Web Development

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Introduction to Web App Development

Web Development

Building a Web Site

- Step 1: Determine Theme + Content

- Step 2: Devise Navigation Structure

- Step 3: Create Page Structure

- Step 4: Apply a Style

- Step 5: Build, Test & Deploy

Web Site: Step 1: Determine Theme + Content

- Agree a 'theme' and 'look and feel' for site with customer

- Acquire or develop the core 'content' of the site

  - Text

  - Images

  - Media (video/audio)

Web Site: Step 2: Determine Navigation Structure

- Determine number of pages in the site

- Decide on navigation 'metaphor'

  - 'Tabs'

  - Sidebar

  - Menubar

Web Site: Step 3: Create Page Structure

- \<DIV>s for

  - Header

  - Footer

  - Navigation

  - Main Content

  - Primary

  - Secondary

Web Site: Step 4: Apply a Style

- Compose CSS to capture

  - Navigation

  - Layout : structure, layout, number of columns, positioning

  - Look and Feel (theme)

Web Site: Step 5: Build, Test & Deploy

- Build the site itself

- Verify that all links work as expected

- "Push" the site to an external server.

What if...?

- A user is to "Log in" to a site?

- A user needs to supply information to the site?

- The content of some of the pages is not known until the site is 'live'?

- The content of some pages is very specific to the identity of the current user?

- The site is to implement a 'business process' such as

  - shopping cart?

  - payment for a good or service?

  - communication with other users - such as messaging?

- Such features require a ***Dynamic Web Site*** or a ***Web Application***

Static vs Dynamic

- A knowledge of HTML, CSS + simple web deployment is necessary in order to build a *Static Web Site*

- However, these skills are **not sufficient** to build a **Web Application**

- A Web Application is capable of:

  - Responding to user interaction

  - Generating new information based on context

  - Allowing a user to provide information

  - Implement core business processes

- A **Static Web Site** is not capable of any of these features.

Web App Development

- Solid understanding of HTML & CSS, including page structure, layout, styling and approaches to navigation

    + *knowledge of:*

    - Structure of the Internet, including role of HTTP, DNS & how URLs are structured

    - Detailed understanding of the nature of the HTTP protocol

    - Client / Server Architecture

    - How pages can be composed of templates

    - Databases

    - ***How to Programme Application Features (in Java)***

!!!

- Structure of the Internet, including role of DNS & **URLs**

- Nature of the **HTTP protocol**

- **Client / Server** Architecture

- Pages decomposed using **templates**

- **Databases**

- How to **Programme Java** Application Features
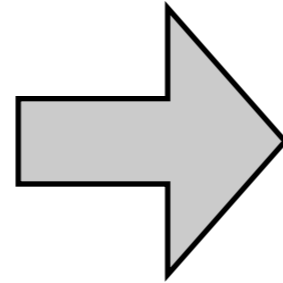
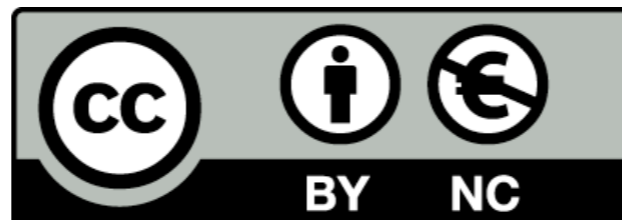- Expanded understanding of the nature of the Internet

However, modern tools & frameworks are starting to dramatically simplify the process.

Strategy

- Rebuild Spacebook Web Site as a Web Application

- No change to CSS already developed - focus on ***behavior***

- Each week tackle a new 'feature' and provide all of the code to implement that feature

- Each week attempt a small few modification to these features as exercises

- Second assignment will be to introduce new features into spacebook.

Play Framework

- A toolkit to enable to construction of **Web Applications** in the Java Programming language

- Does not replace the use of HTML + CSS - the toolkit is for building Web Applications, which is built on these technologies

- However, HTML + CSS constructs are restructured to enable them to interoperate with **Programs** written in **Java**

- Play is a **Web Application Development Framework**

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