

Frontend Concepts

HTML / CSS / JS

Overview

Front end, Back end

Responsive Design / Accessibility / Inclusivity

HTML

CSS

DOM

JavaScript

Front end, Back end

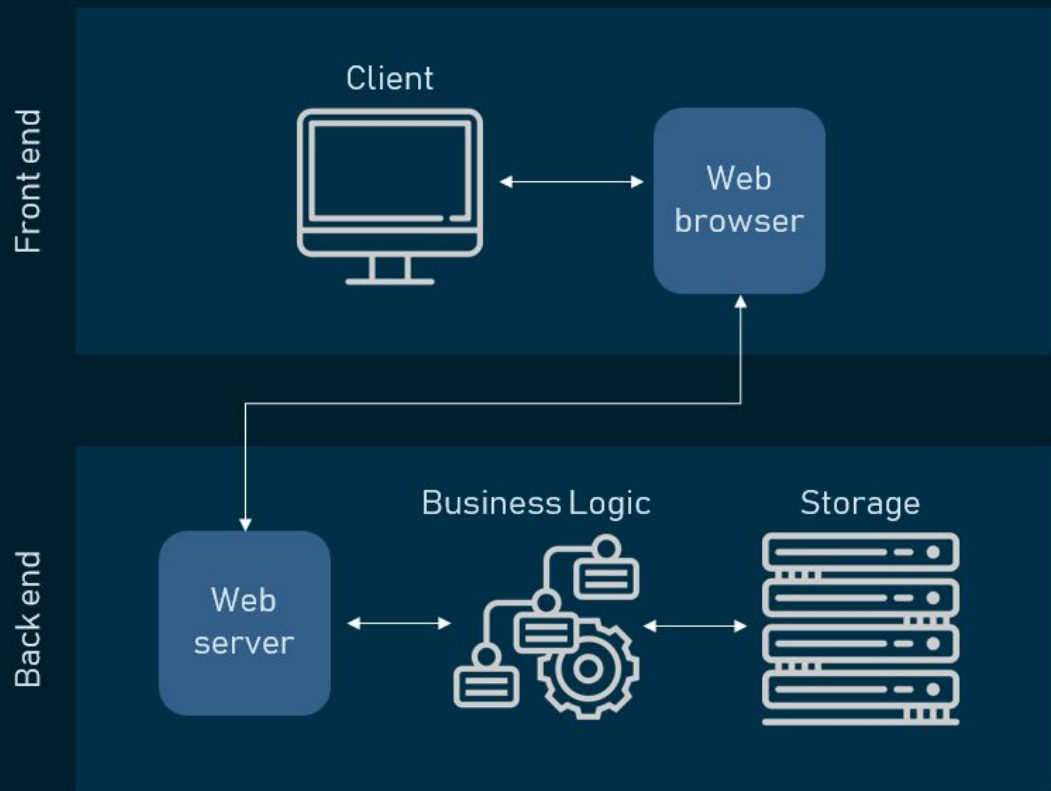
Front end, Frontend and Front-end

- Everything you can see and interact with
- HTML, CSS, JavaScript

Back end, Backend and Back-end

- Everything that happens backstage
- Servers, business logic, functions and processes

WEB REQUEST-RESPONSE CYCLE



Responsive Design / Accessibility & Inclusivity

Responsive Design

- Web layout adjusts to the screen size and hardware

Accessibility and inclusivity

- As many people as possible
- Disabilities; visual, cognitive, hearing, mobility
- Compliance standards, mobile devices, network connections

HTML

THE key to front-end technology

HTML (Hypertext Markup Language)

- designed to create websites
- Composed of a series of shortcodes called tags
- The Browser scans the file and interprets the text into visible form

Hypertext

- traveling across the web by clicking links
- Hyper (non-linear) - moving to any other place

HTML5

- HTML 1991, HTML5 2014 - all major browser vendors support it (goodbye flash)

CSS

Styling your facade

Interacts with HTML elements using selectors

- Type selectors: `h1` or `button`
- Class selectors: `.example` or `.button`
- ID selectors: `#example` or `#app`

Stylesheets

- Internal - CSS directions in the head
- External - stored as `.css` files

CSS frameworks

Set of default CSS and HTML files

Extends a front-end developers capabilities

Also Provide distinct and symmetric layouts

They are responsive

Grid systems

Accelerate development workflow

Most Popular CSS Frameworks

Bootstrap

Materialize

Foundation

UIKit

Semantic UI

Bulma

Tailwind

PaperCSS, NES.css, Animate.css

COMPARATIVE TABLE OF THE MOST POPULAR CSS FRAMEWORKS

	Full-featured					Material-based		Very Lightweight
	Bootstrap	Foundation	Semantic UI	UIkit	Bulma	Materialize	Material Design Lite	Pure
Principles	RWD, Mobile first	RWD, Mobile first Semantic	Semantic Tag, Ambivalence, Responsive	RWD, Mobile first	RWD, Mobile first, Modern free	Responsive, Web design, UX-focused	Cross-device use	SMACSS, Minimalism
Size(zip folder)	592 KB	233 KB	1.8 MB	347 KB	113 KB	162 KB	205 KB	72 KB
Preprocessors	Sass	Sass	Less	Less, Sass	Sass	Sass	Sass	-
Unique Features	Jumbotron, Card component, Responsive navbar	Icon Bar, Clearing Lightbox, Flex video, Keystrokes, Joyride, Pricing tables	Divider, Flag, Rail, Reveal, Step, Advertisement, Card, Feed, Item, Statistic, Dimmer, Rating,	Article, Comments, Placeholder Flex, Cover, HTML editor	-	ScrollFire, ScrollSpy, Wave behaviors, Slide-out drawer menu, Toast, Parallax	Tooltips, Spinners	-
Flexbox	+	- (some key components can be converted)	+	+(The Flex component)	+	-	+	-
Grid	up to 12 columns	XY 12-column grid: float grid empowered by Flexbox features	default theme: 16 columns	components: grid, flex and width; offers a border between grid columns	Simple building of columns layout	a standard 12-column fluid responsive grid system	12 - desktop; 8 - tablet; 4 - phone	a 5ths and 24ths unit-based grid
Documentation	Excellent	Good	Excellent	Good	Good	Good	Excellent	Good
JS skills required	+ -	+	+	-	-	+	-	-
Learning curve	Mild	Steep	Moderate	Moderate	Mild	Mild	Mild	Mild

Preprocessors - Sass and LESS

Scripting languages

Expands CSS and assembles it into general CSS

Sass and LESS are most common

Sass – Syntactically Awesome Style Sheets – server side

LESS – Leaner Style Sheets – JavaScript library on client side

DOM - webpage structure

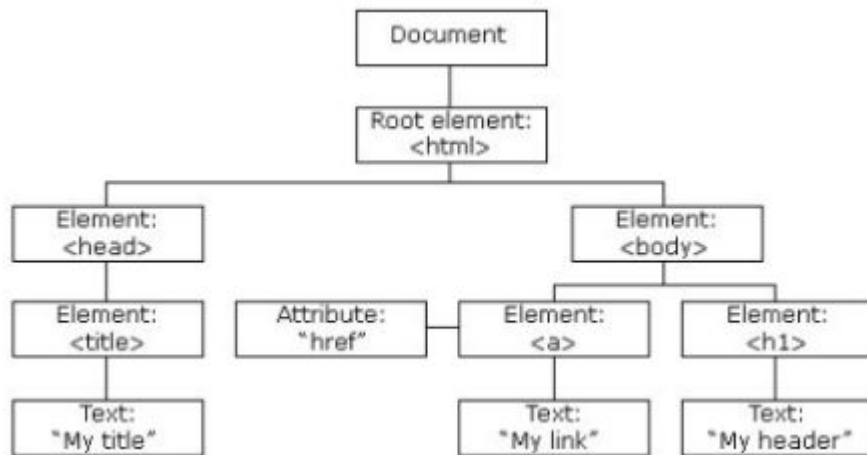
Document Object Model (DOM)

Programming interface for HTML and XML documents

Interprets the page

Modify document structure, style and content

Object-oriented representation of the web page



JavaScript

Making the Web alive!

Providing a full stack of technologies not just for the front-end

Frameworks - templates to create a website application

Libraries - prewritten code snippets used and reused to implement

Main frameworks and libraries

Angular – powered by Google

Vue.js – component-based development model

Ember.js – for SPAs, mobile and desktop apps

React – born and bred by Facebook

jQuery – simple API to control; plugin development

D3 – data-driven for data visualization

Summary

Front end, Back end

Responsive Design / Accessibility / Inclusivity

HTML

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The End
