

DCS 3003

WEBSITE DESIGN

- 3 credit hours
- 2023 January Semester
- Teo Choon Yeh

Assessment & Weighting %

Assessment	Weighting
Quiz	5%
Assignment	15%
Projects	20%
Mid-Term Exam	10%
Final Examination	50%
TOTAL	100%

Learning Outcomes:

- Explain website development practically based on design requirements
- Manipulate with guidance a functional website given design specifications
- Build an interactive website to provide commercial solutions and meet organization requirements

Course outline:

- 1) Fundamentals
- 2) Github
- 3) HTML
- 4) JavaScripts
- 5) CSS

基本原理

Fundamentals

Fundamentals

What is Website?

What is Website?

A website is a :

- central location of web pages that are accessed by using a browser.

-> example: Crescendo International College website

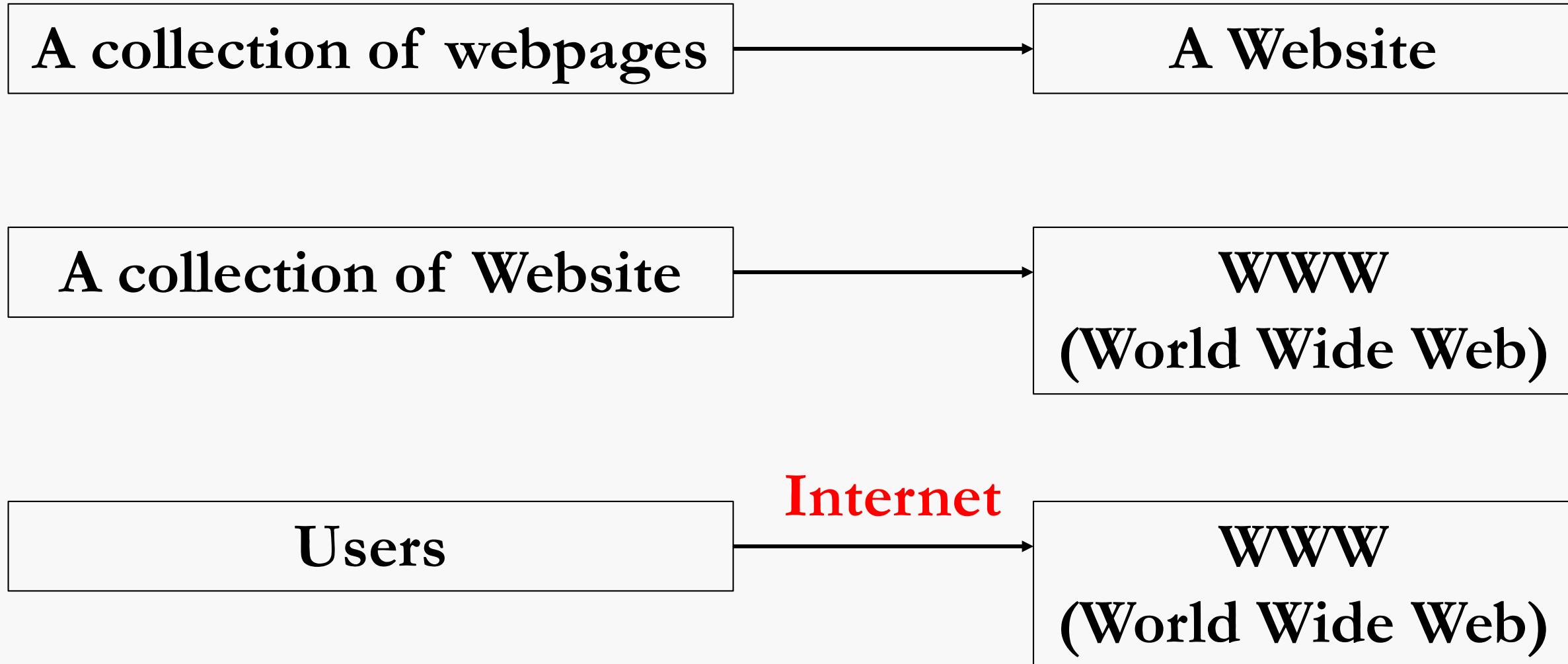
What is Website?

Example:

Crescendo International College website address is

<https://www.crescendo.edu.my/>

- 访问 access to the home page - the first page of a website
- access any of the web pages in Crescendo International College website



What is Website?

A website is a :

虛擬

- virtual location on the World Wide Web
-> web pages are digital files, written using HTML.

What is Website?

Example:

Every website has its own unique **URL(Uniform Resource Locator)** or website address or online address.

A URL (the name of the location address of the hypertext documents)

`https://www.computerhopes.com/jargon/w/website.htm`

Protocol

Subdomain

Domain and
domain suffix

Directories

File Path

Host Name

Web page

Websites were categorized by their top-level domains

Examples:

- Government agency websites => .gov
- Educational institutions websites => .edu
- Non-profit organizations websites => .org
- Commercial websites => .com
- Information sites => .info

A URL

`https://www.computerhopes.com/jargon/w/website.htm`

Protocol

Subdomain

Domain and
domain suffix

Directories

Web page

Protocol or Internet Protocol (IP)

- communications protocol
- a set of rules to communicate and exchange of data over the internet.
- used for sending the packets from source to destination.

Types of Protocol

- 1) TCP/IP(Transmission Control Protocol/ Internet Protocol)
- 2) SMTP(Simple Mail Transfer Protocol)
- 3) FTP (File Transfer Protocol)
- 4) HTTP(Hyper Text Transfer Protocol)
- 5) HTTPS(HyperText Transfer Protocol Secure)

Types of Website

- 1) Static Website
- 2) Dynamic Website

Types of Website - Static Website

- 1) Webpages are prebuilt source code.
不处理服务器上的内容
- 2) No processing of content on the server.
由驻留在用户计算机上的浏览器执行
- 3) Executed by the browser that resides at the user's computer.
- 4) Displays the same information to all visitors.
显示
- 5) Web pages are returned by the server with no change, therefore static Websites are fast.
- 6) No interaction with databases.

Static Website

- 1) also called **后端处理** **back-end processing**, only **客户端** **只做**.
- 2) Client-side technologies are **客户端技术** **HTML**, **CSS**, and **JavaScript**.
- 3) If a site **utilizes** **we** **JavaScript**, but no **PHP** or any other programming language, it's still considered a static site. (**JavaScript = client-side language**).
- 4) Static web pages are made of “**fixed code**”
-> unless the website developer makes changes.

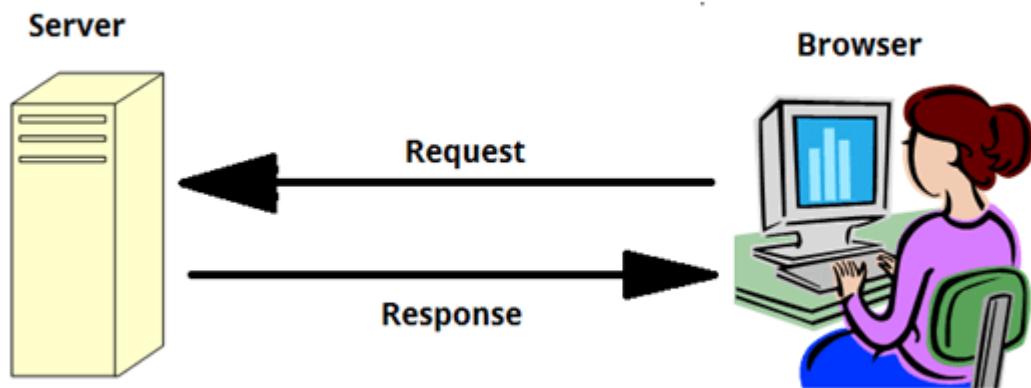
Types of Website - Dynamic Website

- 1) Can **互动** interact with it -> it's a dynamic site.
- 2) For example :
 - > allow to **create a user profile**
 - > **comment** on a post
 - > make a **预约** reservation
- 3) Webpages are **not** prebuilt source code.
- 4) **执行** Executed by the server (Web Server) -> later on **稍后** page is sent to the browser.

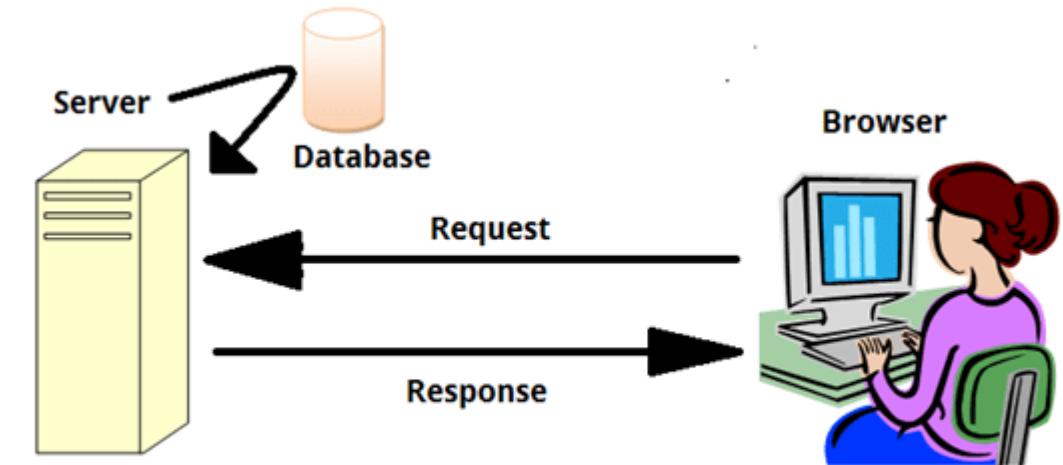
Dynamic Website

- 1) Webpages are slower than static websites because of updates and changes.
- 2) Use languages like PHP, can interact with databases.
- 3) Dynamic sites is CRUD
 - > create
 - > read
 - > update
 - > delete

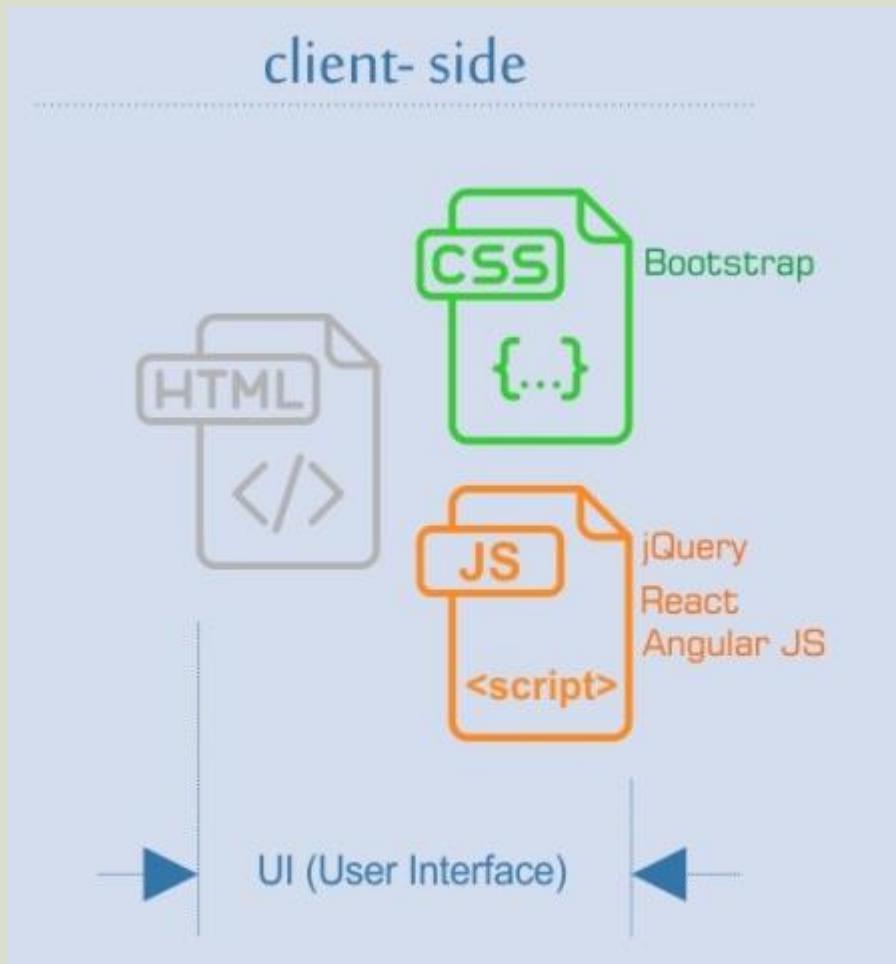
Static Website



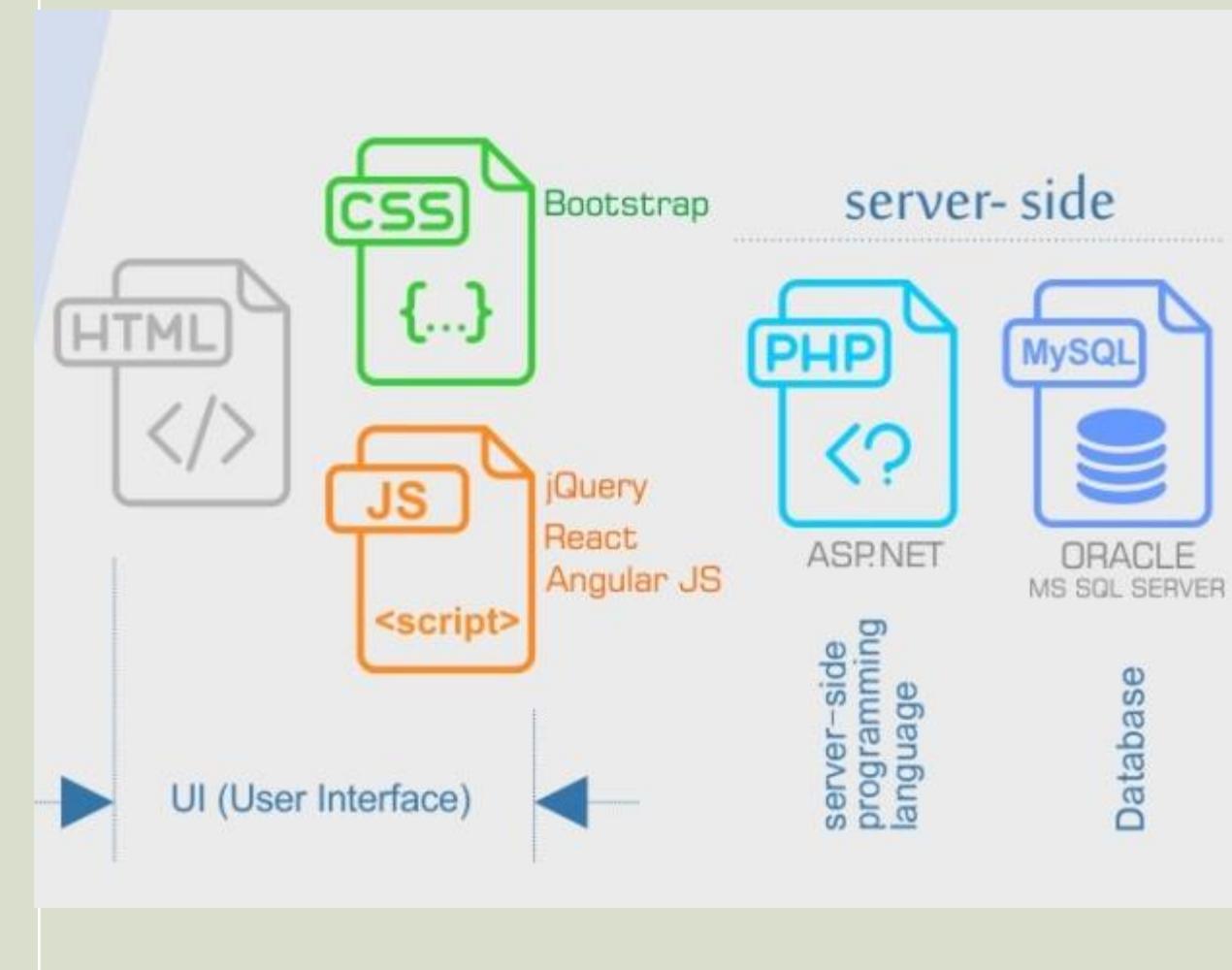
Dynamic Website



Static Website



Dynamic Website



Fundamentals

What is Website Design?

What is Website Design?

Website design refers to :

- the design of websites that are displayed on the internet.
- the process of planning, conceptualizing and arranging content online.
概念化
- the process of creating the look and feel of a website.

What is Website Design?

Website design focused on design for:

- 1) desktop browsers
- 2) mobile browsers
- 3) tablet browsers

Important Elements of A Website Design



Important Elements of A Website Design

1) Navigation

- The website design should be easy to navigate.
- The menu items should easily accessible from any page.
- The viewer should always know exactly where they are on the website and have easy access to where they would like to be.

Important Elements of A Website Design

2) Visual Design 视觉

- People are visually oriented creatures, each page needs to be organized in a way that **makes sense** to the viewer.
- Example: **layout, colors and contrast**

Important Elements of A Website Design

3) Content

- Content play a major role and it is the reason most visitors are seeking to the website.
- Website text should be informative, easy to read, and concise.
简明

Important Elements of A Website Design

4) User Friendly

- Easy navigation encourages users to engage and interact.
- Search engine ranking is also influenced by the user-friendliness of the website. If users are bouncing off without engaging with anything on the website, Google will recognise that there's something people aren't liking about the website.

Important Elements of A Website Design

5) Speed

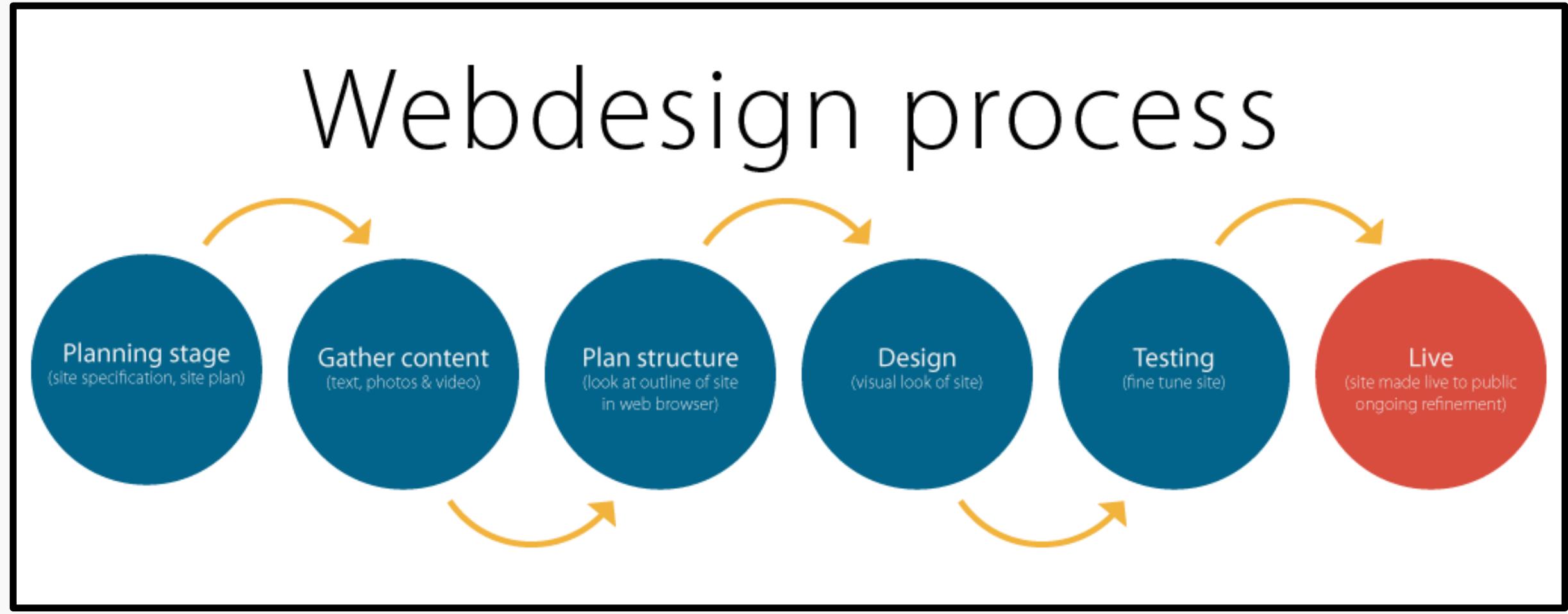
- When someone visits a website, their first impression is how long the website takes to load.
- Internet users have grown accustomed to receive information in a timely fashion.
及时的方式
- Keeping your website pages lean and functional are (key considerations) to creating a speed-friendly site.
精简
关键考虑因素

Important Elements of A Website Design

A page layout that ^{强调}emphasises important parts (principle) of the website:

- ✓ Home page with clear site navigation
- ✓ Site search option
- ✓ Done from a visitor's point of view
- ✓ WYSIWYW (What You See Is What You WANT)

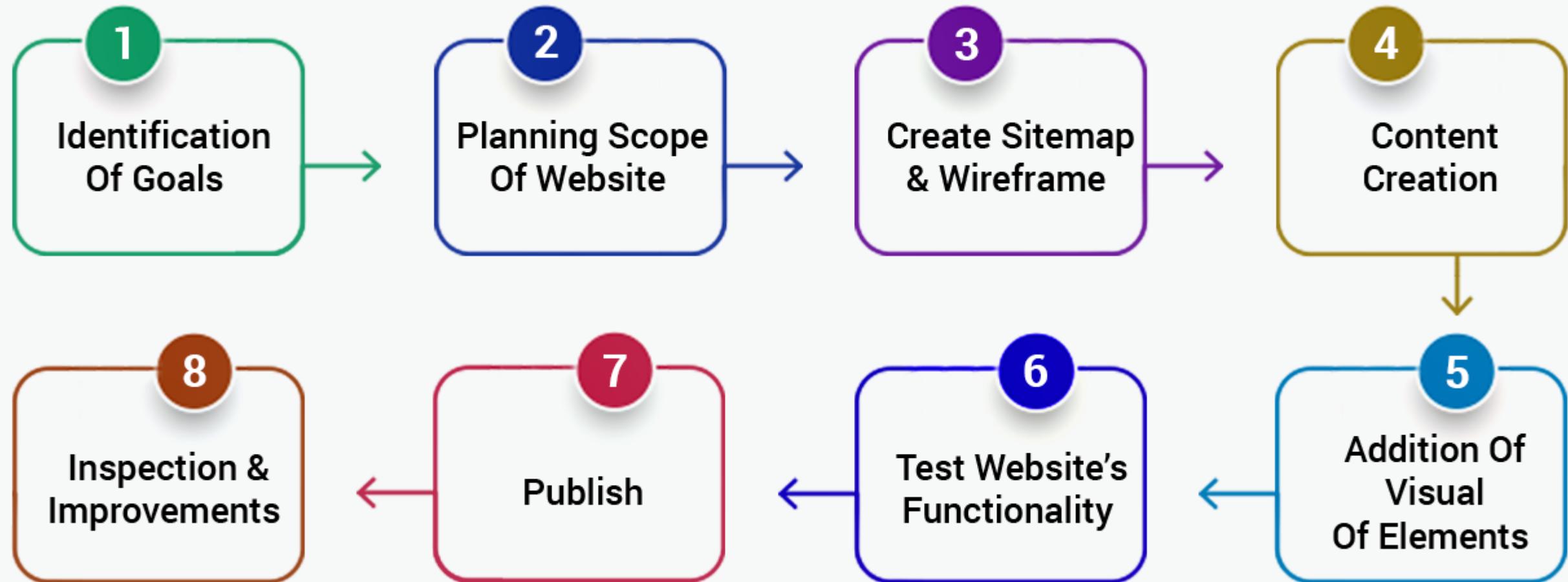
Basic Step of Website Design Process



Basic Step of Website Design Process

- 01 Establish client objectives during the discovery session
在发现过程中建立客户目标
- 02 Create compelling website content
引人注目
- 03 Design a results based website
- 04 Develop a responsive website
- 05 Test your website to make sure it works

Basic Step of Website Design Process



Basic Step of Website Design Process

- 1) Planning
- 2) Designing
- 3) Coding (HTML/CSS Development & JavaScript Integration)
- 4) Testing
- 5) Launch
- 6) Maintenance

Basic Step of Website Design Process

1) Planning

- > set goal
- > research
- > choose website builder
- > gather contents

Basic Step of Website Design Process

2) Designing

- > pre-design
- > prototype
- > outline
- > web pages elements

Basic Step of Website Design Process

3) Coding

3.1 HTML/CSS Development

3.2 JavaScript Integration

-> develop

-> implement

-> Front-end coding

Basic Step of Website Design Process

4) Testing

- > improve
- > error-free
- > quality control (requirements)

Basic Step of Website Design Process

5) Launch

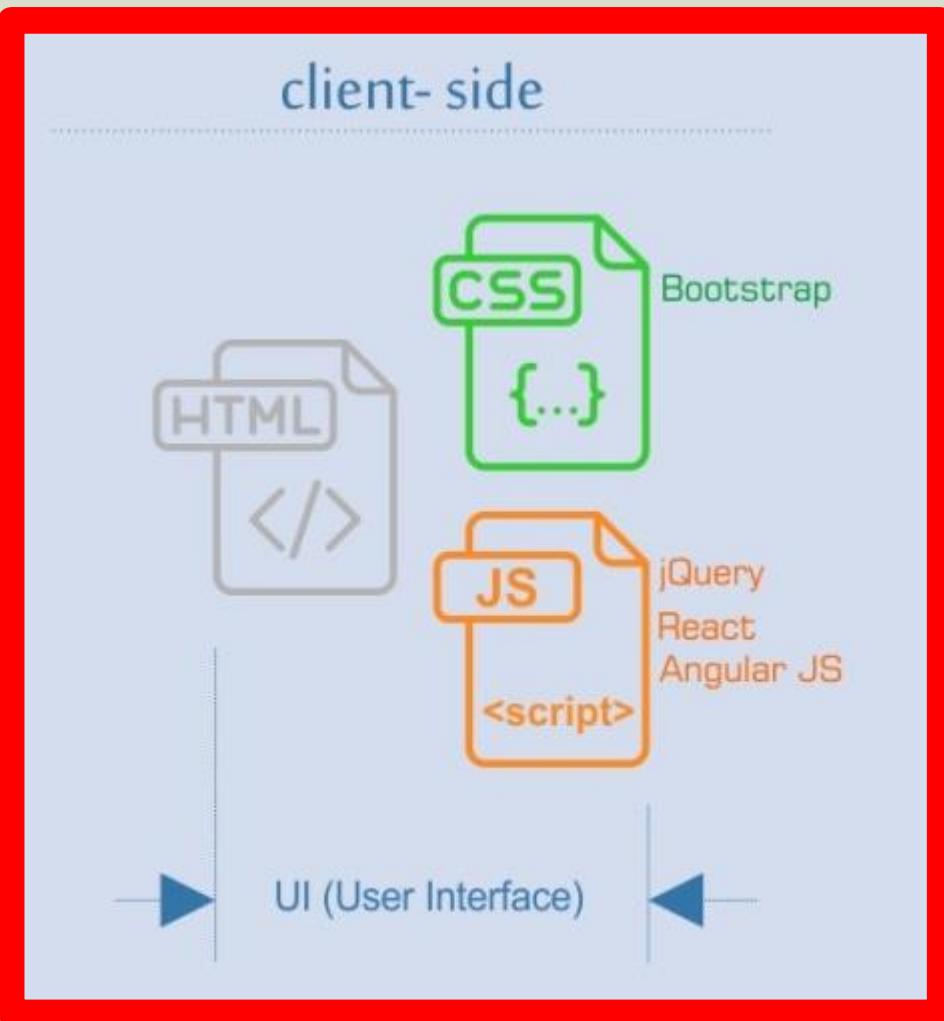
-> publish the website to WWW

6) Maintenance

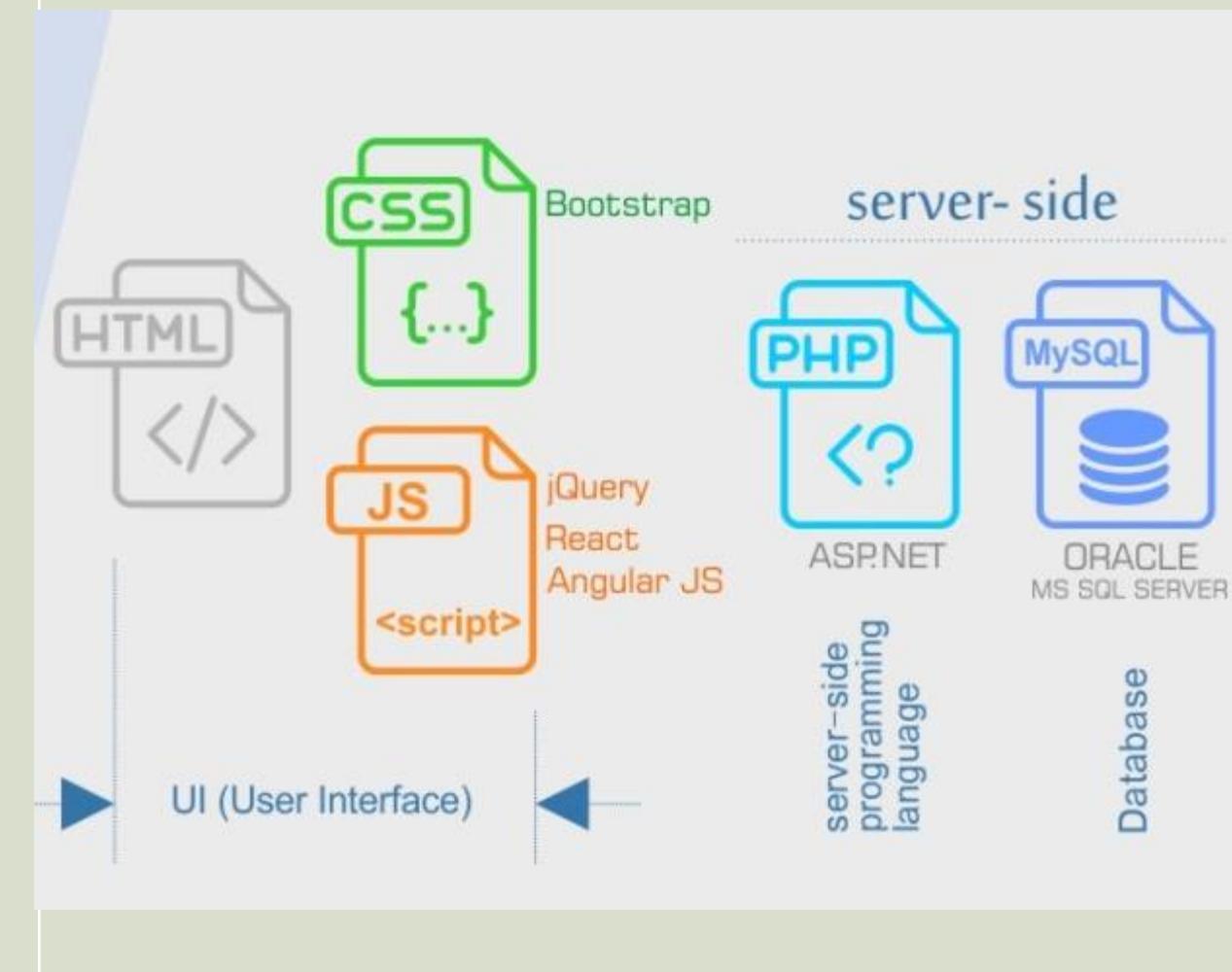
-> future improvement

-> future enhancement

Static Website



Dynamic Website



The main language or platform used for web-design:

- HTML: Base template
 - CSS: Styling
 - JavaScript: Functionality
-
- PHP: Server side scripts



Fundamentals

What is HTML?

What is HTML?

- 1) HyperText Markup Language
- 2) A basic markup language
- 3) HTML IS markup language, NOT programming language

*** The markup language is used to present information

*** The programming language is used to give instructions to a computer to perform a particular task.

What is HTML?

- 1) HTML used to make any web pages -> to form websites
- 2) Uses tags to define elements within a document
 - > utilizes special tags to describe :
 - the structure on Web pages
 - layout of content on Web pages
- 3) HTML 1.0 (1993) -> HTML 2 (1995) -> HTML 3.2 (1997) -> HTML 4.01 (1999) -> **HTML5**

History of HTML

- 1) Tim Berners-Lee, a physicist at the CERN research institute in Switzerland invented HTML in 1991.
- 2) Tim Berners-Lee is known as the father of HTML.
- 3) This first version consisted of 18 HTML tags.
- 4) Now, there are currently about 140 HTML tags, although not all of them are supported by modern browsers.

Fundamentals

What is CSS?

What is CSS?

- 1) Cascading Style Sheets
 - 2) A style sheet language used to **describe the presentation** of a document written in HTML
- > describes how HTML elements should be displayed

What is CSS?

- 1) CSS is the language we use to style a Web page (HTML document)
-> to control the layout of multiple web pages all at once
- 2) HTML -> bones of the body
CSS -> skin that covers it.
- 3) Example: background colour, layout, borders.

Fundamentals

What is JavaScript?

What is JavaScript?

- 1) client-side programming language
- 2) could only be used on the client-side – that is web browsers
- 3) programming language of the Web.

What is JavaScript?

- 1) dynamic computer programming language
- 2) to create dynamic web page content
- 3) web developers commonly used to create dynamic interactions
- 4) to create interactive elements on the web page.

Fundamentals

What is Github?

What is Github?

1) GitHub is a website and cloud-based service

- > helps developers store and manage their code
- > track and control changes to their code

2) GitHub lets developers work together on projects from anywhere

 All code on GitHub is stored in the cloud (example: documents are stored with Google Docs).

What is Github?

- 1) GitHub is an online software development platform
- 2) It's a social networking site for programmers that many companies and organizations use to facilitate project management and collaboration.

Fundamentals 基本原理

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website address: <https://www.crescendo.edu.my/>

accessing to the home page

the first page of a website

access any of the web pages in Crescendo International College website

A collection of webpages = A website

A collection of Website = WWW (World Wide Web)
users = WWW (World Wide Web)

Webpages → Website → WWW
users → Internet

虚拟

A website is a virtual location on the WWW.

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Web pages are digital files, written using HTML

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URL / website address / online address

Uniform Resource Locator

Uniform Resource Locator

Uniform Resource Locator

https://www.computerhope.com/jargon/w/website.htm

Protocol subdomain domain suffix directories File Path
Host Name

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Type of Website

- Static Website 静态
- Dynamic Website 动态

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