



Prifysgol Cymru
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University of Wales
Trinity Saint David

200
1822 - 2022

GETTING STARTED IN WEB DESIGN

*Man Geni Addysg Uwch yng Nghymru
Where Higher Education Began in Wales*

www.uwtsd.ac.uk

OVERVIEW

- Website creation roles
- Equipment
- Software

Website Creation Roles

Content

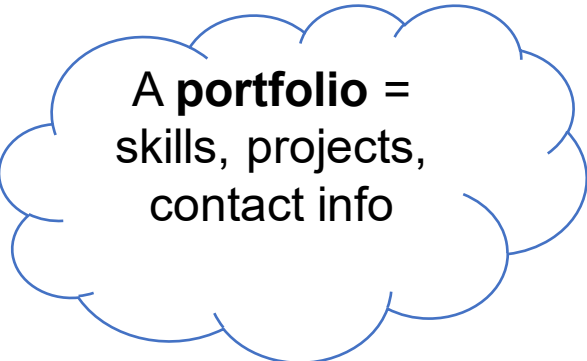
Design

Coding: Frontend

Coding: Backend

Content-The Message and Meaning

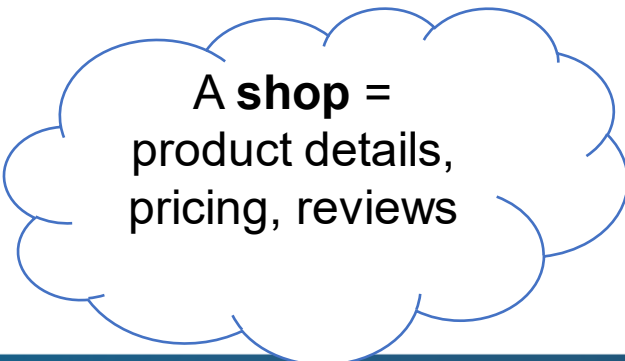
- Essential for engaging visitors and conveying the website's message, purpose, or services.
- Text, images, videos, links, any downloadable files that populate the website.
- Good content answers the user's questions



A **portfolio** =
skills, projects,
contact info



A **news site** =
informative
articles



A **shop** =
product details,
pricing, reviews

CONTENT

Information architecture

Organizes content logically for ease of findability

Content strategy

Ensures that text supports the brand/marketing goals;
may include data modelling and updating schedules as
well as extending brand voice to social media

Problems in This Snippet:

Issue	Explanation
Vague language	"All kinds of things", "new stuff", "cool" – lacks details
No clear structure	One long paragraph, no headings or scannable points
Lack of keywords	Doesn't explain what the company actually does
Missing tone and voice	Unprofessional and generic
Weak call to action	"Click here" is unclear – click for what?
Not accessible	Link text should be descriptive (e.g., "View our services")

Website Creation Roles

- ✓ Content
- ✓ Design
- ✓ Coding: Frontend
- ✓ Coding: Backend

Design – The Look, Feel & Experience

- First impressions happen in milliseconds – design builds trust.
- Good design helps users understand and navigate the site easily.
- Poor design = confusion, frustration, and high bounce rates.

Design

*feeling you get
when using a
website or product*

User Experience (UX)

Makes sure whole experience with the site is favourable based on user testing

*designing the actions and
interactions—how the website
behaves when you use it.*

Interaction Design (IxD)

Focuses on how to use the site, including its User Interface (UI)

*designing the visual
aspects like buttons,
colors, fonts, layout and
much more*

Visual Design

Creates the “look and feel” of the site

Website Creation Roles

- ✓ Content
- ✓ Design
- ✓ Coding: Frontend
- ✓ Coding: Backend

Coding: Frontend Development

- deals with the part of the website that users interact with directly.
- Authoring/Markup (HTML)
- Styling (CSS)
- JavaScript and DOM Scripting
 - *interactive and dynamic web pages.*
- Frameworks
 - *pre-made libraries or templates that help developers build websites faster*

Website Creation Roles

- ✓ Content
- ✓ Design
- ✓ Coding: Frontend
- ✓ Coding: Backend

Coding: Backend Development

- Server software (ex: Apache, MS IIS)
- Web application languages (ex: PHP, Ruby, .NET)
- Database Software (ex: MySQL, Oracle)

What Makes a Website Work?

User (*you search for shoes*)



Web Browser (Chrome, Firefox, etc.) (*sends request*)



Server Software (Apache / IIS) (*passes request to web application*)



Web Application (PHP / .NET / Ruby) (*decides which database table to check*)



Database (MySQL / Oracle) (*sends the data back*)



Back through the same path



Website shown to user (*A page full of shoes on your screen*)

Typical Equipment

Solid up-to-date computer

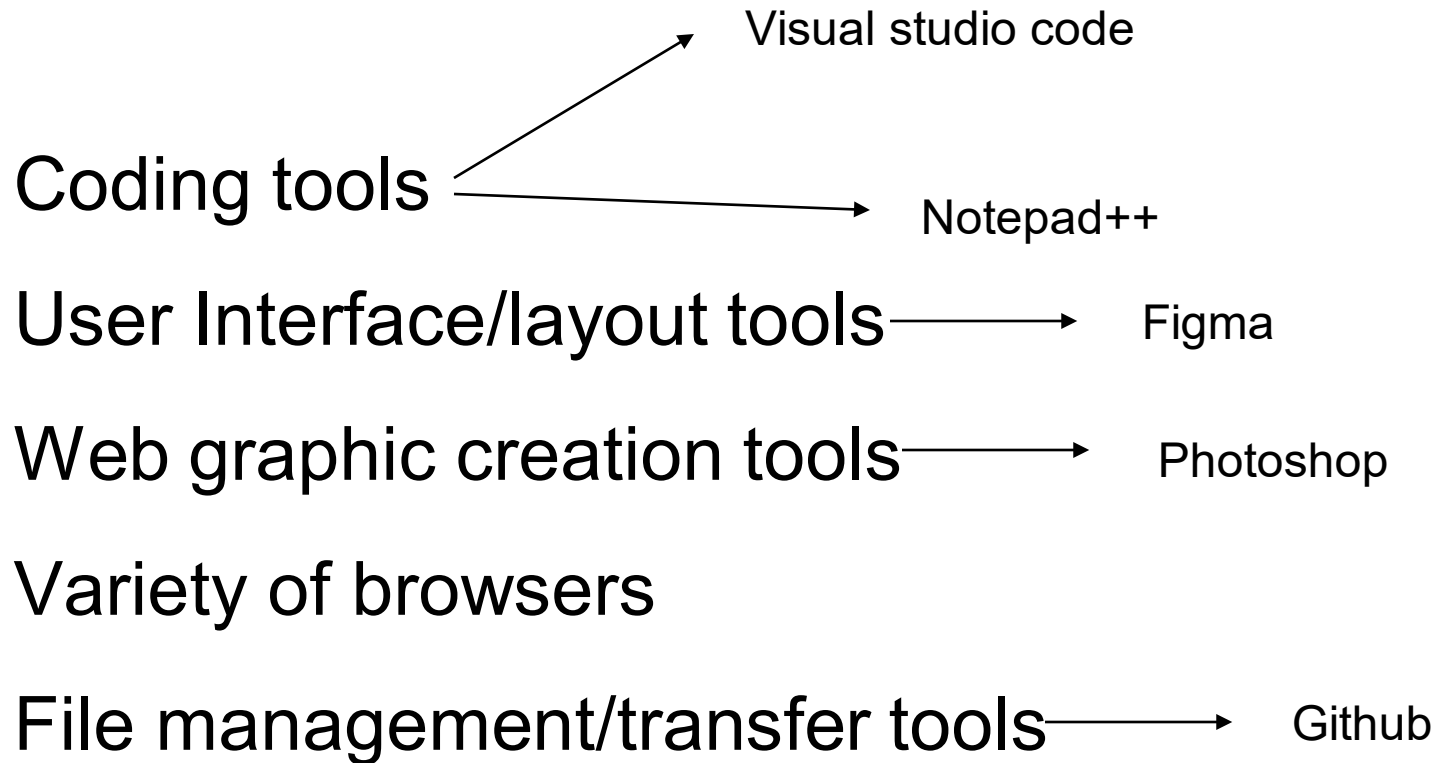
Large monitor (or several)

Second computer for testing

Mobile devices for testing

Scanner and/or camera (for artwork)

Software Typically Used



Module Aim

- provide you with an understanding of the underlying concepts and principles necessary for the implementation of web technologies.
- Web Development using:



HOW THE WEB WORKS

Internet vs. Web

Internet

International network of connected computers

Protocol

A standardized method for transferring data or documents over a network (for example, FTP, STMP, HTTP)

Web

Information shared over the internet using the Hypertext Transfer Protocol (HTTP), which is one of many ways to share information over the internet

The Web Server

Server

A program that delivers documents and data on request

Web server

Any computer running **web server software**

The Web Server (cont'd)

IP address

A unique number assigned to a device connected to the internet (IP = Internet Protocol). Example: 199.27.145.64

Domain Name System (DNS)

A system that allows internet users to refer to servers by name rather than number

Domain name

A name assigned to a web server (easier to use than IP numbers). Example: oreilly.com

DNS server

A server that matches domain names to their respective IP addresses

The Browser

- The software that requests data or documents from the web server
- Also referred to as the **client** or **user agent**
- Could be on a desktop machine, smartphone, other connected device, or an assistive device such as a screen reader
- The program in the browser that interprets HTML/CSS/JavaScript is called the **rendering engine**

Server-side vs. Client-side

Indicates which machine is doing the processing:

- **Client-side** applications run on the user's machine
- **Server-side** applications use the processing power of the server

Web Page Addresses (URLs)

URL = Uniform Resource Locator

Every page and resource on the web
has its own URL

Anatomy of a Web Page

The page you see in the browser window is nearly always made up of multiple files, including:

An **HTML** document (gives the content structure)

Style sheets (describes how it should look)

Images and other media (embedded on the page on the fly)

Scripts (add behaviors and functionality)

A WEB PAGE AND ITS COMPONENTS



index.html

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="utf-8">
  <title>Jen's Kitchen</title>
  <link rel="stylesheet" href="kitchen.css" type="text/css">
</head>

<body>
<h1> Jen's Kitchen</h1>

<p>If you love to read about <strong>cooking and eating</strong>, would like to learn about some of the best
restaurants in the world, or just want a few choice recipes to add to your collection, <em>this is the site
for you!</em></p>

<p> Your pal, Jen at Jen's Kitchen</p>

<hr>
<small>Copyright 2018, Jennifer Robbins</small>
</body>
</html>
```

kitchen.css

```
body { font: normal 1em Verdana; width: 80%; margin: 1em auto; }

h1 { font: italic 3em Georgia; color: rgb(23, 109, 109);
    margin: 1em 0 1em; }

img { margin: 0 20px 0 0; }

h1 img { margin-bottom: -20px; }

small { color: #666666; }
```



foods.png



spoon.png

WHAT STYLE SHEETS DO



Browser's default rendering



Simple style sheet applied

Web Page Assembly Process

1. Request a page using its URL
2. Browser sends HTTP request to server
3. Server returns the file (or a “404 Not Found” message)
4. Browser looks at the HTML document. If there are external files (like images or style sheets), it contacts the server again for each resource
5. The server returns the additional files, and the browser assembles the final page

Browser (Client)

Server

- 1 Type in a URL or click a link in the browser.

http://jenskitchensite.com

- 2 The browser sends an HTTP request.

HTTP request

Files on Server



- 3 The server looks for or assembles the file and responds with an HTTP response.

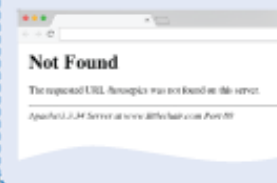
HTTP response

"I see that you requested a directory, so I'm sending you the default file, index.html. Here you go."

- 4 The browser parses the document. If it has images, style sheets, and scripts, the browser contacts the server again for each resource.

Oops, no file

If the file is not on the server, it returns an error message.



foods.png
kitchen.css
spoon.png

- 5 The page is assembled in the browser window.



Website Development Workflow

- ✓ Content
- ✓ Design
- ✓ Coding: Frontend
- ✓ Coding: Backend

- **Visual Hierarchy**

- Important elements (e.g., headings, CTAs) should stand out.
- Use size, colour, and position to guide attention.
- Users scan from top left – design should follow a logical flow.
- [Good design](#)
- [Poor Design](#)

- **Colour and Contrast**

- Colours create emotion (blue = trust, red = urgency, etc.)
- Must ensure contrast for readability and accessibility.
- Avoid using colour alone to convey meaning (e.g., red/green buttons without labels).
- [WebAIM Contrast Checker](#)

- **Typography**

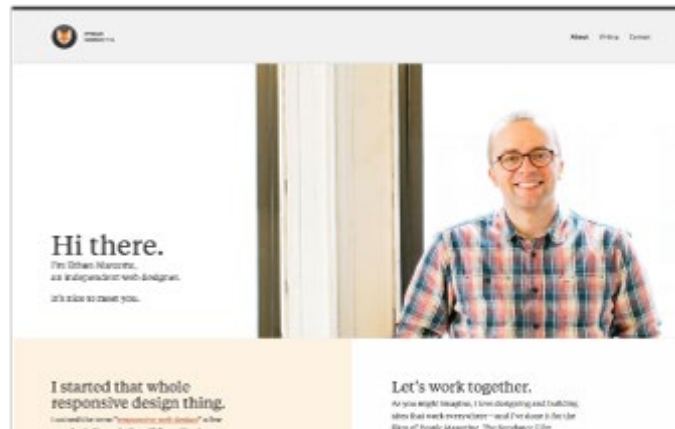
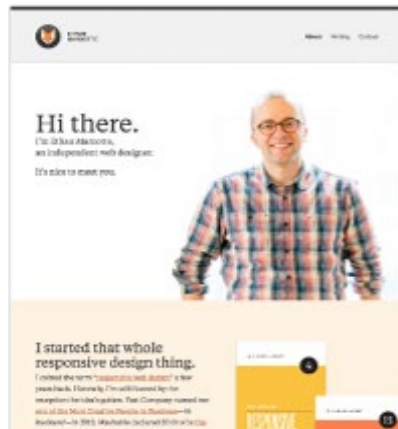
- Use readable fonts (not too fancy or too small).
- Stick to 2–3 font styles across the site.
- Use headings properly (<h1> to <h6>) for structure and screen readers.

- **Spacing and Layout**

- White space improves clarity and focus.
- Use Grid or Flexbox for clean layouts.
- Group related items (e.g., menus, cards, navbars, or toolbars).

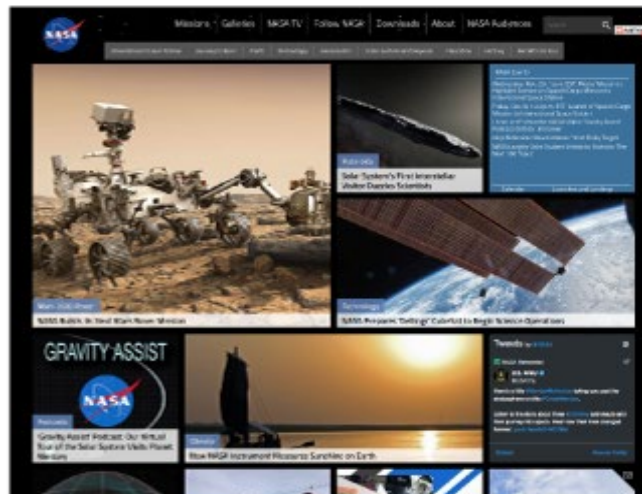
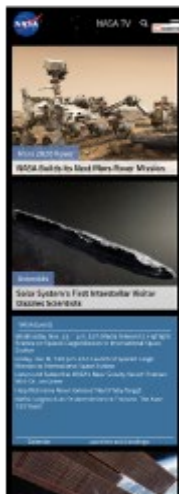
- **Consistency**
 - Colours, buttons, spacing, and layout should follow a pattern.
- **Responsive Design**
 - Your site should look good on **phones, tablets, and desktops.**
 - Use fluid layouts (percentages instead of fixed pixels)
 - Resizing a webpage and how it adapts.

Ethan Marcotte personal site ethanmarcotte.com



Page layout
changes
based on the
width of the
screen.

NASA nasa.gov



- **Accessibility in Design**

- Use alternate text for images
- Avoid flashing content or relying on mouse only
- Use proper heading order and landmarks
- <https://wave.webaim.org>
- Highlights missing alt text, contrast problems, missing labels, etc.

Four broad categories of disabilities affect how people interact with computers:

Vision impairment

Mobility impairment

Auditory impairment

Cognitive impairment

- **Emotional Design**

Design influences how users feel:

- is your site playful, formal, friendly?
- Think about tone (colours, shapes, icons) depending on the audience (e.g., kids vs. professionals).

Activity

<https://forms.office.com/e/AQpNsqSjrF>

Choose either 1 (a) or 1 (b) tutorial activity, complete it with answers in a Word document, and upload it here:

List your observations regarding:

- ✓ Website design and layout.
- ✓ Ease of navigation.
- ✓ Clarity of information.
- ✓ Overall user experience.

