FACULTY OF ENGINEERING & TECHNOLOGY

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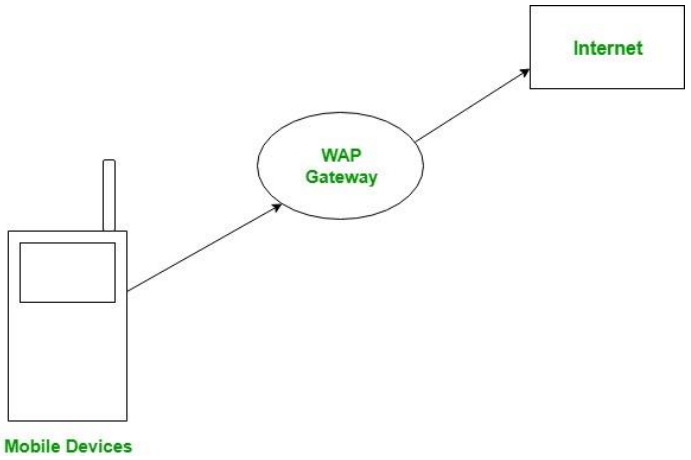
Topics Covered

Wireless Communication – WAP
primary objectives of the WAP protocol
The WAP Model
The WAP Protocol Stack

Wireless Communication - WAP

WAP stands for Wireless Application Protocol. WAP represents a suite of protocols rather than a single protocol. WAP aims at integrating a simple lightweight browser also known as a micro-browser into handheld devices, thus requiring minimal amounts of resources such as **memory** and **CPU** at these devices.

WAP tries to compensate for the shortfalls of the wireless handheld devices and the wireless link by incorporating more intelligence into the network nodes such as the **routers, web servers,** and **BSs**.



primary objectives of the WAP protocol

Independence from the wireless network standards
Interoperability among service providers
Overcoming the shortfalls of the wireless medium
Overcoming the drawbacks of handheld devices
Increasing efficiency and reliability
Providing security, scalability, and extensibility

The WAP Model

WAP adopts a client-server approach. It specifies a proxy server that acts as an interface between the wireless domain and core wired network. This proxy server, also known as a **WAP gateway**, is responsible for a wide variety of functions such as protocol translation and optimizing data transfer over the wireless medium.

Wireless network parts consist of −
Content provider (Application or origin server)
Mobile device (WAP client)
WAP gateway
WAP proxy

WAP Client
The three sections to be mentioned regarding WAP client are WAE user agent, WTA user agent and WAP stack.
WAE user agent − Wireless application environment user agent is the browser that renders the content for display.
WTA user agent − Wireless telephony application agent receives compiled WTA files from WTA server and executes them.
WAP stack − WAP stack allows the phone to connect to the WAP gateway using the WAP Protocols.

The WAP Model

Application Server

The element in the network where the information (web, WAP) applications reside are WAP proxy, WAP gateway or WAP server −

Proxy − This is an intermediary element acting both as a client and as a server in the network it is located between client and server. The client sends requests to it and it retrieves and caches the information needed by contacting the origin Server.

Gateway − This is an intermediary element usually used to connect two different types of networks.

WAP Gateway is basically software that is placed between a network that supports **WAP and IP packet network** such as Internet.