UNIT 5: Basic Principles of Web Design

Markup Languages and Information Management Systems

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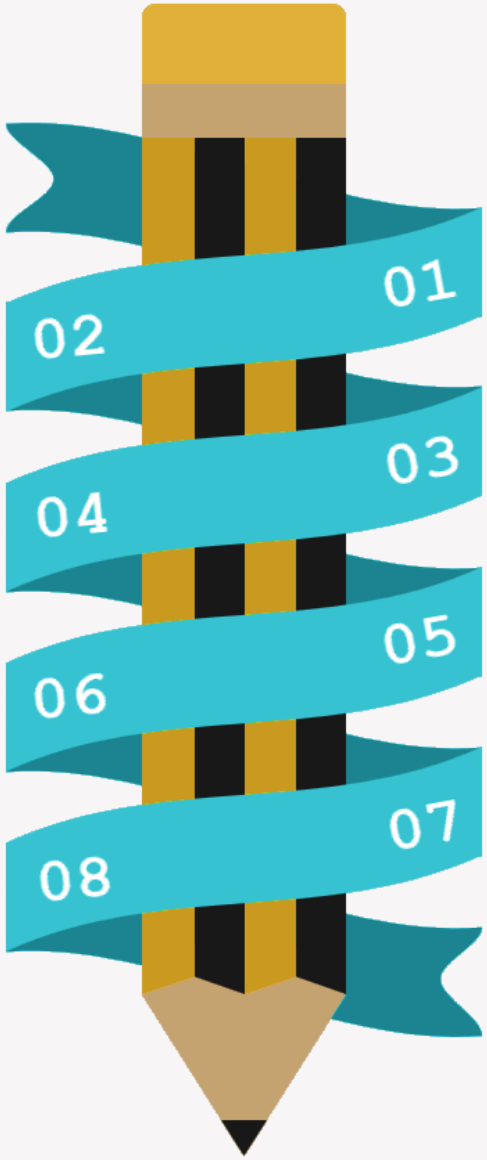


Introduction

What is Web Design?

#1

Introduction

- ***Web Design*** is an ambiguous term.
- Internet professionals define it in two ways:
  - Programming of the **background** functionality of a website.
  - Development of the **appearance** of the application for the user.
- Both definitions are right.

Design Principles

Some history **#2**

Design Principles

- At the beginning of the era of web development (mid-90s), Web Design consisted in creating **static HTML pages**, with text, graphics and links.

Design Principles

- However, modern Web Design is about creating **dynamic websites** that
  - use other markup and programming languages:
    - JavaScript
    - ColdFusion
    - ASP
    - JSP…
  - interact with databases
  - contain multimedia elements
  - are stylized using CSS

Design Principles

- **Full-stack web designers** must know many of the technical and artistic aspects of Web Design, although they don't necessarily have to master both.

- Current guidelines often involve the creation of dynamic websites handled by highly efficient databases.

Design Principles

- If a site is made up of only unformatted pages, black text over a white screen, it will not **communicate** anything to the most part of its audience.
- If a site uses the more advanced graphical methods but is made up of difficult-to-update pages, or that do not improve or simplify the **user experience**, then it will be more rigid and far from practical.

Information Design

Achieving success **#3**

Information Design

- **Communication** is the essence of a website.
- One of the main objectives when planning a website is decreasing, or totally removing, the **noise** that can disturb the communication capability of the site.

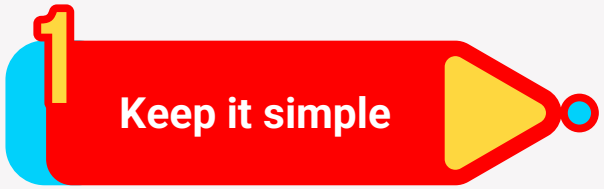
Information Design

- The **content** should:
  - focus on the public.
  - be relevant and pertinent.
  - get attention and **fully communicate** the message.
  - be presented in a logical manner.
- Success in Web Design is about **how effective** the content and graphics **communicate** a message to the user.

The 7 rules of Web Design

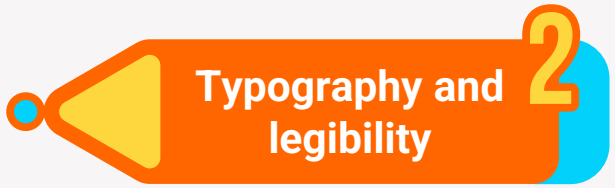
What we should do **#4**

The 7 rules of Web Design

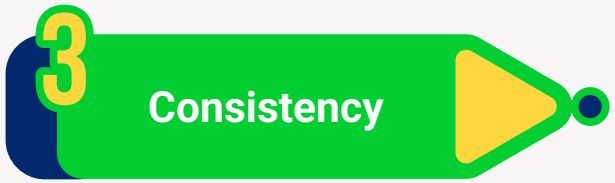


- Just because you can doesn't mean you should.
- All the elements contained in a web page must be there **for a reason**.

- Use appropriate **color contrast** between text and background.
- Choose fonts that are **easy to read** and not too small.
- **Split text** into manageable chunks.

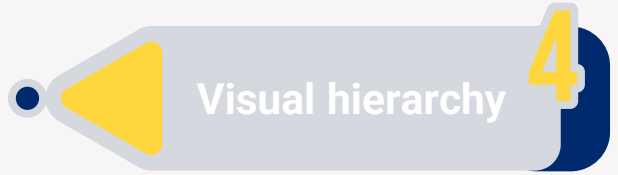


The 7 rules of Web Design

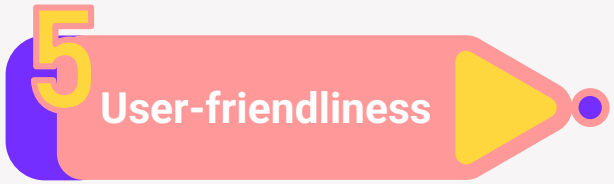


- **Visual elements** should be consistent throughout your website.
- **Functional elements** (menu bars, navigation buttons...) should be placed in the same spots on each page.
- Additions and modifications should not break prior internal consistency.

- Using **different font sizes and colors** help users to understand the hierarchy of the content.
- Colors used in *important* buttons should be **brighter and eye-catching** than those on normal text.
- **Element placing** can have a meaning: proximity means relation, and the opposite is also true.

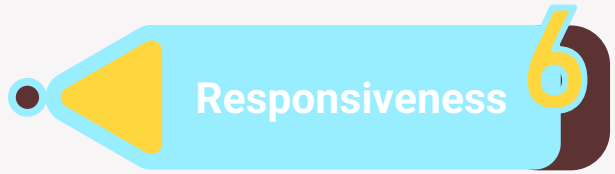


The 7 rules of Web Design

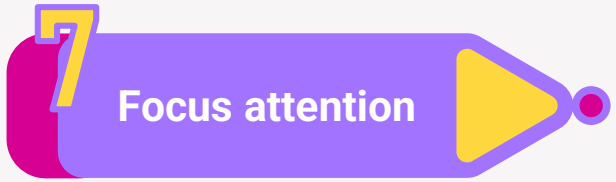


- Using the right **icons** helps users to navigate through the site.
- Always have a **"go back" option** to allow users to return to their desired path.
- Give **feedback** to every action: messages, loading bars…

- Make your website **adaptable** to the type of device and browser used.



The 7 rules of Web Design



- Design should accomplish the goals of the company or society that owns the site: the communication of a **message**.
- The most important elements should be **visible** without the need to scroll.

Practical Exercise 5.1

Usability and Accessibility

Not the same thing **#5**

Usability and Accessibility

- The most widespread definition of **usability** is the one proposed by the ISO:

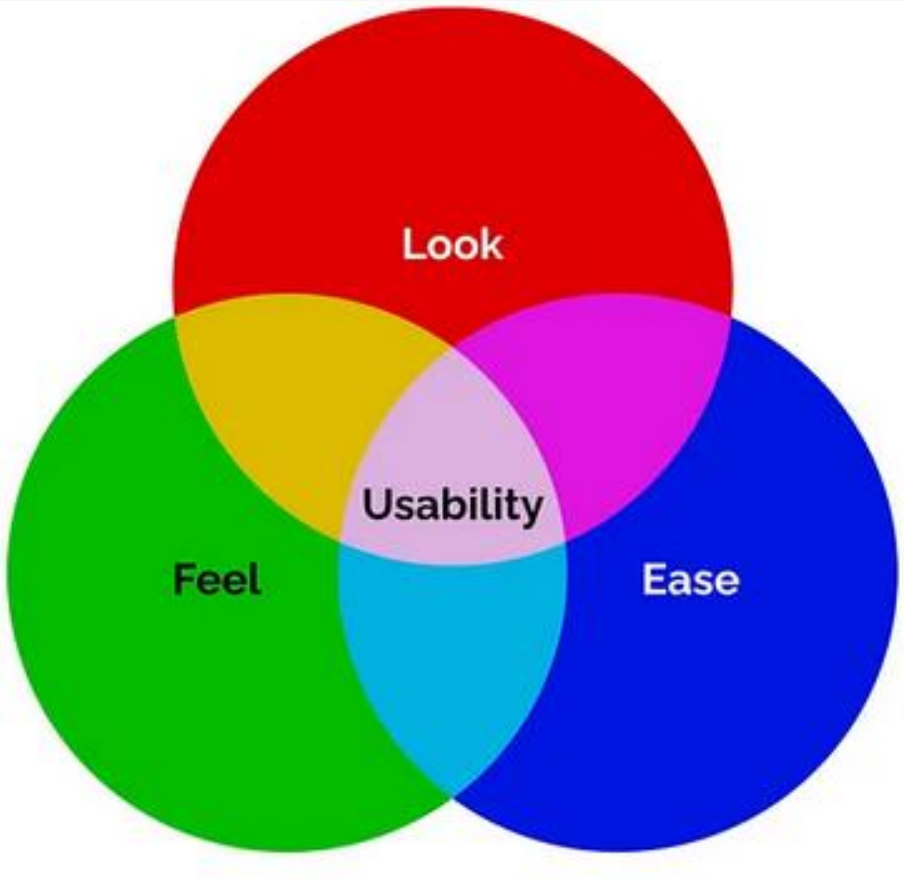
  *The extent to which a product can be used by **specified users** to achieve **specified goals** with effectiveness, efficiency and satisfaction in a **specified context of use**.*

- In other words, it is *the capacity of a system to provide a condition for its users to perform the tasks safely, effectively and efficiently, while enjoying the experience.*

Usability and Accessibility

- Usability consists of two types of attributes:
  - **Objectively quantifiable attributes:**
    - Number of mistakes the user makes during the performance of a task.
    - Time spent on a task.
  - **Subjectively quantifiable attributes:**
    - User satisfaction.

Usability and Accessibility



- A design is not in itself **usable**.
  - It *is* for specified users in a specified context of use.
- Usability can also be a **measure of the quality** of an application.

Usability and Accessibility

- The concept of accessibility is closely linked to that of usability.
- Accessibility is not about ease of use; is about **possibility of use** instead.
- A good design involves making **multiple versions** of the design:
  - Text-only version.
  - Multiple languages.
  - …

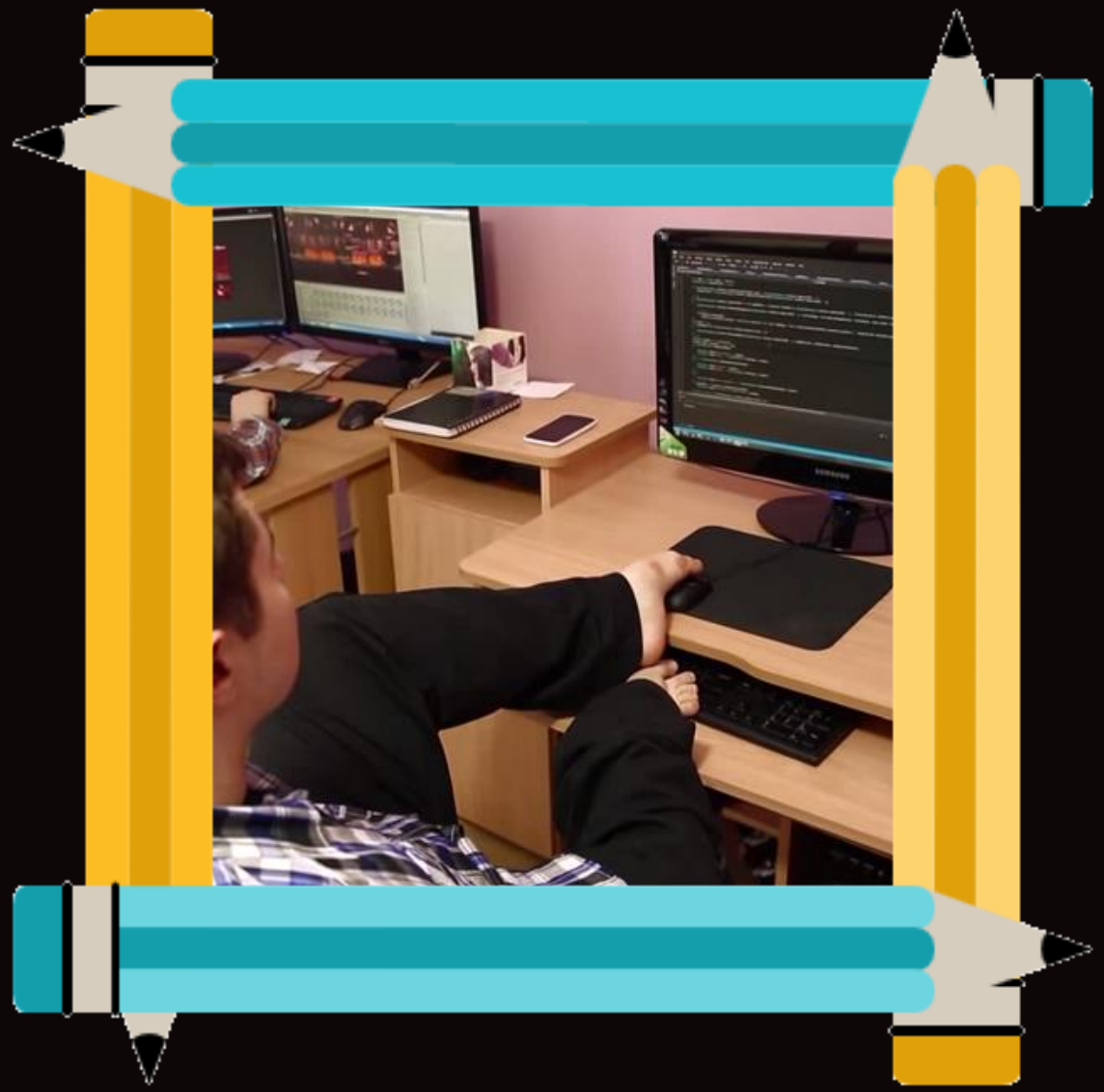
Usability and Accessibility

- For a design to be accessible, it should enable **access for all potential users**.
  - With **individual limitations**:
    - Disabilities.
    - Language proficiency.
    - Age, etc.
  - With **limitations arising from the context of access**:
    - Software and hardware used.
    - Bandwidth of the network connection, etc.

Usability and Accessibility

- A **usable design** needs to **define its potential audience**, in order to design for the concrete.

- An **accessible design** involves designing for the **diversity and heterogeneity of access needs** that this specific audience presents.



Practical Exercise 5.2

Development Process

Software cycle

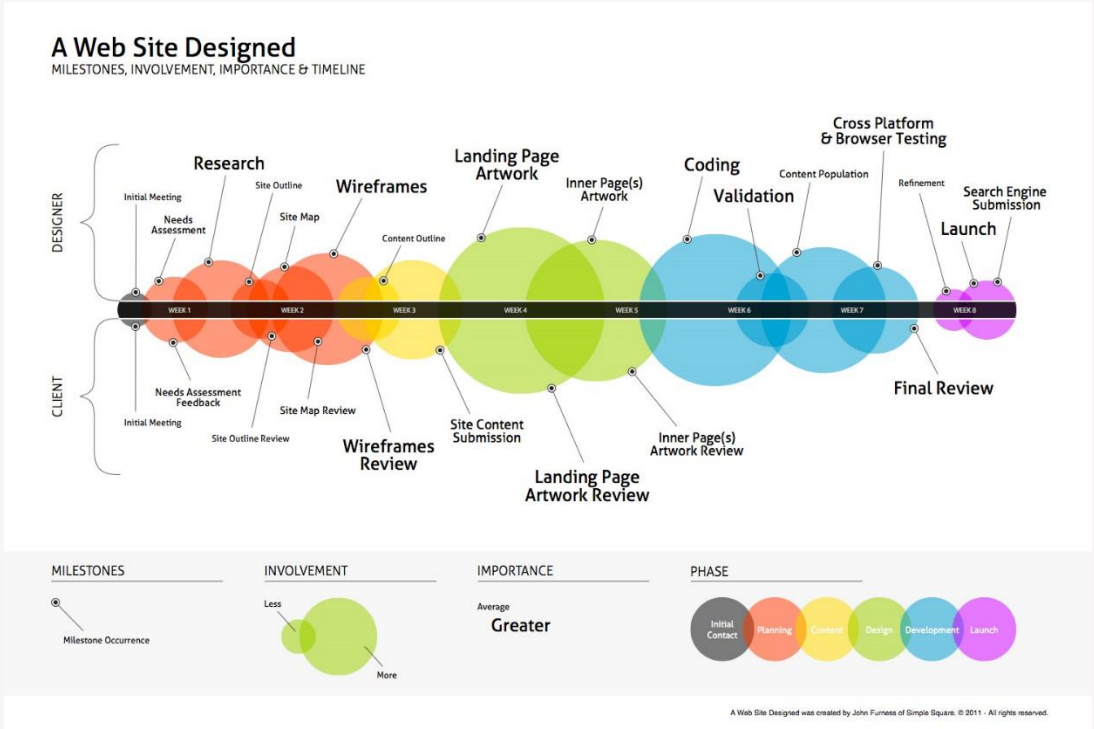
#6

Development Process

- A web development process can…
  - …be very simple and involve few people.
  - …be very complex and involve dozens of people.
- There are a series of **steps** that help in the **development process** if followed.

Development Process

- This process, in the **classical model**, is divided into 4 steps:
    1. Planning
    2. Design
    3. Development
    4. Delivery



Development Process

1. Planning

- First contact and project definition
- Project analysis
- Content structure and strategy
- Strategic direction

2. Design

- Content prioritization
- Prototyping (*wireframes*)
- Visual design (logos and such)
- Style guide and documentation

Development Process

3. Development

- Template building
- Compatibility among browsers
- In-device testing

4. Delivery

- Uploading the project to the server
- Customer acceptance testing
- Documentation and training

Development with markup languages

Coding #7

Development with markup languages

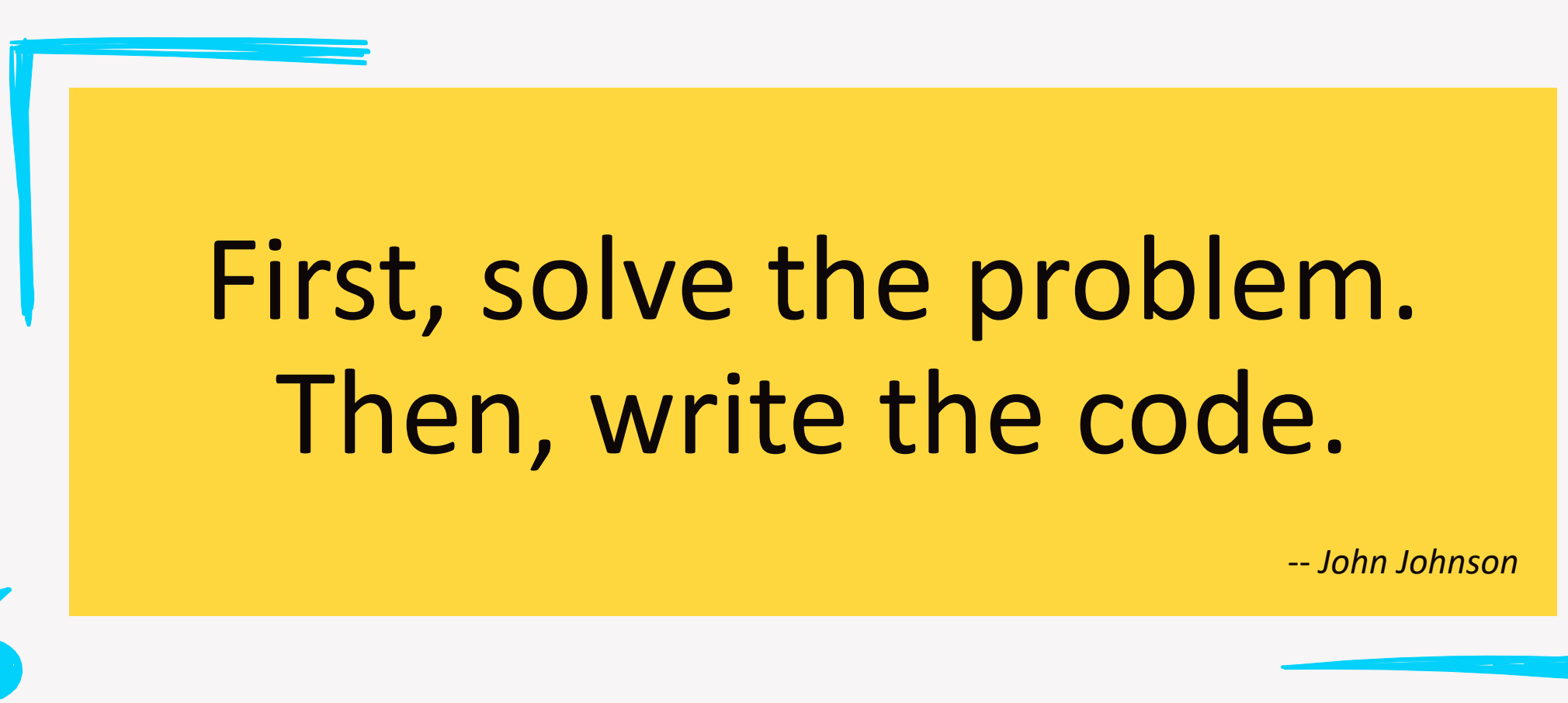
- Developing web involves wide knowledge of **markup and programming languages**, as well as **frameworks**:
  - HTML
  - .NET
  - ASP
  - JSP
  - JavaScript, etc.

Development with markup languages

- Knowledge of **application integration** is required.
- The code can be written using different tools, of varying complexity
  - From simple plain text editors, like Notepad, to different WYSIWYG* applications, such as Adobe Dreamweaver.
- Some tools have **coding support features** that help developers.
  - Some of them even allow you to control the whole site.

* *What you see is what you get*

The maxim of development is:



Development with CMS

Multiple options #8

Development with CMS

A CMS (*Content Management System*) is a set of programs that allow **managing the creation, deployment and maintenance** of a website.

- Allows creating sites in an easy and homogeneous manner, both in design and in content.
- Offers the possibility of **managing users** and their privileges in the site.

Development with CMS

- Most of them are **free and open source**.
- Its implementation is quite **simple**.
- Examples: WordPress, Joomla, Shopify, Drupal, PrestaShop...

Development with CMS

- **Modular architecture**:
  main code + modules or extensions
- Various **web server platforms** can be used: IIS, Apache, TomCat, Zope…
- Various **databases** can be used: MySQL, Oracle, MSSQL, PostgreSQL…

Questions?

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