Lecture #5 - Web Design

Understanding the Internet, ip address,TCP/IP, routers
- *The internet*
    - A global system of interconnected computer networks and it uses TCP/IP (Transmission Control Protocol) Standardized internet protocol.
    - Internet is a HARDWARE
    - World wide web is a software that runs on the internet
    - ***Internet was originally call the ARPANET***
    - Internet works through circuit switching (switching from one route to another if one is blocked)
    - On the Internet, data is sent by transferring packets
        - ***Packet (also known as datagrams): a small group of bytes consisting of:***
            1.Header (64 bytes)
            - *Destination: tells where it is going:*
            - *destination Source (where it came from)*
            2. Body (512 bytes)
            - *Actual message content*
        - This is called Packet switching
- *TCP*
    - sending end: take large chunk of data (webpage, email etc), break it into chunks. Then the IP is responsible for sending the packets to the internet.
    - Receiving end: detects lost packets (error b/c of network congesting, traffic overload) and requests the packet to be resent from source by rearranging and reassembling the packets back to the webpage, email etc.

- *IP(internet protocol)*
    - like a GPS- picks a route for packets, stopping at routers(devices) which pick the best machine/network to send packet to (router is central switching device)
        - if communication line down, sends to TCP and TCP finds different route
- This is the PACKET SWITCHING MODEL

Getting started with putting a website together:
- *Domain Names*
    - text name corresponding to the IP address of a computer (ex. uwo=129.100.0.45)
    - **DSN**(domain name system) maps the domain name to the correct IP address so data cab route to the right computer
- extensions (.com, .net, .org…etc)
    - **URL** (Uniform resource locator)
        - Tim Berners Lee established URL designation

HTTP(hypertext transfer protocol)- rules that define how data is

- Subdomains, TLD, syntax
    - Used to organize your web server

- o Subdomains are commonly used by organized that wish to assign a unique name to a particulate department function, or service related to the organization
- o rules
- o max of 127 labels, each label max 63 chars long, but who domain cant exceed 255 chars
- o **http://www.year2005.mycorvettes.mycars.com**
    - domain: mycars.com
    - subdomain: mycorvettes
    - subdomain: year2005
    - *mycorvettes* is a subdomain of *mycars.com*
      year2005 is a subdomain of *mycorvettes.mycars.com*
    - year2005-4th level
    - mycorvettes- 3rd level
    - mycars- 2nd level
    - .com- TLD (top level domain)…. .com/.net/.or/.ca etc are all TLDs

Web Hosting: selecting domain names, web hosting, ISP

- Criteria for choosing a web hosting company (top 10 reasons)
    - 1.Keywords
    - 2. Be memorable
    - 3. Avoid hyphens
    - 4. Buy .com first
    - 5. keep it short
    - 6. kill procrastination
    - 7. Get creative
    - 8. know rules of domain names
        - must use of the approved TLD's
        - each level must consist of letters, digits and hyphens but each level cant start with a hyphen or end with one
        - level cant have any spaces b/c case sensitive
    - 9. testing, testing, 123
    - 10. buy up "misspelled domains"

- *webhosting*
    - DON'T host your own website b/c
        - 1. expensive
        - 2. continual connection- server needs a 24/7 high speed connection to internet which is expensive

- 3. technical- setting up all configurations including mail server, FTP server and DSN server can be complicated
- 4. support- server maintenance requites 24h support, special skills and knowledge

- ISP (internet service provider)

Top 10 Reasons to pick an ISP
- **Disk Space**
- **Bandwidth**
- **Web Site Speed**
- **Database/Programming Language Support**
- **Technical Support**
- **UpTime**
- **FTP Access**
- **Web Statistics Summary**
- **Scripts availability**
- **Web Provider**