Web development fundamental

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ODA ICT CLUB

Content

1. Computer system
2. Web development
3. Programming language

Chapter one: computer system

computer system

1.1. What is computer system?

A computer system is a combination of hardware (the physical parts) and software(the programs) that work together to perform tasks—like writing essays, browsing the internet, or playing games.

Computer system can be classified into two:

1.2 Hardware (HW): The Physical Components

Hardware refers to the parts of the computer you can touch and see:

Input Devices: Tools like the keyboard, mouse, and microphone that send data to

the computer. Output Devices: Devices like the monitor, speakers, and printer that show or

deliver information from the computer. Processing Unit: The CPU (Central Processing Unit) is the computer’s brain—it

carries out instructions. Memory & Storage:

RAM: Temporary memory that stores data while you're working. Hard Drive/SSD: Permanent storage for your files and programs. --- 1.3 Software (SW): The Invisible Brain

Software is a set of instructions that tells the computer what to do. There are three

major types:

1. Application Software

Purpose: Helps you do specific tasks. Examples:

Microsoft Word – for writing. Google Chrome – for browsing. Fortnite – for gaming.

2.Utility Software

Purpose: Helps the computer run better

Examples:

Antivirus – protects against threats. Disk Cleanup – removes unwanted files. 3. Programming Languages

Purpose: Used by developers to build software. Examples:

Python – beginner- JavaScript – used for interactive websites. C++ – used for high-speed applications. Analogy: Think of hardware as a car’s engine, and software as the driver that

controls it. 1.4 How Hardware and Software Work Together

1. You press a key on the keyboard (hardware).
2. The operating system (software) reads the input.
3. The CPU (hardware) processes the information.
4. The monitor (hardware) shows the result—like the letter appearing on screen

Chapter two: web development

Web development is a type of computer programming that focuses on buildingwebsites and web applications that people access through a browser like Chrome, Firefox, or Safari. It includes both the design (what you see) and the logic (how things work behind the scenes). What Is a Website?

A website is a collection of linked web pages hosted on a server and accessed

through the internet. Examples include:

Google.com – A search engine

Facebook.com – A social media platform

YouTube.com – A video-sharing site

YourSchool.edu – An educational website

Types of Web Development

1. Front-End Development (The Visible Part)

This is what users see and interact with on the screen. Front-end developers design

layouts, buttons, colors, and animations. Key Technologies:

HTML (HyperText Markup Language) – Builds the structure of a web page. CSS (Cascading Style Sheets) – Styles the content (colors, fonts, spacing). JavaScript – Adds behavior (menus, forms, image sliders). Examples:

A colorful signup form

Responsive navigation menus Interactive image galleries

2. Back-End Development (The Hidden Brain)

This is everything that happens on the server. It manages how data is stored, sent, and processed. Languages & Tools:

Node.js – JavaScript for server-side logic

Python – Popular for backend APIs and data processing

PHP – Often used in WordPress sites

Databases – Store information (e.g., user names, passwords, posts)

Examples:

Logging into a websiteSubmitting a comment and saving it to a database

Getting personalized results from a search engine

3. Full-Stack Development (The All-in-One)

A full-stack developer works on both front-end and back-end. They understand

how to connect the user interface with server logic. Example Projects:

A complete blog site with login, post creation, and comment system

A personal portfolio with contact form and message storage

What Can You Build with Web Development?

With web development skills, you can create:

Portfolios to showcase your work

E-commerce websites to sell products

Educational platforms like online classrooms or quiz apps

Games that run in the browser

Media players for music and video

Social media platforms

Why Web Development Is Important

It's a high-demand skill in the modern digital world. It allows creativity and logic to work together. It opens doors to freelancing, business, and jobs in tech. It helps you solve real-world problems by building useful tools online.

Chapter three: programming language

Programming languages are formal systems used to write instructions that

computers can execute. They act as a bridge between human thinking and

machine operations, helping developers build software, websites, games, apps, and more. A Short History of Programming Languages

Early Languages (1950s–1960s):

Assembly Language: A low-level language made of instructions specific to a computer's hardware.

Fortran (1957): The first widely used high-level language, created for scientific

and engineering tasks.

Mid-Era Languages (1970s–1980s):

C (1972): A powerful language used for writing operating systems and software. C++ (1985): Built on C, it introduced object-oriented programming for better

code organization.

Modern Languages (1990s–Now):

Java (1995): Known for being able to run on any device; used in Android apps and business tools.

Python (1991): Easy to read and write; popular in AI, data science, and automation. JavaScript (1995): Runs in web browsers; makes websites interactive.

Types of Programming Languages

1. Low-Level Languages

These languages are close to machine code. They give the programmer more

control over hardware, but are harder to write and understand. Examples:

Machine Code: The binary language that computers understand directly. Assembly Language: Slightly more readable, but still very close to hardware

instructions.

2. High-Level Languages

These are easier for humans to read and write. They are translated into machine code using compilers or interpreters. Examples:

Python: Great for beginners and widely used in many fields.

Java: Often used in Android development and business software.

C++: Used in games, simulations, and software needing high speed. Popular Languages and Their Use Cases

Python is used in AI, data science, web development, and scripting.

Java is used in Android apps, large business software, and cloud applications. C++ is used in video games, operating systems, and simulations.

JavaScript is used in websites for making pages interactive.

C is used in hardware-level programming and embedded systems.

Ruby is mainly used to build websites quickly using Ruby on Rails.

Swift is used to build apps for iPhones and MacBooks.

ConclusionEach programming language has its own purpose. Some are better for speed, others for simplicity or compatibility. Learning the right language for your

project makes programming easier and more effective.

Chapter four: introduction and basic elements of HTML

1.1. what is the meaning of HTML ?

The abrivation of HTML stand alone

H- hyper:

T- text:

M- markup :

L- language :

HTML is a markup language used to create the structure of webpage.