

14/03/2023

12<sup>th</sup> Computer Application

- RTF - 1987 (Microsoft)
- MPEG-1 - Video CD & MP3
- MPEG-2 - Set top boxes
- MPEG-4 - Multimedia & mobile web
- MPEG-7 - audio & visual
- MPEG-21 - "e multimedia framework" research in 2000.

\* Mysql Current version is 2003.

\* It runs on multiple platforms like windows, Linux.

PHP

⇒ 1990 - Tim Berner's Lee introduced WWW (World wide web)

⇒ PHP invented by Rasmus Lerdorf in 1994

⇒ Server side scripting language

⇒ Current version of PHP, 7.3 is released by official team on 30 November 2017



14/02/2023

12th

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⇒ Different types of PHP syntax

1. Default
2. Short open tags
3. HTML script embed tags.

⇒ PHP functions hide information.

### Looping Structure

⇒ foreach provides an easy way to iterate over arrays.

⇒ which loop will issue an error when you try to use it on a variable with a different datatype? foreach.

### Forms & files

Two types of validation

EX

Client-side validation Javascript & HTML

Server-side validation PHP, ASP or JSP



⇒ PHP has built-in function which can be easily connected to MySQL database.

⇒ Facebook has written alternative version of PHP. (ie) HHop's HHP/c helps to convert PHP → C++.

### Computer Networks

⇒ Vint Cerf ⇒ Founding father of Internet.

⇒ Lawrence Roberts considered as one of the father of Internet.

I - Interesting  
N - Notions  
T - Transmitted  
E - Electronically  
R - Round  
N - Newly  
E - Engineered  
T - Technology.

⇒ Facebook was created in 2004.

## Computer network uses:-

Communication  $\Rightarrow$  Communicate

Via (mobile, social media, telephone, e-mail, chatting, video telephone, video conferencing SMS, MMS, Groupware).

Resource sharing:

Sharing such as printers, scanner, PDA, fax machine & modems

Software (or) Data sharing:-

Software can be shared among other computers.

Money saving:-

Reduces paperwork

Manpower

Resources sharing

Sw sharing

Time saving.

1966 WAN (wide Area Network)

introduced for time sharing.



## N/w examples & protocols

### Types of networking protocols -

\* Network Communication protocol

HTTP & TCP/IP

\* Network Security protocol

HTTP, SFTP & SSL - Secure socket layer.

↓  
Secure file transfer protocol

\* Network management protocol

ICMP & SNMP.

### Generations of mobile N/w



|               |   |       |   |              |
|---------------|---|-------|---|--------------|
| (1G)          | - | 1981  | - | NMT          |
| (2G)          | - | 1991  | - | GSM          |
| <del>3G</del> | - | 2000  | - | GPRS launch  |
| (2.5)         | - | 2003  | - | UK 3G launch |
| (3G)          | - | 2007  | - |              |
| (4G)          | - | 2019+ | - |              |
| (5G)          | - |       | - |              |

## ⇒ First Generation (1G)

NMT - Nordic mobile Telephone Communication.

Analog transmission

Low traffic density leads to Spoofing its identities.

## ⇒ Second Generation (2G) 1991

GSM - Global System for mobile Communication.

Uses. 900 MHz & 1800 MHz for frequency bands

SIM - Subscriber Identity Module.

Transmission used :-

TDMA - Time Division Multiple Access

CDMA - Code " " "

## ⇒ (2.5G) second - third generation

GPRS (General packet Radio Service)

or Speeds up to 115k bits/s maximum  
384k bits/s using EDGE



EDGE - Enhanced Data Rates for  
Global Evolution.

GSM data transmission rates  
reached 9.6 kbits/s (%)

⇒ 3G (2003) (UK launch)

Deliver data rate up to 2 Mbit/s

European standard is UMTS  
(Universal Mobile Telecommunication  
systems).

Data transmission uses WCDMA  
(Wideband Code Division Multiple Access)

Transmission data rate

1900 & 2200 MHz

UK holds a 20 year license  
80 % achieved by 31 December  
2007.



4G (2007)

Based on ad hoc network.

IPv6 Network.

Transmission

2 Mbit/s to 10-100 Mbit/s

5G

High data rate.

Two phases.

⇒ Release - 15 March 2019

⇒ Release - 16 March 2020

ITU IMT - 20 gigabits/second.

5G<sup>1</sup> access lower frequencies

from 600 MHz to 6 GHz

Wifi  $\Rightarrow$  Wireless Fidelity.

$\downarrow$   
technical code  $\Rightarrow$  802.11

| Wi-Fi                                                                    | Li-Fi                                                          |
|--------------------------------------------------------------------------|----------------------------------------------------------------|
| $\Rightarrow$ wireless Fidelity                                          | Light Fidelity                                                 |
| $\Rightarrow$ wireless technology                                        | It is also a wireless technology                               |
| $\Rightarrow$ uses <u>radio frequencies</u> for <u>data transmission</u> | uses <u>light-emitting diodes</u> for <u>data transmission</u> |

Li-Fi was first used by Harald Haas.

RFID - Radio Frequency Identification

Two types :-

Active RFID - larger distance

Passive RFID - short range transmit

Components :-

$\Rightarrow$  RFID tag

$\Rightarrow$  A reader

$\Rightarrow$  A controller.



OSI - Open system Interconnection

↓  
1934.

OSI - Layers

7 layers.

Data - link layer  $\Rightarrow$  simple protocol

802.3  $\Rightarrow$  ethernet

802.11  $\Rightarrow$  wi-Fi

Banking websites are common

examples for HTTPS.