

تصميم مواقع 2022-2021

- The Internet becomes the main method in exchanging data and all digital file

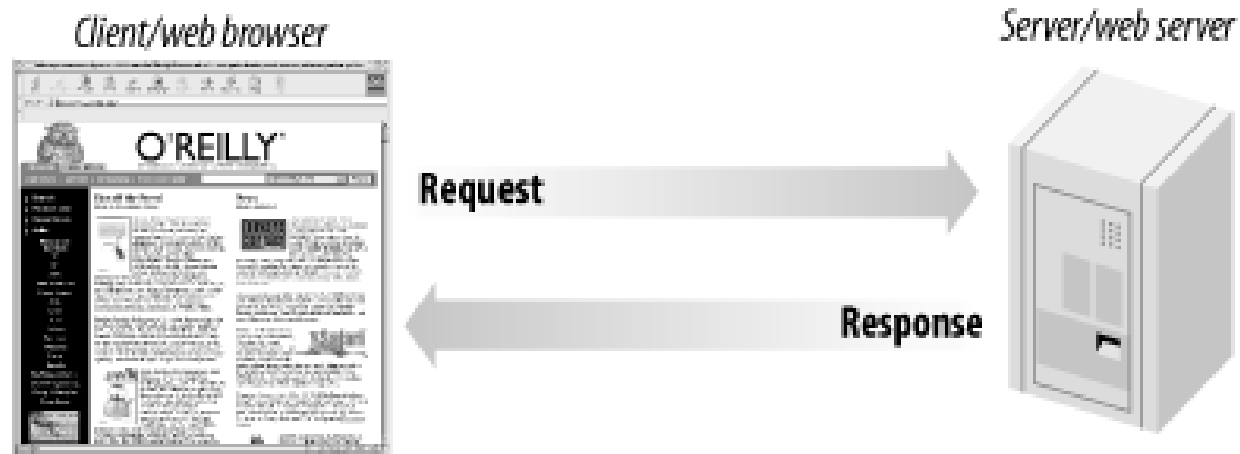
- **website and web application**

A web site is a collection of Web pages and linked software components which are associated semantically by content and syntactically through links and other control systems. Web sites may be dynamic and interactive or static. A Web application is a program that runs in whole or in part on one or more Web servers which is run by users through a Web site

- The Web was originally designed to deliver Web pages from a Web server connected somewhere on the Internet to a Web browser in other side
 - A webpage is a single HTML document
 - A website is a collection of related webpages
- Designing a good website requires more than just putting together a few pages
- **Web Application**

web application is Any software application that is accessed over an Internet or Intranet network. Mostly these applications are served by a web server and are consumed using client side browser software

[Figure 1](#) shows how a web browser communicates with a web server to retrieve this book's home page.



A Web server is a computer that runs special serving Software, this service can use by client that request the service Or can send “HTML page” to client as response to requested page

- Internet use server client network architecture
- computers on the Internet communicate with one another using the TCP/IP
- When customers browse the Web, they use web browser to request sources from a web server and the web server responds with the resources. You make these requests by filling in and submitting forms, clicking on links, or typing URLs into browser. Often, resources are static HTML pages or others that are displayed in the browser

- **Client**

Presents an interface to the user gathers information from the user, submits it to a server, then receives, formats, and presents the results returned from the server

- **Static and dynamic websites**

Website can be classified into two categories the static websites and the dynamic websites.

Static websites

All the content data for a static website is contained in the files that correspond to the pages of the site. These files store data in a special format, HTML. Returning to the example of static website displaying the pages of a book, each page of the book would be stored as HTML in a separate file with the .html extension. In order to change the contents of a book page, you would have to edit the corresponding HTML file (using a text editor or HTML editor such as Dreamweaver). To run a static website you need a *web server*, which is a software application that: Receives requests for displaying a web page then Reads the corresponding file and Sends the contents of the file back to the computer that made the request.

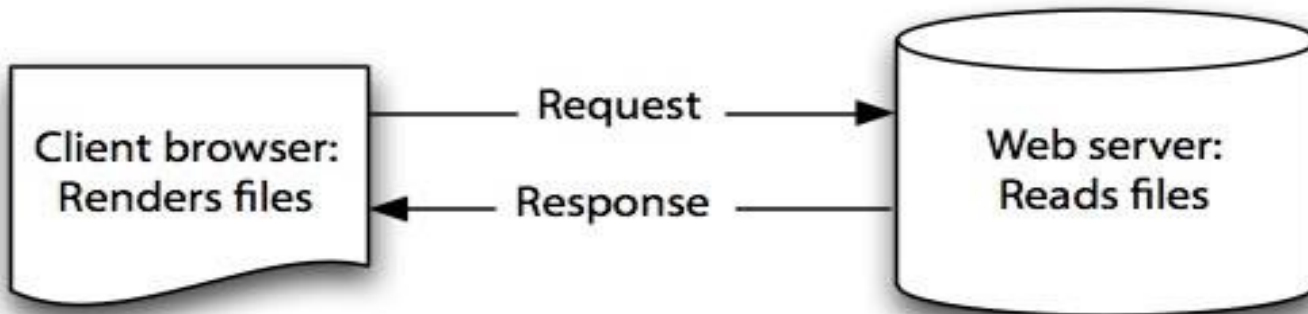


Fig 2 static website

Dynamic websites

In contrast, dynamic sites must be able to display information that changes over time or varies depending on the user who accesses it. For this reason dynamic sites use a software program that acts as a data repository, usually a database system. Information can be added to or retrieved from this repository

dynamically. Furthermore, dynamic sites must be able to integrate the static parts of a site—for example, the book contents in the book website—with the dynamic ones, for example, comments. This mix of static and dynamic information is realized, in addition to using a web server, by: Writing the pages in a *scripting or tag-based language*, that mixes the static part (HTML) with instructions for processing dynamic data then running software on the server that interprets the instructions in dynamic pages and executes them to retrieve information (data) from the database, add information to the database, or modify it. This software is commonly known as an *application server*. The scripting or tag-based language that you'll use must be compatible with the application server that you choose.

Popular combinations include: **Active Server Pages (ASP)**, which uses VBScript and JavaScript or **PHP**, which uses the PHP scripting language in addition to a web server. The following software is required in order to run a dynamic site (see Figure 3):

Database server: Software that manages the database. Some commonly used database servers for the web are *MySQL*, *Oracle*, and *SQL Server*.

Application server: Examples of application servers are IIS (which acts as a web server and an application server) and the *APACHE* application server

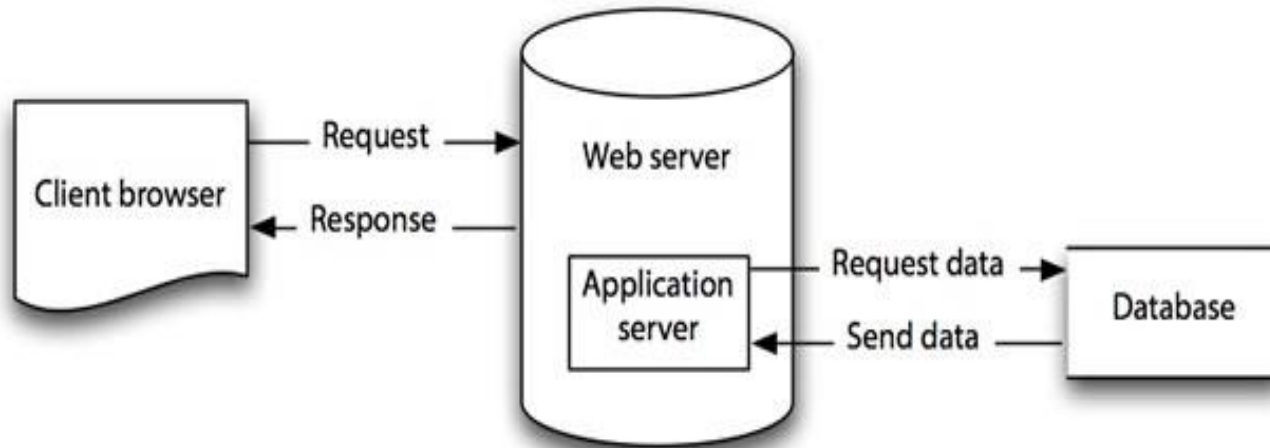


Fig 3 :Dynamic Web site

Web page programming options

A-Server-side processing

Generally dynamic or data-driven web pages use HTML forms to collect user inputs, submitting them to a web server. A program running on the server processes the form inputs, dynamically composing a web page reply. This program, which is called,

servicing program, can be either a compiled executable program or a script interpreted into machine language each time it is run.

1. Compiled server programs: when a user submits HTML-form data for processing by a compiled server program, the web server invokes the servicing program. The servicing program is not part of the web server but it is an independent executable program running on the web server; it processes the user input, determines the action which must be taken, interacts with any external sources (E.g. database) and finally produces an HTML document and terminates. The web server then sends the HTML document back to the user's browser where it is displayed

Popular languages for creating compiled server programs are Java, Visual Basic, and C++, but almost any language that can create executable programs can be used, provided that it supports commands used by one of the protocols that establish guidelines for communication between web servers and servicing programs. The first such protocol, introduced in 1993, for use with HTML forms was the Common Gateway Interface (CGI); many servicing programs on websites still use CGI programs. However, a disadvantage of using CGI-based servicing programs is that each form submitted to a web server starts its own copy of the servicing program on the web server.

A busy web server is likely to run out of memory when it services many forms simultaneously; thus, as interactive websites have gained popularity, web server vendors have developed new technologies to process form inputs without starting a new copy of the servicing program for each browser input. Examples of these technologies for communicating with web servers include Java Servlets and Microsoft's ASP.NET; they allow a single copy of the servicing program to service multiple users without starting multiple instances of the program .The most popular one ASP.NET which is a web application framework marketed by Microsoft that programmers can use to build dynamic websites, web applications and XML web services.

2. Server-side scripts: web based applications can also use server-side scripts to create dynamic web pages that are able to retrieve and display information from a backend database and modify data records. The processing architecture is the same as the processing architecture used for compiled server programs, except the web server processing is performed through and interpreted script rather than a compiled program. If needed, a developer can have a single web server process a variety of scripts written with any or all of these technologies. The web server knows which script interpreter to invoke by taking note of the requesting script's file extension .PHP is a widely-used general-purpose scripting language that is especially suited for web development and can be embedded into HTML.

3. Server-side hybrid processing: compiled server-side programs offer two main advantages: First, they are compiled and stored in a machine-readable format; so they usually run faster than scripts. Second, compiled programs are usually created in integrated development environments that provide debugging utilities. The advantage of using scripts is that their modification requires only a text editor rather than installation of an associated development environment

Hybrid server-side programming strives to combine the advantages of compiled server-side programs and server-side scripts; a server-side script is created but not compiled. The first time a user accesses a web page calling the script, the script is compiled into machine-readable format and stored as an executable file. With this approach, the developer works with ordinary text files and does not need to install an integrated programming development environment to modify the script. Performance is improved because the program does not need to be translated into machine language each time it runs

Choosing server-side processing

ASP.NET and PHP are the mainstream languages of the website development, which have their advantages and disadvantages respectively ,the comparison between them is shown in Table

Table (1) comparison between ASP.NET and PHP .

Parameter	ASP.NET	PHP
Security	Safety is good, but there exist certain degree of security vulnerabilities	PHP is a recognized safety performance
Platform incompatibility	Single platform	Multiplatform
Operating efficiency	High	Higher
Cost	High	Free

B- Client-side processing

Client-side web page processing is achievable through compiled programs downloaded, installed, and executed on the client workstation or by creating scripts with the HTML web page commands interpreted by the client browser.

A. Downloading and running compiled programs on client workstations: when a user clicks a hyperlink on a web page associated with a compiled client-side program, the user's browser must have the ability to run the executable program file; this program interacts with the user, sending and retrieving data from a server as needed

Many times, the user is asked to install certain ActiveX components to view some animations or play games. This new component plugs in into the existing system, thus extending the functionality of the system. Java Applets are another example of compiled programs on client workstations

An applet is a program written in the Java programming language that can be included in an HTML page, much in the same way an image is included in a page. When we use a Java technology-enabled browser to view a page that contains an applet, the applet's code is transferred to our system and executed by the browser.

B. Client-side scripts: in a client-side script, source code written in such languages as JavaScript and VBScript are embedded in an HTML document, along with the static HTML text; it is placed within delimiter tags to indicate to the user's browser that the text is code that must be interpreted. If the user's browser is able to recognize and interpret the code, it is processed. If the browser is unable to recognize and interpret the code, it is displayed as text on the web page

Although basic client-side scripts cannot be used by a web page to interact with a remote database, they are often used to validate user inputs entered on HTML forms submitted for processing by a server-side program; for example, a script running on a client workstation might check the inputs users submit to a web page to make sure they entered all required data and appropriate data values. This approach avoids transmitting inputs to the web server that are incomplete or include errors. JavaScript is the most commonly used client-side scripting language and is supported by most browsers.

Web Communication Protocols

- A Web page is identified by a unique address called the **URL**
- Each URL consists of two basic parts:
 - A **protocol** (usually HTTP) and
 - Either the **domain name** for a Web server or a Web server's **Internet Protocol address**
- Hypertext Transfer Protocol (**HTTP**) manages the hypertext links that are used to navigate the Web

Web Communication Protocols (continued)

- A **host** refers to a computer system that is being accessed by a remote computer
- A **domain name** is a unique address used for identifying a computer such as a Web server on the Internet
- The **domain identifier** identifies the type of institution or organization (.biz, .com, .edu, .org)
- An **Internet Protocol**, or **IP address**, is another way to identify computers or devices connected to the Internet

Web Communication Protocols (continued)

- An IP address consists of a series of four groups of numbers separated by periods
- Each Internet domain name is associated with a unique IP address
- HTTP is a component of Transmission Control Protocol/Internet Protocol (**TCP/IP**)
- Hypertext Transfer Protocol Secure (**HTTPS**) provides secure Internet connections for transactions that require security and privacy

Web Communication Protocols (continued)

<http://www.google.com/help/index.html>

Protocol	Domain name	Directory	Filename

Sample URL

Several Top-level domain are common:

- com: commercial enterprise. شركات تجارية
- edu: educational institution. مؤسسات تعليمية
- gov: government entity. المواقع الحكومية او مؤسسات البلد
- net: network access provider. للمواقع ذات نشط خاص
- org: usually nonprofit organizations منظمات
- وهناك العديد منها

Publishing Your Web Site

- **Web Hosting:**
 - The publication of a Web site for public access
 - Internet access (cable modem, DSL, satellite, dial-up modem, ISP)
- **Internet Service Provider (ISP):**
 - Provides access to the Internet along with other types of services such as e-mail

Publishing Your Web Site

- **Domain name registration**
 - Pick a domain name that is similar to your business name or that describes your Web site
 - You cannot use a domain name that is already in use or a trademarked name
 - Domain names are stored in a master database that is maintained by the InterNIC

Publishing Your Web Site (continued)

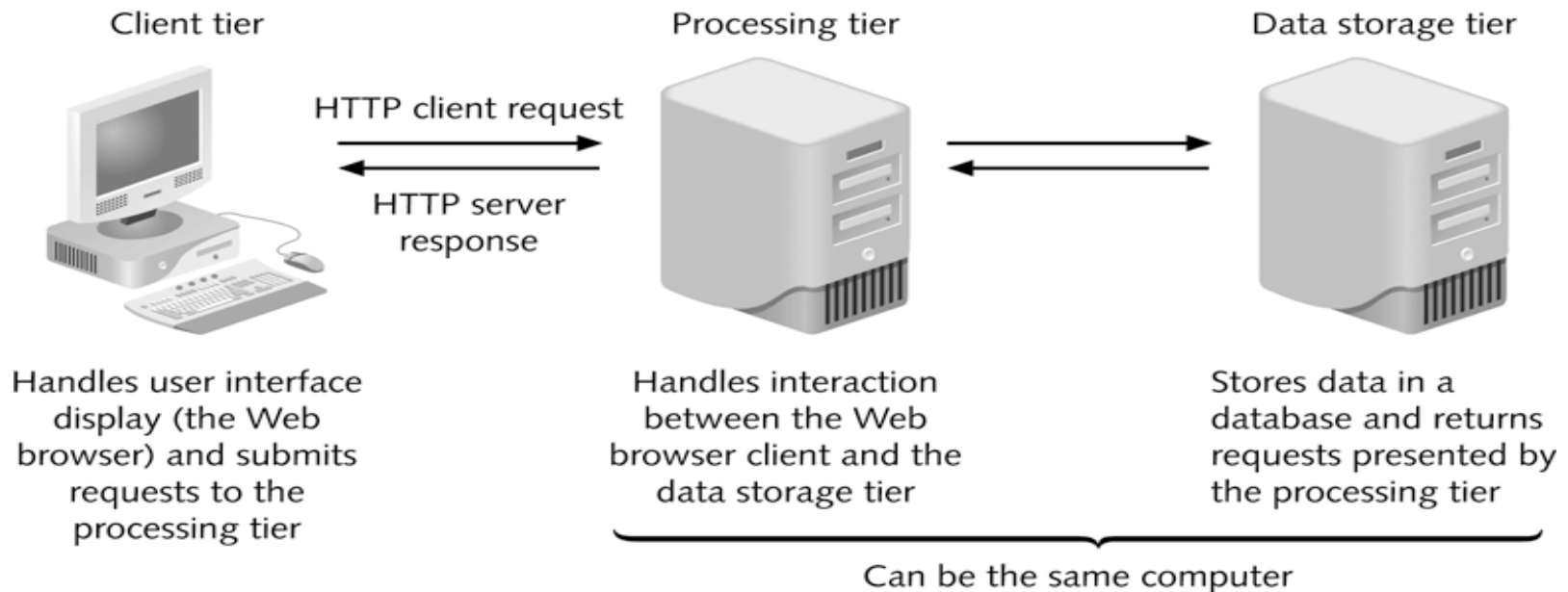
- **File Transfer Protocol (FTP)**
 - Is a **TCP/IP protocol** used for transferring files across the Internet
 - Transfers files between an **FTP client** (your computer) and an **FTP server** (a server capable of running FTP)
 - The vehicle that allows you to get your Web page files to the Web server

Publishing Your Web Site (continued)

- **File Transfer Protocol (continued)**
 - Your ISP provides a username and password to log on to the FTP site and upload files to the FTP server
 - Allows you to use your browser to log on to an FTP server and upload your files

Client/Server Architecture

- A system consisting of a client and a server is known as a **two-tier system**
- A **three-tier**, or multi-tier, client/server system consists of three distinct pieces:

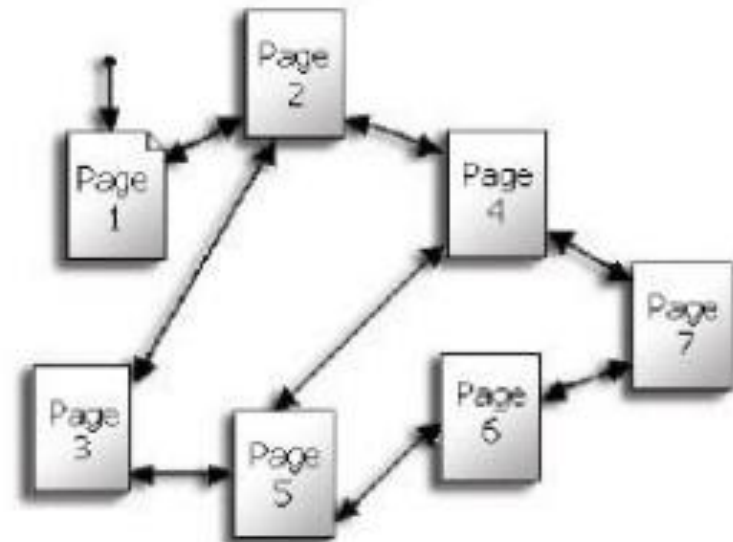


Hypertext:

- Hypertext links allow the reader to jump instantly from one electronic document to another.
- Two type : linear text and nonlinear text



Linear Text



Nonlinear Text --Hypertext--

Types of websites

- News
- Informational
- Business/Marketing
- Educational
- Entertainment
- Advocacy
- Blog
- Wiki
- Online Social Networks
- Content Aggregator
- Personal

Portal

- Offers a variety of Internet services
- Examples of services:
 - News
 - Sports
 - Search engine/directory
 - Web publishing
 - Reference tools
 - Maps
 - Shopping
 - Email
 - E_Service and E_Government Service
- Examples of portals:
 - AltaVista, AOL, Lycos, [MSN](#), Netscape, [Yahoo!](#), E_government

Web Site Design

A website is totally different from any other type of publishing, advertising or communications media.

- **The Design Process**

Designing for the web requires the relevant content of a brochure or magazine, the colorful look of high-quality print, and the attention-grabbing impact of television advertising. Plus it should offer a valuable product and/or information, be updated frequently and stay current with changing technology

Once you have decided to establish a web site there are three steps to getting it online.

1- Design, build and upload your website - The process of website creation.

Static vs dynamic website

2 - Get a domain name - This is your personal/private address on the Web.

3 - Find a web hosting service- Here is where your website will reside.

Free vs Private Web Hosting

Five step process for effective website design

1. Analyse

- Info / content
- Target Audience

2. Organise

- Navigation
- Content
- Page layout
- Page design

3. Develop

- Web page layout
- Site layout
- Web page construction
- Graphics techniques

4. Implement

- User Interaction
- Final Checklist
- FTP
- Fine Tune

5. Maintain

- Marketing
- Optimisation
- Traffic analysis

Analyse

Why do I want to create this web site?

- promote your ideas, hobbies, or beliefs
- To advertise your company or product
- Make loads of money really fast
- Provide customer services and support
- To keep your customer base informed
- Give or sell information
- Create an 'Extended Business Card' for your company
- Provide internal information and services for your company

Analyse (1) Web Site Content

Determine the content

Before you can start deciding what content the site is going to contain you need to determine

- the target audience
- the target age group
- the skill level with the Internet?
- How can I communicate effectively?
- the purpose of your site. What is the site for?

Once you have determined these factors you can start to plan the content your site will have. Remember who your target will be when deciding on content:

Analyse (2)

What content (data, graphics, photos, etc.) will be included?

This is the "big" job...gathering all the content that you want to include on your web site. Are you going to use photos? What kind of graphics do you want? And what information or data are you putting online?

Make a list of the items you think you will want to have on your website.

Audience analysis

Audience analysis is the starting point for any project. You need to figure out your audience's demographics:

- how old they are
- where they work
- what they earn
- where they live,

website design tips

- 1. Know your audience**
- 2. Frequently updated information**
- 3. Guest book that your guests to your site can sign and add their own comments**
- 4. Web site search , very useful for larger sites**
- 5. Keep web pages short**
- 6. Limit the amount of text**
- 7. Avoid large images**
- 8. Use web safe colors**
- 9. Clearly identify all links**
- 10. Check spelling**
- 11. Use a site map or directory page**
- 12. Update and check all links**
- 13. Include contact information**

14. Free offers

15. News

16. Unique information

17. Include contact information and about us

Organisation

1 - **Structure:** The form of your web site and its navigation

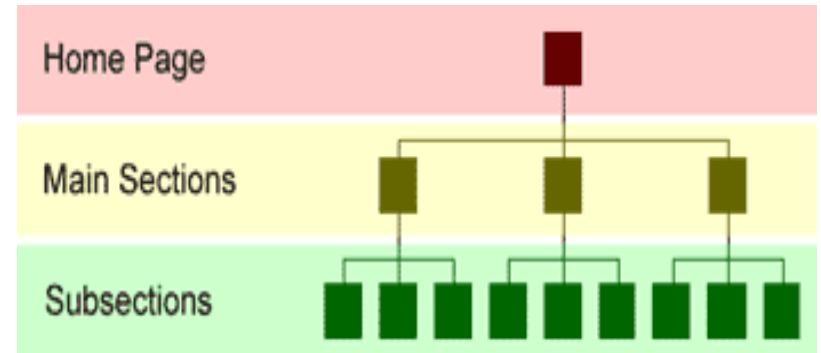
2 - **Content:** The substance of your web site

3 - **Layout:** The theme or method of presenting your web site

Organisation - Structure

Now we're going to look at the overall design of a web site and "how to structure a website". This is different from the individual pages within the site (i.e. content).

Site design includes the structure of your site, the different sections and navigation within those sections. It also encompasses the theme you choose.



As the diagram shows a web site is composed of three main areas:

- The Home Page
- The Main Sections
- The Subsections

Organisation - Structure (1)

Home Page Do's

- Visitors first impressions
- Should tell the visitors what your site is about
- Should provide index or table of contents
- Keep the home page short and to the point

Homepage don'ts

- Should not contain a lot of text
- Don't present your users with a huge list of links to every single page

Organisation - Structure (2)

Main Sections

Determining and naming the main sections of your site is very important. Sections should contain material grouped according to visitor needs - in other words, these are sizeable chunks of related information. For example, if you are creating a site for a tourist visiting Baghdad, you would want to make it easy for the visitor to find the right information.

The main sections might include:

Travel

Restaurants

Tourist places

Accommodation

The main section is your site index on your homepage, it is the foundation to your navigation of the website.

Once you have divided your content into main sections, decide their order of importance

Organisation - Structure (3)

Subsections

Not all main sections necessarily need to have subsections, but most will require a further breakdown of information. It really depends on the amount of content on your site.

When designing a new web site, keep in mind that the content will increase as you update and add information to the site.

Once you have established the home page, main sections and subsections of the web site, organise them into order of importance and note it. This is the basic layout of your web site.

Organisation - Navigation

Now we need to help them find the user find the information and the answers to their questions and we hope we can do this by the shortest route possible

There are three different navigation methods.

- **Linear navigation** - Moving in a straight line.
- **Database navigation** - Many branches from your main page.
- **Hierarchical navigation** - A completely connected website.

Linear Navigation

Linear navigation is used for a web site where you want the visitor to go from one step to another in a particular order. This is usually used within a web site but seldom as a stand alone design. The idea here is that the visitor follows the pages in a predefined order or sequence that you determine. This is particularly useful for tutorials.

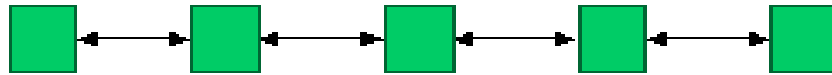
Straight line or sequential links



Linear "straight line" Navigation Diagram

Arrange your links so that they only permit movement in a straight line from one page to another . this is straight line navigation. You set up your links in such a way as to compel the visitor to start at one end and continue to a conclusion.

Linear reciprocal links



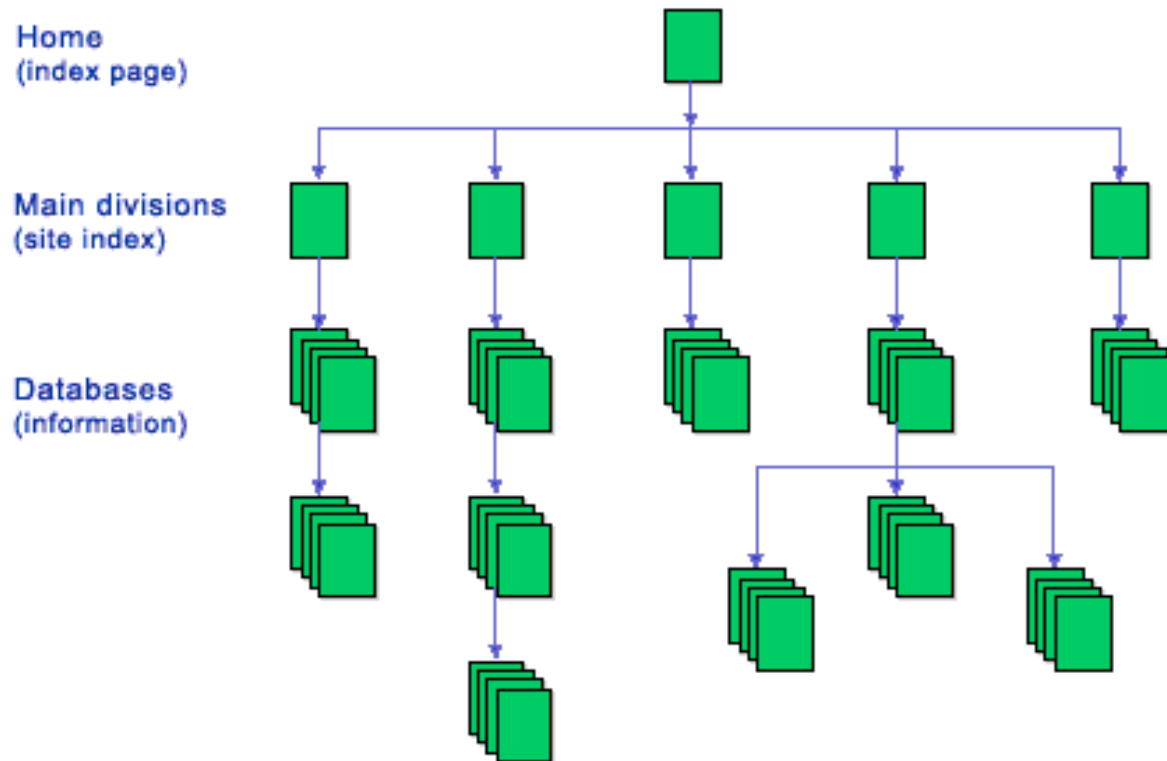
Linear "reciprocal" Navigation Diagram

Reciprocal navigation allows the visitor to move back and forth between a series of pages. Set-up your links with a start page an end page and links tying the pages together that lie between them.

Database Navigation

Database Navigation

The database or grid design is made up of multiple divisions and each division has its own structure. This type of navigation can be used effectively when large amounts of data are required in the web site design.



Database Navigation Diagram

Hierarchical Navigation

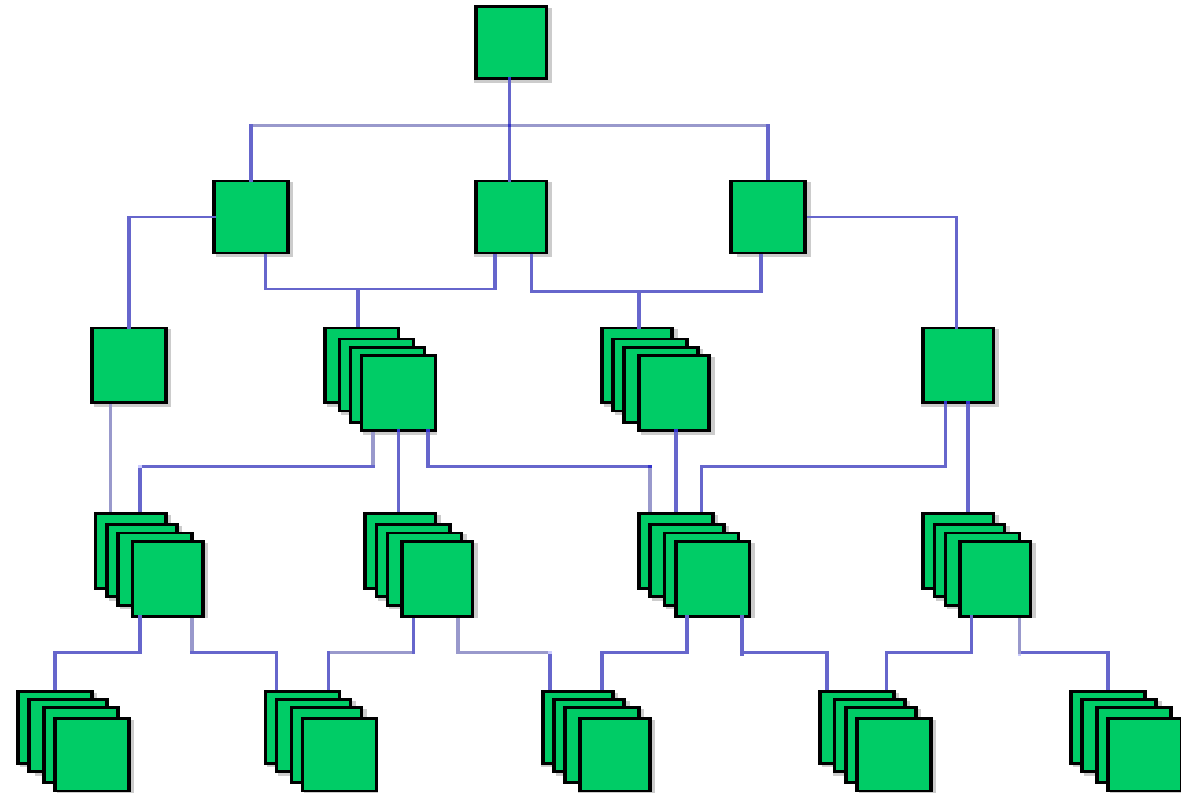
The hierarchical design goes from the general to the specific; from a home page to divisions to subdivisions. A visitor could easily go from the home page to other areas of the web site and back again.

Home
(index page)

Main sections
(site index)

Subsections
(navigation bar)

Detail sections
(databases)



Hierarchical Navigation Diagram

Organisation - Content

Web Page Design

To create the individual pages of a web site you are going to need: to be familiar with a web authoring program, or be knowledgeable in HTML coding.

Page Theme

A theme can be as simple as color choice or a logo design.

Web Graphics

You will need a source for graphics or be able to create your own. Again, the flexibility of knowing how to design your own graphics is preferable. PaintShopPro or PhotoShop are great programs for creating graphics, retouching photographs, designing text and building animated gifs.

Titles and Meta Tags

In your HTML coding, you should always provide a descriptive title for your web pages and they should reflect what's on that particular page.

Organisation – Web Page Design

The Homepage

So what do you want on this most important first screen?

- The title of your web site
- Let visitors know what the content is as briefly as possible.
- To provide links to the main sections of your site (making sure to include text links).
- Set the tone/theme of your site with this first page -what will visitors expect to see carried out on every page within the site. This is also true of the navigation system you use.
- Use contrast to guide the eye around your pages. Any design must have a focal point.
- Group items and information that belong together using **white space** so that the eye "knows" they are together.
- The alignment of elements on the page is also very important.
- Make good use of the hot spots on the page for your title and links.

Web Site Development

The development of a web site should be a complete and deliberate process. You will need to organise the many files and graphics that support your site. This way whenever a change or update is necessary you can control the process much better. One of the best ways to do this is by the construction and maintenance of a site outline. This is where you will keep track of the physical data that comprises the web site

Site Outline

A site outline is a written outline of the content of your web site.

Having a site outline helps provide a mental picture of the site, the sections, subsections and content pages.

Web Site Development – Site Outline

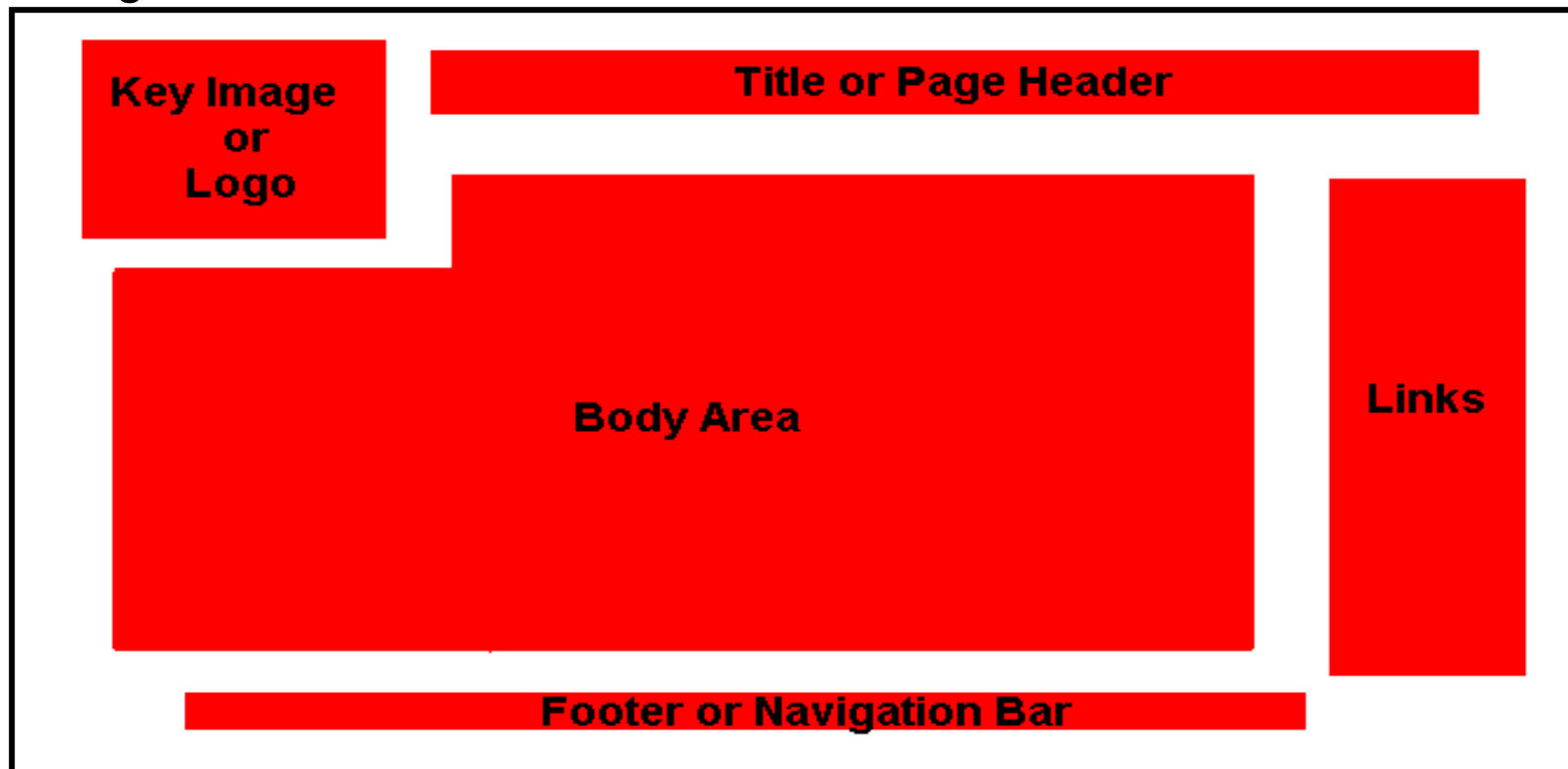
My Homepage: Index.html

Main page #1	Subpage A Detail page Detail page Subpage B Subpage C
Main page #2	Subpage D Subpage E Detail page Subpage F
Main page #3	Subpage G Subpage H Detail page Detail page Subpage J Detail page

Webpage Title:	My website
Filename:	(i.e. index.html)
Links on page:	link 1 - sub page link 2 – sub page link 3 – sub page
Graphics:	image1.gif image2.gif image3.jpg
Comments:	

Web Site Development – Web Page Layout

To produce continuity on your web site as well as enhance the ease of navigation, break what you see on the screen into regions such as header, links, footer, body, and images. Put the same information in the same regions on each page, as the following diagram shows



Web Site Development – Web Page Construction

Whether you use a web-authoring program or do all the HTML coding by hand, there are some basic steps to creating a well-designed web site. These steps begin with the individual pages.

- Make your HTML coding easy to read by using indentations and comment tags.
- Create a separate, descriptive title for each page.
- META tags...make them descriptive, use important key words
- The layout of your page should be planned, the graphics, and content determined. Know the order the pages will appear and how they will be linked

Web Site Development – Web Page Construction

Make special note of the following:

- Header elements such as a Logo or title - these do not have to be the same size on all the pages, but should be the same design .
- Common recognizable clues such as colored bullets and the same color and style of links .
- Footer elements such as copyright and contact persons e-mail address .
- A common graphics style - that is, don't use cartoon style images with photographic-quality graphics. Both are fine separately, but not together .

Web Site Development – Graphics Considerations

- If you are using a background image, make sure that it remains a "background".
- For every image tag you have on your web pages, make sure to include the height and width attributes.
- Include the "alt" attribute in every image tag

Web Site Development – Recap

Putting it all together “for you”

Here is a recap of what a well-designed web site should include; The first (index) page fits on screen in an area 640 - 704 pixels wide by 460 - 520 pixels high. This ensures that nearly every visitor to your introductory page will see the important information.

- Short text lines (40-60 characters).
- Short paragraphs (4-8 lines).
- Alt labels on all graphics.
- Index or site map for large web site.
- Color co-ordination - including text link colors.
- Corresponding text links for all graphic links
- Quick download time.

Web Site Development – Recap (1)

- All other pages are designed for a width of 640 - 704 pixels; the length can be whatever is appropriate for the content.
- Clear, easy-to-follow navigation.
- Consistency from page to page - visitors will know they are still on the same web site regardless of which page they are viewing.
- Organization - of the information and of the web site.
- White space.
- Contrast of text and background for easy reading.
- Good object/text alignment.

Implement Web Site

This is dealing with the final checks and uploading the web site. Creating a index / cover page that loads quickly should be your main goal.

Implementation must have

User Interaction

FAQ Page - This an important page on any web site. What questions do your visitors have...what information they would want?

Interaction – how will users interact with your website

FTP -In order to upload or download a file by FTP, you need to do four things:

Fine Tuning the Web Site

- You've organised your files, created the directories and uploaded your web pages. Once your site is online, the first thing you should do is go through each and every page as a visitor would, checking to make sure all the graphics are displaying and the links work.
- Take note of how long it takes your pages to load, if it takes more than 30-45 seconds, it's taking too long and you may need to remove or reduce some of the graphic images
- Look at the navigation system. Is it easy to find and to understand? Will it take visitors where they expect to go? Does every page have a Back, Next and Home link?
- You should also look at the overall design of the site. Will visitors know what type of web site this is? Are the pages consistent so that users will always know they are still on your site and where to find the navigation links?
- Do your forms, survey and e-mail links all function properly?

Maintaining the Web Site

Once you've launched your web site

New information will always be waiting to be uploaded, old information will need to be updated, users will provide suggestions that need to be incorporated, etc.

What's Maintaining the Web Site

-Never take your web site down when launching a site redesign

Always keep in mind what your audience want out of the site.

-Keep an eye on sites similar to yours to see how they are updating their sites.

-Track responses that result from the web site, via email or form.

-Always respond to email and forms.

Marketing the Web Site

Your Web site should not be a passive thing; Web sites should generate activity, and usually do in the form of e-mail.

Search engine optimization is almost an art. To effectively position your website on the major engines you will have to spend many hours tweaking and monitoring your site.

1. Are your keywords in your title tags?
2. Are your keywords in your content?
3. Do your keywords accurately describe the theme or subject of your page?
4. What words will users type into search engines to find your website?

Marketing the Web Site (2)

5. Does the page contain JavaScript? If so, how much of it precedes content?
6. If your website is a business, have you made sure your business address and other information is easily available on each page?

Traffic Analysis

Every time someone visits your website information like their IP address, time and date of access, and error messages are recorded into **log** files that are saved on your server's computer. If your web host doesn't offer these log files, it is well worth it to switch to one that does!

The statistics generated by these log files are important tools for monitoring what your visitors do when they enter your website. Using the information gleaned from them you can tailor your pages for maximum effect.

Web Hosting

- It is Internet hosting service that allows the individuals and organizations to host their website and users with online systems for storing info , images , videos and other contents accessible via WWW.
- Web Host
 - The companies that provide space on server to their clients and they also provide internet connectivity.
- Hosting Uptime
 - it refers the percentage of time host is accessible via internet.

Types of Hosting

- Free Web Hosting
- Shared Web Hosting
- Reseller Hosting
- Dedicated Hosting Service

- **Free Hosting**
 - It is advertisement supported web hosting
 - Free of cost
 - Security problem
 - Commercially not recommended and encouraged
- **Shared Web Hosting**
 - In Shared Web Hosting the sites of clients are hosted at common server
 - Low Cost
 - Good for small business and average traffic
 - Low Security due to sharing
 - Restricted DB support

Dedicated Hosting

- In DH the web site is hosted on the dedicated computer .
 - Expensive option
 - Suitable for large web sites
 - Good for high traffic
 - Powerful DB support
 - Strong software support
- **Reseller Web Hosting**
 - **When clients are allowed to become host themselves and provide the hosting service to their clients.**

hosting services

- **size of hosting**

The size of data that can move and store in server

- **Usage limitations “Bandwidth”**

- The amount of data transfer from and to server per month

Script and extension support

If your Web site uses or will soon use:

- SQL databases
- CGI scripts
- FrontPage 2000 extensions
- PHP
- Active Server Pages.

- **File-transfer options**
 - FTP account
- **Mail options**
 - number of email boxes
 - protocol used with email
- **Site statistics**
- **Reliability**
- **Security**
- **Backup and disaster recovery**

- **Cost**
- **Technical support**
- **Sub domain**
- **Data base**



Windows Azure™

Cloud Computing



What is Cloud Computing?

.Cloud computing

.Internet-based computing in which large groups of remote servers are networked so as to allow sharing of data-processing tasks, centralized data storage, and online access to computer services or resources.

is the on-demand availability of computer system resources , especially data storage (cloud storage) and computing power, without direct active management by the user. The term is generally used to describe data centers available to many users over the Internet.

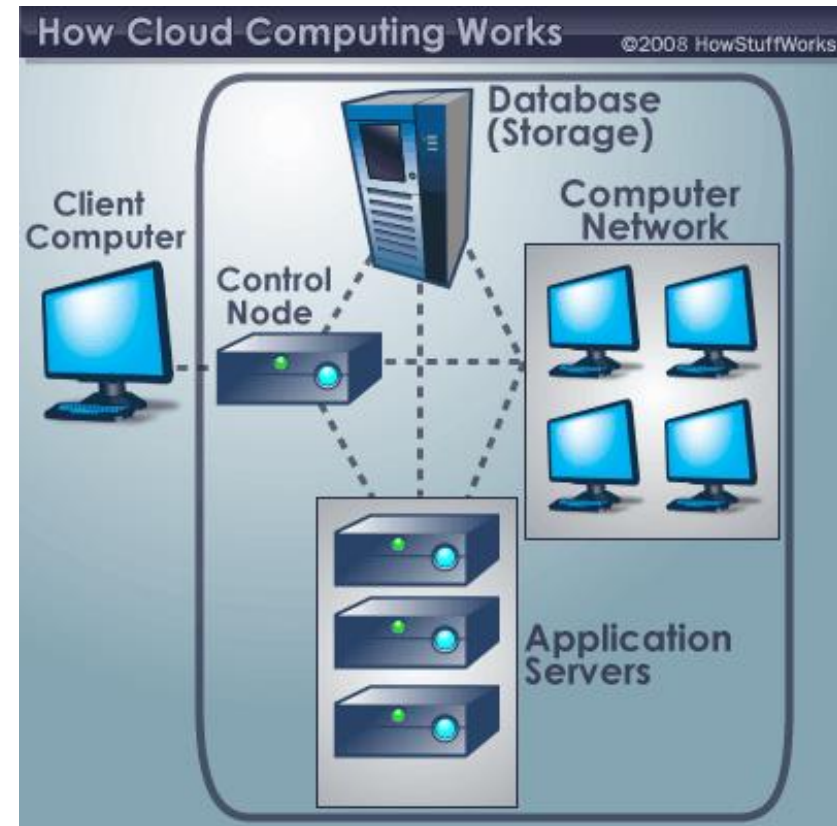
What is Cloud Computing?

- Allows users to deal with the software without having the hardware.
- Everything is done by remote, nothing is saved locally.



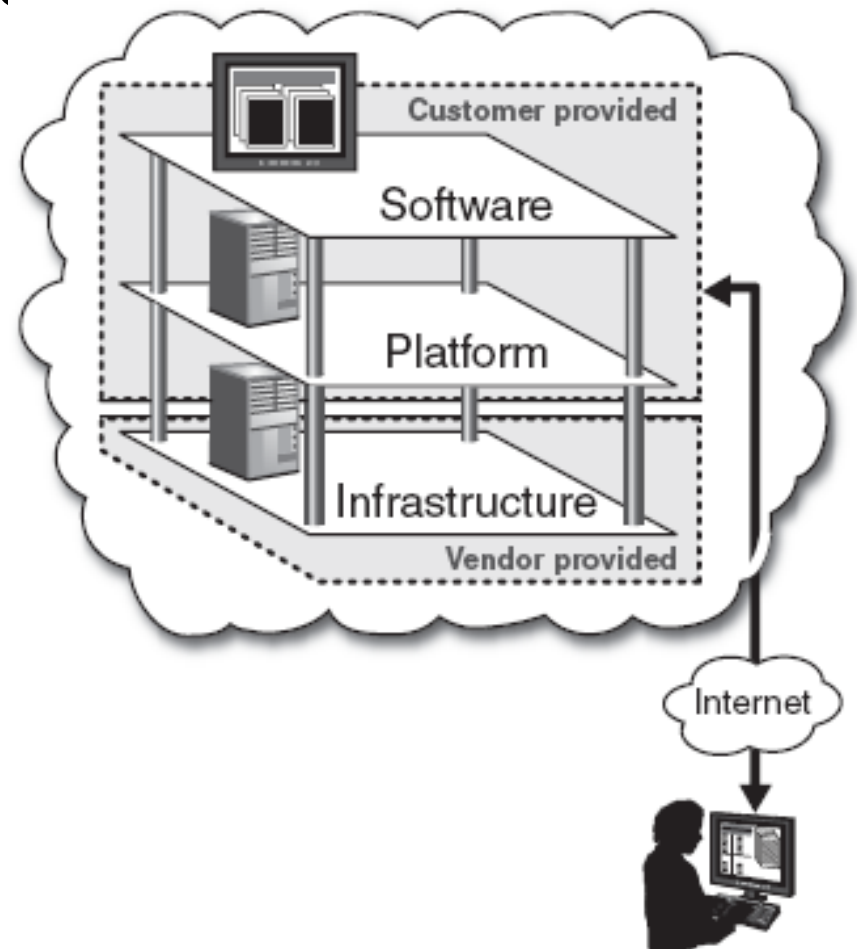
Characteristics

- Empowerment
- API
- Cost
- Device and location independence
- Visualization
- Reliability
- Scalability and Elasticity
- Security
- Maintenance

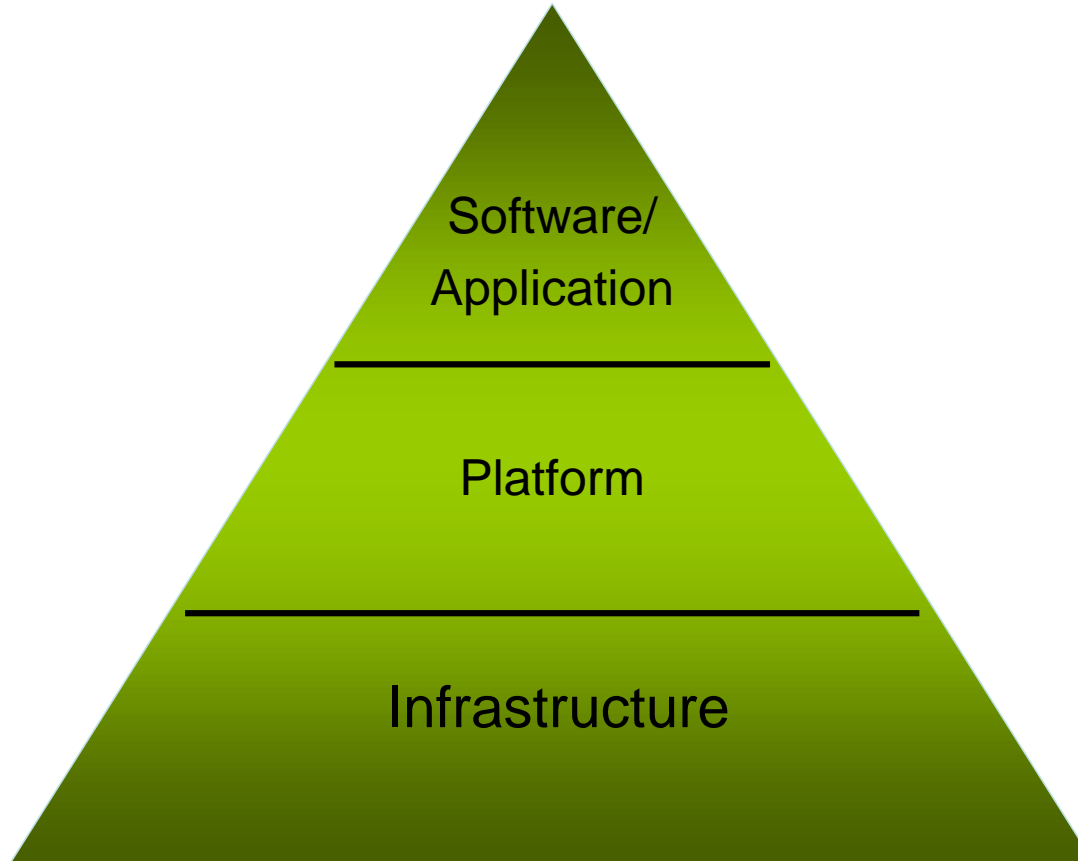


Service Models

- Infrastructure as a Service (IaaS)
 - Basic, service users maintain software
- Platform as a Service (PaaS)
 - Users are given software and hardware automatically
- Software as a Service (SaaS)
 - All software and hardware is transparent
 - User only knows their own access point



Service Models



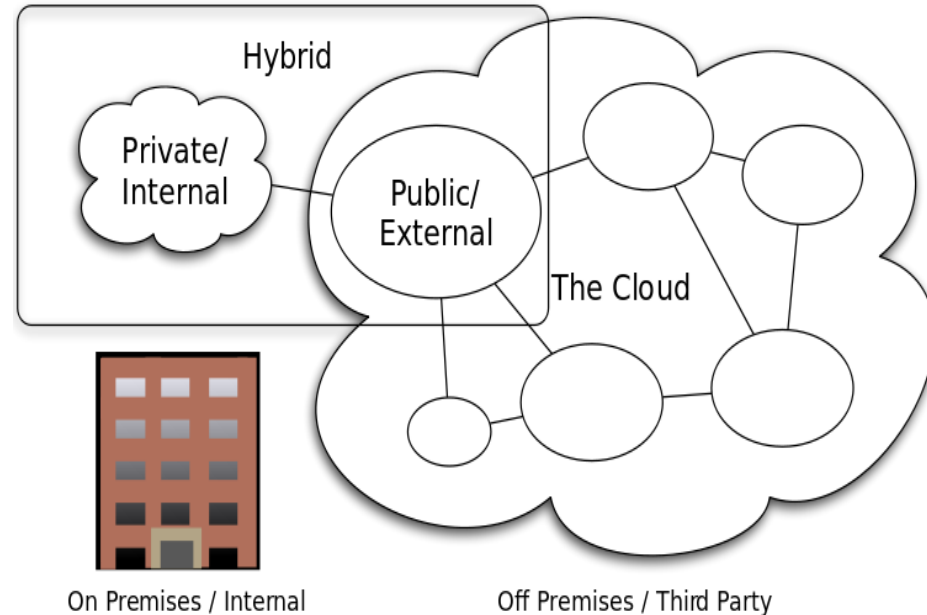
Where Is My Data?

- Data resides on servers that the customer cannot physically access
- Vendors may store data anywhere at lowest cost if not restrained by agreement



Deployment Models

- **Public cloud**
 - Done by service providers
- **Private cloud**
 - operated solely for a single organization
- **Hybrid cloud**
 - composition of two or more clouds (private, community or public)



Cloud storage

- Google drive
- aOne drive
- Dropbox
- iCloud

Cloud application

As example google cloud application

- Google form
- Google docs
- Google sheets
- Google slides

- From Microsoft
- Office 365
- Q: Why can we browse the Facebook website in mobile applications without delay as the computer, even though the mobile is less efficient than the computer?

Cloud Computing Guide

- Risk Areas
 - Service Provider Risks
 - Technical Risks
 - External Risks
 - Management Risks
 - Security / Connectivity / Privacy Risks