

Layout and Design

CS 4640 Programming Languages for Web Applications

[Steve Krug, "Don't make me think", Chapters 3-6]

[Jakob Nielsen and Hoa Loranger, "Prioritizing Web Usability," Chapter 3]

[Sean McManus, "Web Design," Chapter 4]

[Nielsen Norman Group, <https://www.nngroup.com/>]

Top Mistakes in Web Design (2016)

1. Unexpected locations for content
2. Competing links and categories
3. Islands of information
4. Repetitive links
5. Hidden fees and prices
6. Standing users on microsites
7. Poor search results
8. Flawed filters and facets
9. Overwhelming users with information
10. Hidden links

Top Mistakes in Web Design (2017)

1. Failing to use responsive design
2. Relying on a free website builder
3. Forgetting about actual design elements
4. Poor use of headers, sidebars, and footers
5. Not capturing customer information
6. Lacking top-quality content throughout
7. Making core information hard to find
8. Not keeping a website updated
9. Not dealing with broken and poorly optimized pages
10. Not paying attention to analytics

Top Mistakes in Web Design (2018)

1. Failing to use responsive design
2. Relying on a free website builder
3. Not providing necessary information/option: contact, search box, email opt-in form
4. Music and videos that play automatically
5. Having a “Click here to enter” page
6. Overly use Flash components and client-side scripts
7. Designing cluttered pages with no whitespace
8. Ignoring standard practice
9. Poor menu and navigation design
10. Not understanding basic SEO

Top Mistakes in Web Design (2019)

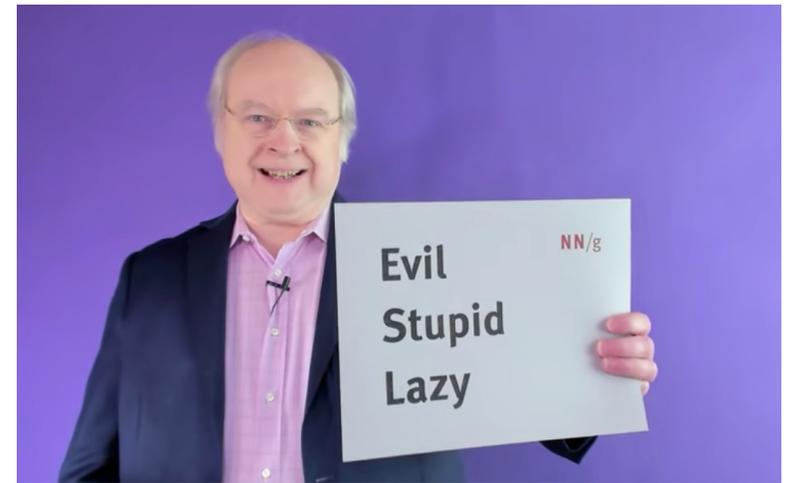
1. Failing to use responsive design
2. No favicon
3. Generic 404 pages
4. Pop-overs / pop-ups – modal dialog
5. Carousels or music / videos that play automatically
6. Ignoring standard practice
7. Readability problems – not enough contrast, unclear fonts, too many font styles, text images
8. Poor use of whitespace (too little / too much)
9. Poor menu and navigation design / no breadcrumbs / no state
10. Not understanding basic SEO

Top Mistakes in Web Design (2020)

1. Assuming things instead of extensive user research
2. Not using CSS grids and columns properly
3. Poorly configured menu and navigation layout (save layout for all devices)
4. Not responsive
5. Cluttering the design with too much content
6. Unclear “Call To Action”
7. Irrelevant images
8. Generic 404 pages
9. Not optimize images or use free stock images
10. Not support multiple languages
11. No voice interface based functionalities
12. Cross browser incompatibility

Top 10 Web-Design Mistakes of 2021

1. Popups / overlays
2. Slow response time – ideally, 1 second after each click
3. Misleading links / expectations
4. Low-contrast or tiny text
5. Inflexible input – no autocorrect
6. Can't select and copy-paste
7. Icons without labels
8. Layout shift on page load
9. Have only a large hero image
10. Design not intended for the medium being used



By Jakob Nielsen

[Ref: <https://www.nngroup.com/videos/top-10-web-design-mistakes/>]

Common Conventions

Site ID  **Current** **Section** **Search facility**

Personal Business Commercial Locations Sign In

Credit Cards Bank Auto Invest Learn Contact

Utilities



Don't let your credit report surprise you.

Get notified of changes to your TransUnion® report with 100% free CreditWise® from Capital One.

[Get Started Now](#)



Sign In

Select an account

Username

Password



Expect more with 360 Money Market®



See If You're Pre-Qualified



SavorSM Cash Back Rewards



View Your Credit Score



Fixed or Flexible?

Fixed width design

- Most popular solution to the challenge of different screen size
- Designer takes control over the look of the web page
- Take control away from users
 - Shrinking the browser may lead to scrolling
- On a small screen – require scrolling to see everything
- On a big screen – there is white space at the sides

Flexible width design

- The page stretches or shrinks to the size of the browser window
- Reduce the amount of scrolling
 - The content can make optimal use of the screen space available
- Can be hard to do well since the amount of content displayed on screen varies – depending on the size of the device, screen, and browser window

Fonts

Five common problems

1. Text is too **small**
2. Text appears **fuzzy**
3. Text cannot be **resized**
4. Not enough **contrast** or too much **contrast**
5. Design elements **overshadow** text

These happen when designers get “cute” or “cool”
They focus on “look”, not “functioning”

Some badly designed sites are beautiful !

Top Guidelines For Fonts

1. Use common fonts
2. At least 10 point size
3. Avoid busy backgrounds
4. Use dark text on light backgrounds

Not light on dark

5. Keep distractions to a minimum:
 - Moving
 - All-caps
 - Graphical text

Choosing Fonts

- All fonts are not created equal

Typefaces reflect THE tone of your site

- Serif vs. Sans-Serif

- Serif has cross lines at tips of letters
- In **Print:** Serif is 10% faster to read
- On a **Screen:** Sans-Serif is faster!
- By 2025, screen resolution may catch up with paper

Don't get too fancy

- Only a few fonts are safe on all browsers

- Arial, **Arial Black**, Comic Sans MS, Courier New, Georgia, **Impact**, Times New Roman, Trebuchet MS, Verdana

- When in doubt, use Verdana

- Georgia is best serif font for online reading

Mixing Fonts and Colors

- Limit number of fonts
 - Use variations for emphasis
 - Same rules apply to color
 - Less than 3 fonts, less than 4 colors
- Don't SHOUT at users!
 - All caps is about 10% slower to read than mixed case
- Text and background contrast
 - Dark text on light background is easiest to read on paper and on-screen (exactly opposite when projecting)
 - Avoid similar colors
 - Avoid busy backgrounds

Text Images

- Appropriate for buttons
 - Not for large blocks of text
- Why not?
 - Graphics text causes file bloat
 - Graphics text cannot be searched
 - Graphics text cannot be selected
 - Users want to copy your address and add it to a map or address book
 - Users cannot change the size of graphics text
 - Screen readers can't read graphics text
- Moving text is really annoying and distracting!

Moving Text

- Blinking or moving text distracts users
- People want to control their reading pace
 - Dynamic text takes that control away
- People with impaired vision may not be able to focus on and maintain continuous eye contact with constantly moving items

Let's move !!!

Let's blink !!!

Flow in User Interfaces

- **Flow**: The next thing the interface wants to do is exactly what the user expects
 - Follow users' mental model
 - Users **direct** the software
 - Keep related **tools** available
 - **Modeless** feedback : The user should not have to respond
- Interfaces should be **invisible**, not **cool**

If the UI's manifest model matches the users' mental model,
the user can use the software without thinking

By doing what comes naturally

Design for the Probably Provide for the Possible

- **Choices** should be based on probability, not logic
 - **Logic**: One out of a million is possible ... *if p then s1 else s2*
 - That's programmer thinking
 - **Probability**: Make the 999,999 default, make the "one" hard to find
 - That's user thinking!
- Default should **save changes** when I exit
 - **Of course** I want to save !
 - Include an **option to discard** and exit

Make the most likely choices default
Less likely choices can be harder to find

Make the UI Disappear

- **Less interaction**, not more – what do users **need**?
- Indicate status **visually** – pictures, not words
- Don't use dialogs to report **normal behavior**
- Provide default behavior and **ways to change** it
- Don't **ask questions**, give users choices

Summary

- Understand the users
- Help users find their stuff
- Make sure the layout matches user's mental model to create flow
- Design for the probable; allow for the possible

Designing, building, and maintaining a great website isn't easy.
It's like golf: a handful of ways to get the ball in the hole, a
million ways not to

If something is hard to use, I just don't use it as much
[Steve Krug, "Don't make me think"]