DCS 3003

WEBSITE DESIGN

- 3 credit hours
- 2024 September Semester
- Teo Choon Yeh
- Lesson Plan

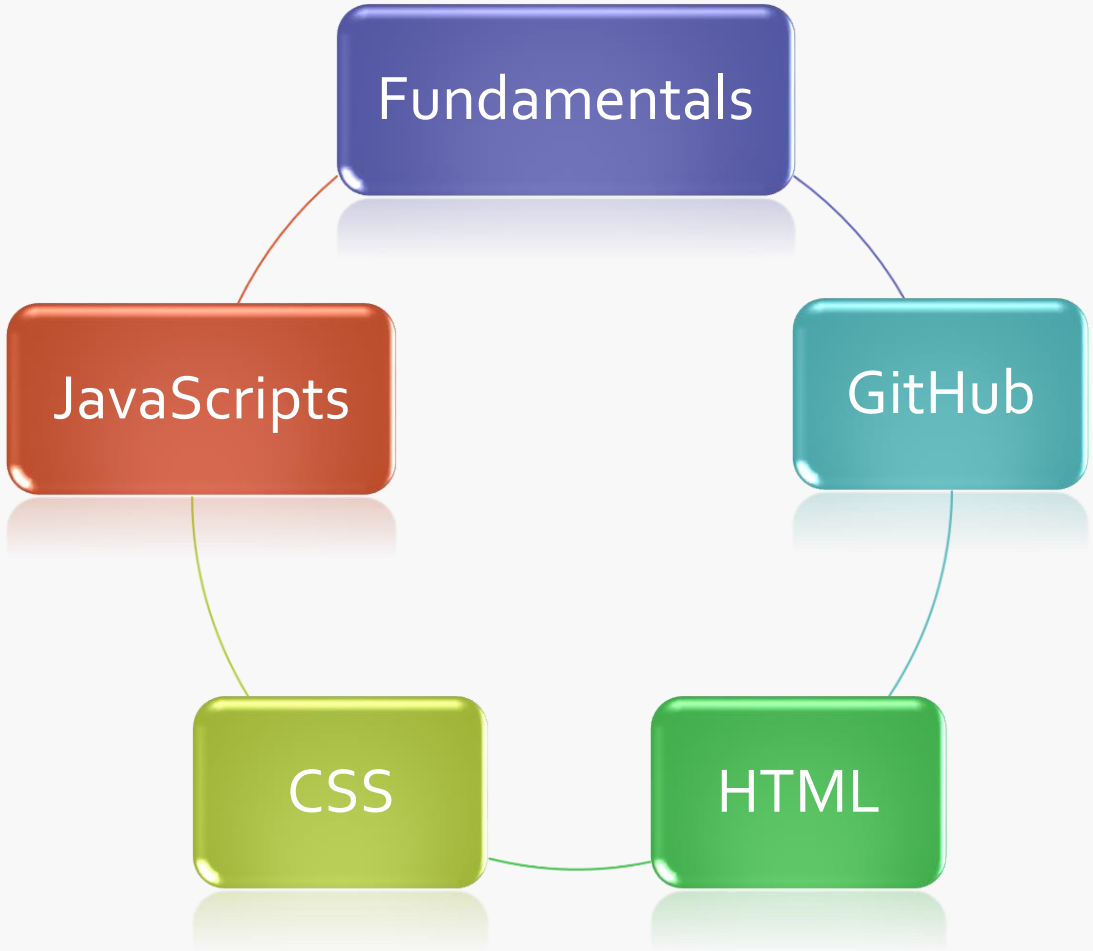
Assessment & Weighting %

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:



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

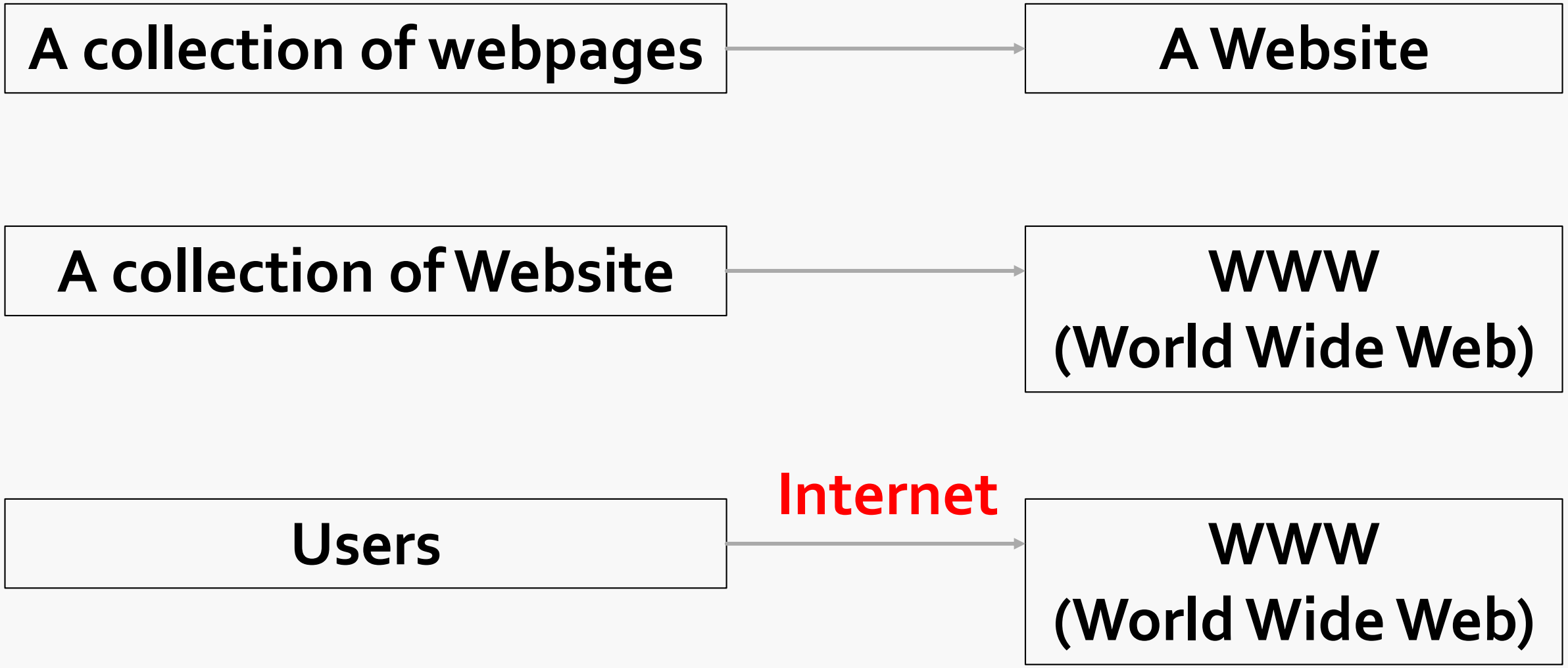
What is Website?

Example:

Crescendo International College website address is

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

- access 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)
Internet
Users
WWW
(World Wide Web)

What is Website?

A website is a :

- virtual location on the World Wide Web

  -> web pages are digital files, written using HTML.

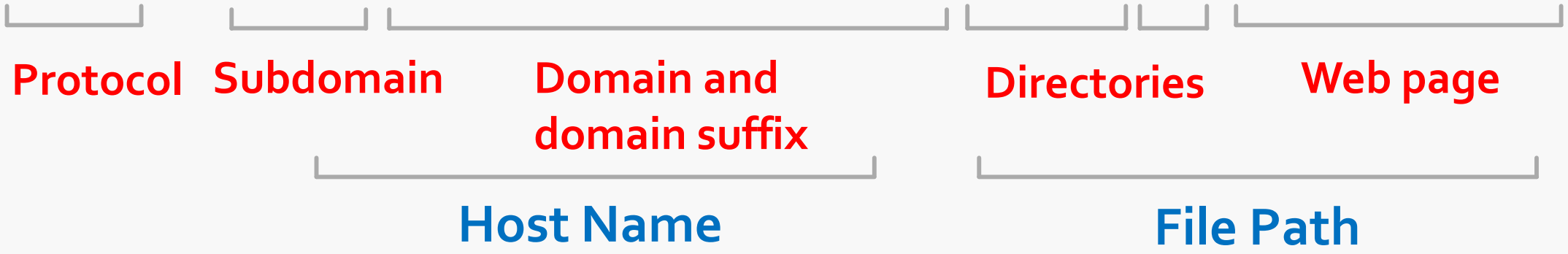
What is Website?

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



A URL

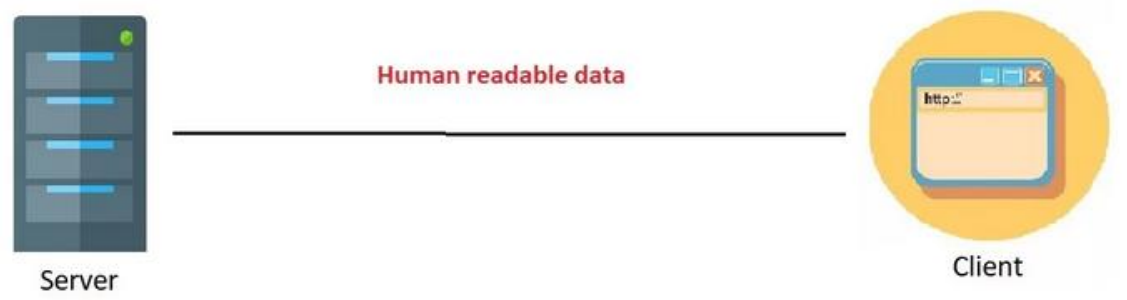
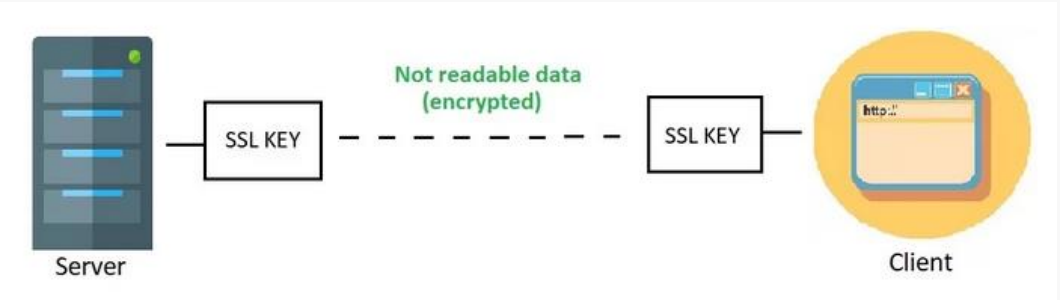
Protocol or Internet Protocol (IP)

- communications protocol

- a set of rules to communicate and exchange of data over the internet.

- HTTP & HTTPS

HTTP vs HTTPS

HTTP	HTTPS
Hypertext Transfer Protocol	Hypertext Transfer Protocol Secure
In the address bar, it's written as http://.	https:// is written in the address bar.
The HTTP protocol is used at the application layer	HTTPS is used at the transport layer.
It is insecure because plain text is sent, making it vulnerable to hackers.	It's safe because it sends encrypted data that hackers can't decipher.
	

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)

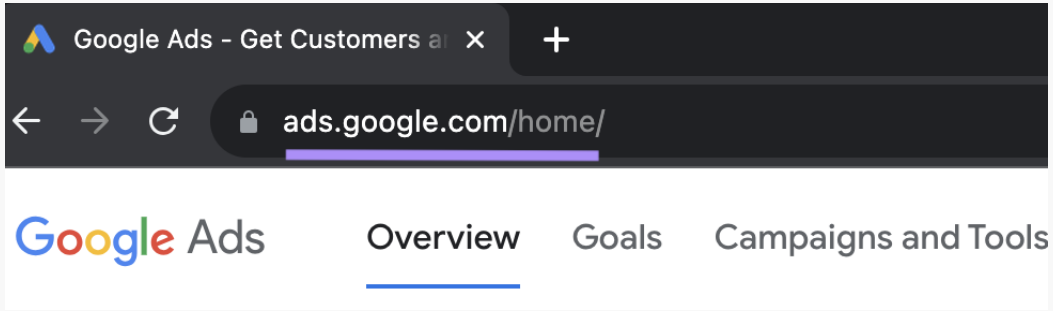
Subdomain

1) The most common subdomain is “www” or “world wide web.”

2) Google uses subdomains such as:

   a. docs.google.com for Google Docs

   b. ads.google.com for Google Ads



3) Wikipedia: Using Subdomains for Multiple Languages :

   a. en.wikipedia.org

   b. ja.wikipedia.org

A URL

1) Domain name is a human-friendly address for a website, easy for us to remember and type in.

2) Each domain name maps to an IP address.

www.google.com	IPV4	172.217.164.100

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

Types of Website

1) Static Website

2) Dynamic Website

Types of Website - Static Website

1) Webpages are prebuilt source code.
2) No processing of content on the server.
3) Executed by the browser that resides at the user's computer.
4) Displays the same information to all visitors.
5) Web pages are returned by the server with no change, therefore static Websites are fast.
6) No interaction with databases.

Static Website

1) Client-side technologies are HTML, CSS, and JavaScript.
2) If a site utilizes JavaScript, but no PHP or any other programming language, it's still considered a static site (JavaScript = client-side language).
3) Static web pages are made of "fixed code"

   -> unless the website developer makes changes.

Types of Website - Dynamic Website

1) Can interact with it -> it's a dynamic site.
2) For example :

   -> allow to create a user profile

   -> comment on a post

   -> make a reservation
3) Webpages are not prebuilt source code.
4) Executed by the server (Web Server) -> later on 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

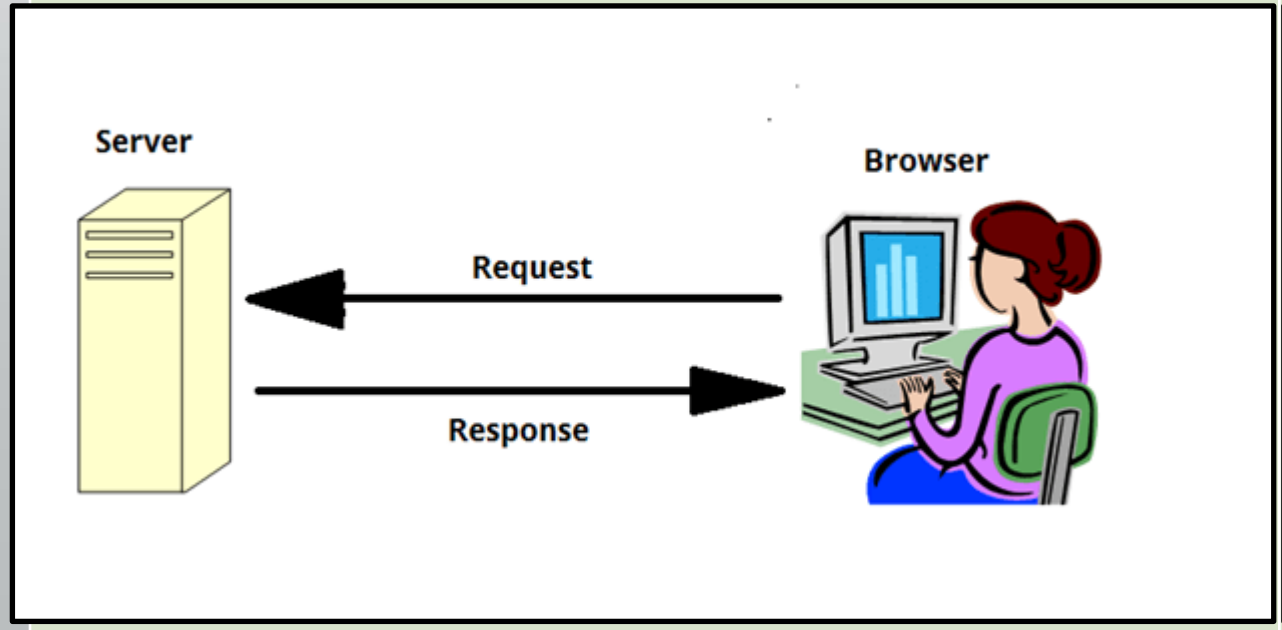
-> create

-> read

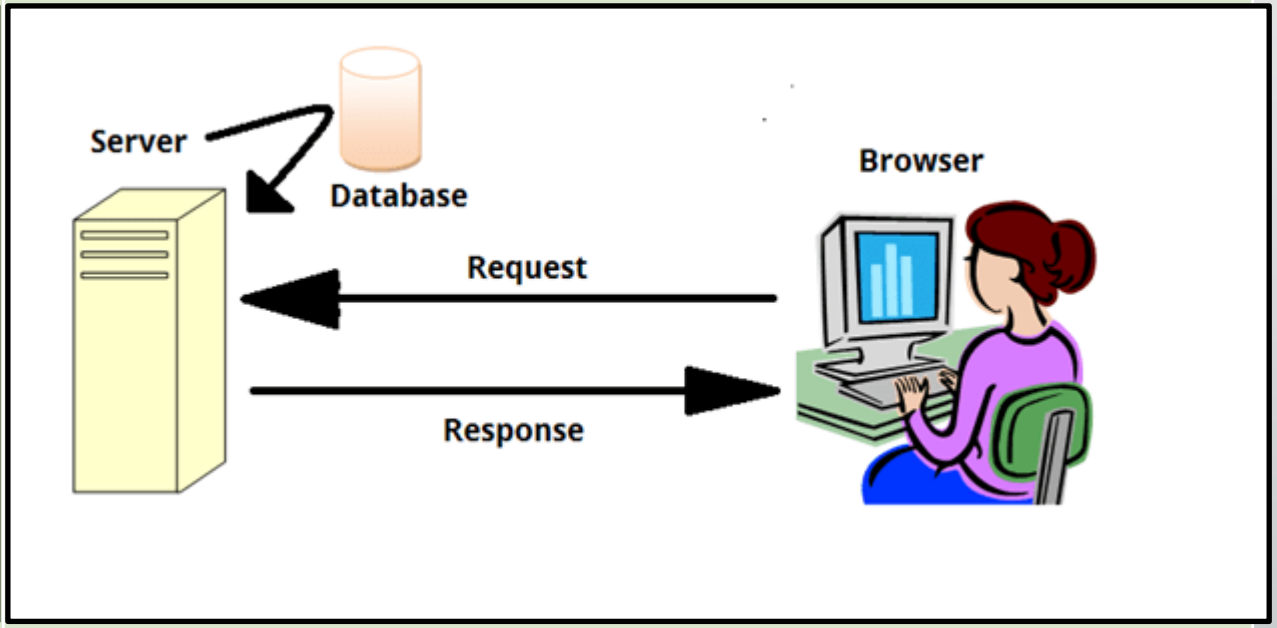
-> update

-> delete

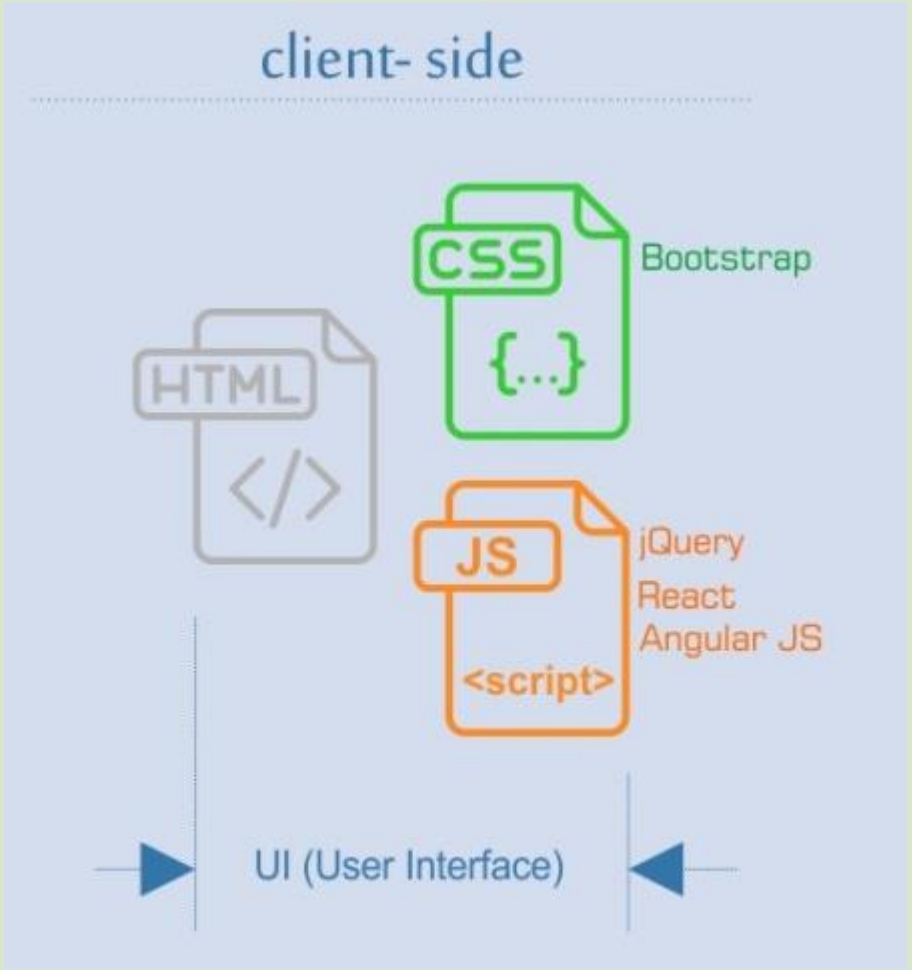
Static Website



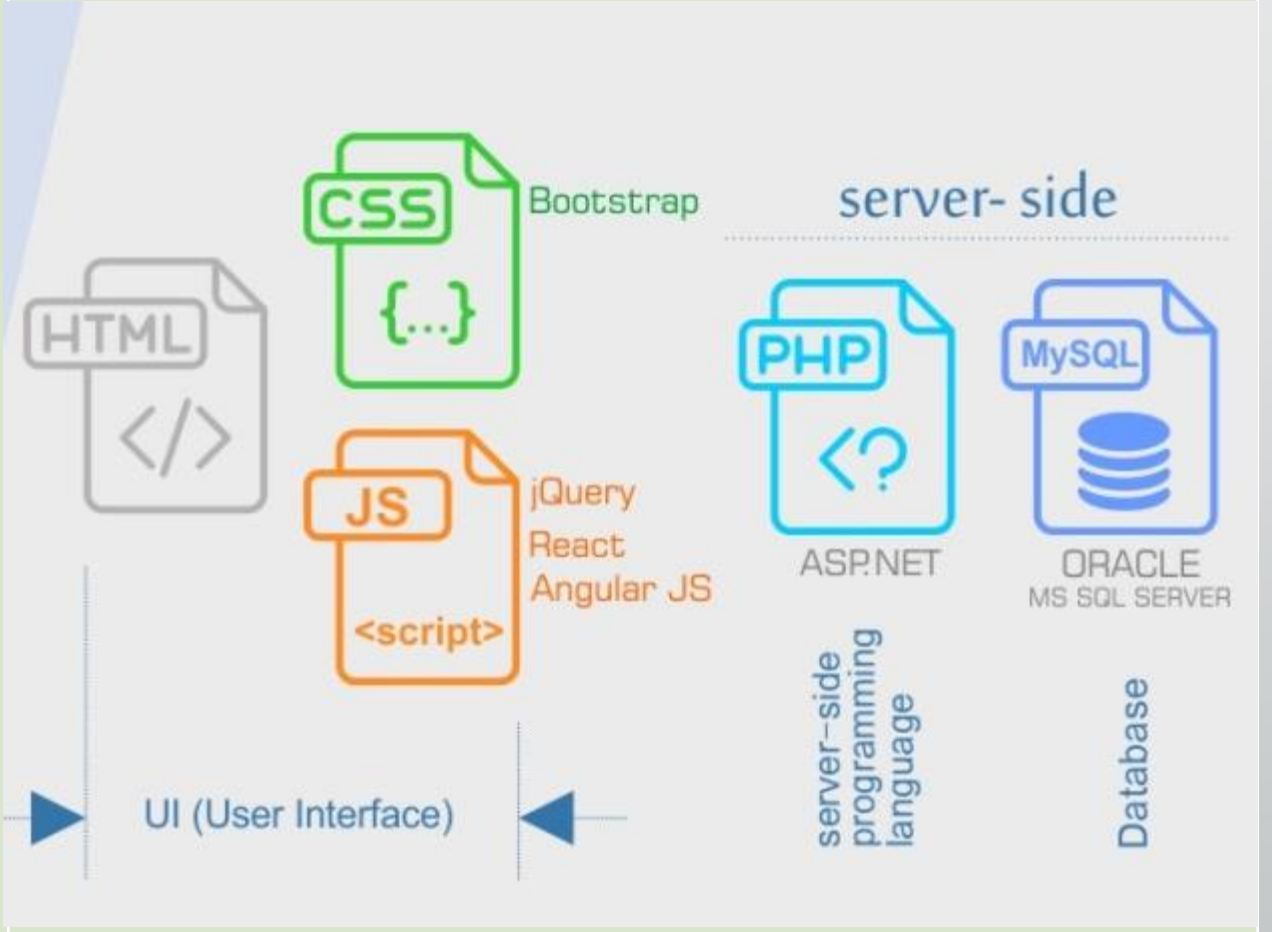
Dynamic Website



Static Website



Dynamic Website



Front-end and Back-end professionals

Front-end developer :

- is responsible for designing the interfaces of a website
- working with the part of the application that interacts with the user.
- This professional deals with the languages on the “front” as HTML, CSS and JavaScript.

Back-end developer :

- handles back-side languages, such as server languages : PHP, Java, Python, Ruby.
- works directly with database like MySQL, SQL Server, PostgreSQL.
- develops the system using what the user interface developed by the Front-end developer.

Fundamentals

What is Website Design?

What is Website Design?

Website design refers to :

- the design of a websites that are displayed on the internet.
- the process of planning, conceptualizing and arranging content online.
- 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

***** Responsive Web Design**

->To create a website look good on all devices (desktops, tablets, and phones)

-> The layout changes based on the size and capabilities of the device.

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

- 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.

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

4) User Friendly

A page layout that emphasises important parts of your site :

- ✓ Home page with clear site navigation
- ✓ Site search option
- ✓ Form entry
- ✓ An aesthetically pleasing design

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.

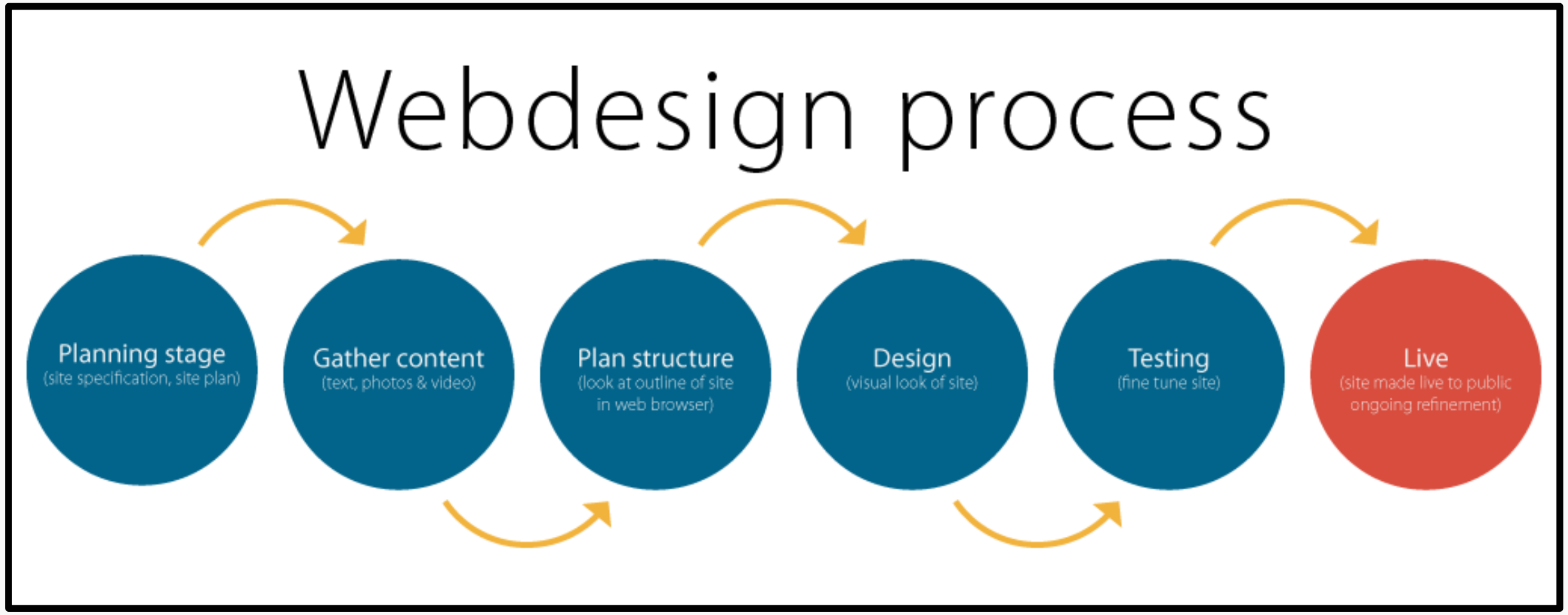
- Keeping your website pages lean and functional are key considerations to creating a speed-friendly site.

Important Elements of A Website Design

A page layout that 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

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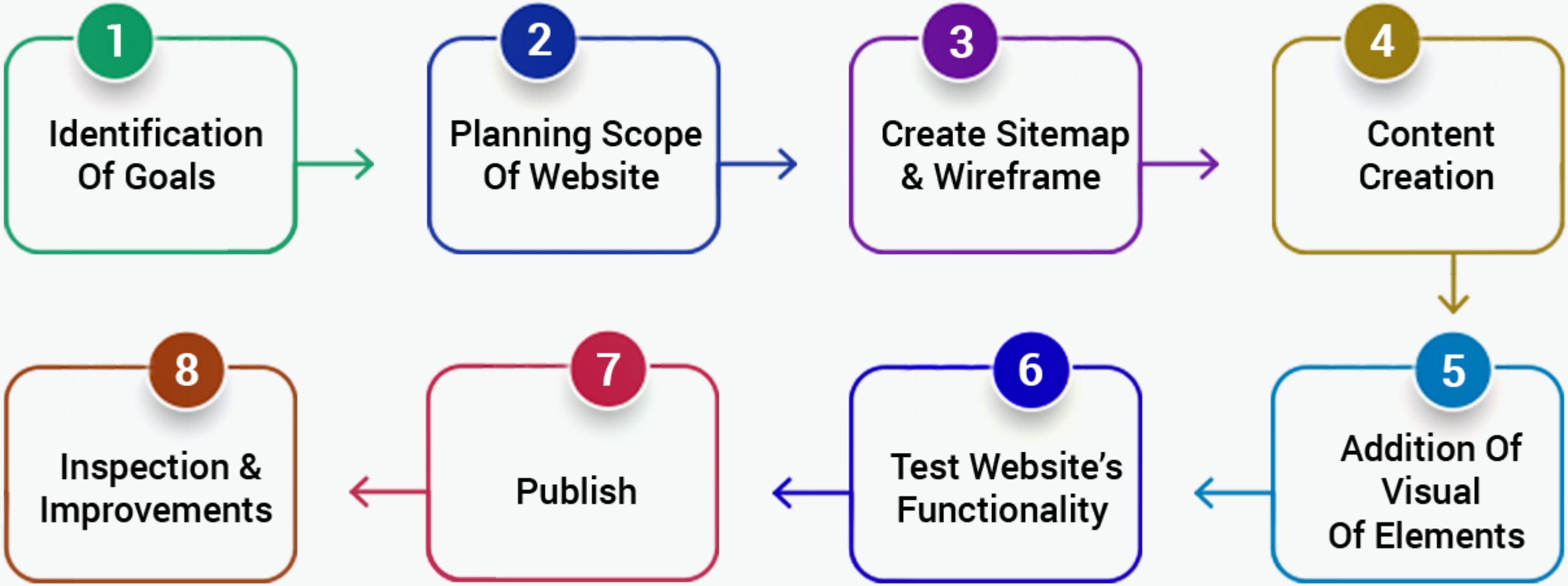

Basic Step of Website Design Process

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

Fundamentals

Tutorial Lesson 1

Tutorial Lesson 1 (Save file name as: Fullname_studentID_tutorial1.docx)

Questions:

1) A collection of webpages -> _____.

2) A collection of Website -> _____.

3) URL stands for -> _____.

4) State **TWO (2)** differences between HTTP and HTTPS.

5) State **TWO (2)** differences between static website and dynamic website.