HERIOT WATT UNIVERSITY

Notes- Internet and Web

Web Programming (F28WP)

Introduction

Supplementary notes to complement the lecture material for the web programming course.

Nature of Internet
Internet is an inter network of Wide Area Networks

- with gateways between them
- based upon common use of TCP/IP protocols
- supporting standard application services - DNS, e-mail, web

Internet is organised by IETF, ICANN and ISOC.
Internet has no central operations room or global operations manager.
Each Internet host has an IP address e.g. 137.195.13.48.
Some Internet hosts have a domain name e.g. www.macs.hw.ac.uk.
TCP/IP Networks can be viewed as 4 layer structure:

Layer	Functionality
application	interfaces directly with user applications or users
transport	end to end (un)reliable deliver y of TCP or UDP packets
network	IP datagram deliver y, addressing, routing
link	delivers frames, handles errors, drives physical transfers

Examples of protocols on these Internet layers are:

application:	SMTP, IMAP, HTTP, DNS, RTP, SNMP, TFTP
transport:	TCP, UDP, SCTP
network:	IP, ICMP, IPsec, IGMP
link:	Ethernet, 802.11, DSL, ARP, L2TP, ISDN, GPRS, PPP

TCP carries reliable services - email (SMTP, IMAP), web (HTTP).
UDP carries best efforts ser vices - DNS, media streams (RTP).

IETF, ICANN and Internet History
Inter net Engineering Task Force (IETF) started in 1986 and is

- open group of network designers, operators, vendors, researchers
- concerned with evolution and operation of Internet
- major developer of international IT standards

IETF does its work in 100+ chartered working groups which

- debate new standards via mailing lists and at IETF meetings
- produce documents - RFCs, Inter net-Drafts etc.

Inter net Corporation for Assigned Names and Numbers or ICANN

- controls IP addresses, domain names, protocol parameters
- supervises root server system of DNS
- is not for profit US corporation founded in 1998