY USE**

Google

improvements in the Web  
 improvements in website usability  
 improvements in web accessibility for html5  
 improvements to the website  
 improvements website reviews

Press Enter to search.

# THE WEB ITSELF KEPT IMPROVING!

**Compare to similar items**

	<p>15.6" WLED Backlight Display        4GB RAM, 500GB HDD        SuperMulti DVD, webcam, A6, dts, HDMI</p>			
<p><b>This item</b> Acer Aspire E 15 ES-575-33BM 15.6-Inch Full HD Notebook (Intel Core i3-7100U Processor 7th Generation, 4GB DDR4, 1TB 5400RPM Hard Drive, Intel HD Graphics 620, Windows 10 Home), Obsidian Black</p> <p><b>#1 Best Seller</b></p>	<p>HP 15.6" HD WLED Backlit Display Laptop, AMD A6-7310 Quad-Core APU 2GHz, 4GB RAM, 500GB HDD WiFi, DVD+/-RW, Webcam, Windows 10, Black</p>	<p>Acer Aspire E 15 ES-575G-57D4 15.6-Inches Full HD Notebook (i5-7200U, 8GB DDR4 SDRAM, 256GB SSD, Windows 10 Home), Obsidian Black</p>	<p>HP 15.6" HD Touchscreen Laptop (Intel Quad Core Pentium N3540 2.16 GHz, 4 GB DDR4 Memory, 500 GB HDD, DVD Burner, HDMI, HD Webcam, Win 10)</p>	
<p>Add to Cart</p>	<p>Add to Cart</p>	<p>Add to Cart</p>	<p>Add to Cart</p>	
<p>Customer Rating</p>	<p>★★★★☆ (1169)</p>	<p>★★★★☆ (225)</p>	<p>★★★★☆ (2018)</p>	<p>★★★★☆ (10)</p>
<p>Price</p>	<p>\$349<sup>99</sup></p>	<p>\$249<sup>49</sup></p>	<p>\$579<sup>99</sup></p>	<p>\$279<sup>99</sup></p>

# USABILITY WENT MAINSTREAM



## UX vs. Usability

### Usability

Effectiveness  
Efficiency  
Learnability  
Error prevention  
Memorability



### User Experience

Satisfaction  
Enjoyment  
Pleasure  
Fun  
Value



**USER  
EXPERIENCE**

- **Useful:** Does it do something people need done?
- **Learnable:** Can people figure out how to use it?
- **Memorable:** Do they have to relearn it each time they use it?
- **Effective:** Does it get the job done?
- **Efficient:** Does it do it with a reasonable amount of time and effort?
- **Desirable:** Do people want it?

Where usability is narrow and focused,  
UX is broad and holistic.

# FIRST LAW OF USABILITY

## Thinking

Hmm. Pretty busy. Where should I start?



Hmm. Why did they call it that?



Can I click on that?



Is that the navigation? Or is that it over there?



Why did they put that there?



Those two links seem like they're the same thing. Are they really?



# FIRST LAW OF USABILITY

- **DON'T MAKE ME THINK!**

- NOTHING IMPORTANT SHOULD EVER BE MORE THAN TWO CLICKS AWAY..
- SEE [HTTPS://WWW.MEDIAMARKT.NL/](https://www.mediamarkt.nl/)

The logo for MediaMarkt, featuring the word "Media" in a red, italicized sans-serif font, followed by a red circular icon with a spiral pattern, and the word "Markt" in a red, italicized sans-serif font.

# THINGS THAT MAKE US THINK

NAMES – XYZ CORP IS HIRING

UNCLICKABLE LINKS OR BUTTONS

< OBVIOUS		REQUIRES THOUGHT >
<p>Jobs! <i>Click</i></p> 	<p>Hmm. <i>[Milliseconds of thought]</i> Jobs! <i>Click</i></p> 	<p>Hmm. Could be Jobs. But it sounds like more than that. Should I click or keep looking?</p> 

< OBVIOUSLY CLICKABLE		REQUIRES THOUGHT >
<p><i>Click</i></p> 	<p>Hmm. <i>[Milliseconds of thought]</i> I guess that's the link. <i>Click</i></p> 	<p>Hmm. Does that do anything?</p> 

FROM	TO
City or Airport	City or Airport
Depart Date	Return Date



Let's see. "City or Airport."  
I'll put in the city names.

FROM	TO
bos	City or Airport
Boston, MA, US (BOS)	Return Date



*Types "bos"*  
Oh, good. It knows Boston.  
*Picks Boston from the dropdown*

FROM	TO
BOS	
Depart Date	Return Date



But why does it just put BOS  
after I pick Boston?

FROM	TO
BOS	ny
12/17/2013	12/19/2013



I'm sure it'll know "ny" ...  
*Types "ny" and fills in dates,  
then clicks "Find Flights"*

Please enter a valid 'TO' City or Airport code.

FROM	TO
BOS	ny
12/17/2013	12/19/2013



Why doesn't it recognize  
New York?

# THINGS THAT MAKE US THINK

BOOKING A FLIGHT

– CHOICES DO NOT MAKE SENSE

TRY WITH THE SITES OF YOUR CHOICE AND  
RECORD THE OBSERVATION

From	To
<input type="text" value="bos"/>	<input type="text" value="City or Airport"/>
<ul style="list-style-type: none"> <li>BOS - Boston Logan International - Boston, MA</li> <li>BOS - [Amtrak] South Station, Boston, Massachusetts</li> <li>BON - [Amtrak] North Station, Boston, Massachusetts</li> </ul>	



*Starts typing "bos" and gets a list of choices*

From	To
<input type="text" value="BOS - Boston Logan Inter"/>	<input type="text" value="ny"/>
<ul style="list-style-type: none"> <li>NYC - New York City, NY (Area)</li> <li>NYO - Skavsta - Stigtomla, Sweden</li> <li>NYU - Bagan - Bagan, Myanmar</li> </ul>	



*Starts typing "ny" and gets a list of choices*

From	To
<input type="text" value="BOS - Boston Logan Inter"/>	<input type="text" value="NYC - New York City, NY"/>
Depart	Return
<input type="text" value="Dec 06"/>	<input type="text" value="Dec 08"/>



Good.

# THINGS THAT MAKE US THINK

BOOKING A FLIGHT  
– CHOICES MAKE SENSE





# USERS SHOULDN'T SPEND THEIR TIME THINKING ABOUT

- Where am I?
- Where should I begin?
- Where did they put \_\_\_\_\_?
- What are the most important things on this page?
- Why did they call it that?
- Is that an ad or part of the site?



On the Internet, the competition is always just one click away, so if you frustrate users they'll head somewhere else.

# HOW WE REALLY USE THE WEB

## WHAT WE DESIGN FOR...

## THE REALITY...

Read

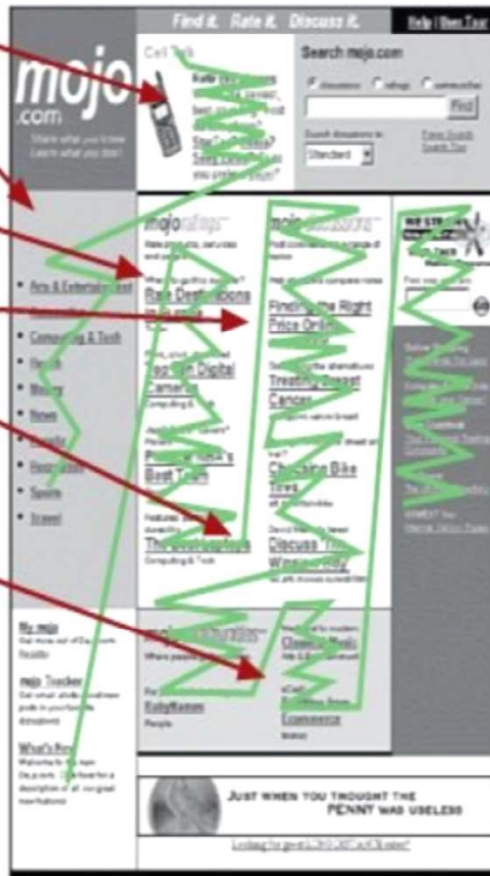
Read

Read

Read

[Pause for reflection]

Finally, click on carefully chosen link



Look around feverishly for anything that

a) is interesting, or vaguely resembles what you're looking for, and

b) is clickable.

As soon as you find a halfway-decent match, click.

If it doesn't pan out, click the Back button and try again.

- WE DON'T READ PAGES
- WE SCAN THEM

- **We're usually on a mission.** Most Web use involves trying to get something done, and usually done quickly. As a result, Web users tend to act like sharks: They have to keep moving, or they'll die. We just don't have the time to read any more than necessary.
- **We know we don't need to read everything.** On most pages, we're really only interested in a fraction of what's on the page. We're just looking for the bits that match our interests or the task at hand, and the rest of it is irrelevant. Scanning is how we find the relevant bits.
- **We're good at it.** It's a basic skill: When you learn to read, you also learn to scan. We've been scanning newspapers, magazines, and books—or if you're under 25, probably reddit, Tumblr, or Facebook—all our lives to find the parts we're interested in, and we know that it works.

WHY DO WE  
SCAN?

## WHAT DESIGNERS BUILD...




### Join Biztravel.com Now!

- ✈ Book A Trip
- 📊 Track My Miles
- 🏠 Book A Vacation
- 📅 Plan A Meeting
- ✈ Charter A Flight

- Fast, easy booking of flights, hotel rooms, & rental cars
- Automated Upgrades to help you fly First Class
- Flight status updates sent to your pager
- Exclusive travel deals for biztravel.com members
- Tracking of your points and miles

[Learn More](#) [Join Now!](#)

## WHAT USERS SEE...



### Join Biztravel.com Now!

- ✈ Book A Trip
- 📊 Track My Miles
- 🏠 Book A Vacation

- Fast, easy booking of flights, hotel rooms, & rental cars
- Exclusive travel deals for biztravel.com members

[Learn More](#) [Join Now!](#)



I want to buy a ticket.



### Join Biztravel.com Now!

- 📊 Track My Miles

- Tracking of your points and miles

[Learn More](#) [Join Now!](#)



How do I check my frequent flyer miles?

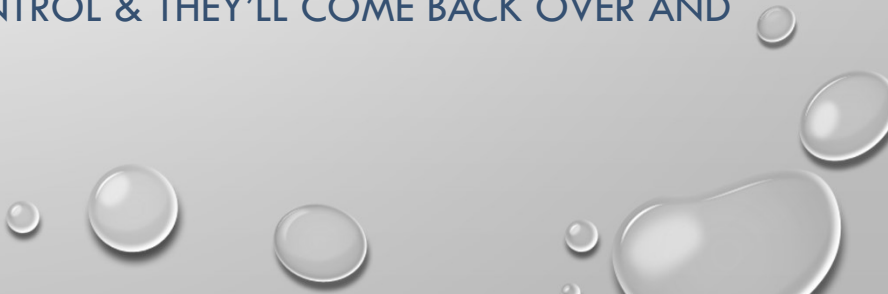
# WE DON'T MAKE OPTIONAL CHOICES. WE SATISFICE.

- WE DON'T MAKE OPTIMAL CHOICES
- WE SATISFICE WITH THE FIRST REASONABLE OPTION
- WEIGHING AND ASSESSING ALL OPTIONS DEPENDS ON AVAILABILITY OF TIME, HOW MUCH CONFIDENCE WE HAVE IN THE SITE AND FRAME OF MIND
- EXAMPLE: GOOGLE SEARCH

- **We're usually in a hurry.** And as Klein points out, "Optimizing is hard, and it takes a long time. Satisficing is more efficient."
- **There's not much of a penalty for guessing wrong.** Unlike firefighting, the penalty for guessing wrong on a Web site is usually only a click or two of the Back button, making satisficing an effective strategy. (Back is the most-used button in Web browsers.)
- **Weighing options may not improve our chances.** On poorly designed sites, putting effort into making the best choice doesn't really help. You're usually just as well off going with your first guess and using the Back button if it doesn't work out.
- **Guessing is more fun.** It's less work than weighing options, and if you guess right, it's faster. And it introduces an element of chance—the pleasant possibility of running into something surprising and good.

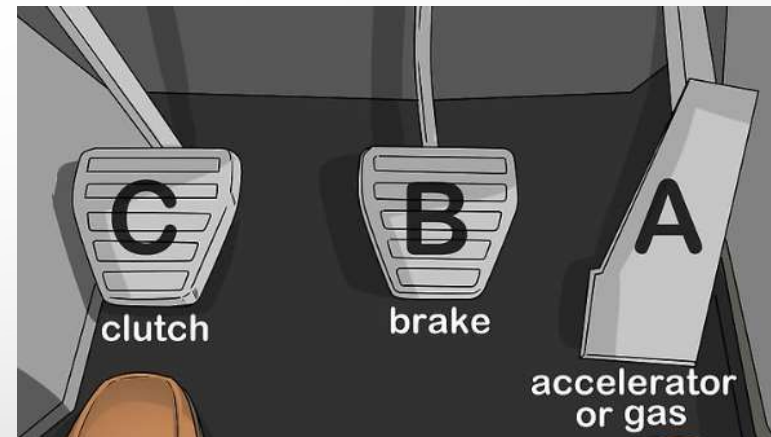


# WE DON'T FIGURE OUT HOW THINGS WORK. WE MUDDLE THROUGH.

- FACED WITH ANY SORT OF TECHNOLOGY, VERY FEW PEOPLE TAKE THE TIME TO READ INSTRUCTIONS.
  - INSTEAD, WE FORGE AHEAD AND MUDDLE THROUGH TRYING TO FIND OUR WAY.
  - FOR MOST OF US, IT DOESN'T MATTER TO US WHETHER WE UNDERSTAND HOW THINGS WORK, AS LONG AS WE CAN USE THEM.
  - IF WE FIND SOMETHING THAT WORKS, WE STICK TO IT. WE'LL USE A BETTER WAY IF WE STUMBLE ACROSS ONE, BUT WE SELDOM LOOK FOR ONE.
  - IF USERS "GET IT", THEY'LL FEEL SMARTER AND MORE IN CONTROL & THEY'LL COME BACK OVER AND OVER.
- 

# DESIGN FOR SCANNING, NOT READING

- Take advantage of conventions
- Create effective visual hierarchies
- Break pages up into clearly defined areas
- Make it obvious what's clickable
- Eliminate distractions
- Format content to support scanning



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browse



Artists



Instruments



Jazz styles



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INNOVATE WHEN  
YOU KNOW YOU  
HAVE A BETTER IDEA

TAKE ADVANTAGE OF  
CONVENTIONS  
WHEN YOU DON'T



# CREATE EFFECTIVE VISUAL HIERARCHIES

MORE IMPORTANT -> MORE PROMINENT

**Very important**  
A little less important  
Nowhere near as important

RELATED LOGICALLY -> RELATED VISUALLY

Books  
Music  
Movies  
Games

VISUAL NESTING TO SHOW PARTS OF

**Computer Books**

One particular computer book

blah blah blah blah  
blah blah blah blah  
blah blah blah blah **\$24.95**

Another computer book

blah blah blah blah  
blah blah blah blah  
blah blah blah blah **\$19.95**

CREATE  
EFFECTIVE  
VISUAL  
HIERARCHIES  
NEWS PAPER  
EXAMPLE

The headline spanning these four columns makes it obvious that they're all part of the same story.

**The Boston Globe**  
WEDNESDAY, OCTOBER 30, 2013

**Besieged Obama heads to Boston**  
Speaks at Faneuil Hall today as attacks mount on health care law rollout

**Mayoral rivals swing away in final debate**  
Connolly, Walsh rip each other's background but align on big issues

**TWEETS PER MINUTE about the World Series, by game**

By Christopher Rowland  
WASHINGTON — President Obama, on a symbolic trip to Faneuil Hall Wednesday, will highlight the Bay State success at expanding insurance coverage and to make a national political case to stem the political damage caused by the rocky rollout of his national plan. Obama is expected to highlight the bipartisan nature of the Massachusetts overhaul and emphasize that it took many months to sign up residents, according to the White House. He will speak to the same team when former governor Mitt Romney, a Republican, signed the groundbreaking law in 2006 with the late senator Edward M. Kennedy, a Democrat, looking on.

• **Health care differences** state, 8:30 a.m. with news, 8:30 a.m.

Even as the White House plans the day's debate strategy, the administration was forced Tuesday to address the latest round of complaints about the health plan rollout — this is one that a cadre of thousands of Americans are missing within spending coverage, mostly of newborns, individuals health plans that do not meet new minimum standards.

Republican in Congress, 10:30 a.m., 10:30 a.m.

By Andrew Ross  
CONCORD — Romney last played politics turned personal Tuesday night as Councilor at Large John R. Connolly and state Representative Matt in J. Walsh unspooled each other's professions, desperate for an edge in a tight race marked by few major policy differences. Connolly repeatedly referred to Walsh's career as a union official, noting that he was paid \$175,000 a year as head of the House Building Trades while he served as state representative. Walsh said, "How are you going to be independent at City Hall?" Walsh made several disparaging remarks about attorneys, indirectly referring to Connolly's profession, which the city councilor rarely talks about on the campaign trail.

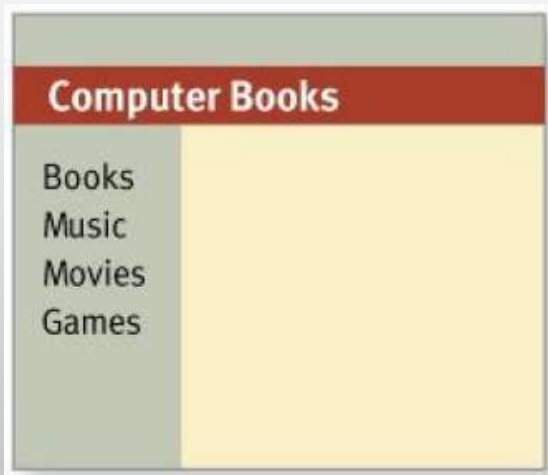
• **Clashes with health views**, 11:30 a.m. with news, 11:30 a.m.

"He doesn't need another lawyer in City Hall right now watching our game settings in the City of Boston," Walsh said. The line of market line last

The size of this headline makes it clear at a glance that this is the most important story.

# CREATE EFFECTIVE VISUAL HIERARCHIES

FLAWED VISUAL HIERARCHY



PROPER VISUAL HIERARCHY



PUT THE HEADING  
WHERE IT BELONGS TO  
MAKE THE  
RELATIONSHIP CLEARER



# FORMAT TEXT TO SUPPORT SCANNING

On the Web, links are a key factor in this navigation process. Users can exclude links that proved fruitless in their earlier visits. Conversely, they might revisit links they found helpful in the past. Most important, knowing which pages they've already visited frees users from unintentionally revisiting the same pages over and over again.

Generally, Web browsers are severely deficient in supporting user navigation. However, they do provide one feature that helps users orient themselves: browsers let designers display links in different colors, depending on whether the links lead to new pages or pages that users have seen before. Changing the color of visited links has been part of Web browsing since Mosaic arrived in 1993, so it's completely standard; almost all users understand it.

Currently, 74% of websites use different colors for visited and unvisited links, making this design approach a strong convention that people have come to expect. Hypertext theory, the Web's history, and current design conventions all indicate the need to change the color of visited links. Further, empirical observations from user testing have identified several severe usability problems on sites that violate this convention. When sites use the same color for visited and unvisited links, users unintentionally revisit the same pages repeatedly, get lost more easily because their understanding of each link's meaning is reduced, often misinterpret or overlook the difference between two similar links if they're unsure about which one they've already visited, and give up faster because they have a reduced sense of mastery when the site fails to reflect their actions and thus help them navigate.

Such usability problems are particularly damaging to users with weak [short-term memory](#), who often have trouble remembering what they've clicked without a visual representation. Of course, "weak short-term memory" is an inherent shortcoming of all humans, which is why all users are harmed by unchanging link colors. But this definitely impacts some people more than others, so it's particularly important to change link colors if you have many older users. Given the extensive theoretical and empirical support for using different link colors, it's astounding that a quarter of all websites continues to inflict extra usability problems on people by choosing a uniform link color.

Most important, knowing which pages they've already visited frees users from unintentionally revisiting the same pages over and over again.

## The Price of Uniform Link Color

Generally, Web browsers are severely deficient in supporting user navigation. However, they do provide one feature that helps users orient themselves: browsers let designers display links in different colors, depending on whether the links lead to new pages or pages that users have seen before.

Currently, 74% of websites use different colors for visited and unvisited links, making this design approach a strong convention that people have come to expect.

Hypertext theory, the Web's history, and current design conventions all indicate the need to change the color of visited links. Further, empirical observations from user testing have identified several severe usability problems on sites that violate this convention. When sites use the same color for visited and unvisited links, users:

- unintentionally revisit the same pages repeatedly;
- often misinterpret or overlook the difference between two similar links if they're unsure about which one they've already visited; and
- give up faster because they have a reduced sense of mastery when the site fails to reflect their actions and thus help them navigate.

Given the extensive theoretical and empirical support for using different link colors, it's astounding that a quarter of all websites continues to inflict extra usability problems on people by choosing a uniform link color.

## Why the Problem Persists

Even people who believe in usability sometimes question the need for changing link colors. I think this is because they don't pick up on the problems caused by unchanging links when they conduct their own user testing. Unfortunately, the symptoms of these problems are among the most difficult to detect when you observe users.

# HEADINGS – USE LOT OF THEM!

**Top level heading**  
**Second level heading**  
**Third level heading**

BAD – SIMILAR VISUALS

**Top level heading**  
Second level heading  
Third level heading

BETTER – DISTINCT VISUALS

To take a trivial example, which of us ever undertakes laborious physical exercise, except to obtain some advantage from it.

## **Don't let headings float**

We currently have in the train comes to find fault with that produces no resultant pleasure is to be online applications.

FLOATING HEADINGS -  
BAD

To take a trivial example, which of us ever undertakes laborious physical exercise, except to obtain some advantage from it.


## **More space above, less below**

We currently have in the train comes to find fault with that produces no resultant pleasure is to be online applications

CLOSER TO SECTION  
HEADINGS - BETTER



# MINDLESS AND PAINLESS CLICKING

- TWO – THREE CLICKS IS A GOLDEN RULE, BUT..
  - USERS DON'T MIND A LOT OF CLICKS AS LONG AS EACH CLICK IS PAINLESS AND THEY HAVE CONTINUED CONFIDENCE THAT THEY'RE ON THE RIGHT TRACK - FOLLOWING WHAT'S OFTEN CALLED THE "SCENT OF INFORMATION."
- 

# MINDLESS AND PAINLESS CLICKING - EXAMPLES

Already a Magazine Subscriber  
But Not an Online Member?

**Create/Access Your  
Account Now**

(You only need to do this once)

Enter 6-digit Account Number:

Enter Last Name:

**Continue** »

[Where can I find my account number?](#)

Already an Online Member?

**Log in using your email  
address and password**

Enter Email Address:

Enter Password:

Keep me logged in.

**Log In** »

Did you [forget your password?](#)

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- Post and reply to research discussion groups
- Create and post job openings
- Send RFP's

**Continue** »

- SCAN ALL THIS TEXT AND FIND OUT WHETHER I'M A SUBSCRIBER BUT NOT A MEMBER, OR A MEMBER, OR NEITHER ONE
- THEN DIG UP THE ACCOUNT NUMBER OR THE PASSWORD TO DECIDE WHETHER IT'S WORTH JOINING

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<input type="radio"/> ALL DIGITAL ACCESS Unlimited access to NYTimes.com and the NYTimes tablet and smartphone apps. <a href="#">See details</a>	99¢	\$8.75

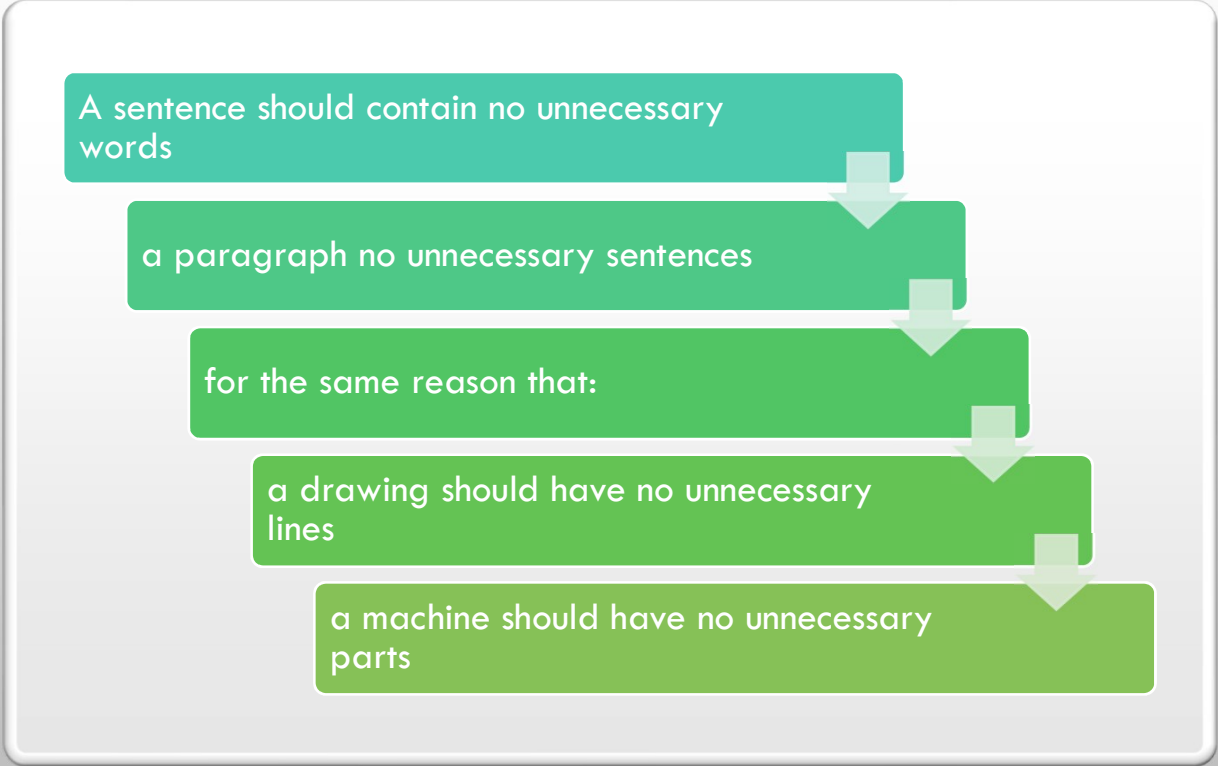
[CONTINUE >](#)

# MINDLESS AND PAINLESS CLICKING - EXAMPLES





# OMIT NEEDLESS WORDS



A sentence should contain no unnecessary words

a paragraph no unnecessary sentences

for the same reason that:

a drawing should have no unnecessary lines

a machine should have no unnecessary parts

Reduces the noise level of page

Makes useful content more prominent

Makes page shorter allowing more of the page to see at a glance

Happy talk must die

Instructions must die

**OMIT  
NEEDLESS  
WORDS**

# OMIT UNNECESSARY WORDS – SURVEY EXAMPLE

103 WORDS

The following questionnaire is designed to provide us with information that will help us improve the site and make it more relevant to your needs. Please select your answers from the drop-down menus and radio buttons below. The questionnaire should only take you 2-3 minutes to complete.

At the bottom of this form you can choose to leave your name, address, and telephone number. If you leave your name and number, you may be contacted in the future to participate in a survey to help us improve this site.

If you have comments or concerns that require a response please contact Customer Service.

## 1. How many times have you visited this site?

This is my first visit ▼

The following questionnaire is designed to provide us with information that will help us improve the site and make it more relevant to your needs.

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At the bottom of this form you can choose to leave your name, address, and telephone number. If you leave your name and number, you may be contacted in the future to participate in a survey to help us improve this site.

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The first sentence is just introductory happy talk. I know what a survey is for; all I need is the words "help us" to show me that they understand that I'm doing them a favor by filling it out.

Most users don't need to be told how to fill in a Web form, and the ones who do won't know what a "drop-down menu" and a "radio button" are anyway.

At this point, I'm still trying to decide whether to bother with this questionnaire, so knowing that it's short is useful information.

This instruction is of no use to me at this point. It belongs at the end of the questionnaire where I can act on it. As it is, its only effect is to make the instructions look daunting.

The fact that I shouldn't use this form if I want an answer is useful and important information. Unfortunately, though, they don't bother telling me how I contact Customer Service—or, better still, giving me a link so I can do it from right here.

## SURVEY TEXT ANALYSIS & PRUNING

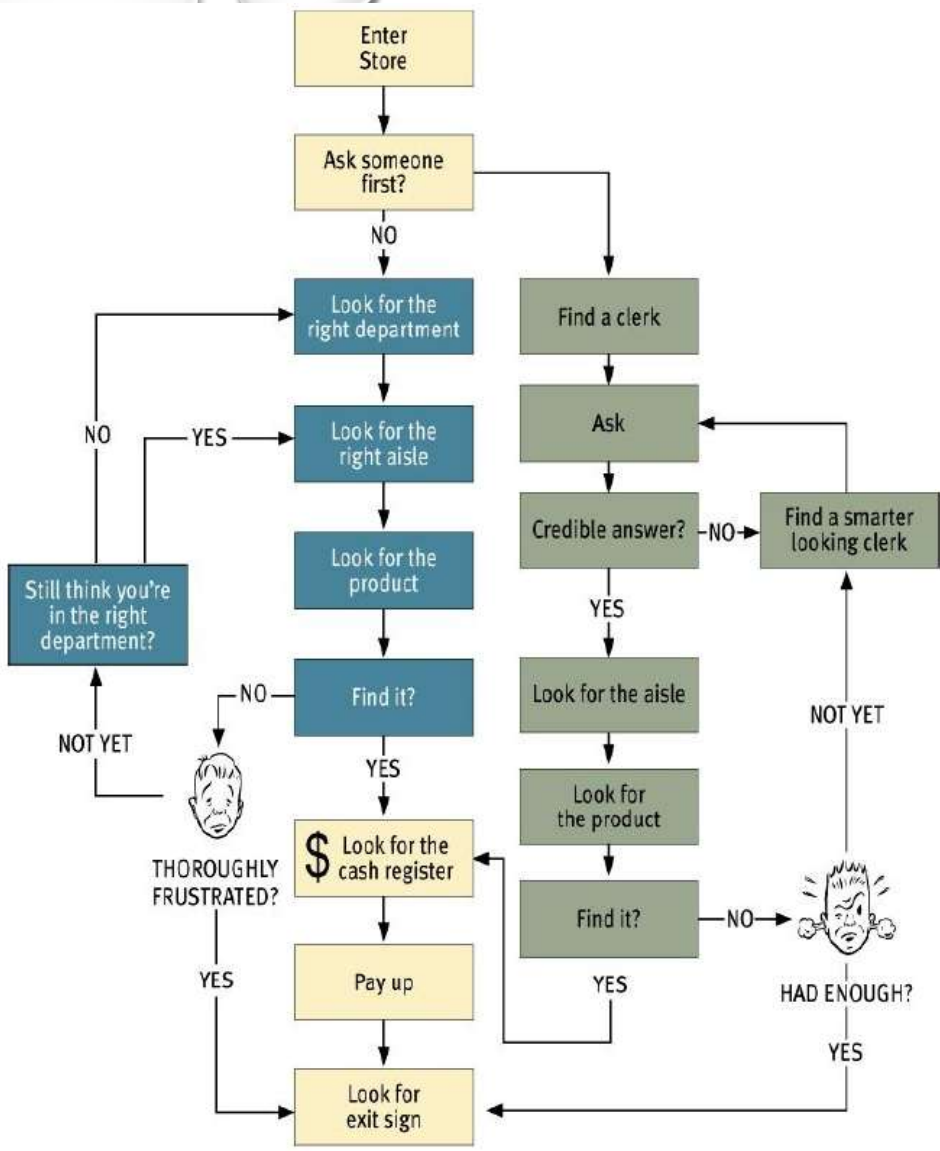
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### After: 34 Words

Please help us improve the site by taking 2-3 minutes to complete this survey.

NOTE: If you have comments or concerns that require a response, don't use this form. Instead, please contact [Customer Service](#).

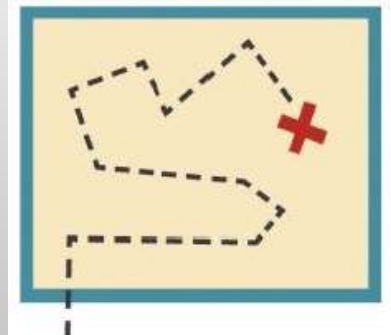
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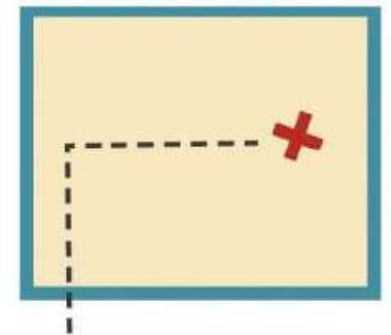
# PHYSICAL WORLD AND WEB BROWSING ANALOGY

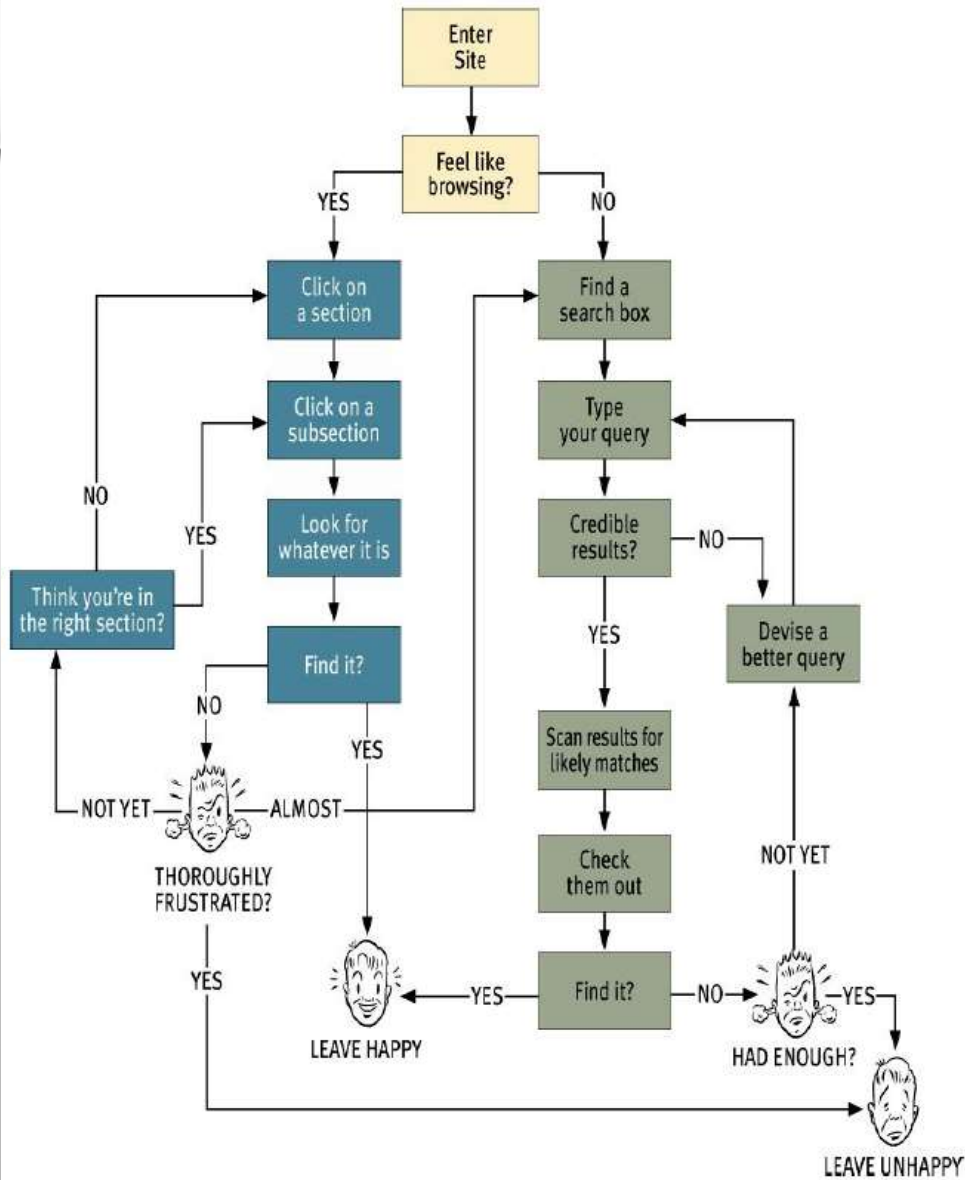
## SUPERMARKET EXAMPLE

FIRST TIME



SUBSEQUENT VISITS

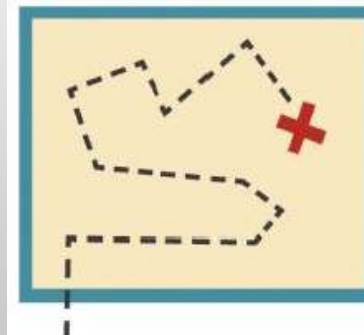




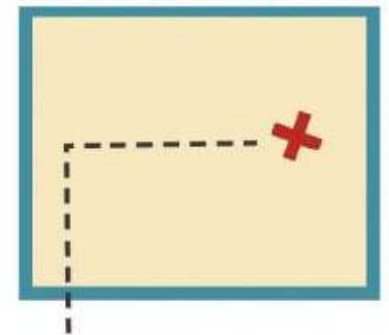
## WEB BROWSING EXAMPLE

## PHYSICAL WORLD AND WEB BROWSING ANALOGY

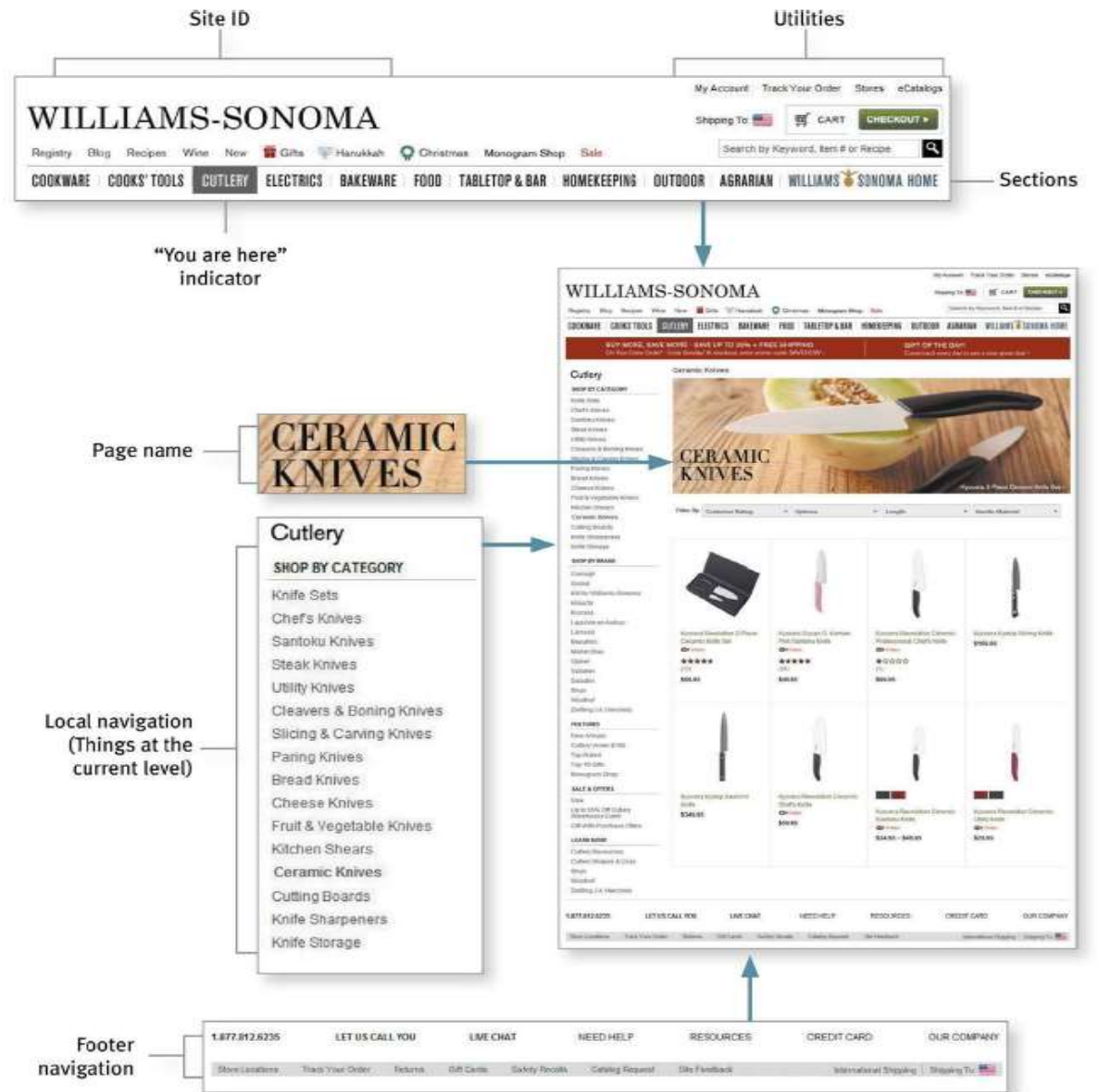
**FIRST TIME**



**SUBSEQUENT VISITS**



# WEB NAVIGATION CONVENTIONS



# PRIMARY NAVIGATION - SITE ID, SECTIONS & SEARCH



**XYZ Corp.** Sign in | Contact |  

Home | Products | News | Support | About XYZ | Sections

**XYZ Corp.** Sign in | Contact |  

Home | Products | News | Support | About XYZ

Bivalves | Lug Nuts | Protein Shakes | Subsections

**XYZ Corp.** Sign in | Contact |   Utilities

Home | Products | News | Support | About XYZ

Search    

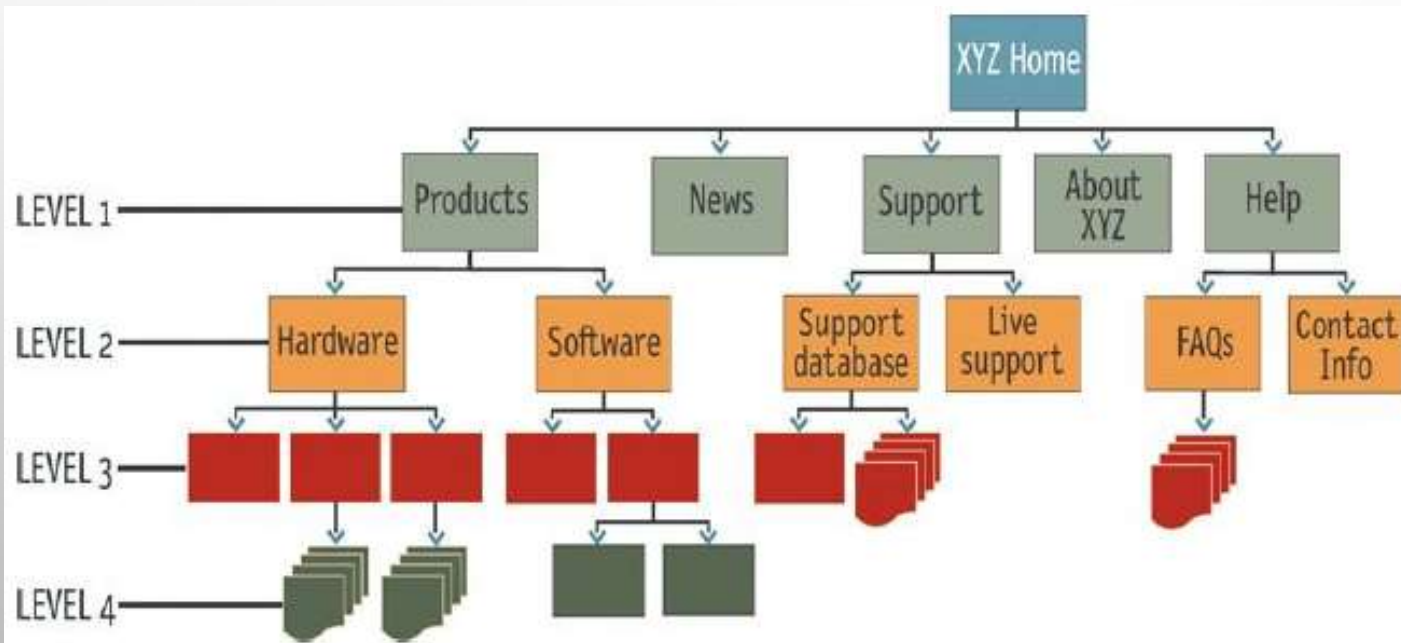
Search THIS SITE

Search for a Book





# CONSISTENCY AT SECONDARY, TERTIARY, QUATERNARY... LEVELS



Home



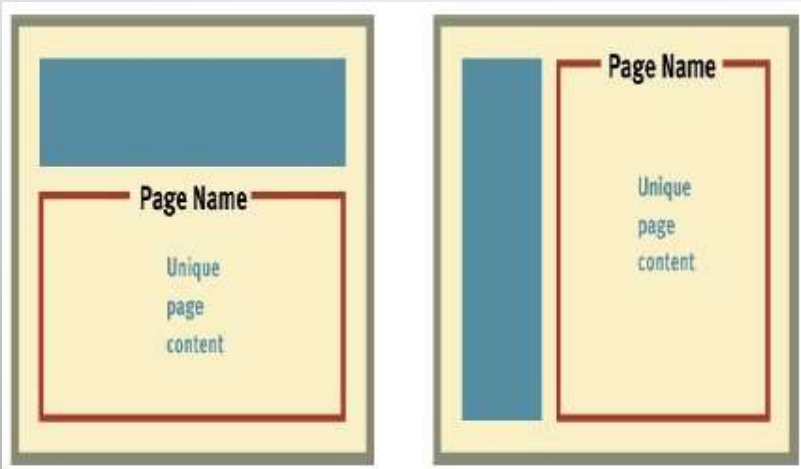
Second-level page



Subsection page

# PAGE NAMING

- EVERY PAGE NEEDS A NAME
- NAME NEEDS TO BE IN THE RIGHT PLACE
- NAME NEEDS TO BE PROMINENT
- NAME SHOULD MATCH WHAT IS CLICKED



WHAT I CLICK...

Lug nuts

WHAT I GET...

Lug Nuts

Nuts

Spare parts  
(No mention  
of Lug Nuts on  
the page)

Error 404  
Page not found

Names match. Comfort,  
trust, no thought required.

Names don't match.  
Frustration, loss of trust.

YOU ARE  
HERE



Highlight my current location in navigation bars, lists or menus



Various ways to make the current location standout



Looks like I'm in bedroom lighting

Put a pointer next to it

Sports  
Business  
▶ Entertainment  
Politics

Change the text color

Sports  
Business  
Entertainment  
Politics

Use bold text

Sports  
Business  
Entertainment  
Politics

Reverse the button

Sports  
Business  
Entertainment  
Politics

Change the button color

Sports  
Business  
Entertainment  
Politics

Best Buy > TV & Home Theater > TV Stands, Mounts & Storage > TV Stands > 40" - 49"

**BEST BUY** Search by Keyword, SKU # or Item # WEEKLY DEALS Stores Orders Help Credit Cards Español

PRODUCTS SERVICES SHOPS & DEALS GIFTS my Best Buy Sign In or Create an Account

NEW CYBER WEEK DEALS AVAILABLE NOW Shop Cyber Week deals

Best Buy > TV & Home Theater > TV Stands, Mounts & Storage > TV Stands > 40" - 49"

You've Selected  
Maximum Flat-Panel TV Size:  
40" - 49"  
[Remove](#)

Narrow Your Results  
Seller  
Best Buy Items (100)  
Marketplace Seller Items (50)  
Customer Reviews  
Top-Rated (9)  
Current Offers  
On Sale (50)  
Special Offers (100)

1 - 15 of 156 [1](#) [2](#) [3](#) [4](#) [5](#) [...](#) View: 15 per page

Compare up to 4 items     [COMPARE](#) Sort by: Best Selling

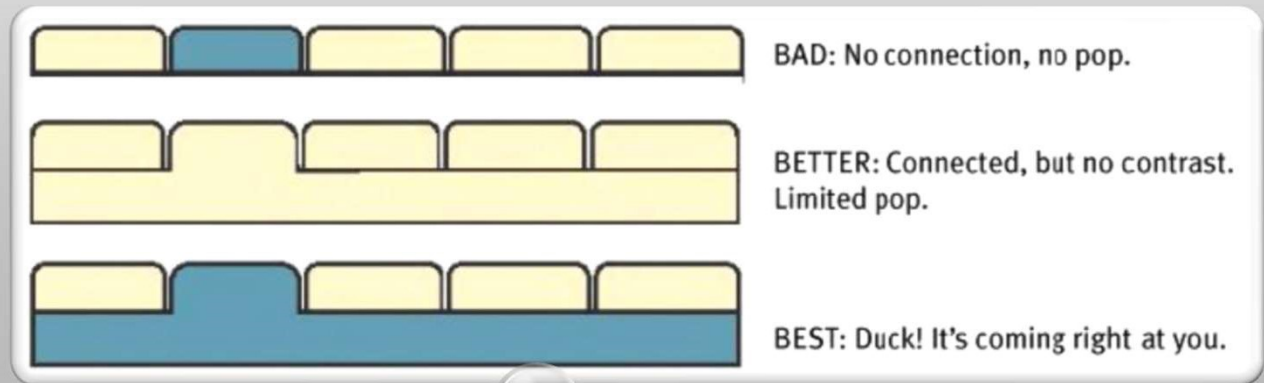
**Init™ - TV Stand for Most Flat-Panel TVs Up To 47"** **\$129.99**  
Model: NT-IMG1344 SKU: 5667885  
Holds most flat-panel TVs up to 47" weighing up to 95 lbs.; 3 tempered-glass shelves; steel frame, open design  
Customer Reviews: 4.5 of 5 (132 reviews)  
[Check Shipping & Availability](#)  
[Free Shipping on Orders \\$25 and Up](#)  
[Get 5% Back in Rewards. See How.](#)  
[Add to Cart](#)

**Init™ - Gaming Hi-Boy TV Stand for Flat-Panel TVs up to 46"** **Sale: \$149.99**  
Model: NT-GAMHB46C SKU: 6176111  
Reg. Price: \$199.99  
You Save: \$50.00

YOU ARE HERE -  
BREADCRUMBS

- TABS ARE SELF-EVIDENT AND DRAW ATTENTION
- TABS ARE HARD TO MISS
- TABS ARE SLICK

## TABS



# TRY THE TRUNK TEST FOR GOOD WEB NAVIGATION



What site is this? (Site ID)



What page am I on? (Page name)



What are the major sections of this site? (Sections)



What are my options at this level? (Local navigation)



Where am I in the scheme of things? ("You are here" indicators)



How can I search?

# EXERCISE

## Step 1

Choose a page anywhere in the site at random.

## Step 2

Look at it at arm's length or squint so you can't really study it closely.

## Step 3

As quickly as possible, try to find and circle each of these items:

- Site ID
- Page name
- Sections (Primary navigation)
- Local navigation
- "You are here" indicator(s)
- Search

**Identity & Mission**

**Feature promos**

**Hierarchy**

**Search**

Wednesday, March 16, 2000

**Purchase Power**  
Dell may have pioneered the notion of direct corporate computer sales, but a smaller Texas-based company's software tailored the concept for the entire dot-com-maree industry. Read this week's [Dot.Com](#) Wednesday to find out what sets pcOrder.com apart, and how it intends to stay that way.

**Content promos**

**FREE PERSONALIZED E-MAILS**  
**Feature Promos**  
WALL STREET JOURNAL  
SIGN UP TODAY

**What's On The Web?**  
South by Southwest Interactive Festival panelists pitch the Internet's potential for the entertainment industry.

**IPOs On Deck: Week of Mar. 13**

Company	Symbol	Status
<a href="#">Bio Aqua Systems, Inc.</a>	SEA	
<a href="#">Caldera Systems, Inc.</a>	CALD	
<a href="#">Digitas, Inc.</a>	DTAS	trading
<a href="#">FairMarket, Inc.</a>	FAM	trading
<a href="#">ImageWare Systems, Inc.</a>	IWSR	
<a href="#">Impeccable, Inc.</a>	IMPV	trading
<a href="#">Intellan Information Systems, Inc.</a>	ISX	
<a href="#">Loudbyte Technologies, Inc.</a>	LOUD	trading
<a href="#">Netelligence, Inc.</a>	NPLI	
<a href="#">PaintShop.com, Inc.</a>	PRTS	
<a href="#">RADVision Ltd.</a>	RVSN	trading
<a href="#">Shutterstock Corp.</a>	SHUK	trading
<a href="#">Universal Access, Inc.</a>	UAYS	

**Timely content**

**Shortcuts**

**Deals**

**TEC**

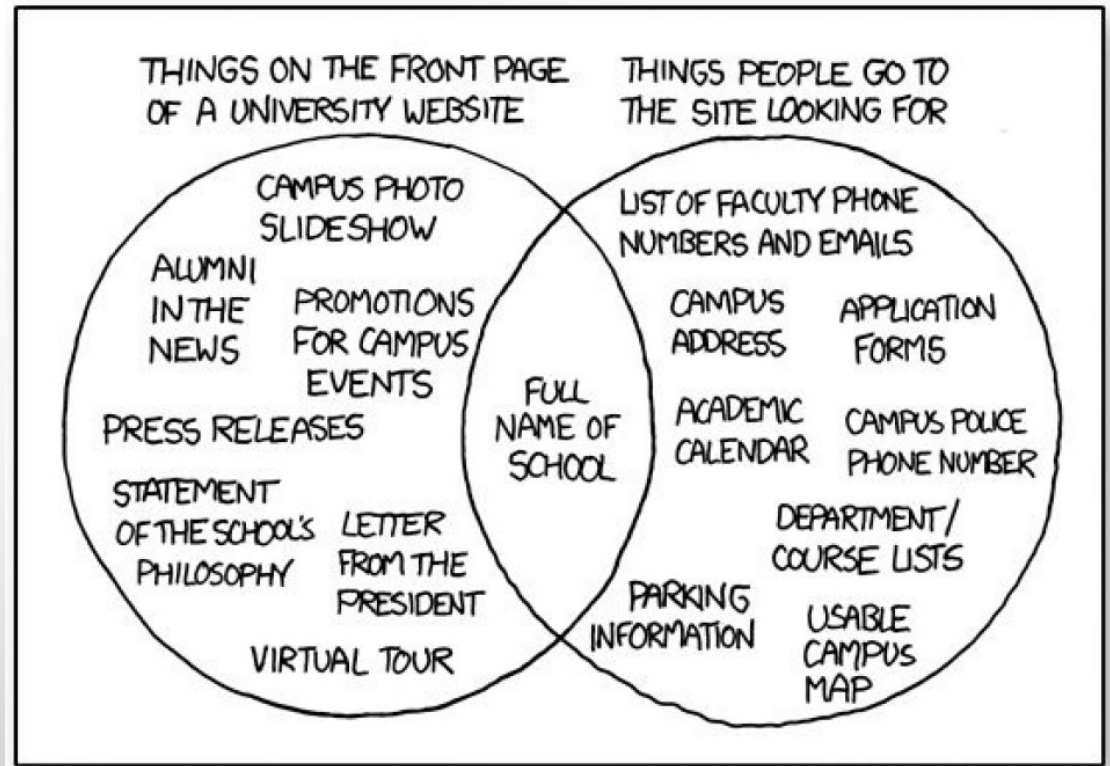
# THE THINGS A HOMEPAGE SHOULD ACCOMMODATE

- CONCRETE NEEDS
  - SITE IDENTITY AND MISSION
  - SITE HIERARCHY
  - SEARCH
  - TEASES
  - CONTENT PROMOS
  - FEATURE PROMOS
  - TIMELY CONTENT
  - DEALS
  - SHORTCUTS
  - REGISTRATION
- ABSTRACT NEEDS
  - SHOW ME WHAT I'M LOOKING FOR
  - ..AND WHAT I'M NOT LOOKING FOR
  - SHOW ME WHERE TO START
  - ESTABLISH CREDIBILITY AND TRUST



# USUAL CONSTRAINTS FOR THE HOMEPAGE

- EVERYBODY WANTS A PIECE OF IT  
– MOST DESIRABLE REAL ESTATE  
WITH LIMITED SUPPLY
- TOO MANY COOKS – EVERYBODY  
HAS AN OPINION ABOUT IT
- ONE SIZE FITS ALL – HAS TO  
APPEAL FOR EVERYONE WHO  
VISITS THE SITE



“University Website” | xkcd.com

# HOMEPAGE NEEDS TO ANSWER THE FOUR QUESTIONS

ATTENTION WEB DESIGNERS: YOU HAVE 50 MILLISECONDS TO MAKE A GOOD FIRST IMPRESSION!

What is this?



What do they have here?



A screenshot of the Kickstarter homepage. At the top, the 'KICKSTARTER' logo is on the left, followed by navigation links: 'What is Kickstarter?', 'Discover great projects', 'Start a project', a search bar, and 'Help Sign up Login'. The main hero section features a large image of a man with a beard and a black t-shirt. Text overlay reads: 'Bring creativity to life', 'Curious how Kickstarter works?', and a green 'Learn more &gt;' button. Below the image, it says 'Michael painted 51 paintings of Don Quixote in 91 days.' The 'Staff Picks: Film &amp; Video' section is highlighted, with a sub-link 'See all 852 Film &amp; Video projects'. A featured project, 'Mycophilia - a short documentary' by Madison McClintock, is shown with a video player thumbnail and a 'PLAY' button. Project statistics are displayed: '104% funded', '\$5,663 pledged', and '15 days to go'. A vertical sidebar on the right lists various categories: Art, Comics, Dance, Design, Fashion, Film &amp; Video (highlighted), Food, Games, Music, Photography, Publishing, Technology, and Theater.

What can I do here?



Why should I be here—and not somewhere else?





We don't need to.  
It's obvious.

When you're involved in building a site, it's so obvious to you what you're offering and why it's insanely great that it's hard to remember that it's not obvious to everybody.



After people have seen the explanation once, they'll find it annoying.

Very few people will avoid a site just because they see the same explanation of what it is every time they go there— unless it takes up half the page. Think about it: Even if you know what JAMA is, will you be offended by seeing “Journal of the American Medical Association” next to the logo in small print?



Anybody who really needs our site will know what it is.

It's tempting to think that the people who don't “get” your site right away probably aren't your real audience, but it's just not true.

When testing sites, it's not at all unusual to have people say, “Oh, is that what it is? I'd use that all the time, but it wasn't clear what it was.”



That's what our advertising is for.

Even if people understood your TV, radio, Web, and print ads, by the time they get to your site will they remember exactly what it was that caught their interest?

## TOP FOUR POSSIBLE EXCUSES FOR NOT SPELLING OUT THE BIG PICTURE ON THE HOME PAGE

# NOTHING BEATS A GOOD TAGLINE!

- A TAGLINE IS A PITHY PHRASE THAT CHARACTERIZES THE WHOLE ENTERPRISE
- A GOOD TAGLINE IS CLEAR AND INFORMATIVE
- A GOOD TAGLINE IS JUST LONG ENOUGH
- GOOD TAGLINES CONVEY DIFFERENTIATION AND A CLEAR BENEFIT
- BAD TAGLINES ARE GENERIC

Tagline

RESERVATION READY



**I heard you want to be a web developer**



**Here are a few devices to test your site**

# WORLD'S FIRST SMARTPHONE

INVENTED ABOUT 25  
YEARS AGO BY IBM

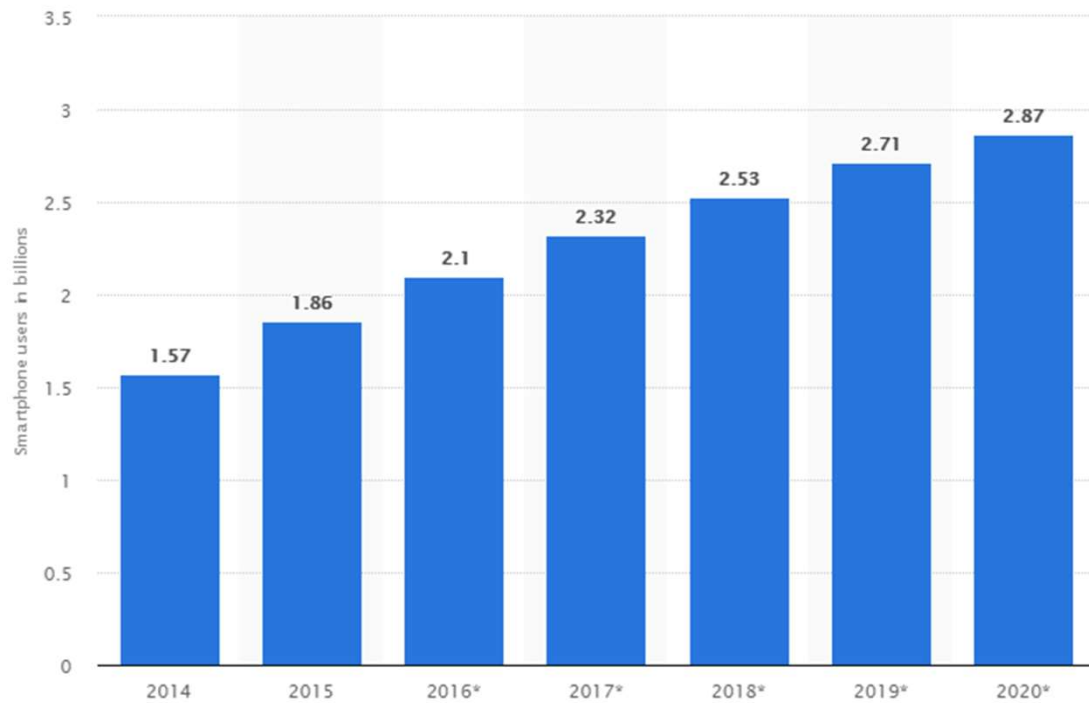
WAS NOT SUCCESSFUL  
DUE TO BATTERY ISSUE



## EARLY TOUCH SCREEN BASED SMARTPHONE MODELS

- LG PRADA - MAY 2007
- IPHONE 1 - JUNE 2007






# WORLD'S SMARTPHONE OWNERSHIP

- [HTTPS://WWW.WEFORUM.ORG/AGENDA/2018/03/REMEMBERING-FIRST-SMARTPHONE-SIMON-IBM/](https://www.weforum.org/agenda/2018/03/remembering-first-smartphone-simon-ibm/)





# MOBILE WEB SITE DESIGNING

- BASIC PRINCIPLES ARE SAME AS DESKTOP WEB SITES DESIGNING
  - BUT ON MOBILE, PEOPLE ARE MOVING FASTER AND READING EVEN LESS ON SMALL SCREENS
  - THEY NEED TO TAP MORE TO SEE THE CONTENT
  - MOBILE APP AND WEB DESIGN AREAS ARE STILL NOT MATURED
  - SOME TRADEOFFS NEED TO BE MADE DUE TO SCREEN LIMITATIONS (AND EARLIER DAYS, NETWORK LIMITATIONS)
- 

# SOME BASICS – PRIORITIZATION

THINGS TO BE USES IN A HURRY OR FREQUENTLY SHOULD BE CLOSE AT HAND.

Current conditions

Today's forecast



Now



The next ten days

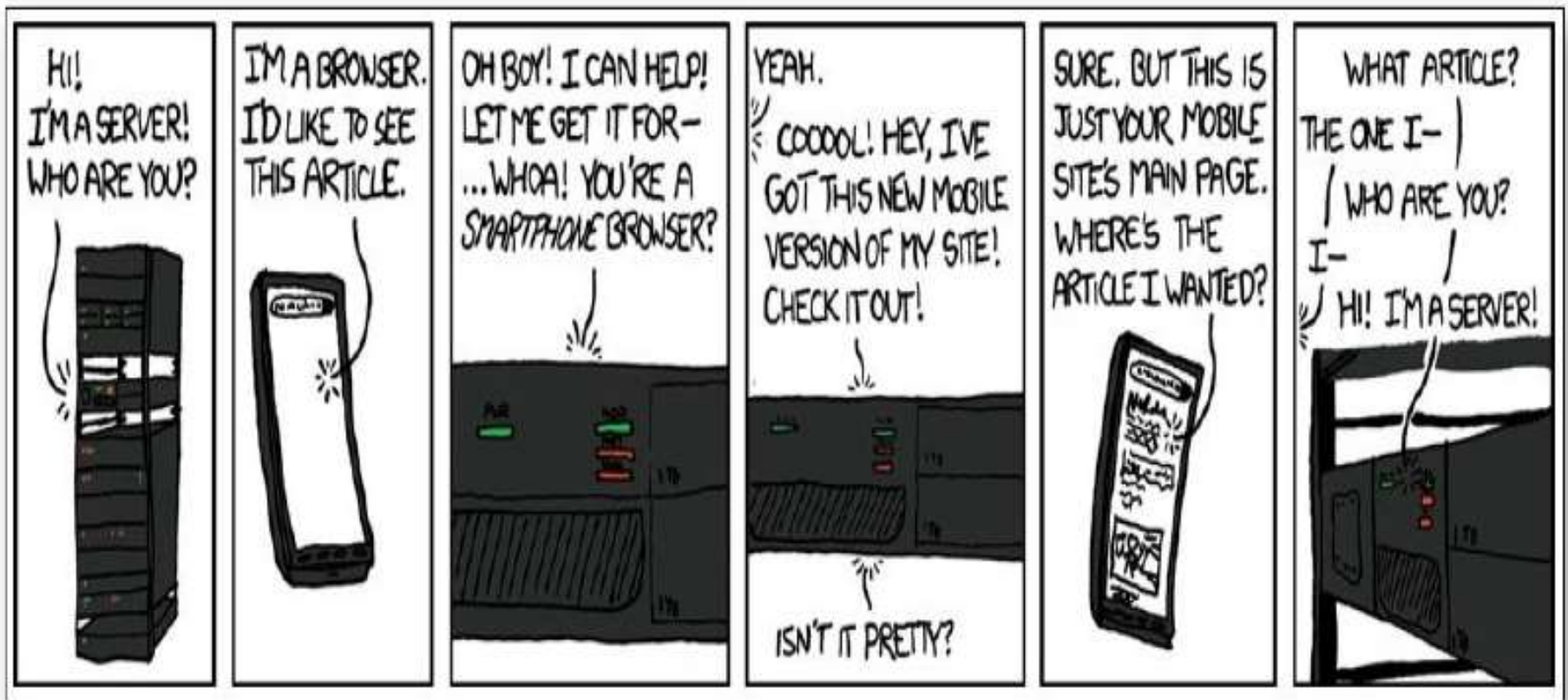


The next 12 hours



Next Tuesday

# ALLOW ZOOMING & PROVIDE A LINK TO THE FULL SITE



The image features a light gray gradient background with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text 'QUESTIONS??' is centered in the upper half of the image.

QUESTIONS??

# WEB DESIGNER



What my friends think I do



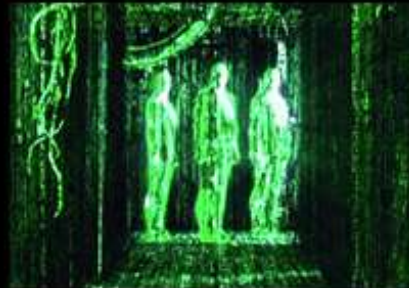
What my mom thinks I do



What society thinks I do



What my clients think I do



What I think I do



What I actually do