*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