Getting Started in Web Development
Novice Web Dev (Level 1)

DEV.CATALYST

What is Dev Catalyst?

Novice Web Dev

- **Build a website** (five pages and responsive) for a business, non-profit, or school club using HTML, CSS, and JavaScript
- **Work in teams** of two to three
- Complete an individual **online interview**

Data Dev

- **Design a database** with five tables for a fictitious retail store
- **Build a website or app** that integrates this database
- **Work in teams** of two to three
- **Create a video** showcasing your website and each other's role
- Submit a **LinkedIn portfolio**
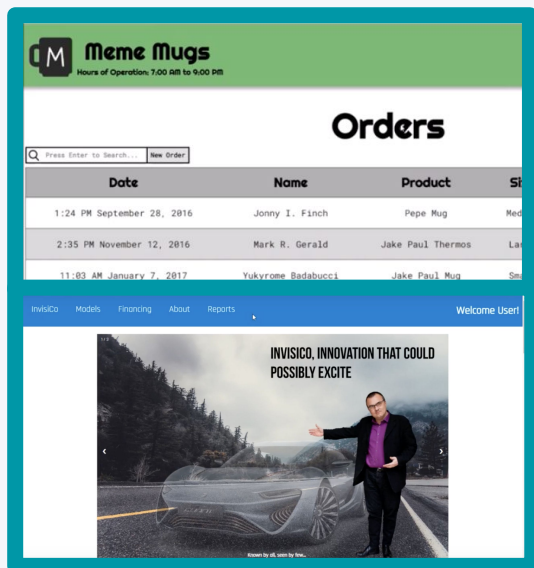- Complete an individual **online interview**

Hardware Dev

- **Create a project** using the Raspberry Pi and Python
- **Work in teams** of three to five
- **Create a video** of how the product was made and functions
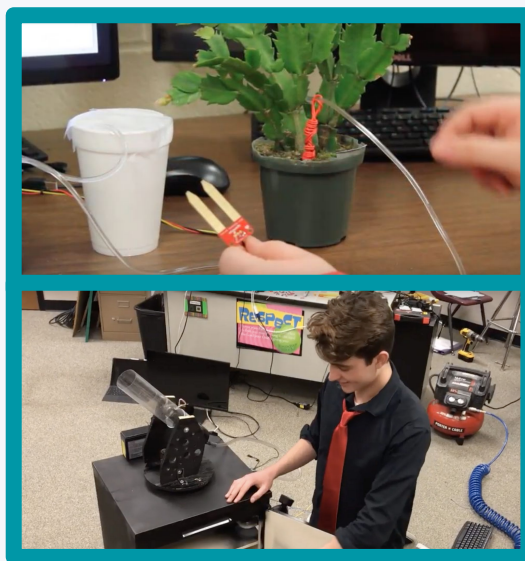- Complete an individual **online interview**
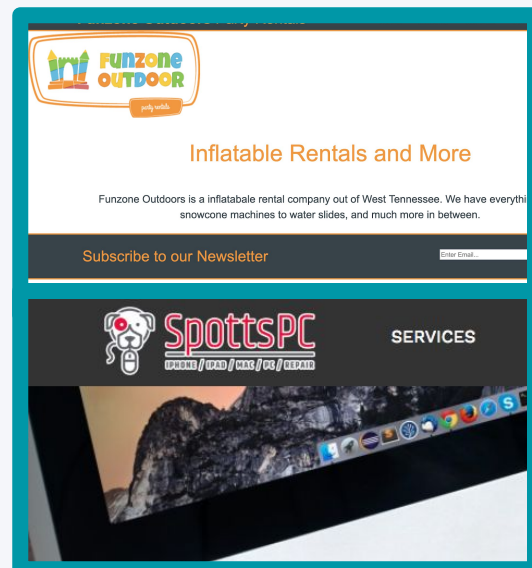
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Sample Projects

Data Dev
(Madison Academic)

Raspberry Pi
(Lexington HS and TCA)

Novice Web Dev
(North Side HS and Madison Academic)

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#731DAY!

the COtoberfest
OCTOBER 30 + 31

EDUCATOR WORKSHOP

CO:hack

a Night of STORYTELLING
Vol. 7

SPARK
ignite your business

NEW Code Meetups this Fall!

F.A.I.L.

First Attempt In Learning

Agenda

New Platform

UX

Wireframes

Introduction to Coding

Text Editors

CodePen - HTML & CSS

Code Repos - GitHub

Publish a Website

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User Experience

Importance of UX:

Novice developers often struggle with this because schools seldom require students to program for others.

Selecting Website Clients

- A real, local client
  - Local Business
  - Family Business
  - Student Business
  - School Organization
- Someone in need of a website
  - Don't reinvent the wheel
  - Make something that someone might actually use

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Activity: Making Personas

Introducing Our Second Key Persona:

Oliver, VP of Operations

DEMOGRAPHICS →

- 51 years old
- Has Masters degree & MBA
- Used to corporate structure
- In Marketing
- Stakeholder

BEHAVIORS →

- Stubborn & Confident
- Involved in lots of meetings
- Very detail-oriented
- Makes decisions based on bottom line
- Needs to see progress: Things can't happen fast enough!

WANTS AND NEEDS

- Wants to be recognized by his board
- Wants to be perceived as intelligent
- Needs to feel in control
- Needs to hit his deadlines
- Needs detailed numbers and cost breakdowns
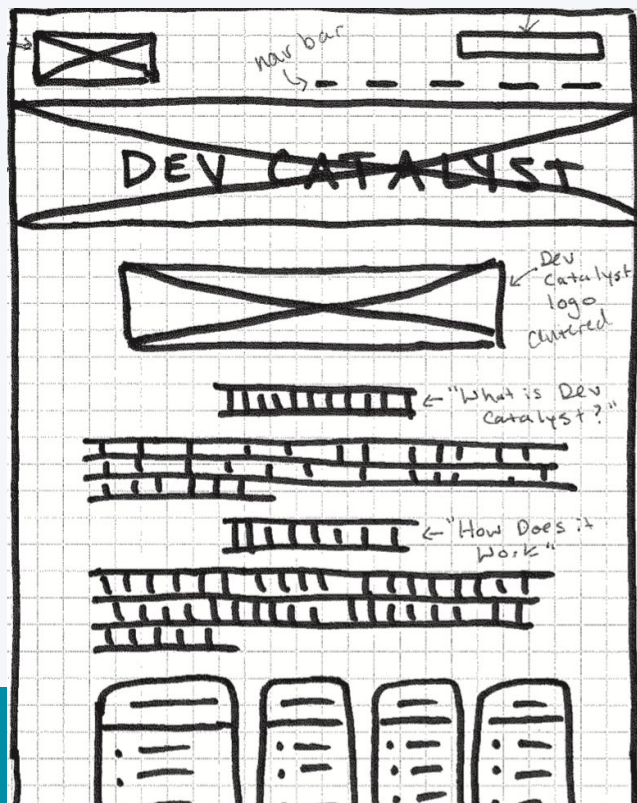
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Step One: Demographics

Let's Brainstorm!

Step Two: Behaviors

Let's Brainstorm!

Step Three: Wants and Needs

Let's Brainstorm!

Wireframes: Sketching Your Website

Introduction to Coding

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Front-end Development

Back-end Development

Web design

Mobile apps

Languages such as Swift, JavaScript, HTML & CSS

Full Stack Developers

Data management

Cybersecurity

Languages such as SQL, Python, PHP, Java

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How do Websites Work?

Developer Computer

Text Editor

```
<!DOCTYPE html>

<html>
    <head>
        <title>theCO Homepage</title>
    </head>
    <body>
        <h1>Dev Catalyst</h1>
        <img src="header.jpg">
    </body>
</html>
```

HTML

CSS

JS

How do Websites Work?

Developer Computer

Browser

<!DOCTYPE html>

<html>
    <head
        <title>theCO
    </head>
    <body>
        <h1>Dev Cata
        <img src="he
    </body>
</html>

attheco.com

theCO>

WHAT IS

WATCH

HTML

CSS

JS
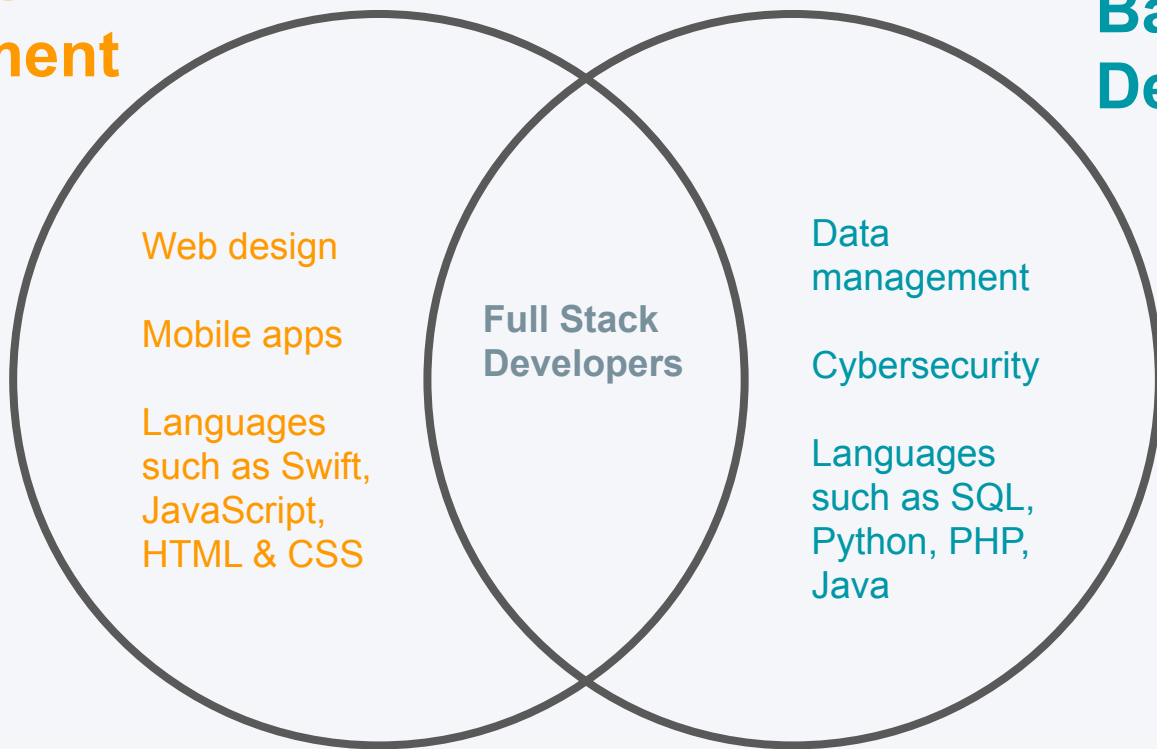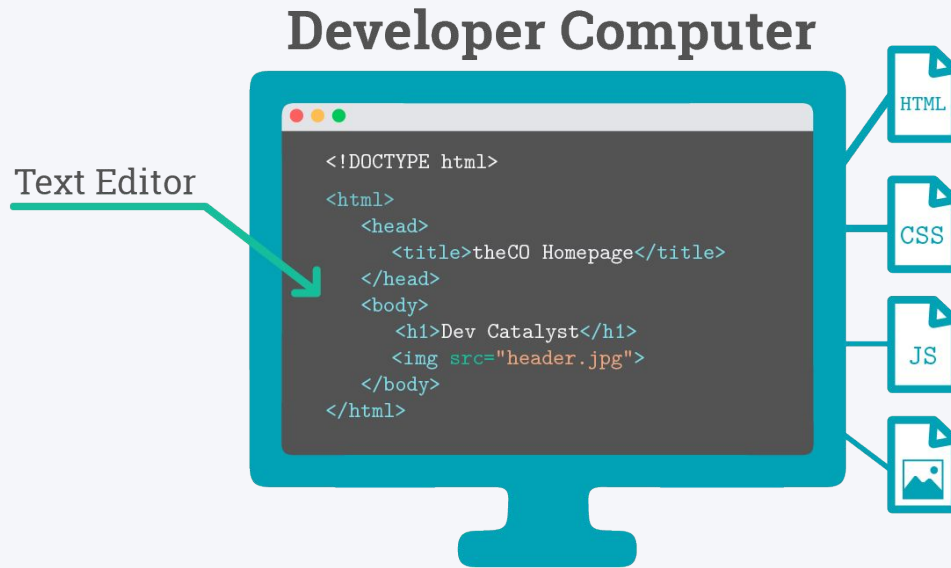
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How do Websites Work?

Commonly Used Browsers

Google Chrome

Firefox

Internet Explorer

Safari (Mac)

Opera

Microsoft Edge

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Developer Computer

```
<!DOCTYPE html>

<html>
    <head>
        <title>theCO Homepage</title>
    </head>
    <body>
        <h1>Dev Catalyst</h1>
        <img src="header.jpg">
    </body>
</html>
```

Internet (The Cloud)

Web Server

HTML

CSS

JS

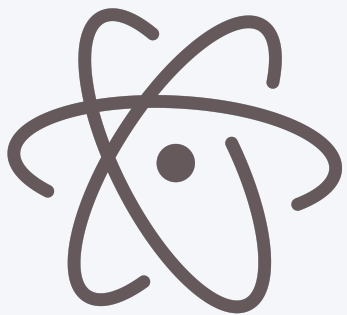The developer feeds the web server files through a special pipeline, this is also how they update the site.
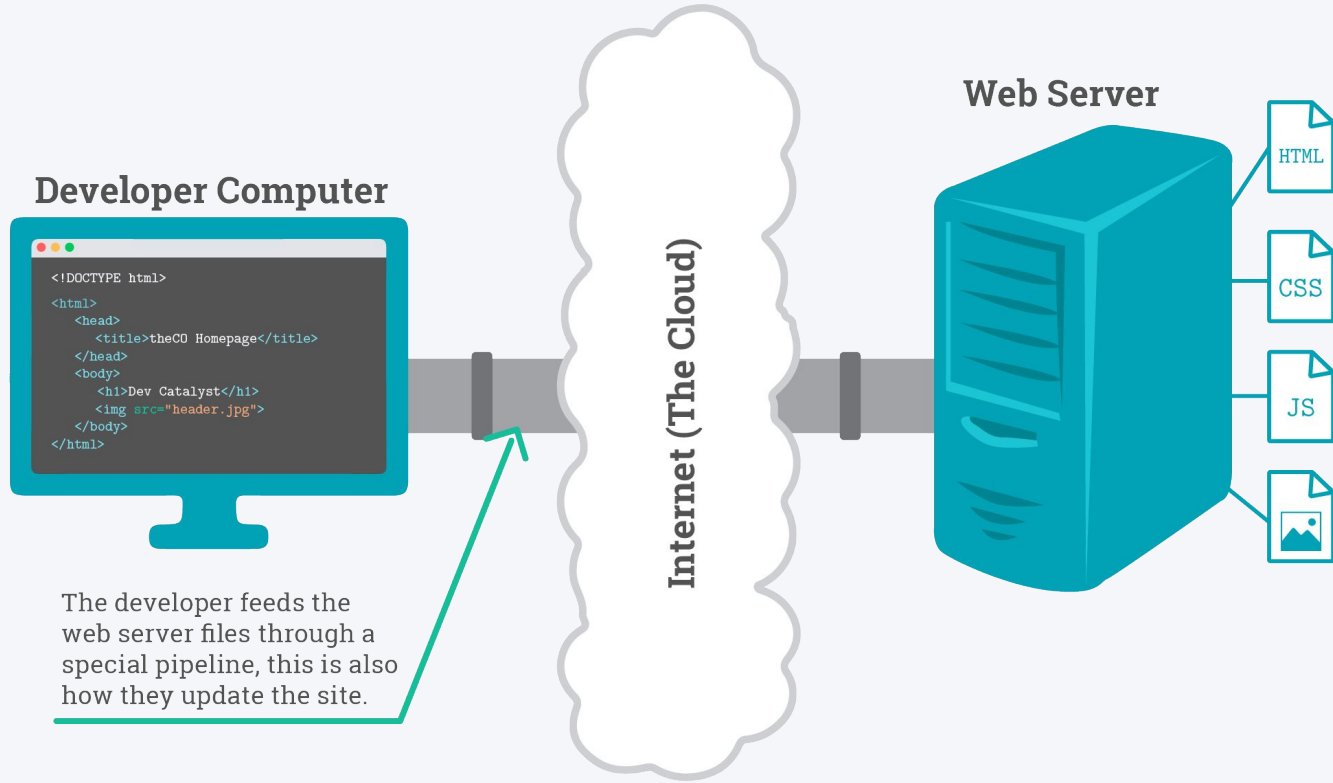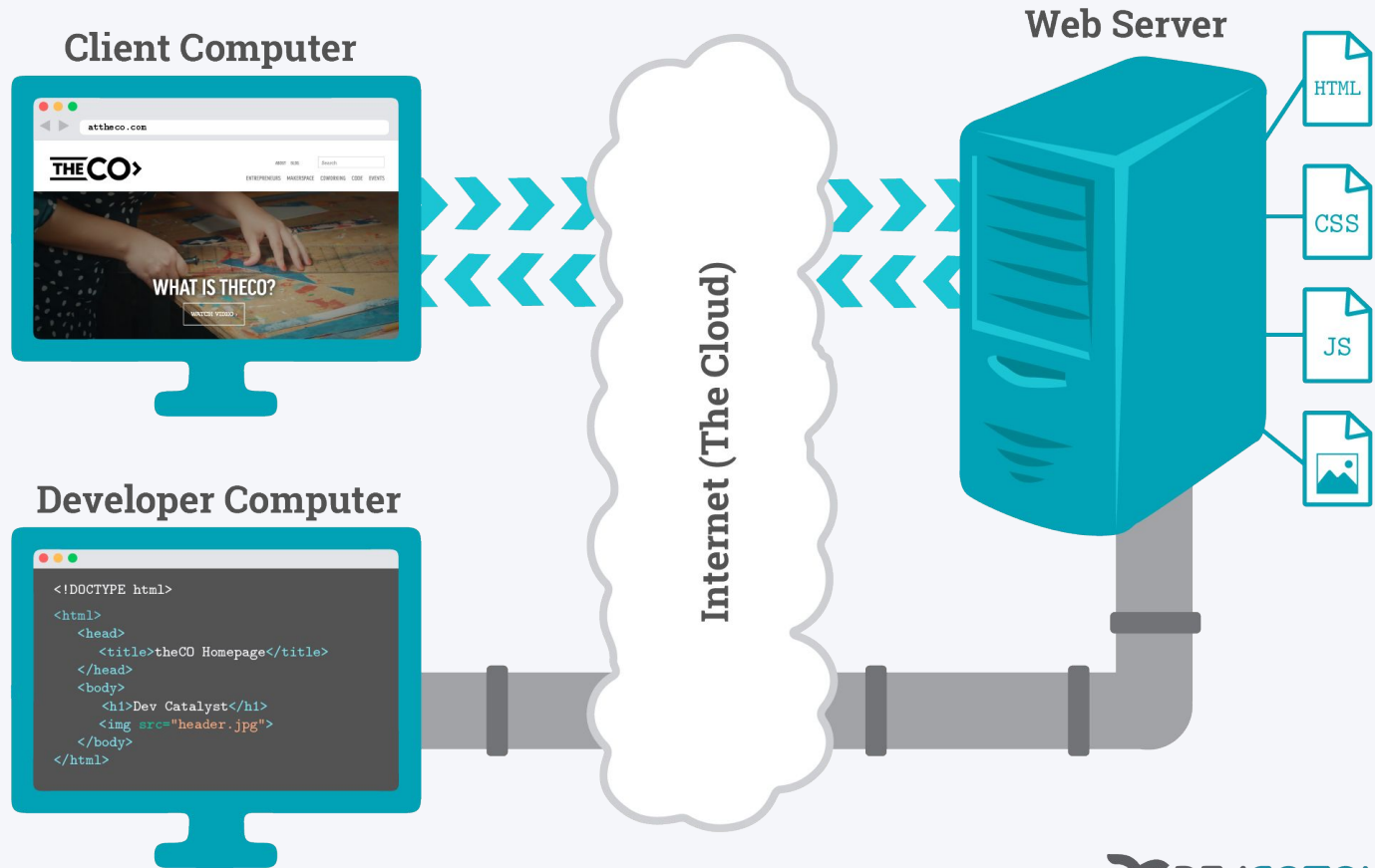
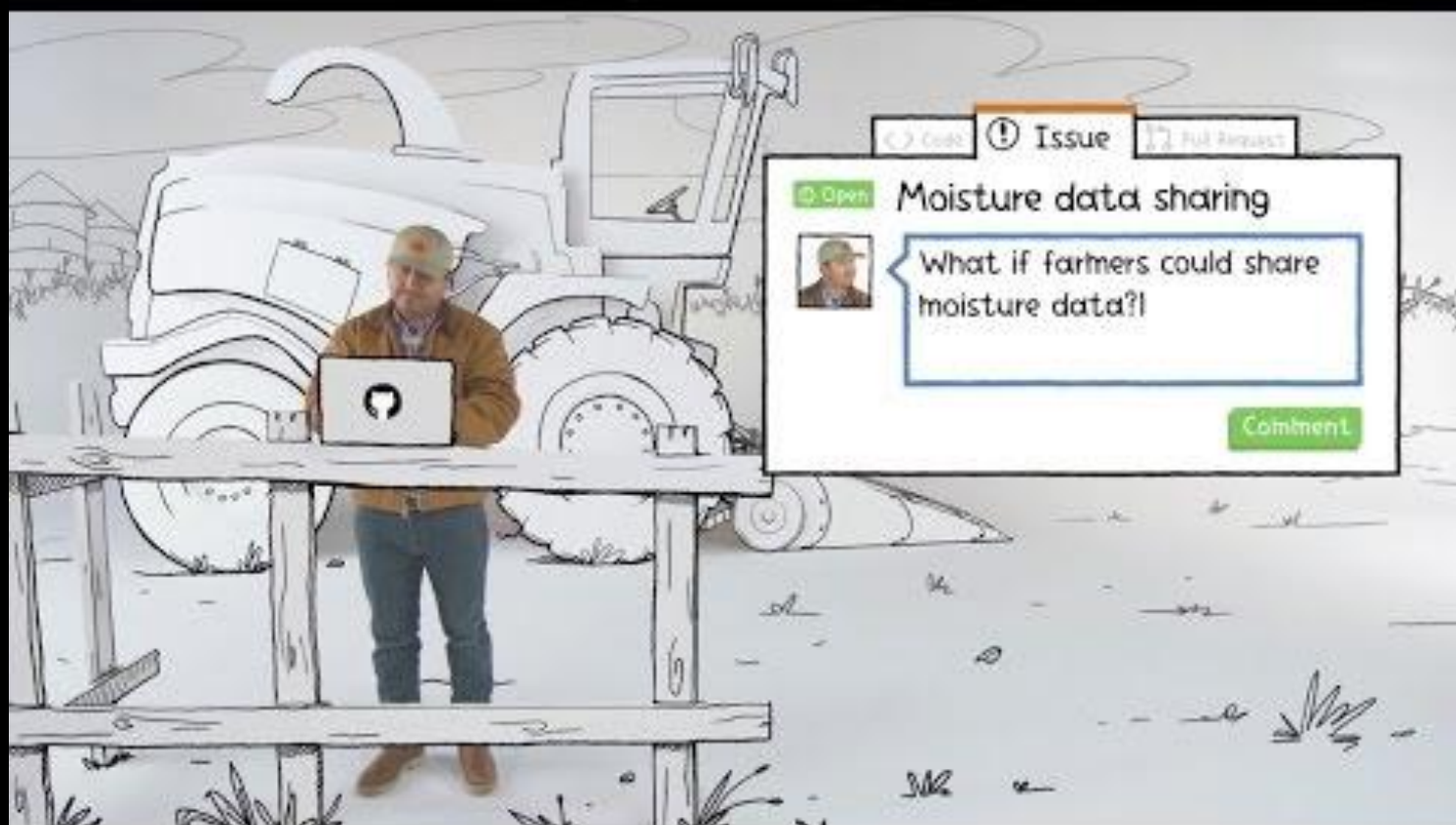DEV.CATALYST

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Introduction to HTML and CSS

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Create a CodePen Account

codepen.io

To GitHub!

bit.ly/nwd-level1

CodePen Example

HTML Basic Structure

Type Like a Pro

CTRL + C = copy

CTRL + V = paste

CTRL + S = save

CTRL + Z = undo

What is the difference between HTML & CSS?

- HTML represents the **structure** of how a web page is laid out

- CSS represents the **style** of how a web page looks

What is HTML?

- HTML stands for "Hypertext Markup Language"

- HTML is standardized system for tagging text files to achieve fonts, color, graphic, and hyperlink effects on worldwide webpages.

HTML Elements

- HTML code is made up of characters that live inside angled brackets (<>) called **HTML elements**

- Examples: <html>, <body>, <h1>, <p>

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HTML Tag

- Each HTML element is usually made up of 2 tags: an opening tag and a closing tag (with forward slash)

Example of opening tag: <html>

Example of closing tag: </html>

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Body Element <body>

- All code inside the body element is shown inside the main browser

Parent and Child Elements

HTML Attributes

Head Element <head>

- Before the <body> element you often see a <head> element

- This contains info about the page which does NOT appear in the browser

Title Element <title>

- <title> element is usually found inside the <head> element

- Contents of the <title> element are shown either in the browser, above where you usually type in the URL of the page you want to visit, OR on the tab for that page

Define HTML Version with DOCTYPES

- There are many versions of HTML (HTML5 most recent)

- Each web page should begin with a DOCTYPE to tell a browser which version of HTML the page is using. The CodePen IDE does not require DOCTYPE.

Example in HTML5: <!DOCTYPE html>

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What is CSS?

- CSS stands for "Cascading Style Sheet"

- CSS describes how HTML elements should appear

CSS Selectors

Comments in Code

- Developers comment code to communicate with their dev team or provide a note about the code

- Comments are not visible in the user's browser

- Example in HTML5: <!--   -->

- Example in CSS: /* */

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CSS Colors

Design Decisions: Color

- Hexadecimal Color Codes: color-hex.com

- Color Palette - coolors.co/app

- Get Inspired - dribbble.com

CSS Fonts

Google Fonts

Fonts - fonts.google.com

1. Select your font (click +)

2. Open the family selected

3. To embed your selected fonts into a webpage, copy this code into the <head> of your HTML document.

4. Use the provided CSS rules to specify your selected font family

CSS Images

Adding Images

- Image elements <img> are coded in HTML

  - This is an empty element (which means there are no closing tags)

- Must have 2 attributes

  - src and alt

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SRC

- Tells the browser where it can find the image

- This is usually a relative URL pointing to an image on your own site

- Example in HTML: <img src=" URL "

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ALT

- Describes the text description of the image which describes the image if you cannot see it

- Example in HTML:

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Sourcing Images

Royalty Free Image resources:

- ccsearch.creativecommons.org

- google.com/images (filtered by license)

- Unsplash.com

- Pexels.com

- morguefile.com

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CSS Box Model

The Key Understanding CSS

- Imagine that there is an invisible box around every HTML element

- CSS allows you to create rules that control the way each individual box (and the contents of that box) is presented

margin		16		
border		8		
	padding	16		
16	8	16	512 × 128	16	8	16
		16		
		8		
		16		
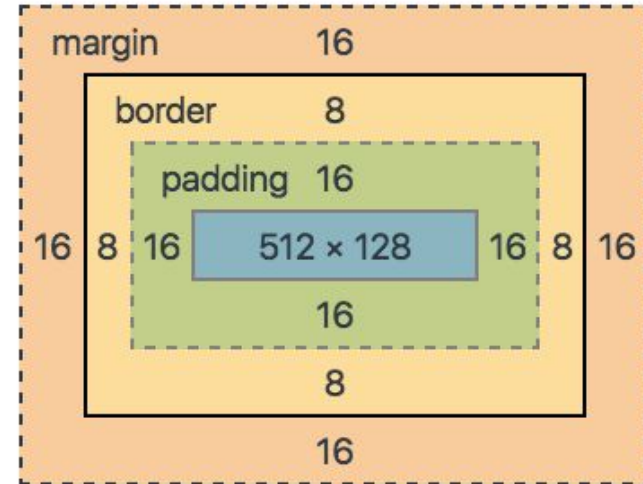
Publish a Website

Why publish a website?

- So other people can see your site, you will need to upload your website to a web server

- Most websites live on web servers run by web hosting companies

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Publishing to GitHub Pages

1. On GitHub, go to your project repository.

2. Go the "Settings"

3. Scroll down to "GitHub Pages"

4. Under "Source" select "Master Branch" then click "Save"

5. Between "GitHub Pages" and "Source" you will see your published website link

   a. Example: https://mollyattheco.github.io/test/

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