

WEBSITE DESIGN





MAIN TASK AND KEY GOALS::

- argumentation of basic principles and theory in the field of web design and programming;
- emphasizing the need to use effective web design, based on innovation, technology and current trends, to achieve the strategic goals of the organization;
- the basic concepts of website design and development, basic elements, tools and modern trends in their construction and implementation are considered;
- the need to improve the organization of the site and search engines was brought to light in order to increase conversion and increase the share of the target audience;
- the basic methods and stages of programming for modern programming languages html, JavaScript and PHP are presented.

The obtained scientific and methodological aspects can be practically applied as:

- tools for studying consumer behavior on the Internet;
- understanding the needs for web design and website development;
- development of modern web design and programming.



CHAPTER 1. THEORETICAL ASPECTS OF WEB DESIGN

CHAPTER 2. WEBSITE DESIGN

CHAPTER 3. WEBSITE FUNCTIONALITY

CHAPTER 4. WEBSITE LAYOUT

CHAPTER 5. PROGRAMMING LANGUAGES FOR WEBSITES

CHAPTER 6. USING THE HTML PROGRAMMING LANGUAGE

CHAPTER 7. USING THE JAVASCRIPT PROGRAMMING LANGUAGE

CHAPTER 8. USING THE PHP PROGRAMMING LANGUAGE

CHAPTER 9. PROMOTION AND SEARCH OPTIMIZATION OF THE WEBSITE

CHAPTER 10. WEB DESIGN AND DEVELOPMENT TRENDS

1. THEORETICAL ASPECTS OF WEB DESIGN

Historical development and key features of the leading schools of graphic design

School of Graphic Design and years of development	Key features
School of American Advertising Graphics (1920-1950)	Advertising in the 1920s in America was largely traditional in appearance, the creative power mainly drawn from copying the best European designs. Post-war prosperity took place under the slogan "buy, buy, buy." The design of cars is rapidly changing; every year there is a new model, but the design of advertisements, as a whole remains the same.
Swiss School of Graphic Design (1950-1960)	It is a style of graphic design that was developed by designers in Switzerland in the 1950s and has had a profound effect on graphic design as part of the modernist movement, influencing many fields related to design, including architecture and art. This style emphasizes simplicity, readability and objectivity. One of the most important things this method brings is the use of grids to organize content, or what is called grid design. The idea behind this approach was to help designers take a consistent, consistent, and structured approach to page layout.
Polish school poster (1960-1970)	In the Polish poster, universality is combined with uniqueness, rationality with sensuality, graphic quality with picturesqueness, simplicity with complexity. All this brought a special, recognizable texture and unique images to graphic design. The work of the Polish poster was a clear idea within the design art, as it expressed the thoughts, feelings and concerns of people, and was not just an image or a means of attraction.
Japanese school poster (1960-1980)	The works of Japanese designers amaze with their strange, unlike anything, amazing aesthetics. Some designers create their works based on the centuries-old history and culture of the Land of the Rising Sun, while others, on the contrary, completely abstract from it and work exclusively with modern images.



PURPOSE IN MODERN CONDITIONS

Web design is planning and creating content in such a way that the site is beautiful, functional and user-friendly. To achieve each of these goals, web designers use a wide range of tools.

When using web design tools, websites acquire the correct color scheme, suitable fonts, photographs, images and animations, and special effects.

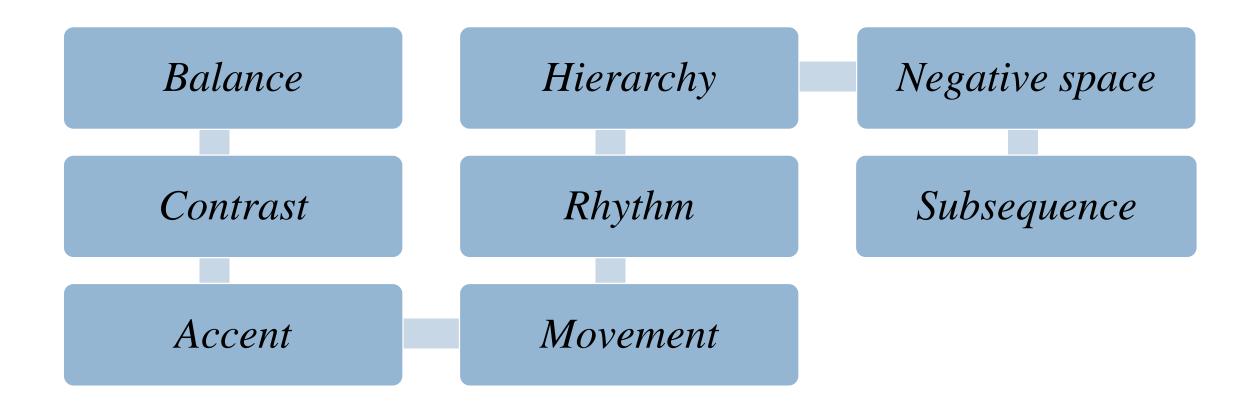
To ensure maximum functionality of the website with the help of web design, the structure of pages and their navigation are thought out, pages and sections are filled with informative and relevant content, and additional elements are added in the form of: polls, subscription forms, widgets with social networks, interactive maps and much more.

With the help of web design, interaction with the website is carried out in an intuitive way and to avoid confusion.

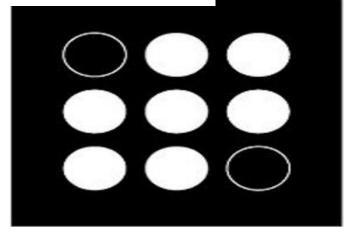
Positioning the most important information at the top of the screen so that the user does not have to scroll down the page.

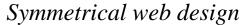


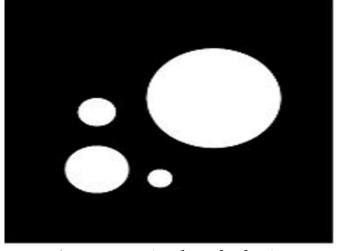
BASIC PRINCIPLES OF WEB DESIGN IN MODERN CONDITIONS:



AL-Ababneh the main ways to balance the web design of the pages of the website

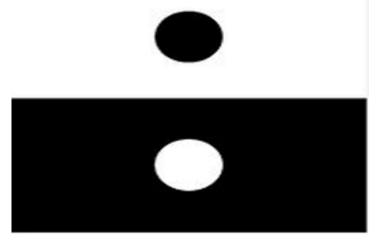




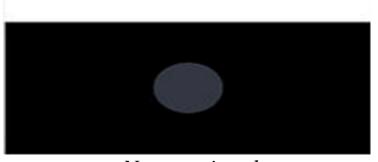


Asymmetrical web design

BASIC WEB DESIGN CONTRAST VARIATIONS IN MODERN CONDITIONS



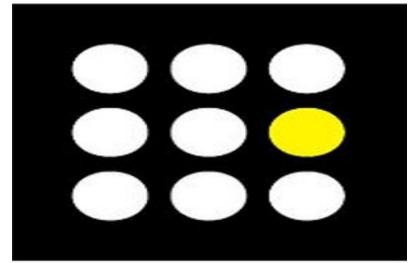
Rational Contrast



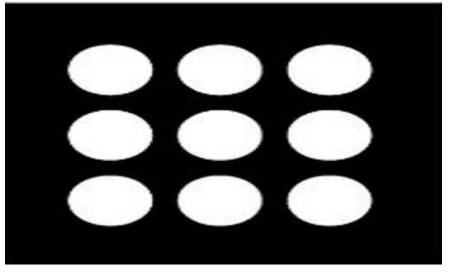
Not a rational contrast



THE MAIN OPTIONS FOR EMPHASIZING WITH THE HELP OF WEB DESIGN ON THE PAGES OF WEBSITES

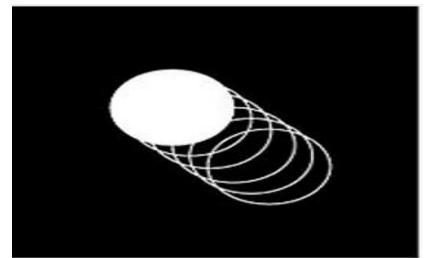


Accent web page design website

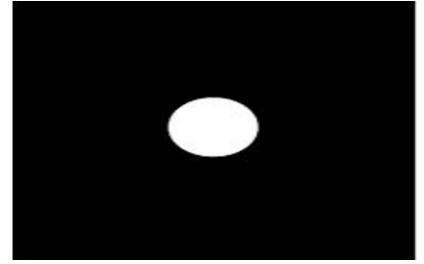


Not accentuated web design of a website page

BASIC OPTIONS FOR MOVING ELEMENTS ON WEBSITE PAGES USING WEB DESIGN TOOLS

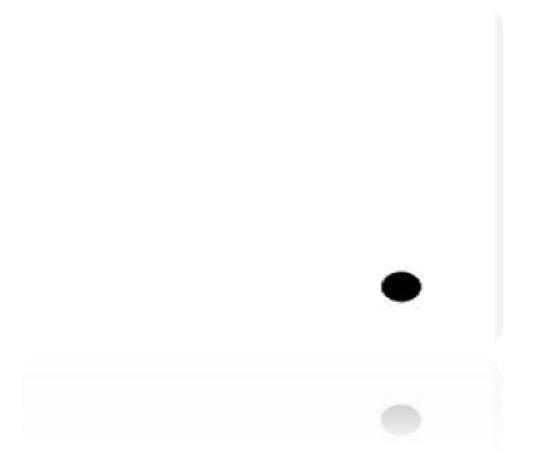


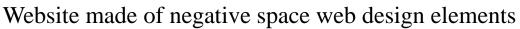
Driving element on a website page

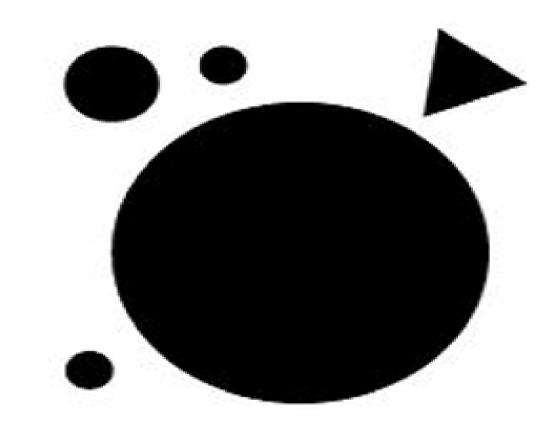


Static element on a website page

BASIC OPTIONS FOR BUILDING A WEBSITE WITH WEB DESIGN TOOLS LIKE NEGATIVE SPACE



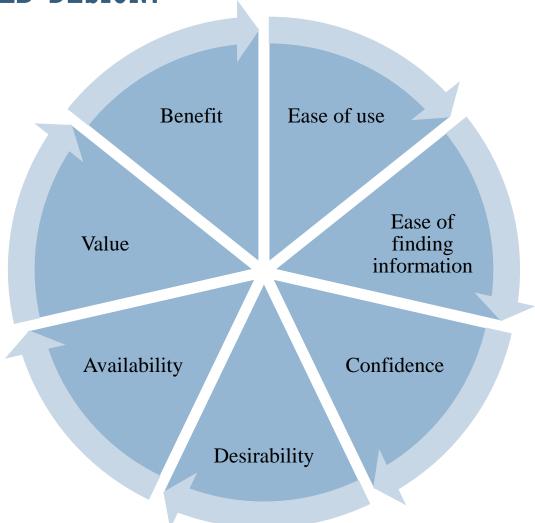




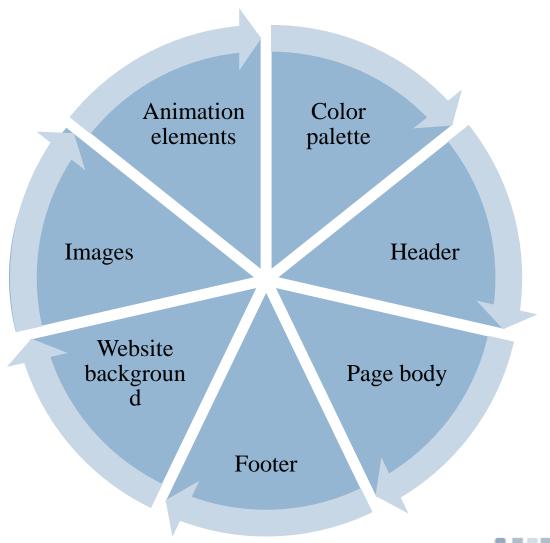
Website without negative space elements of web design



USER INTERFACE CHARACTERISTICS IN WEB DESIGN:



ESSENTIAL VISUAL WEB DESIGN ELEMENTS OF MODERN WEBSITES:



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ALAbabneh KEY STEPS IN CREATING A MODERN WEBSITE WEB DESIGN

1. Definition of a business goal.

An important element of creating a web is resource determine its business purpose in order to understand why and for whom the website is being developed. In addition, web designers understand need to what customers expect company's from website.

2. Identification of the area of implementation of the website

Scaling is one of the most difficult steps in the entire website building process. The scope and scope of the project can be volatile and change depending on various factors during the creation of the website.

3. Choosing a platform for implementation

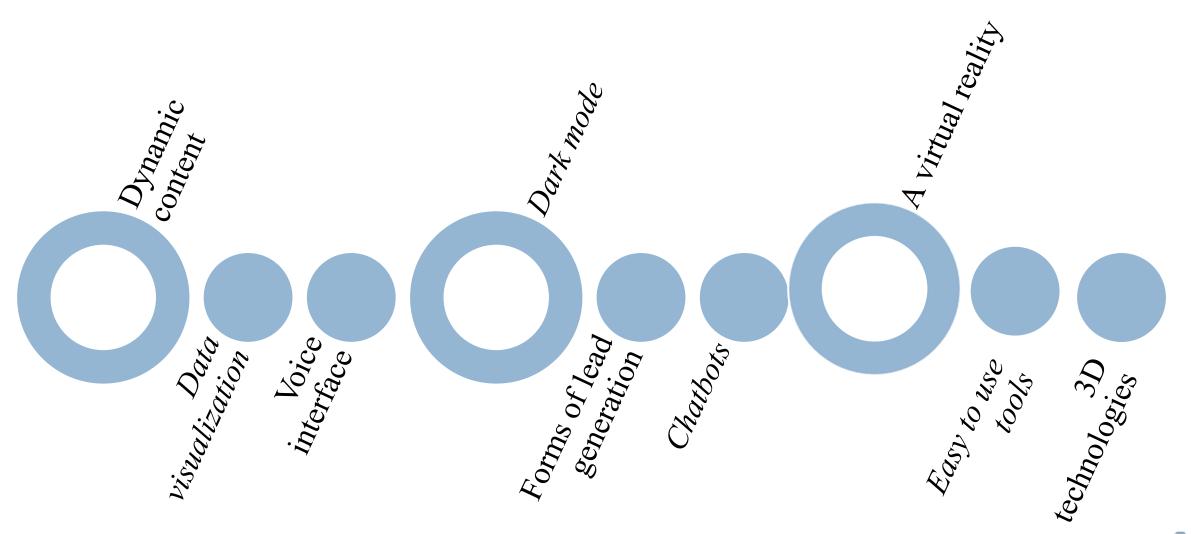
When the idea of building a quality website comes up, the question to ask yourself is which platform to choose. There are many varieties of CMS in ecommerce development, however, you need to choose the best options for creating a website.

4. Creation of a prototype and website layout.

This step allows you to define the information architecture and explains the relationship between different pages and content elements. Building a website without a site prototype is like building a house without a blueprint, and it's unlikely to succeed.

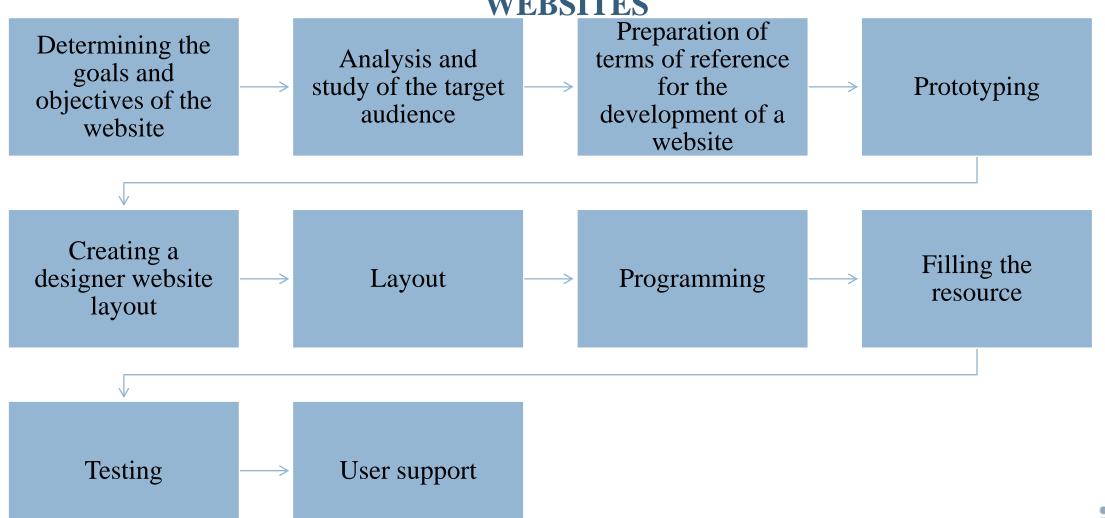


Ababneh KEY TRENDS IN WEB DESIGN OF MODERN WEBSITES



ALAbabneh 2. WEB SITE DESIGN

STRUCTURING THE KEY STAGES OF DESIGNING AND DEVELOPING WEBSITES



ALAbabneh THE MAIN COMPONENTS FOR DETERMINING THE TARGET AUDIENCE, TOPICS AND DIRECTION OF A MODERN WEBSITE:

Feedback and organization of the interaction process

Digital channels for communication

What types of content will be used to promote the website

What information and content will be posted to attract an audience

What are the preferences and expectations of buyers and potential customers

Target audience and direction of the company's website



REQUIREMENTS ON WHICH THE TERMS OF REFERENCE FOR THE DEVELOPMENT OF A MODERN WEBSITE SHOULD BE BASED:

Detailed requirements for website development.

All the features and specifics of the functioning of the website must be defined and fixed in the terms of reference.

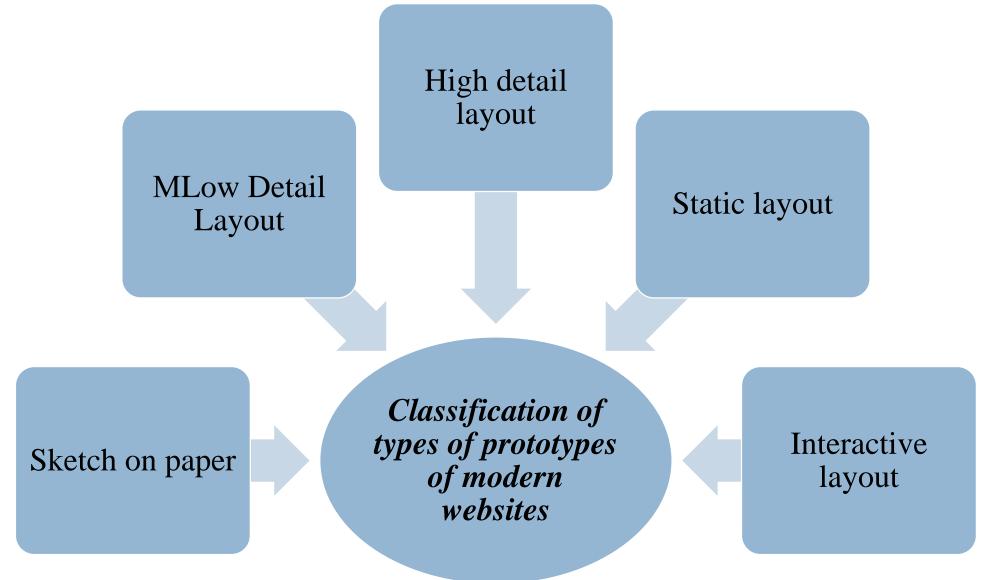
Accurate description of website development requirements.

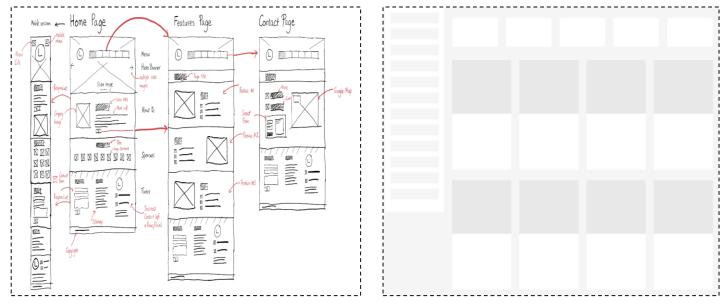
The terms of reference should include an accurate description of all functional, non-functional requirements for the website that are expected.

Availability of the statement of requirements.

The terms of reference for the development of the website should be understandable and accessible to all project participants.

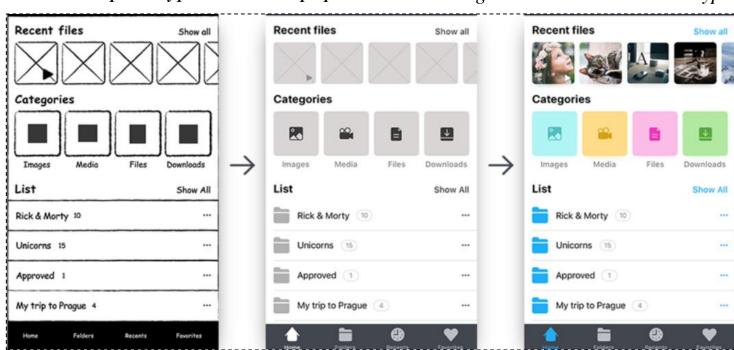
ALAbabneh CLASSIFICATION OF TYPES OF PROTOTYPES OF MODERN WEBSITES:





Visualization of a modern website prototype sketch on paper

Rendering a Modern Website Prototype Using a Low Detail Sketch



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Visualize a modern website prototype with a highly detailed sketch



KEY STAGES OF PROTOTYPING A MODERN

WEBSITE:

1. Discussion and setting the business goal of website prototyping

2. Formation of website prototyping hypotheses

3. Research the basic requirements and specifics of the website

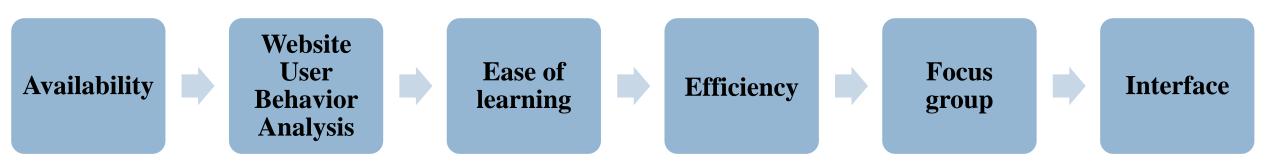
4. Website prototyping

5. Elaboration and specification of requirements

THE MAIN PROGRAMS FOR PROTOTYPING MODERN WEBSITES:

Axure RP Balsamiq Figma Origami Draftium InVision

BASIC ELEMENTS OF THE DEVELOPMENT AND DESIGN PROCESS OF UX AND UI WEB DESIGN OF A MODERN WEBSITE:



ENSURES THE DESIGN OF MODERN WEBSITES

Increasing the likelihood of achieving the desired type of web resource.

Clearly setting goals, defining the target audience and modeling user paths can get the desired result from the development.

Logical division of work on website development.

A site prototype is an independent document, on the basis of which the customer can already create a website, independently or by another development team.

Time optimization and financial safety

Eliminating errors while creating a website prototype is a simple process, as it is enough to change some parts of the text or graphics. Implementing such actions will take much longer and is more expensive at the coordination stage. For a web programmer, such corrections will be more labor-intensive.





KEY ITERATIONS OF THE SEMANTIC DESIGN OF MODERN WEBSITES

- 1. Familiarization with the subject and direction of the company's business
 - 2. Analysis and assessment of the demand for the implementation of a new website and the provision of services through the website
 - 3. Analysis of search results of websites and search for competitors
 - 4. Analysis of the structure of competitors' websites
 - 5. Expansion of the website structure by compiling a semantic core
- 6. Search for alternative options for website promotion

KEY FEATURES AND BENEFITS OF SEMANTIC DESIGN FOR A MODERN WEBSITE



- ready-made semantic core;
- a ready-made promotion strategy in search engines;
- prioritized content preparation;
- Website
 development and
 implementation
 process planned



Benefits for a WEB developer

- eady-made website structure;
 - recommendations of an SEO specialist regarding the development of a website;
 - error minimization;
 - Reducing website development time.



- reduction in the cost of developing a web project;
- accelerating the process of waiting for the effectiveness of implementation;
- accelerating profits from the results of the website implementation.

Benefits for the business owner



3. WEB SITE FUNCTIONALITY

Key characteristics and components of the functionality of a modern website

Convenience and ease of navigation on the website

Timely updating of website content

Consistency of website elements

Logical separation of website content

Website cross browser

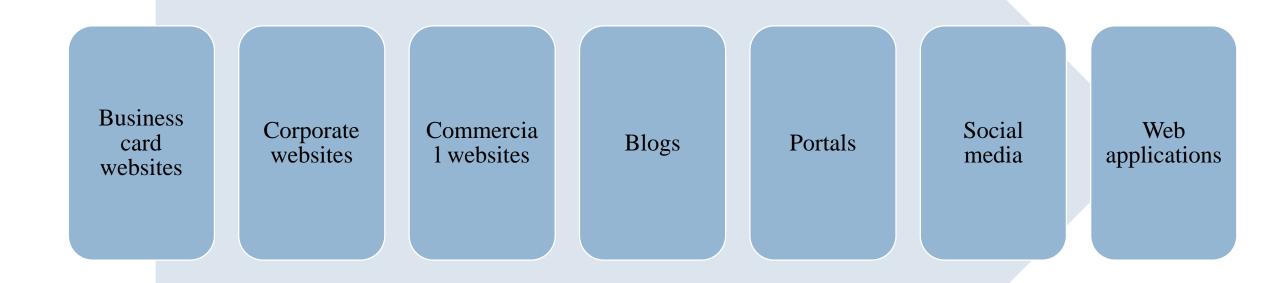
Content structure and order

The website address should be easy to remember.

Ease of finding a website on the Internet

Website loading speed

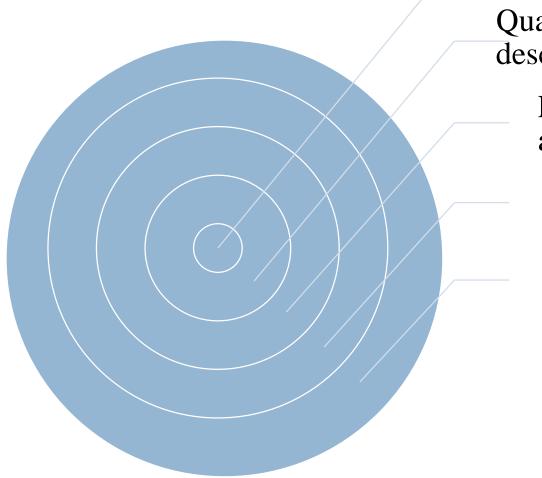
AL-Ababneh CLASSIFICATION OF MODERN WEBSITES DEPENDING ON THEIR PURPOSE AND FUNCTIONALITY





KEY ELEMENTS TO IMPROVE THE FUNCTIONALITY OF A MODERN WEBSITE

Clear web design and user interface



Quality image and quality product description

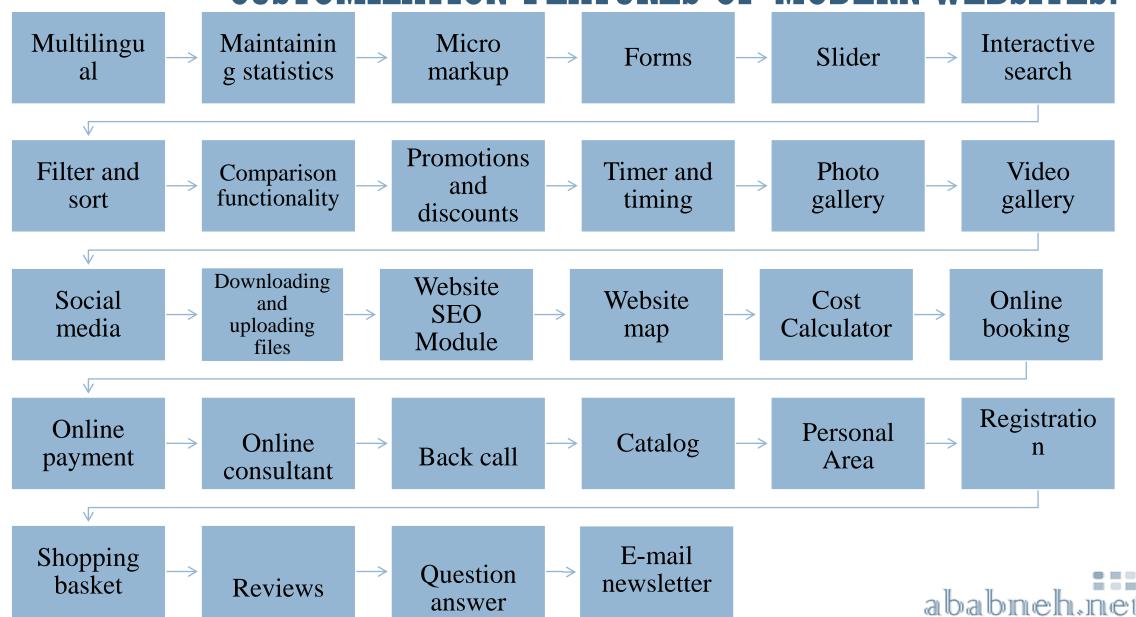
Prominent but not intrusive calls to action

Maintaining a company blog to improve brand credibility

Simple and clear website navigation



STRUCTURING ADDITIONAL FUNCTIONALITY AND CUSTOMIZATION FEATURES OF MODERN WEBSITES:





KEY FUNCTIONS OF MODERN WEBSITES DEPENDING ON THE DIRECTION AND TYPE OF ACTIVITY OF THE COMPANY:

Website trading function

Information function of the website

Communication function of the website

Website marketing function

Website advertising feature

Website image function

Website service function





4. WEB SITE LAYOUT

Requirements for the code written for website development:

- *The first requirement:* the format must be correct: gross semantic errors are not allowed as this leads to problems in promoting the site in search engines and the effect is tangible.
- **Second requirement:** The website must be multi-browser: that is, it must look similar in all popular versions of browsers used by the target audience and customers.



KEY ADVANTAGES AND DISADVANTAGES ADVANTAGES AND DISADVANTAGES OF USING CSS LAYOUT FOR MODERN WEBSITES

Advantages

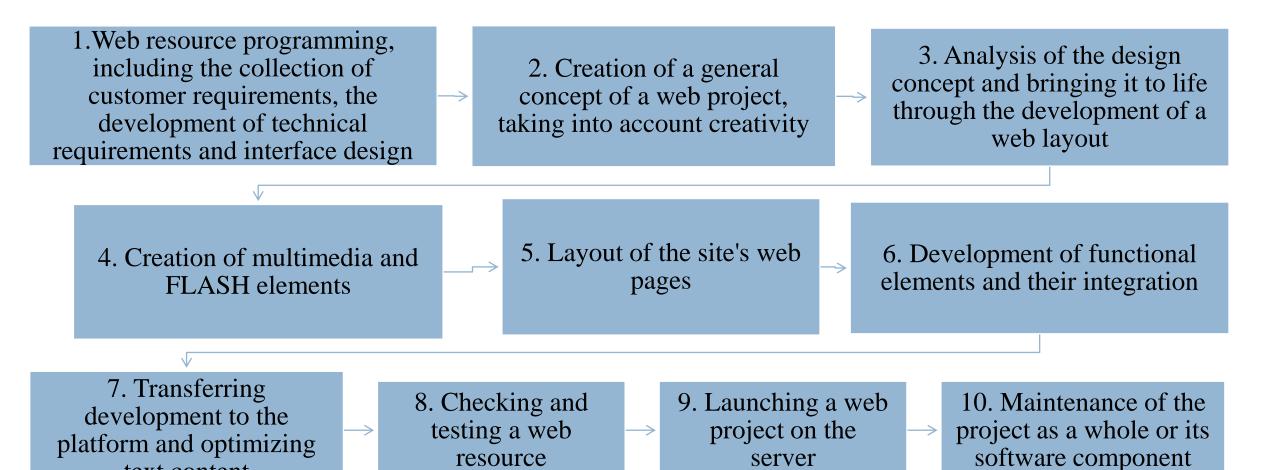
- Implementation of multiple web page designs for different viewing devices.
- Reducing the loading time of website pages by transferring data presentation rules to a separate CSS file. In this case, the browser only downloads the document structure and the data stored on the page, and the representation of this data is downloaded by the browser only once and can be cached.
- Ease of subsequent changes in web design. You don't have to edit every web page, just change the CSS file.
- Additional options for designing web design pages of a website.

- -Different display layouts in different browsers that interpret the same CSS data differently.
- The often encountered need in practice to fix not only one CSS file, but also HTML tags that are associated with CSS selectors in a complex and invisibly way, which sometimes negates the ease of applying single style files and significantly increases editing and testing time.

Flaws

text content

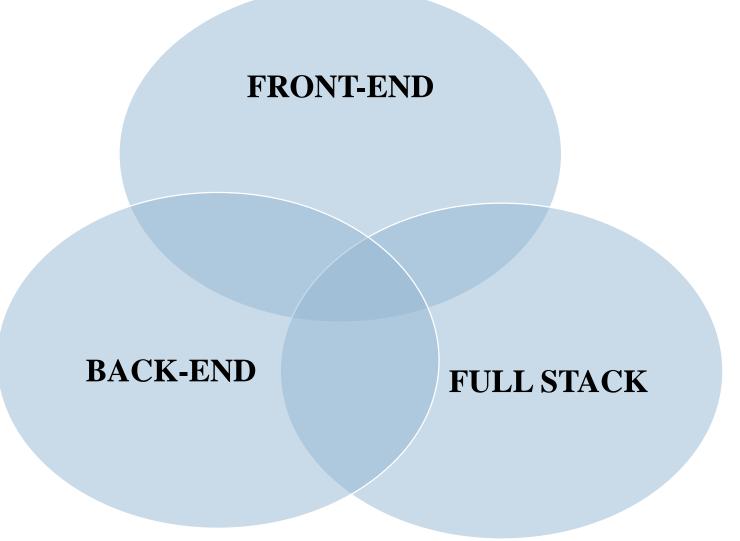
KEY STAGES OF WEB PROGRAMMING WEBSITES IN MODERN CONDITIONS:







CLASSIFICATION OF TYPES OF WEB DEVELOPMENT IN MODERN CONDITIONS





Front-end web development should include and be based on key components:

- HTML (Hypertext Markup Language) is a markup language used in the creation and design of web pages and websites. This language is considered one of the oldest languages and is widely used in the development of web pages for all elements and documents on a web page and their interaction in the structure of a web page.
- CSS (Cascading Style Sheets) is a web page formatting language that takes care of the appearance and design of websites. It was specifically designed to separate formatting from the content of a written document. This applies to colors, fonts, images and backgrounds that are used on pages with total flexibility and ease. This technology is related to the general appearance of web pages, including colors, images, etc. It also adapts the same document in different styles and styles. displays the transmission on the screen or for reading by voice.
- JavaScript is a programming language that developers use to create interactive web pages to bring them to life. From updating social media feeds to displaying animations and interactive maps, its functionality can enhance the user experience on a website.



The following programming languages are used for Back-end web development:

- PHP. It is a scripting language primarily intended for developing and programming web applications. It can also be used to create offline programs, not just for the web. Open source and developed by a team of volunteers, it is one of the most popular languages in the world. Great for working with the server side, allowing you to automate the work of a web resource. It also runs on multiple operating systems such as Linux and Windows.
- **Python.** It is an easy to learn, open source, extensible, high-level, object-oriented programming language. It is an interpreted and general-purpose language that is widely used in many fields such as creating standalone programs using GUIs and web applications, and it can be used as a scripting language to control the performance of many programs with the ability to use it to make simple programs for beginners and carry out huge projects at the same time. Programming beginners are often advised to learn this language because it is one of the fastest learning languages. It has a simple structure, which makes it suitable for mobile development as well.
- **Ruby.** It is a general purpose, high-level interpreted programming language that supports many programming paradigms. It was designed with a focus on performance and ease of programming. In Ruby, everything is an object, including primitive data types, they are dynamically typed and use garbage collection and just-in-time compilation. It supports multiple programming paradigms including procedural, object-oriented and functional programming.
- SQL. It is a programming language for storing and managing information in a relational database. A relational database stores information in the form of a table in which rows and columns represent different data attributes and different relationships between data values, with the ability to use SQL statements to store, update, delete, search, and retrieve information from the database.
- Go (Golang) It is an open source compiled multi-threaded programming language from Google. It is considered a general-purpose language, but is mainly used for developing web services and client-server applications. It has become one of the fastest growing server-side programming languages due to its simplicity, as well as its ability to work with multi-core systems, networks, and huge code bases.
- Java. It is a high-level, class-based, object-oriented programming language designed to have as few implementation dependencies as possible. It is a general purpose programming language that allows programmers to write once and run anywhere (WORA), meaning that compiled Java code can run on all Java-enabled platforms without the need for recompilation.



BACK-END ELEMENTS OF WEB DEVELOPMENT

Back-end elements of web development	Peculiarities
Server part	Every website or web application has two sides - a client and a server. The client is the application shell or browser, that is, what the user interacts with, and from where requests are sent to the server. And the server is essentially a machine that processes these requests and returns the necessary information. At the same time, one server can process requests from many clients, just as one client can access many servers.
Database	The server only processes information, but does not store it; there are special tools for this - databases. When logging into any system, a database is also used: it stores all logins and passwords, and when login data is entered, the server sends a request to the database to check if there is such a login-password pair; if the answer is positive, it is possible to log in and get access to the system that you logged into.
Application Programming Interface	Application Programming Interface - this is the part of the server that the client directly interacts with, when it comes to just one server and one client in a vacuum - everything seems pretty simple. However, in practice this rarely happens and you have to integrate programs with each other, for example, insert Google maps into a website so that the user can easily find any offline store of the company and build a route to it.



Ababneh THE STRUCTURE OF THE MAIN COMPONENTS OF FULL-STACK WEB DEVELOPMENT:

Back-end

Project management

The structure of the main components of Full-stack web development in modern conditions

Front-end

DevOps

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CLASSIFICATION OF MODERN TYPES OF LAYOUT OF COMPANY WEBSITES IN MODERN CONDITIONS

Type of website layout	Website layout features
Adaptive layout	It implies correct display on any kind of devices. It is by far the most popular. It is an integral part of the other two species, so it is much less often distinguished as a separate species
Tabular layout	When we learned how to make up websites, this method appeared. Tabular web design of a website involves the use of tables filled with information. Externally, the process resembles working in Excel. This method is considered obsolete, but is still actively used. The fact is that it is suitable for standard projects with the possibility of detailing and individualization.
Block layout	This is a modern universal type of website layout, which is actively used to create high-quality web pages. Its principle is that all elements are located in blocks, or containers. They contain the necessary information and are themselves adjustable. You can set their size, color and other parameters. Block layout design layout is simpler, has more features and is able to implement any designer's ideas. The code is cleaner and lighter, it is easy to read by browsers, which affects the ranking of the site in search engines. In addition, the blocks guarantee a responsive design, so the website displays correctly on various devices.

STRUCTURING THE MAIN TOOLS FOR LAYOUT OF COMPANY WEBSITES IN MODERN CONDITIONS

Directions for using tools for website layout	Website layout tools
Image processing	Adobe Photoshop, Gimp, Krita and other applications that allow you to take elements from the layout and work with visual content.
Working with programming code	Notepad++, UltraEdit, Adobe DreamViewer, CSS3 Generator, SublimeText, Firebug, CoffeeCup HTML Editor, Winless, WinMerge and others.
Working with JS	Front Page, NetBeans and many other tools
Health check	Crossbrowsertesting, Markup validtor, IE Tester, Validator.w3, Dr Watson, Css validator and others.



Al-Ababaeh THE MAIN FEATURES OF THE CORRECT LAYOUT OF THE COMPANY'S WEBSITE

Layout must be cross-browser and display correctly in different web browsers, regardless of screen resolution

Styles are placed in a separate file, the page code is as short and light as possible

Correctly structured headings, paragraphs, their styles are thought out

Block layout is considered the highest quality, while it must be adaptive to all devices;

HTML and CSS content is in lowercase only

The code is clear, has a clear structure, opening and closing tags are visible

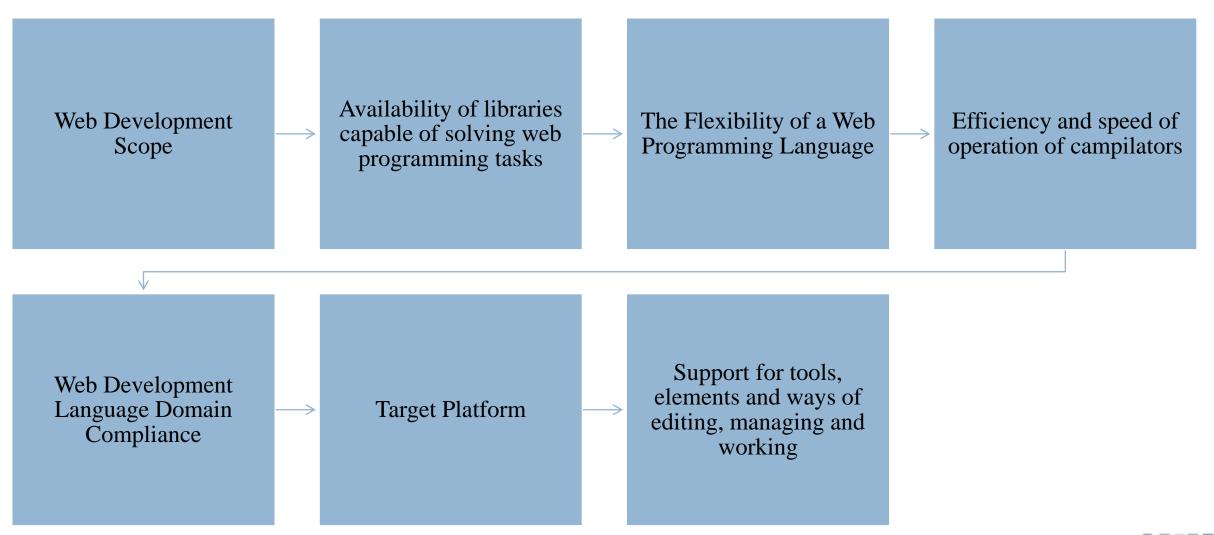
Valid site layout - there should be no errors in the code

CSS has advantages over JS, everything that can be done with styles is done only through them

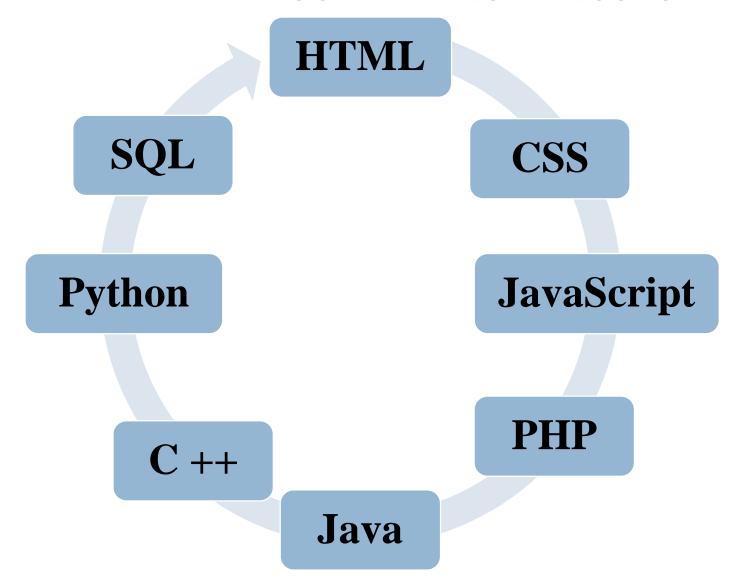
All images have the prescribed dimensions and the dimensions of the original layout are preserved..

Ababneh 5. PROGRAMMING LANGUAGES FOR WEBSITES

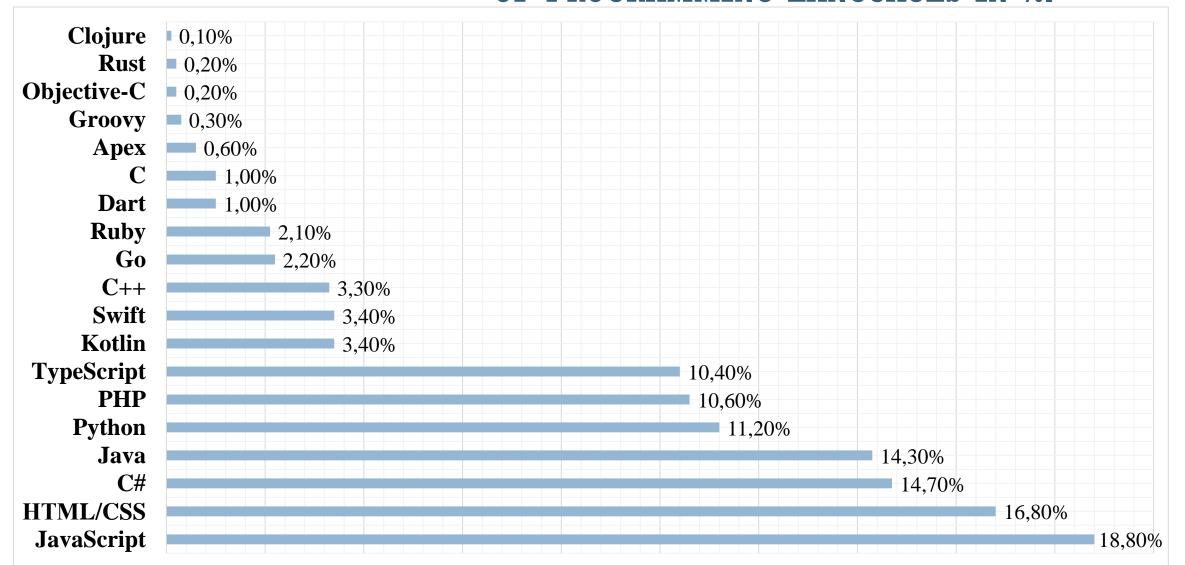
Key factors that influence the decision to choose a web programming language:



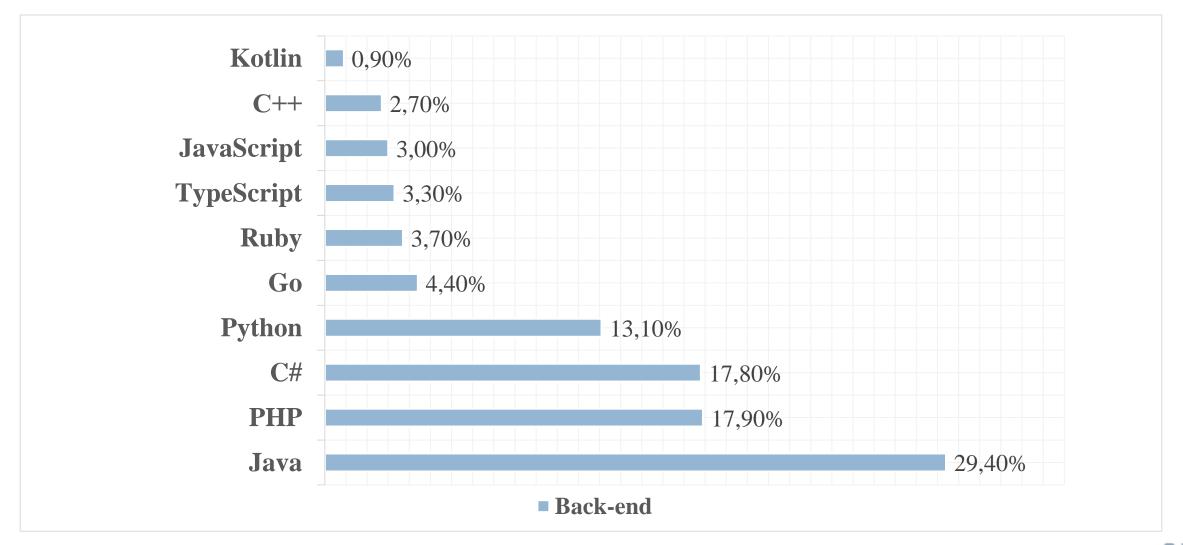
STRUCTURING THE MOST RELEVANT AND POPULAR WEB PROGRAMMING LANGUAGES



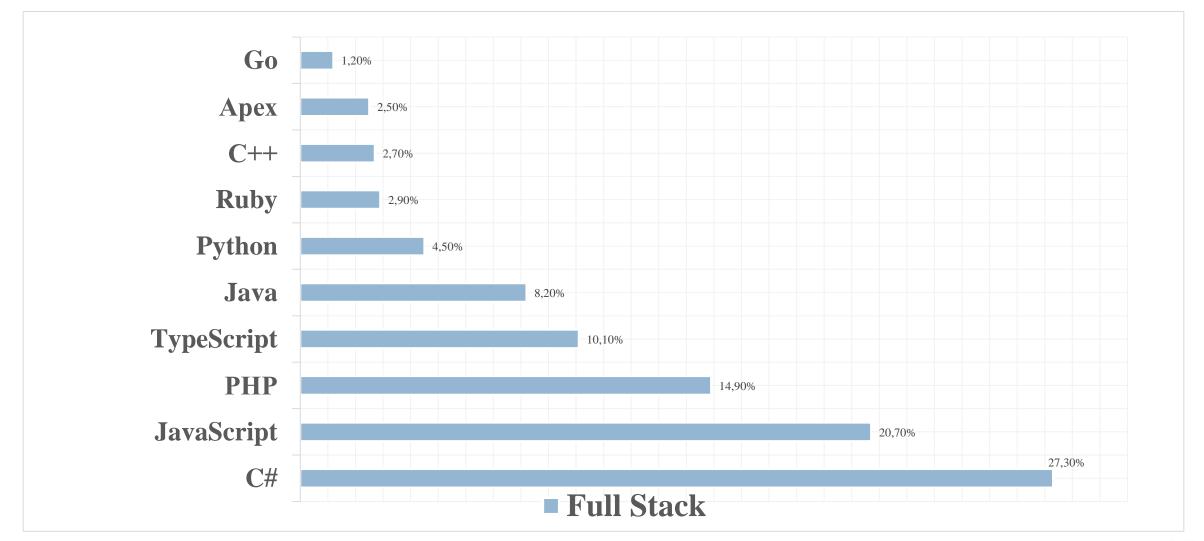
A COMPREHENSIVE ASSESSMENT OF THE COMMERCIAL USE OF PROGRAMMING LANGUAGES IN %.



USE OF PROGRAMMING LANGUAGES BEYOND THE SCOPE OF WEB DEVELOPMENT

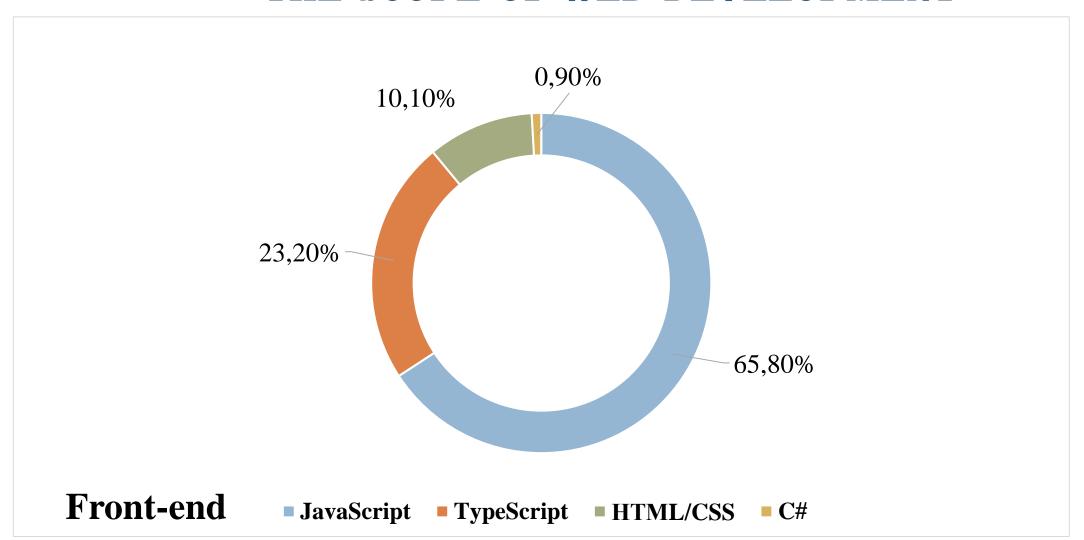


Al-Ababneh USE OF PROGRAMMING LANGUAGES BEYOND THE SCOPE OF WEB DEVELOPMENT



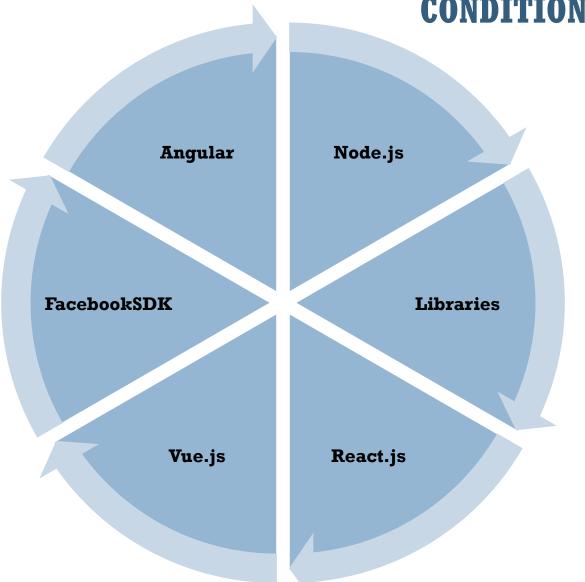


bneh USE OF PROGRAMMING LANGUAGES BEYOND THE SCOPE OF WEB DEVELOPMENT



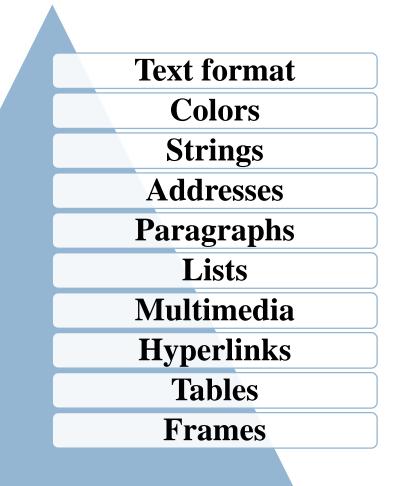


THE MAIN TYPES OF FRAMEWORKS AND LIBRARIES THAT SIMPLIFY THE PROCESS OF WEB DEVELOPMENT IN MODERN CONDITIONS



Al-Ababneh 6. USES OF THE HTML PROGRAMMING LANGUAGE

• Structuring the basic HTML elements that are used in the development of modern websites:



ALAbabneh CHARACTERIZATION OF THE KEY ELEMENTS OF THE CODE

starting tag	end marking	Characteristic
html		This is a page type declaration telling the web browser that this page is HTML5.
<"meta charset="utf-8>		This line defines the encoding of the code you used to program the page. UTF-8 is the most common international encoding on the Internet
<html></html>		This is the root element of any HTML page and contains all the rest of the page's code.
<head></head>		This is a tag for information about the page and contains the URL of the website.
<title></th><th></title>	Used to specify the title of a web page.	
<body></body>		This is a tag that applies to all visual elements of a website



ALAbabnehTEXT FORMATTING COLORS

	Bold font
	
Bold Text	 Bold Text
Strong Text	 Strong Text
	Italic font
	<i> </i>
Italic Text	<i> Italic Text </i>
Emphasized Text	 Emphasized Text
	Font underlined
	<u> </u>
<u>Undelined Text</u>	<u>> Undelined Text </u>
	Font with uppercase letters
Superscript Text	^{Superscript Text}
	Font with small letters







Determine the type of font we want

... Text ...

Determine the font color

<FONT ... Text ...

Determine font size

... Text ...

.Determine the font type and its characteristics for the entire page

<BASEFONT Name="Arial" COLOR="#FF0000" SIZE="5">

PARAGRAPHS

<html>

```
<body>
  This is a paragraph
    This is a paragraph This is
    another paragraph.

</body>
<html>

This

is a paragraph This is
    another paragraph.

This is a paragraph

This

is a paragraph This is another
    paragraph This
    is a paragraph This is another
    paragraph.

This

is a paragraph This is another
    paragraph.
</body>
```

```
<html>
<body>
 <h2>HTML Unordered List</h2>
  Chocolate Cake
  Black Forest Cake
  Pineapple Cake
 <hr>
 <h2>HTML Nested Unordered List</h2>
  Chocolate Cake
     Chocolate Velvet Cake
     Chocolate Lava Cake
   Black Forest Cake
  Pineapple Cake
 </body>
```

HTML Unordered List

- Chocolate Cake
- Black Forest Cake
- Pineapple Cake

HTML Nested Unordered List

- Chocolate Cake
 - Chocolate Velvet Cake
 - O Chocolate Lava Cake
- Black Forest Cake
- Pineapple Cake

HEADINGS

<html> <body> <h1>Heading level 1</h1> <h2>Heading level 2</h2> <h3>Heading level 3</h3> <h4>Heading level 4</h4> <h5>Heading level 5</h5> <h6>Heading level 6</h6> </body> </html>

Heading level 1 Heading level 2

Heading level 3

Heading level 4
Heading level 5
Heading level 6



MULTIMEDIA:

<img src="https://example.com/images.png" alt=" Buy a book on
 web design and web programming ">

Consider an example of inserting images into a web page:

```
<html>
<body>
<img src="images/kites.jpg" alt="Flying Kites">
<img src="images/sky.jpg" alt="Cloudy Sky">
<img src="images/balloons.jpg" alt="Balloons">
</body>
<html>
```

To post a video, you need to pay attention to permissions. So video resolution is The values of these attributes are interpreted in pixels by default.



Important tag properties < video >

width	To specify the width of the video window, the number we pass to it is the width in pixels.	
height	To specify the length of the video window, the number we pass to it is the length in pixels.	
control	Shows control buttons in the video window.	
For the <source/> tag, these are its most important properties:		
src	Select video path to display.	
type	Select video type to display.	

Links

Link Text

Unvisited Link	Links that we haven't visited yet are shown in blue and underlined
Visited Link	Links that we have previously visited appear in purple and are underlined.
Active Link	The active link is displayed in red and underlined.



AL-Ababneh CLASSIFICATION OF MAIN TAGS FOR TABLES:

	This is the main tag that can be placed to tell the browser to display the data in the table.	
	Used to add a row to a table.	
	Used to add a field to a line representing a title, i.e. the text you paste is shown in bold and in the middle.	
	Used to add a field to a string that represents ordinary information, i.e. the text that is inserted into it.	
border	Used to display the rows of a table, the number we assign to it is the size of the rows that will be placed between the rows and columns. <table gram="5"></table>	
veri al 4 la	It is used to specify the width of the table on its own, not for the browser. The number we give it	
width	represents the width of the table. <table width="80%"></table>	
	It is used to specify the length of the table on its own, not for the browser. The number we give it	
height	represents the length of the table.	
	<table height="500"></table>	
CELLSPACING	Specifies the space between each table cell	
	<table cellspacing="10"> Specifies the distance between the harder and the beginning of the tayt in each cell. On let's cay against</table>	
CELLPADDING	Specifies the distance between the border and the beginning of the text in each cell. Or let's say: specify	
CELLPADDING	the size of the margins for the cells of the table. <table cellpadding="10"></table>	
	Specifies the left or right alignment of the table horizontally on the page.	
ALIGN	<pre><table alignment="Left"></table></pre>	
TILIGIT .	<table alignment="Right"></table>	
DCCOL OD	Used to specify the background color of the table.	
BGCOLOR	<table bgcolor="#00FFFF"></table>	

Al-Ababneh Login Form:

FRAMES:

<FRAMESET> ... <FRAMESET>
Used instead of <BODY> tags ... </BODY

So the frame master file does not include a legicition body

CHECKBOXES:

```
<html>
<body>
<form>
   <input type="checkbox" name="sports" value="soccer"</pre>
id="soccer">
   <label for="soccer">Soccer</label>
   <input type="checkbox" name="sports" value="cricket"</pre>
                                                                    Soccer Cricket Basebal
   <label for="cricket">Cricket</label>
  <input type="checkbox" name="sports" value="baseball"</pre>
id="baseball">
   <label for="baseball">Baseball</label>
 </form> </body><html>
<body>
 <form>
    <input type="radio" name="gender" value="male" id="male">
    <label for="male">Male</label>

    Male ○ Female

    <input type="radio" name="gender" value="female" id="female">
    <label for="female">Female</label>
  </form>
</body>
<html>
```



FEATURES OF MANAGING THE PROPERTIES OF HTML FRAMES

<frameset cols="50%,50%"></frameset>	Allows you to define two vertical windows, each taking up 50% of the screen size.	
	Allows you to show three windows, the sizes of which are 20%, 50% and 30% respectively of the screen size.	
<frameset cols="20%,50%,30%"></frameset>	Allows you to define three vertical frames, the first 200px and the second 300px.	
	As for the third *, that is, it is not limited to a specific size, but will be the remaining screen size (until we know the screen resolution that the site visitor is using)	
<frameset cols="200,300,*"></frameset>	Specifies four frames, the size of the first one is 200 pixels, the third one is 15% of the screen size, the fourth one is 20% of the screen size, the fourth one is the size of the rest of the screen.	

FEATURES OF MANAGING ROWS PROPERTIES OF HTML FRAMES

<frameset <="" rows="50%,50%" th=""><th>Allows you to define two horizontal borders, each 50% of the screen</th></frameset>	Allows you to define two horizontal borders, each 50% of the screen
>	height.
	Allows you to define three horizontal frames whose height is 20%, 50% and 30% respectively of the screen height.
	Allows you to define three horizontal
<frameset rows="20%,50%,</th><th>frames, the first one will have a height of 50px, the second -120px, and the</th></tr><tr><th>30%"></frameset>	third one the remaining height of the
	screen.
	Allows you to define four horizontal frames, the height of the first is 50px, the third is 15% of the screen height, the fourth is 20% of the screen height, and the height of the second is the remainder of the screen height.
<frameset rows="50,120,*"></frameset>	Allows you to set two frames, the height of the second is twice the height of the first





7. JAVASCRIPT USES OF THE JAVASCRIPT PROGRAMMING LANGUAGE

- 1. Add JavaScript code inside the web page. We can add JavaScript code directly into web pages by placing it as content inside the <script> element. The <script> element indicates the web browser contains executable script and not HTML code.
- **2. Call an external JavaScript file** you must place the JavaScript code itself in a separate .js file, and then call this file on a web page through the src attribute of the <script tag >

```
<html>
                                                              <html>
                                                              <head>
<head>
                                                              <meta charset="utf-8">
<meta charset="utf-8">
                                                              <title> JavaScript </title>
<title> JavaScript</title>
                                                              </head>
</head>
                                                              <body>
<body>
                                                              <button type="button" id="myBtn">Click
                                       Hello World!
 <script>
                                                                                                            Click Me
                                                              Me<button>
var greet = "Hello World!";
                                                              <script src="js/hello.js"></script>
                                                              </body> </html>
document.write(greet);
 </script>
</body>
</html>
```

3. Place JavaScript code directly inside HTML tags:

onload onkeypress onmouseover onclick

It's important not to put too much inline JavaScript code, as this will create a mess between HTML and JavaScript and make your code difficult to maintain.



Understand JavaScript syntax

It is the set of rules that determine the construction of a properly structured JavaScript program. The JavaScript language consists of statements that are placed inside a <script> element on a web page or inside an external JavaScript file with a .js extension.

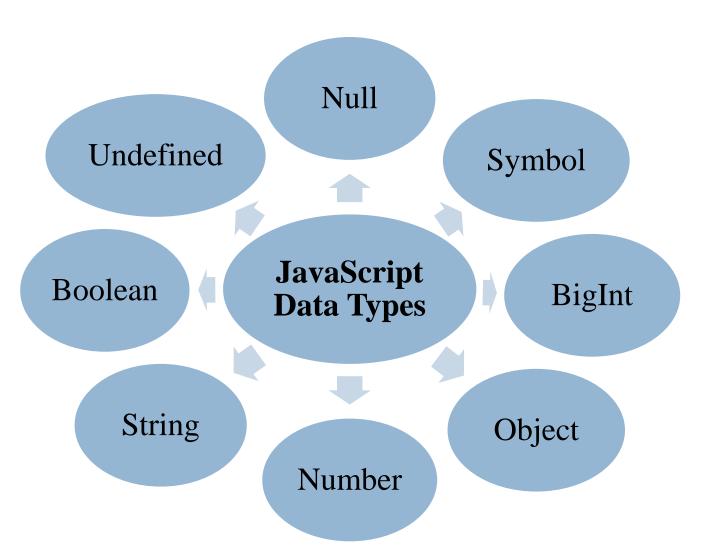
var x = 5; var y = 10; var sum = x + y;

document.write(sum); print the value of the variable //





STRUCTURING THE MAIN DATA TYPES THAT ARE USED IN JAVASCRIPT IN MODERN CONDITIONS



• **String data** String is a data type that is used to represent text data (ie a sequence of characters). Strings are created using single or double quotes enclosing one or more characters

```
<html>
<head>
<meta charset="utf-8">
<title> String </title>
</head>
<body>
<script>
var a = 'Hi there!';
var b = "Hi there!";
                                                        Hi there
document.write(a + "<br>");
                                                       Hi there!
document.write(b);
</script>
</body>
</html>
```

■ **Number data** type that is used to represent positive or negative numbers with or without a decimal place, or numbers that are written using exponential notation such as 1.5e-4 (equivalent to 1.5x10-4).

```
<html>
<head>
<meta charset="utf-8">
<title> Number</title>
</head>
<body>
<script>
var a = 25;
                                                               25
var b = 80.5;
                                                               80.5
var c = 4.25e+6;
                                                             4250000
var d = 4.25e-6;
                                                            0.00000425
document.write(a + "<br>");
document.write(b + "<br>");
document.write(c + "<br>");
document.write(d);
</script>
</body>
<html>
```



• *Undefined:* An undefined data type can have only one value, the special value undefined. If a variable is declared but no value is specified, its default value is undefined.

```
<html>
<head>
 <meta charset="utf-8">
 <title> Undefined</title>
</head>
<body>
 <script>
 var a;
 var b = "Hello World!"
                                               undefined
   document.write(a + "<br>");
                                              Hello World!
 document.write(b);
 </script>
</body>
</html>
```

Null data is a special data type that can have only one null value, null means there is no value, but an empty string ("") or the value 0 is not null, null is just nothing. A variable can be cleared of its current content by setting it to null

```
<html>
<head>
  <meta charset="utf-8">
  <title> Null</title>
</head>
<body>
  <script>
  var a = null;
  document.write(a + "<br>"); //
                                                null
                                            Hello World!
null
                                                null
    var b = "Hello World!"
  document.write(b + "<br>"); //
Hello World!
    b = null;
  document.write(b) // null
  </script>
</body>
</html>
```



AL-Ababneh STRUCTURING BASIC MATHEMATICAL OPERATORS IN JAVASCRIPT

Result	Example	Operator	Description
Sum of x and y	x + y	Addition	+
Subtract y from x	x - y	Subtraction	-
Product of x and y	x * y	Multiplication	*
Divide x by y	x / y	Division	/
Remainder of dividing x by y	x % y	Modulus	%
X = y	x = y	Assign	=
X = x + y	x += y	Add and assign	+=
X = x - y	x -= y	Subtract and assign	-=
X = x * y	x *= y	Multiply and assign	*=
X = x / y	x += y	Divide and assign quotient	/=
X = x % y	x %= y	Divide and assign modulus	%=
Increments x by one, then returns the value of x	advance increase	Pre-increment	++X
Returns the value of x, then increments x by one	subsequent increase	Post-increment	X++
Subtracts one from the x value, then returns the x value	preliminary reduction	Pre-decrement	X
Returns the value of x , then subtracts one from the value of	Subsequent decline	Post-decrement	X
x			
True if both x and y are true	х && у	And	&&
True if either x or y is true	x y	Or	
True if x is false	!x	Not	!
True if x is equal to y	x == y	Equal	==
True if x is equal to y and the two variables have the same	x === y	Identical	===
data type			
True if x is not equal to y	x != y	Not equal	!=
True if x is not equal to y or if they are two different data	х !== y	Not identical	!==
types			
True if x is less than y	x < y	Less than	<
True if x is greater than y	x > y	Greater than	>
True if x is less than or equal to y	x <= y	less than or equal to	<=
True if x is greater than or equal to y	x >= y	Greater than or equal to	>=



CLASSIFICATION OF EVENTS INTO FOUR MAIN GROUPS:

- 1. Mouse Events Mouse Events A mouse event fires when the user clicks an element or hovers the mouse over an element. Here are some of the more important mouse events and their event handlers.
- 2. The Click (onclick) event occurs when the user clicks on an element on a web page, usually form elements or links. It is possible to handle the Click event with an onclick event handler. The example will show a warning message when clicking on elements:

 3. Mouseover (onmouseover) This event is fired when the

Click here Click here

3. Mouseover (onmouseover) This event is fired when the user hovers over the element, and the Mouseover event is handled by the nmouseover event handler. This example will show us a warning message when you hover over the elements:

ALAbabneh CLASSIFICATION OF EVENTS INTO FOUR MAIN GROUPS:

4. The mouseout (onmouseout) event occurs when the user moves the mouse out of the bounds of the element, we can handle the mouseout event using the onmouseout event handler. The example will show us a warning message when the

mouse exit event occurs: <html> <head> <meta charset="utf-8"> <title>onmouseover</title> <style> div { min-height: 200px; button { border: 5px solid red; font-size: 30px; padding:30px; border: 5px solid blue; font-size: 30px; padding:25px; </style> </head> <body> <div> <button type="button" onmouseout="alert('You have moved out of the button!')"> Place your mouse here and move it out </button> </div> <div> Place your mouse here and move it out </div> </body> </html>

Place your mouse pointer here and move it out

Place your mouse pointer here and move it out

5. Strings: A string is a string of letters, numbers, special characters, arithmetic values, or a set of all. Strings can be created by enclosing the string literal (i.e., string characters) in either single quotes (') or double quotes (').

```
<html>
<head>
  <meta charset="utf-8">
  <title>تخطى علامات الاقتباس<title>
</head>
<body>
  <script>
  var strl = 'it\'s okay';
 var str2 = "He said \"Goodbye\"";
 var str3 = 'She replied \'Calm down,
please\";
   document.write(strl + "<br>");
  document.write(str2 + "<br>");
  document.write(str3);
  </script>
</body>
</html>
```

it's okay He said "Goodbye" She replied 'Calm down, please



MOST USED ESCAPE SEQUENCES IN JAVASCRIPT:

Replaced with newline code. newline.	\ n
Replaces the tab character.	\ t
It is replaced by a carriage return, which moves the cursor to the beginning of the line without moving to the next line.	
Replaced by the return character backspace	
Replaced with a single backslash (\)	

Escape sequences in practice in JavaScript work according to the following principle:

```
<html>
<head>
 <meta charset="utf-8">
 <title>Escape Sequences</title>
</head>
<body>
 <script>
                                                                            The quick brown fox
   var strl = "The quick brown fox \n jumps over the lazy dog.";
                                                                          jumps over the lazy dog.
 document.write("" + strl + "");
                                                                            C:UsersDownloads
    var str2 = "C:\Users\Downloads";
                                                                           C:\Users\Downloads
 document.write(str2 + "<br>");
    var str3 = "C:\\Users\\Downloads";
 document.write(str3);
 </script>
</body>
</html>
```



Al-Ababaeh 8. USES OF THE PHP PROGRAMMING LANGUAGE

• Each letter of this abbreviation refers to one of these programs:

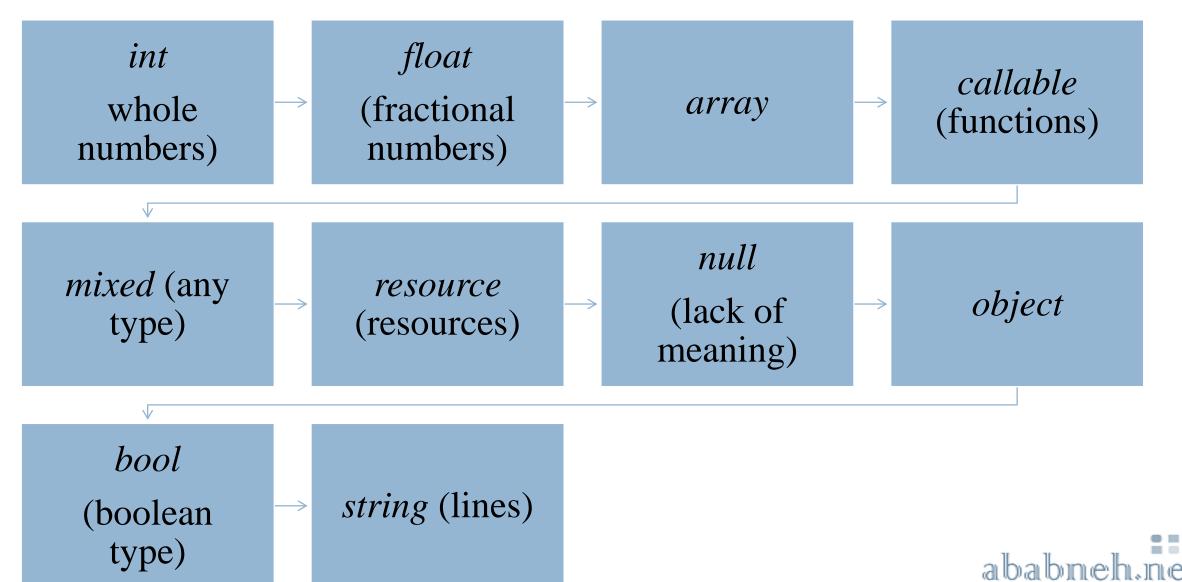
- 1. The letter W stands for Windows.
- 2. The letter A stands for Apache.
- 3. The letter M stands for MySQL.
- 4. The letter P stands for PHP.

• The importance of installing the local server Localhost on the device:

- 1. Learn website programming from the server side.
- 2. Learn MySQL databases.
- 3. Learn programming environments, for example, Codeigniter.
- 4. Try any script that requires hosting.
- 5. Try some settings on the site before working on the original website.
- 6. Experimenting or designing WordPress templates and plugins.
- 7. Writing professional content.



CLASSIFICATION OF BASIC TYPES, PHP DATA, WHICH ARE USED IN MODERN CONDITIONS:





TYPIFICATION OF TYPES GIVEN BY PHP IN MODERN CONDITIONS:

Scalar types:

- boolean
- integer
- float
- string

Mixed types:

- array
- -object

Special types:

- resource
- NULL

Pseudotypes:

- -mixed
- -number
- -callback



It starts with the tag <?php It ends with the tag ?>

Hello World!

```
<!DOCTYPE html>
<html>
<head>
<title>Page Title</title>
<meta charset="UTF-8">
</head>
<body>
                                  My first PHP page
<hl> My first php page </hl>
<?php
echo " Hello World ";
?>
</body>
</html>
```

Comments

•One line note

```
single line note //
  single line note#
```

•Note with more than one line

```
Note with more than one line /*
It contains more information
It will be ignored by the server
*/
<!DOCTYPE html>
<html>
<body>
<?php
// This is a single-line comment
# This is also a single-line comment
/* This is a
multi-line comment */
?>
</body>
</html>
```





• PHP Variable Naming Rules:

- Variable starts with a dollar sign \$ followed by the variable name;
- Variable must start with a letter or underscore (_);
- A variable name cannot start with a number. Place an _ in front of the number to be accepted;
- The name must consist of letters of the alphabet and numbers or a sign (_)
- Variable names are spelling sensitive, e.g. \$y is not the same as \$Y. Each variable has its own value

```
<?php
$txt=" Hello world!";
$x=8;
$y=14;
?>
```

Basic types of PHP functions:

These are the features at the core of the language and are what PHP provides for	Built-in Functions	
immediate use.		
Functions that are created and used in software projects	User Defined Functions	

Additional library functions, such as the GD Image Library, must be installed and enabled in order to be able to use them.





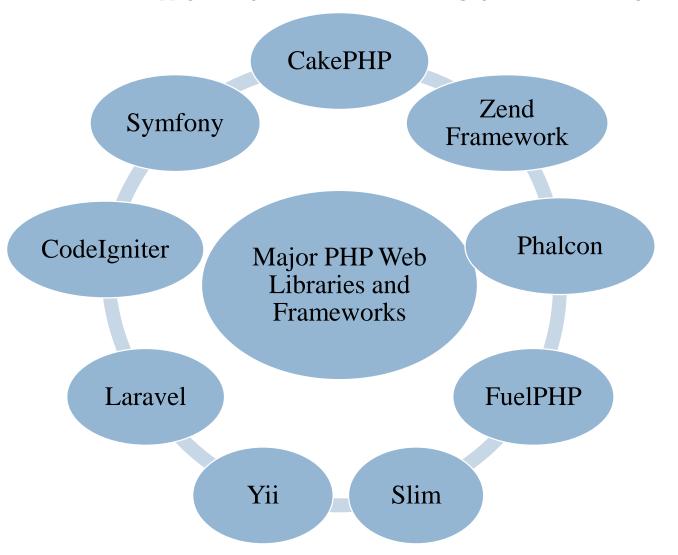
STRUCTURING KEY FUNCTIONS OF PHP WORKING WITH VARIABLES IN MODERN CONDITIONS:

PHP function name	Description and characteristics of the PHP function for working with	
	variables	
boolval	Returns the boolean value of a variable	
debug_zval_dump	Outputs a string representation of the internal zval structure	
floatval	Returns the value of a variable as a floating point number	
get_debug_type	Returns the type name of a variable in a form suitable for debugging	
get_defined_vars	Returns an array of all defined variables	
get_resource_id	Returns an integer identifier for the given resource	
get_resource_type	Returns the resource type	
gettype	Returns the type of a variable	
intval	Returns the integer value of a variable	
is_array	Determines if a variable is an array	
is_bool	Checks if a variable is boolean	
is_callable	Checks that the value can be called as a function in the current scope	
is_countable	Check if the content of a variable is a countable value	
is_numeric	Checks if a variable is a number or a string containing a number	
is_scalar	Checks if a variable is a scalar value	
unserialize	Creates a PHP value from a stored representation	
serialize	Generates a storeable representation of a variable	
var_dump	Displays information about a variable	
var_export	Displays or returns an interpreted string representation of a variable	





STRUCTURING THE MAIN PHP WEB LIBRARIES AND FRAMEWORKS THAT ARE USED IN MODERN CONDITIONS:







CHARACTERISTICS AND FEATURES OF MODERN PHP WEB LIBRARIES AND FRAMEWORKS

1 III Web libial y/I lainework and Their Characteristics and reatures	
Yii	A simple yet high performance general-purpose framework based on a component structure. It is known for its high performance, but it is primarily known for its simplicity. It does not allow you to use third-party code, and its Gii code generator allows you to quickly create basic structures from which you can build your own solutions.
CodeIgniter	A framework that is known for requiring a minimal amount of configuration to bring it into working condition. The size of the framework, including documentation, does not exceed 2 MB, but despite this compactness, it offers developers many standard modules for creating components that are reliable and suitable for reuse. This makes CodeIgniter a great choice for those building dynamic websites.
Symfony	Includes a built-in testing system and is based on an extensive MVC framework. This makes it an ideal choice for large-scale web projects created at the organization level. It also supports working with various databases.
CakePHP	A built-in subsystem called "Components and Helpers" makes the work of web developers easier by eliminating the need to do a lot on their own, but to choose from a set of libraries that implement many useful features. Suitable for the implementation of web projects that implement some rare or non-standard functionality.
Laravel	The free open source PHP framework most commonly used by web developers. One of the main reasons for this is that Laravel makes it easier, faster, and safer to develop complex web applications than any other framework.
Zend Framework	Allows you to load the necessary components as separate libraries. At the same time, it is possible, without much difficulty, to integrate into projects and external libraries. When using it, it is extremely easy to organize the reuse of code.
Phalcon	High performance in-memory framework covering all levels of web development. In addition to speed, quality, a resource management system and a universal automated resource loading system are organized.
FuelPHP	Allows you to create web projects of different scales. It features a robust and well-thought-out security system with support for Output Encoding, with protection against CSRF and XSS attacks. It has a unique command line utility, but its useful features are not limited to this. Among them is a very advanced built-in ORM. Other features include support for RESTful API development, a good routing system, and built-in vulnerability protection mechanisms.
Slim	It is one of the best frameworks for beginners. It is very easy to learn and has friendly and simple documentation. It is worth a look for those who are interested in RESTful-API development. It facilitates tasks such as routing, cookie encryption, client-side HTTP caching.





9. PROMOTION AND SEARCH OPTIMIZATION OF THE WEBSITE

Search crawler

Indexer

Document database

Ranking module

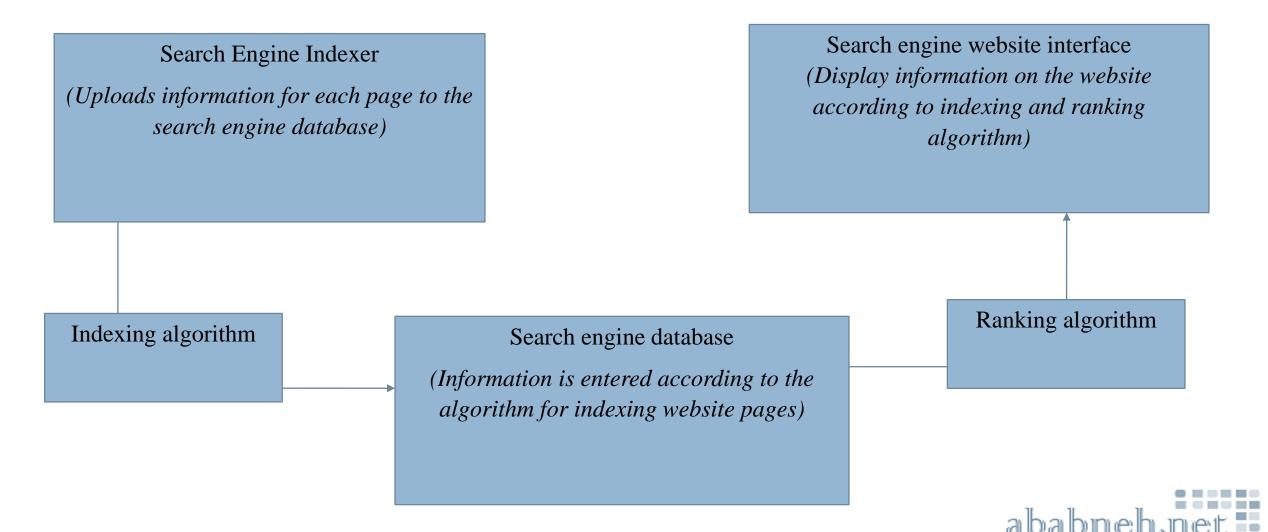
Web user interface

Argumentation of the structure of the search engine





SCHEMATIC REFLECTION OF THE WORK OF SEARCH ENGINES IN THE WORLD:





STRUCTURING TYPES OF SEARCH ENGINES DEPENDING ON THE MECHANISM OF WORK

1. Search engines using the scanner-crawler mechanism

2. Search engines operating using the mechanism of directories that are controlled by a person

3. Search engines working using a hybrid mechanism

4. Search engines working with other search engines



CLASSIFICATION OF TYPES OF SEARCH ENGINES IN THE MODERN WORLD



- Universal
- Specialized
 - Thematic

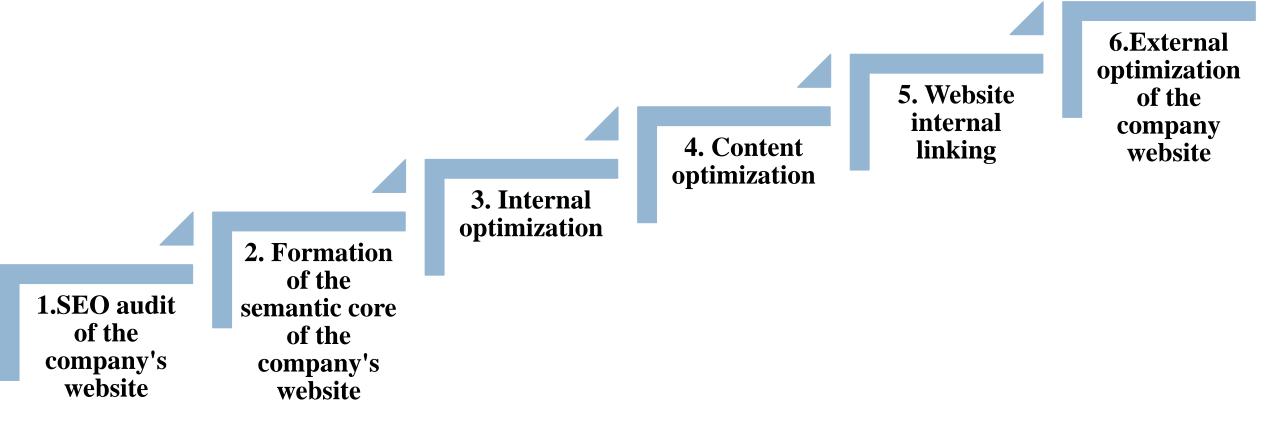
Local search engines

- local
- search by individual resource





KEY STAGES OF SEO-OPTIMIZATION OF A COMPANY WEBSITE IN MODERN CONDITIONS





INTERNAL SEARCH ENGINE OPTIMIZATION ELEMENTS FOR THE ORGANIZATION'S WEBSITE

Title and internal links

Web page title

Quality of the organization's website content

Website responsiveness

Alternative text for web page images

Organization website address

Website loading speed

Structured Coding

Site meta tag

STRUCTURING KEY CONTENT ELEMENTS THAT AFFECT WEBSITE OPTIMIZATION AND RANKING

Keyword Link High **Titles** citation Keywords PageRank structuring frequency Content Canonical Links within HTML Website speed **Authenticity** Links the content correctness Number of Frequent Errors in the Page keywords in content description text the text updates Key synonyms Volume of The age of the Content in text and site Difficulty content headings Labeled lists Page The presence Social cues convenience of multimedia and tables ababneh.net

Al-Ababneh 10. WEB DESIGN AND DEVELOPMENT TRENDS

Ease of adaptation.

Flat website can be easily adapted to smartphone, tablet and PC



Practicality.

The principle of such web design is that the designer completely minimizes the number of styles, animations and the website loads faster.



Beauty.

Flat websites look quite attractive, stylish and really, they cling.



Ease of use.

The user can quickly find the information they need on the website. In addition, it is perceived much easier and more understandable.

The main features of modern web design on the Internet



WEBSITE DESIGN DEVELOPMENT TRENDS:

- 1. Single Page Websites: These are sites that use a single page on the web to display the content of a project or organization, and the content is divided into sections and does not contain traditional tab menus that are different pages, and therefore the website visitor can access all the content by scrolling a long page so that it navigates between information by scrolling instead of clicking and viewing each page individually.
- 2. Graphic web design. Graphic web design is constantly evolving and developers can rely on graphic design to create a unique visual experience for users. In 2023, the focus will be on adding moving and 3D visuals to the design.
- 3. Simplicity. Some websites just want simplicity given their target demographics. If most of your users are the elderly, you can keep it traditional and simple so they can easily find the products they need. On the other hand, if the company's audience is generation Z, then more modern web design elements are needed, and there is no need to worry about learning how to use the website. This generation has excellent technical skills. [3].
- 4. Scrolling transitions. Effective web design allows online users to better interact with website content. One way to increase the number of online interactions is to pass referrals.
- 5. Simplicity in color schemes: Colors play an important role in improving the user experience on websites, as choosing the appropriate color ensures ease of use, as well as the clarity and ease of reading the information displayed on the screen.
- 6. Use a light website background. Over the past few years, dark mode has become a very popular design trend. However, in 2022, this trend was less and less common. Light colors will take its place in website design, such as websites with all-white or other neutral backgrounds.

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WEBSITE DESIGN DEVELOPMENT

- 7. Use of website micro-animation. The use of small animations is one of the most important trends in web design that has been widely used on websites recently. They are simple animations specially designed to guide the customer through interaction with the digital product. It is fully integrated with the user experience to simplify the selling process.
- 8. Sophisticated website filters. As the popularity of the online mode grows in all areas of the world economy, the number of services and goods offered on the Internet is growing, and it often includes a large number of similar goods and services.
- 9. Interactive website search. The search widget can also be added to the sidebar of an e-commerce website. Often times when you are designing a big and complex functional website, that is not enough.
- 10. Application features in the mobile version of the website. While the number of customers shopping on smartphones has long outnumbered those who use a computer, the transition has been slow.
- 11. Fast loading website: With the update of the Google Core Web algorithm in Vitals in 2021, the speed of loading mobile pages has become the most important factor in ranking a website in search results pages, as ultra-fast loading time is one of the most important web design criteria.
- 12. Web programming PWA (Progressive Web Applications), It is a type of application software developed using popular web technologies such as HTML and JavaScript.





Al-Ababaeh KEY BENEFITS OF PWA PROGRESSIVE WEB **APPS IN MODERN CONDITIONS**

Reducing the cost of the web development process, support and updates

Reduction of web development and release time

Ability to work fully offline

Increase download speed and save gadget memory

Increasing the conversion rate and audience engagement



AR technologies can be used directly on websites in a browser, which is why this direction has become known as WebAR.

This innovation improves interaction with customers and has other important advantages, especially for commercial IT products:

- Users can try on the product before buying
- User experience improves
- Online shopping becomes more tangible
- Reduced customer service time



WEBSITE DESIGN DEVELOPMENT TRENDS:

- 13. Voice search: It is important to state that voice search optimization can simply be defined as the process of optimizing web pages for display in voice search. Devices using voice recognition are rapidly gaining popularity thanks to voice assistants and the Internet. Technology has evolved so exponentially that by next year, these devices will be able to recognize the voices of different people and provide a personalized experience based on artificial intelligence.
- 14. Voice optimization: Voice optimization is also important for websites, and large companies want to seize the opportunity, because it will determine the future of the Internet.
- 15. Machine learning: An innovative approach should also be to extract personalized content using machine learning. Machine learning content personalization, also known as predictive content personalization, is an advanced AI-based approach to displaying content that works best for each user. Machine learning (ML) techniques are used in the development of websites to provide users with an enhanced experience.



AI-Ababneh

WEBSITE DESIGN DEVELOPMENT TRENDS-

- •16. Data security: With the development of the Internet, web applications and websites, there are more cybercriminals. Any web application that processes large amounts of information is attractive to scammers. To ensure security, the developed web services and websites must adhere to the security principles:
- Do not refuse to test the security of a web resource. It can be performed during the development of a web project. It allows you to exclude information leakage and it is important to test any changes in the application.
- *Use resources to monitor websites*. With the help of algorithms, you can monitor all requests and find, recognize suspicious activities, notifying the owner. Timely response will help to quickly respond and protect the program.
- Pay attention to the choice of third-party services. Web developers should make sure that the provider of such services can be trusted.
- *Encryption of confidential information*. If a cybercriminal can get their hands on the database, they will not be able to benefit from such data when encrypted.



WEBSITE DESIGN DEVELOPMENT TRENDS:

- •17. Blockchain technologies: Blockchain technology, which is an encrypted database storage system, is gaining momentum. Unlike traditional systems, it stores information in blocks that are linked to each other in a chain. One of the many benefits of this technology is that it makes transactions more secure and error-free. This technology also supports the digital currency bitcoin. The use of this crypto currency has skyrocketed over the past decade due to the decision of major payment systems to accept bitcoin for their transactions.
- •18. Cybersecurity: In recent years, cybersecurity has become a top priority in web development. Security has become one of the top concerns of Internet users as cyber attacks such as information loss, identity theft; hacking, spying and other malware can discredit a website.





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