

Web hosting portal implementation
Project Report submitted in partial fulfillment of the requirement
for the degree of
Bachelor of Technology.

in

Computer Science & Engineering

under the Supervision of

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By

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Certificate

This is to certify that project report entitled “implementation of web hosting portal”, submitted by Mahesh in partial fulfillment for the award of degree of Bachelor of Technology in Computer Science & Engineering to Jaypee University of Information Technology, Waknaghat, Solan has been carried out under my supervision.

This work has not been submitted partially or fully to any other University or Institute for the award of this or any other degree or diploma.

Date:

Dr. Pooja Jain

Assistant Professor

Acknowledgement

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to Dr. Pooja Jain for his guidance and constant supervision and well As for providing necessary information regarding the project & also for their support in completing this project. I would like to express my gratitude towards faculty members of **Jaypee University of Information Technology** for their kind co-operation and encouragement which help me in completion of this project. My thanks and appreciation also goes to my colleague in developing the project and people who have willingly helped me out with their abilities.

Date:

Mahesh

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Abstract

This project is about implementing the web hosting service portal that is able to provide the hosting solutions through the world so that small business can grow that can't afford the high cost of hosting solutions. The Project includes highly secure authentication system. The authentication system that can't be bypassed by anybody. System also include the file manager so that the registered user can upload their website contents and can manage it. The file manager provide all the basic functionalities like delete the unnecessary files, rename the files, able to create the new files and folders with some kind of restrictions like user is not able to create the .exe file for security reasons. Project includes the email sending system that sends the email to the user on his registered email id whenever some kind of security violation is there. The email sending system is capable to send email to the user whenever user request for forgot password. The authentication system keep track of every login attempt and its failure of login attempt in database. The System also keep track of forgot password system that how many time the the forgot password is called. If the System found that forgot password is called unnecessary the system will lock down the particular it and send the security alert on his registered email id.

This project is using the ASP.NET language for the development of hosting portal. Project is using the MSSQL database in backend. The project is also using the designing languages like HTML5, CSS3, JQUERY for the front end designing of the hosting portal. The project is using the .NET FRAMEWORK 4.0 ,Visual studio 2010 and MSQSL server 2005.

What is Internet

The **Internet** is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several devices worldwide. The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), the infrastructure to support email, and peer-to-peer networks for file sharing and telephony.

The origins of the Internet date back to research commissioned by the United States government in the 1960s to build robust, fault-tolerant communication via computer networks. While this work, together with work in the United Kingdom and France, led to important precursor networks, they were not the Internet. There is no consensus on the exact date when the modern Internet came into being, but sometime in the early to mid-1980s is considered reasonable. From that point, the network experienced decades of sustained exponential growth as generations of institutional, personal, and mobile computers were connected to it.

The funding of a new U.S. backbone by the National Science Foundation in the 1980s, as well as private funding for other commercial backbones, led to worldwide participation in the development of new networking technologies, and the merger of many networks. Though the Internet has been widely used by academia since the 1980s, the commercialization of what was by the 1990s an international network resulted in its popularization and incorporation into virtually every aspect of modern human life. As of June 2012, more than 2.4 billion people—over a third of the world's human population have used the services of the Internet; approximately 100 times more people than were using it in 1995. Internet use grew rapidly in the West from the mid-1990s to early 2000s and from the late 1990s to present in the developing world. In 1994 only 3% of American classrooms had access to the Internet while by 2002 92% did.

Most traditional communications media including telephone, music, film, and television are being reshaped or redefined by the Internet, giving birth to new services such as voice over Internet Protocol (VoIP) and Internet Protocol television (IPTV). Newspaper, book, and other print publishing are adapting to website technology, or are reshaped into blogging and web feeds. The Internet has enabled and accelerated new forms of human interactions through instant messaging, Internet forums, and social networking. Online shopping has boomed both for major retail outlets and small artisans and traders. Business-to-business and financial services on the Internet affect supply chains across entire industries.

The Internet has no centralized governance in either technological implementation or policies for access and usage; each constituent network sets its own policies. Only the overarching definitions of the two principal name spaces in the Internet, the Internet Protocol address space and the Domain Name System, are directed by a maintainer organization, the Internet Corporation for Assigned Names and Numbers (ICANN). The technical underpinning and standardization of the core protocols (IPv4 and IPv6) is an activity of the Internet Engineering Task Force (IETF), a non-profit organization of loosely affiliated international participants that anyone may associate with by contributing technical expertise.

What is web Hosting

A **web hosting service** is a type of Internet hosting service that allows individuals and organizations to make their website accessible via the World Wide Web. Web hosts are companies that provide space on a server owned or leased for use by clients, as well as providing Internet connectivity, typically in a data center. Web hosts can also provide data center space and connectivity to the Internet for other servers located in their data center, called colocation, also known as Housing in Latin America or France.

The scope of web hosting services varies greatly. The most basic is web page and small-scale file hosting, where files can be uploaded via File Transfer Protocol (FTP) or a Web interface. The files are usually delivered to the Web "as is" or with minimal processing. Many Internet service providers (ISPs) offer this service free to subscribers. Individuals and organizations may also obtain Web page hosting from alternative service providers. Personal web site hosting is typically free, advertisement-sponsored, or inexpensive. Business web site hosting often has a higher expense depending upon the size and type of the site.

Single page hosting is generally sufficient for personal web pages. A complex site calls for a more comprehensive package that provides database support and application development platforms (e.g. PHP, Java, Ruby on Rails, ASP.NET). These facilities allow customers to write or install scripts for applications like forums and content management. Also, Secure Sockets Layer (SSL) is typically used for e-commerce.

The host may also provide an interface or control panel for managing the Web server and installing scripts, as well as other modules and service applications like e-mail. Some hosts specialize in certain software or services (e.g. e-commerce), which are commonly used by larger companies that outsource network infrastructure.

Types of Web Hosting

Many large companies that are not internet service providers need to be permanently connected to the web to send email, files, etc. to other sites. The company may use the computer as a website host to provide details of their goods and services and facilities for online orders.

- **Free web hosting service:** offered by different companies with limited services, sometimes supported by advertisements, and often limited when compared to paid hosting. Actually what happen in free hosting is they put some kind of limitation on you that you must have to remove putting some money in that account.
- **Shared web hosting service:** websites placed on the same server as many other sites, ranging from a few to hundreds or thousands. Typically, all domains may share a common pool of server resources, such as RAM and the CPU. The features available with this type of service can be quite basic and not flexible in terms of software and updates. Resellers often sell shared web hosting and web companies often have reseller accounts to provide hosting for clients. In shared website hosting all the RAM and CPU that a website can use is very less in amount so when a particular website exceed the particular assigned CPU and RAM uses then the hosting company will suggest you to go for a virtual private server (VPS) and so on for the dedicated server.
- **Reseller website hosting:** become web hosts themselves. Resellers' accounts may vary tremendously in size according to reseller capacitys : they may have their own virtual dedicated server to a co-located server. Many resellers provide a nearly identical service to their provider's shared hosting plan and provide the technical support themselves.

- **Virtual Dedicated server:** also known as a Virtual private server(VPS), divides server resources into virtual servers, where resources can be allocated in a way that does not directly reflect the underlying hardware. VPS will often be allocated resources based on a one server to many VPSs relationship, however virtualization may be done for a number of reasons, including the ability to move a VPS container between servers. The users may have root access to their own virtual space. Customers are sometimes responsible for patching and maintaining the server. If your website exceed the RAM and the CPU assigned or the bandwidth assigned to the particular VPS then the hosting companies suggest you to go for the upgrade the specification for your particular server or when you exceed the range of VPS then you can go for dedicated server or may be when you find yourself unable to manage technically then you can go for the managed server.
- **Dedicated hosting service:** the user gets his or her own Web server and gains full control over it (user has root access for Linux/administrator access for Windows); however, the user typically does not own the server. One type of Dedicated hosting is Self-Managed or Unmanaged. This is usually the least expensive for Dedicated plans. The user has full administrative access to the server, which means the client is responsible for the security and maintenance of his own dedicated server.
- **Managed hosting service:** the user gets his or her own Web server but is not allowed full control over it (user is denied root access for Linux/administrator access for Windows);
- however, they are allowed to manage their data via FTP or other remote management tools. The user is disallowed full control so that the provider can guarantee quality of

service by not allowing the user to modify the server or potentially create configuration problems. The user typically does not own the server. The server is leased to the client.

- **Colocation web hosting service:** similar to the dedicated web hosting service, but the user owns the colo server; the hosting company provides physical space that the server takes up and takes care of the server. This is the most powerful and expensive type of web hosting service. In most cases, the colocation provider may provide little to no support directly for their client's machine, providing only the electrical, Internet access, and storage facilities for the server. In most cases for co-location, the client would have his own administrator visit the data center on site to do any hardware upgrades or changes. Formerly, many colocation providers would accept any system configuration for hosting.
- **Cloud hosting:** is a new type of hosting platform that allows customers powerful, scalable and reliable hosting based on clustered load-balanced servers and utility billing. A cloud hosted website may be more reliable than alternatives since other computers in the cloud can compensate when a single piece of hardware goes down. Also, local power disruptions or even natural disasters are less problematic for cloud hosted sites, as cloud hosting is decentralized. Cloud hosting also allows providers to charge users only for resources consumed by the user, rather than a flat fee for the amount the user expects they will use, or a fixed cost upfront hardware investment. Alternatively, the lack of centralization may give users less control on where their data is located which could be a problem for users with data security or privacy concerns.
- **Clustered hosting:** having multiple servers hosting the same content for better resource utilization. Clustered Servers are a perfect solution for high-availability

dedicated hosting, or creating a scalable web hosting solution. A cluster may separate web serving from database hosting capability. (Usually Web hosts use Clustered Hosting for their Shared hosting plans, as there are multiple benefits to the mass managing of clients).

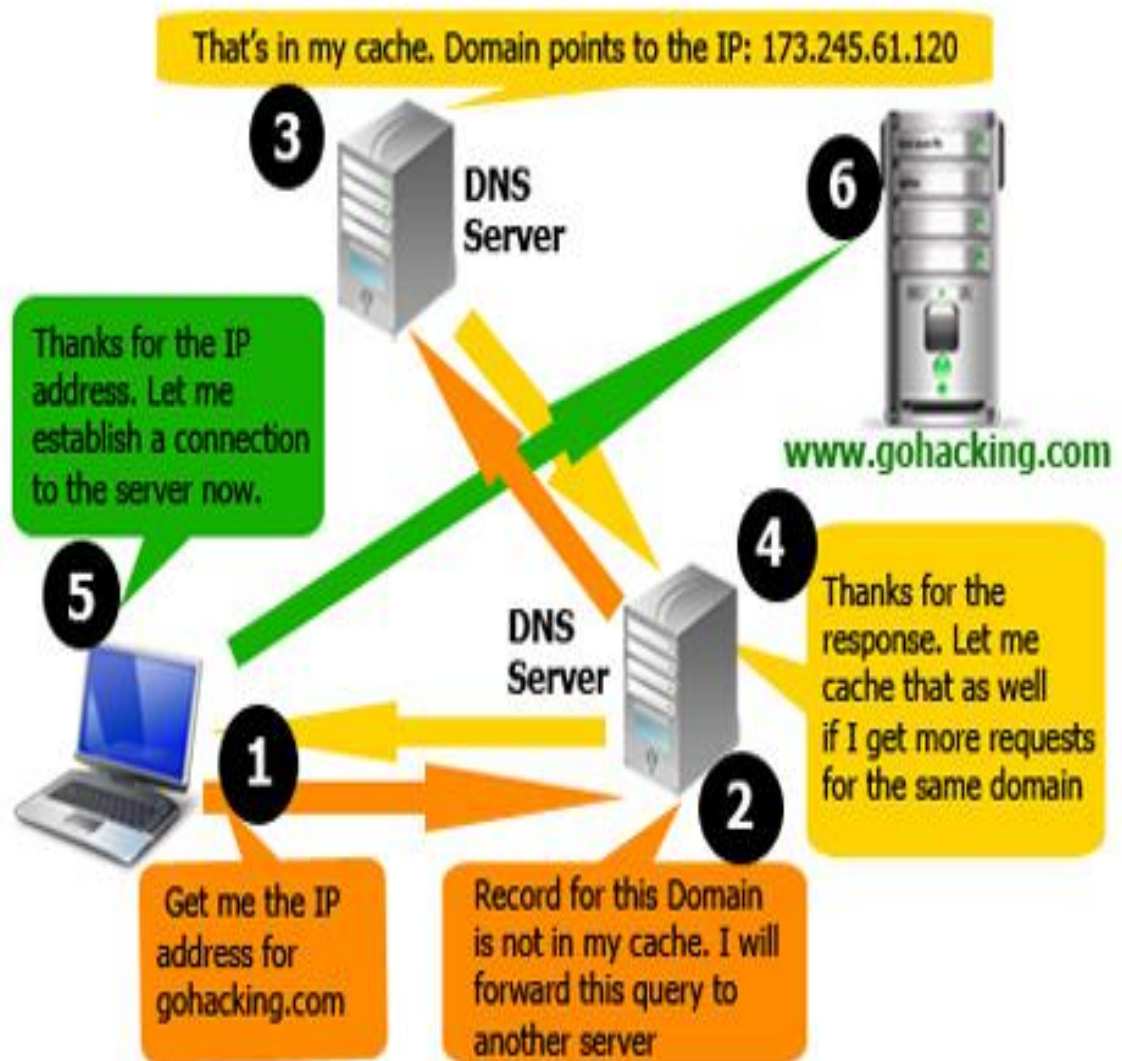
- **Home server:** usually a single machine placed in a private residence can be used to host one or more web sites from a usually consumer-grade broadband connection. These can be purpose-built machines or more commonly old PCs. Some ISPs actively attempt to block home servers by disallowing incoming requests to TCP port 80 of the user's connection and by refusing to provide static IP address. A common way to attain a reliable DNS host name is by creating an account with a dynamic DNS service. A dynamic DNS service will automatically change the IP address that a URL points to when the IP address changes.

What is domain name System

The **Domain Name System (DNS)** is a hierarchical distributed naming system for computers, services, or any resource connected to the Internet or a private network. It associates various information with domain names assigned to each of the participating entities. Most prominently, it translates domain names, which can be easily memorized by humans, to the numerical IP address needed for the purpose of computer services and devices worldwide. The Domain Name System is an essential component of the functionality of most Internet services.

The Domain Name System distributes the responsibility of assigning domain names and mapping those names to IP addresses by designating authoritative name server for each domain.

The Internet maintains two principal namespaces, the domain name hierarchy and the Internet Protocol (IP) address spaces. The Domain Name System maintains the domain name hierarchy and provides translation services between it and the address spaces. Internet name servers and a communication protocol implement the Domain Name System. A DNS name server is a server that stores the DNS records for a domain name, such as address (A or AAAA) records, name server (NS) records, and mail exchanger (MX) records (see also the list of DNS types); a DNS name server responds with answers to queries against its database



Domain Name Server working

IP Address and Domain Names

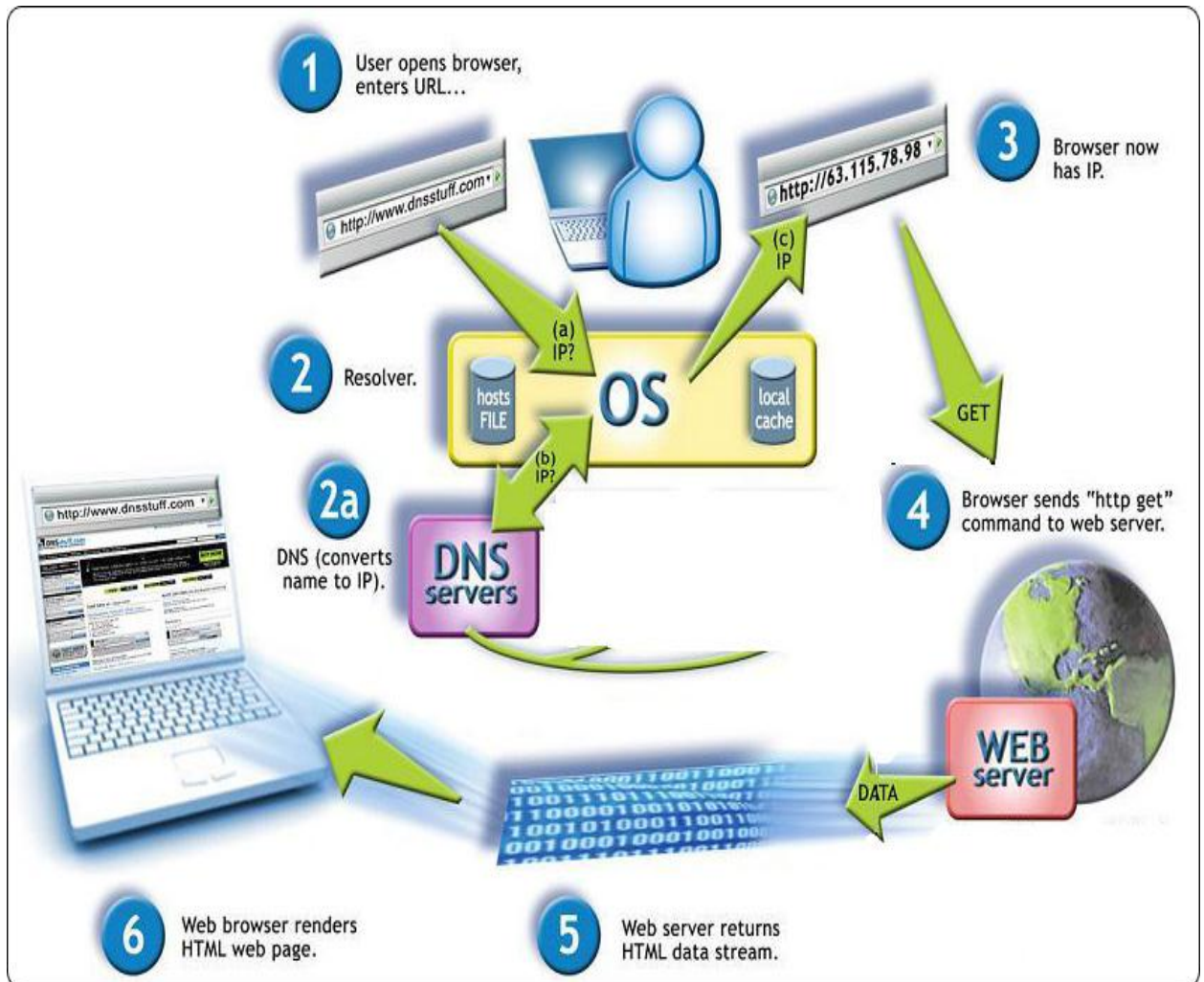
In order to understand what the DNS is and how it works, you need to have a basic understanding of IP addresses and domain names. An IP address, or Internet Protocol address, is a complex string of numbers that acts as a binary identifier for devices across the Internet. In short, an IP address is the address that computers, servers and other

devices use to identify one another online. The vast majority of IP addresses are arranged into four sets of digits - i.e., 12.34.56.78.

A domain name is the information that you enter into a web browser in order to reach a specific website. When you input a URL like `www.example.com/index` into a web browser, its domain name is `example.com`. Basically, a domain name is the human-friendly version of an IP address. Businesses vie for easy-to-remember domain names, since they make it easier for people to remember how to find them online. If people had to remember complex IP addresses in order to navigate the Internet, it wouldn't be nearly as useful or enjoyable.

Translating Domain name into IP address

Although it's possible to enter an IP address into a web browser in order to get to a website, it's a lot easier to enter its domain name instead. However, computers, servers and other devices are unable to make heads or tails of domain names - they strictly rely on binary identifiers. The DNS's job, then, is to take domain names and translate them into the IP addresses that allow machines to communicate with one another. Every domain name has at least one IP address associated with it.



Working of a website

The DNS: A Huge Distributed Database

Millions of people make changes to the DNS every day, through new domain names, changes to IP addresses and other requests. The unique structure of the DNS, though, keeps everything straight. Duplicate domain names cannot exist within domains, but they can exist across them - for instance, example.com and example.gov could be two separate locations online. Otherwise, the highly organized and efficient nature of the DNS ensures that you never have to worry about arriving at two different places each time you input a domain name. When you enter a domain name, its IP address will be resolved and you'll always arrive at the same place. Without the DNS, the Internet wouldn't be useful, practical or enjoyable.

Because all of the names in a given domain need to be unique, there has to be a single entity that controls the list and makes sure no duplicates arise. For example, the COM domain cannot contain any duplicate names, and a company called Network Solutions is in charge of maintaining this list. When you register a domain name, it goes through one of several dozen registrars who work with Network Solutions to add names to the list. Network Solutions, in turn, keeps a central database known as the whois database that contains information about the owner and name servers for each domain. If you go to the whois form, you can find information about any domain currently in existence.

While it is important to have a central authority keeping track of the database of names in the COM (and other) top-level domain, you would not want to centralize the database of all of the information in the COM domain. For example, Microsoft has hundreds of

thousands of IP addresses and host names. Microsoft wants to maintain its own domain name server for the microsoft.com domain. Similarly, Great Britain probably wants to administrate the uk top-level domain, and Australia probably wants to administrate the au domain, and so on. For this reason, the DNS system is a distributed database. Microsoft is completely responsible for dealing with the name server for microsoft.com -- it maintains the machines that implement its part of the DNS system, and Microsoft can change the database for its domain whenever it wants to because it owns its domain name servers.

Every domain has a domain name server somewhere that handles its requests, and there is a person maintaining the records in that DNS. This is one of the most amazing parts of the DNS system -- it is completely distributed throughout the world on millions of machines administered by millions of people, yet it behaves like a single, integrated database.

Types of name server

Root Name Servers:

The *root servers* represent the top level of the DNS hierarchy. These are the DNS servers that contain the complete database of domain names and their corresponding IP addresses.

Local Name Servers:

Local name servers represent the most lower level DNS servers that are owned and maintained by many business organizations and Internet Service providers. This kind of local servers are able to resolve frequently used domain names into their corresponding IP addresses by caching the recent information. This cache is updated and refreshed on a regular basis.

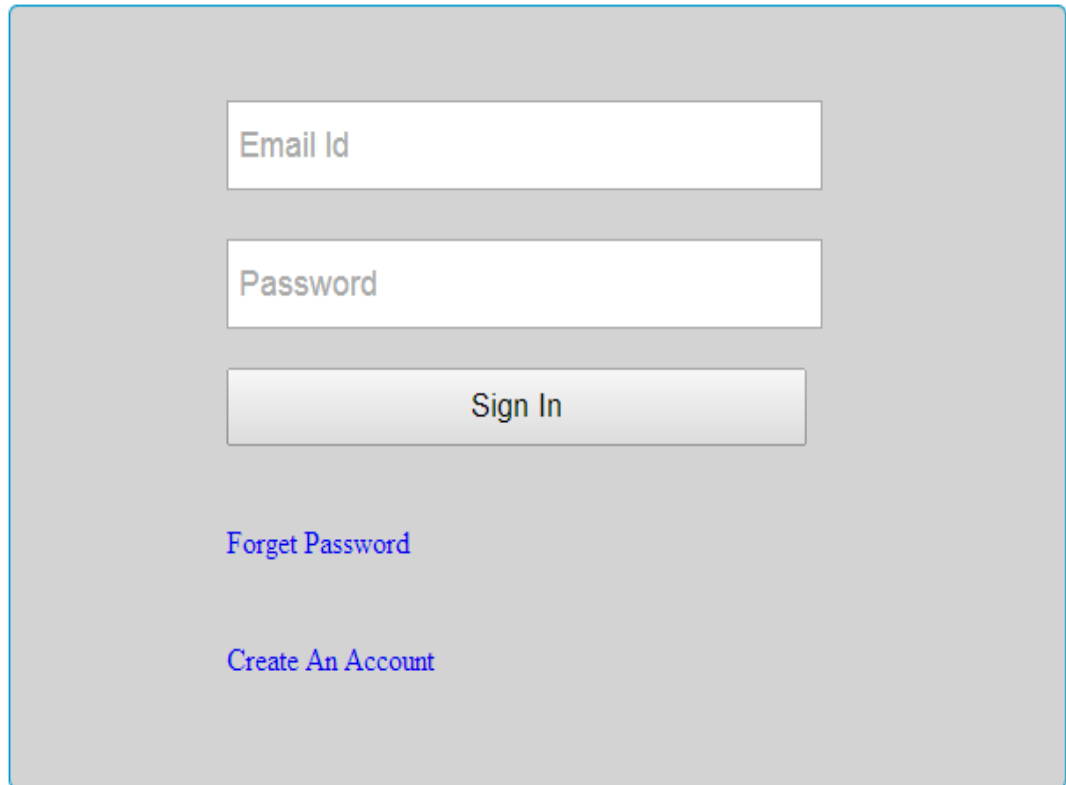
Technologies used

- ASP.NET for Backend development.
- MSSQL Database.
- HTML5, CSS3, JAVASCRIPT, JQUERY for front end development.

Secure authentication functionalities

- We must have to check that only the authenticated user is allowed to login of access data.
- If someone is trying to access the portal of particular user by trying some random password using brute force or some kind of cryptanalytic attacks. Detect the IP of that particular person and block that IP.
- This authentication system has a good feature that it will able to rewrite its code by their own.
- When this authentication system find that a user is trying to login and he is not able to login from last 20 times. This system will block his account and send a email on his registered email id that someone is trying to login at your account if that was not you please change your password and if that is you and you forgot your password please recover it from portal.
- When user click on recover password the system will unlock itself and the password is sended to his registered email id.
- Actually some intellgent mechine system automatically fill the login form and when system is locked they will automatically call the forget password.
- The solution of this thing is If the user recovering his password more then 10 times in a day then the system will lock for a day and the security related mail is send to registered email id.
- This time when the user account has been locked due to password recovery more then 10 times in a day the user is not able to perform forget password also.In this case the user will given a unlock system control button in his email only.so using that the user can recover his account.

Sign In to Your Account



Email Id

Password

Sign In

[Forget Password](#)

[Create An Account](#)

Login Portal

How to block system

- When you storing the user information in database create an additional integer field to store the unsuccessful login attempts.
- Each time when a user failed to login the logincount is increased by one. and when user login each time the system check its login count if it is reached to 20.then there is no login processed after this .It is doesnot matter whether login info is correct or not.
- If login count is not reached to maximum limit and the login info is correct the process the request and set logincount to zero.

Blocking particular IP's

- When system determines that a unnecessary traffic is sending by an particular IP to the login page .Then the web portal will rewrite its code and the requests that are coming for the login page .They will first go to IP checker program.The IP checker program has its database of blocked IP's .So if the IP is blocked one the connection has been terminated else it is redirected to login page.
- When the system determine that there is no blocked IP remained for long time.it will again rewrite its code and the IP checker program has been removed.
- After one month all blocked IP's has been removed form blocked list.

The benefit of IP Blocker

- What happen that sometimes the hackers try to login using some random Passwords. As we discuss earlier that the system will blocked the account of a particular user.
- But still the database is used for checking login count .that is an extra overhead on the login portal.so blocked IP system will not gona reach the particular wrong type of person till that login portal.

Limitations of IP Blocker

- As we know that we only able to get the public IP of a particular user not the private one.
- So consider a scenario of JUIT where I am try to hack someone account .So as the result of this my public IP has been blocked. Now not even a single user from this university is able to access the website.

Remove the limitation of IP Blocker in private networks

- AS we discuss earlier that we are not able to get the private IP of user from a program which is executed at server side.
- So we require a code like some kind of script that is executed at client side and sent this private IP information to the server.

Collaboration with domain name managing tool

Actually if you want to sell a domain name there are two ways of domains this:-

1. Make a domain name registrar.
2. Contact a domain name register and become a domain name reseller.

How to Become a Domain Registrar

Some experts who are following modern technology have called the world of domains a gold rush scenario, but profiting from domain name administration isn't always easy. Some entrepreneurs might get a healthy yield from investing in domain names, but others can find this type of work to be a difficult process. One of the key roles in handling domains is the role of a domain registrar. A domain registrar is an entity that is accredited to register domain names and administer providing domain services to the public. Starting up a domain registrar involves some critical steps, and for those who want to understand how to become a domain registrar, it's important to understand the general process and what needs to be involved.

Learn about ICANN accreditation. The Internet Corporation for Assigned Names and Numbers (ICANN) is an agency that domain registrars must go through. Find out more about this regulating group online to know more about what it takes to become a domain registrar.

Study the domain business. To get an idea of whether domain registration or some other role is right for you, learn more about domain name handling. You may choose to go in the direction of domain name buying and selling or, Internet real estate, rather than trying to get set up as a domain registrar.

Learn about other rules for domain registrar contractors.

Other provisions apply to the task of starting up as a domain registrar. Some of these will involve more high costs; others are procedural necessities for this kind of administration.

- Find out about applicable liability insurance. A domain registrar may need to have business liability insurance for up to a certain amount in order to secure a domain registration business.
- Find out about stable IP address requirements. A domain registrar will need a set IP address in order to provide domain name services.

Work toward independent or career domain registrar goals.

- If your goal is to become a domain registrar business, most of your attention will be toward the above challenges and all of the other regulations that apply to domain name handling.
- If you choose to become a domain registrar as an employee of a bigger domain name handling company, get familiar with the telecommunications companies that often handle domain name registration. Find contacts through job fairs and other events and get a foot in the door at a domain name handling company.

Infeasibility for becoming domain name register

- Internet Corporation for Assigned Names and Numbers (ICANN) have all rights to allow a person for Domain name register.
- They allow only the companies who have previous experiences in web services and who has capital more the RS 50 lac and the application fee is \$4000 that is not refundable.

- So first way is not possible for my company.

Become a domain name reseller

- Yes it is feasible to become a domain name reseller.
- The cost of this is just Rs 11000.(Reference <http://india.resellerclub.com/domain-reseller-program/>?)

Problems in domain reseller

- Actually they people provide a toolkit to us, that is attached to our website and the user will never know that the actual work is performed somewhere else.
- What my problem in this is when user want to update some information regarding domain name he must have to login at toolkit panel, and when he want to manage his website he need to login at my own designed panel.so this **Two time login issue** will come here.

File manager functionalities

- A Secure file manager through which user can upload his website and he will also be able to update the website code ,delete a particular page ,rename a particular page , create a new page of only allowed types.
- We must have take care of one thing that we should check the uploading content so that he is not able to upload anything that can harm the server.
- User only able to create new file of allowed types.
- *Getting user and domain data.*

This interface enables extensions to retrieve information about Plesk users and hosted domains. Particularly, this interface can be used for establishing context of the user currently logged in to Plesk and the domain that is open in the Control Panel. *API RPC*.

- Key-value storage.

Extensions can put some of their persistent data, for example, their settings in the key-value storage (provided by Plesk) and then easily get the data on demand.

- Event handlers.

This interface lets extensions subscribe to a particular Plesk event and trigger a particular action depending on the event information.

- Scheduled tasks.

Using this interface, extensions can run periodic tasks, for example, to collect daily statistics or analyze data.

- Rendering UI elements.

This interface offers means of generating UI elements, such as links, lists, messages, buttons, and tabs, by using controller and view helpers.

- File manager.

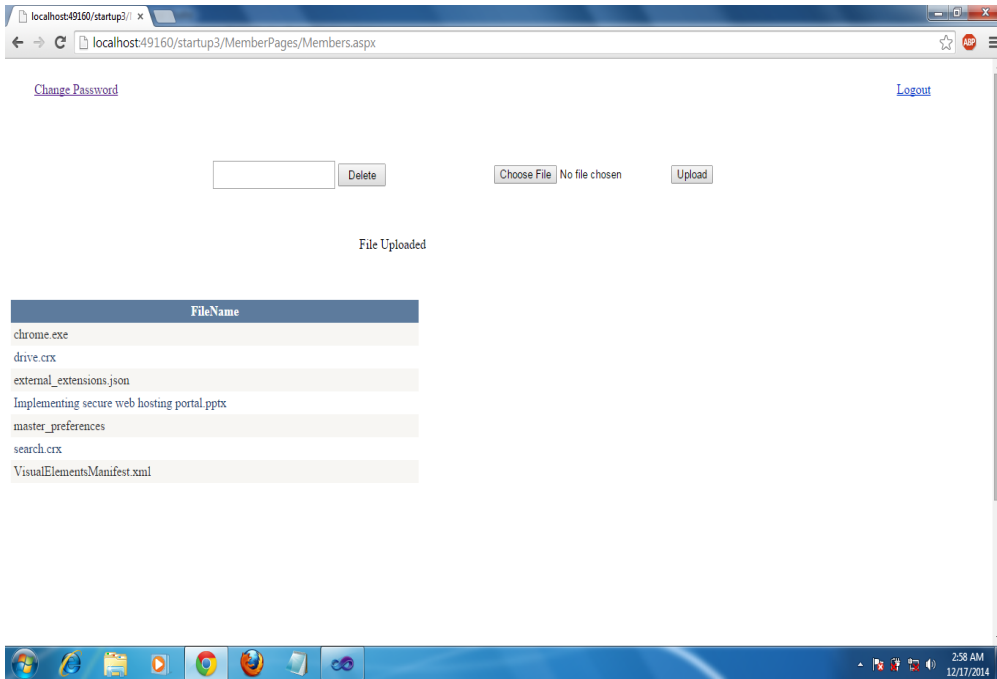
Using this interface, extensions can read and edit files and directories on the server and extend the Plesk File Manager's functionality.

- Home widget.

Using this interface, extensions can advertise themselves by adding promotional blocks to the Administrator's dashboard (the **Home** page).

- Global JavaScript and CSS files.

Using these files, extensions can adjust the functionality and appearance of existing Plesk pages, all at once or only selected ones.



File Manager

Authentication System

```
using System;
using System.Collections.Generic;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
using System.Data.SqlClient;
using System.Data;
using System.Web.Configuration;
using System.Web.Security;
using System.Net.Mail;
public partial class login: System.Web.UI.Page
{
    SqlConnection cn;
    SqlCommand cmd;
    SqlDataAdapter da;
    SqlDataReader rdr;
    DataSet ds;
    string id;
    string query = null;
    String s,s2,s3;
    protected void Page_Load(object sender, EventArgs e)
    {
    }
    protected void sign_btn_Click(object sender, EventArgs e)
    {
        Response.Redirect("signup.aspx");
    }
    protected void submit_btn_Click(object sender, EventArgs e)
    {
        string a;
        DataSet ds = new DataSet();
        string re = roll_txt.Text.ToString();
        using (SqlConnection con = new SqlConnection("Data Source=MAHESH-PC;Initial
Catalog=juit;Persist Security Info=True;User ID=sa;Password=sql"))
        {
            con.Open();
            SqlCommand cmd = new SqlCommand("SELECT logincount1 FROM puser
Where email= '" + roll_txt.Text.ToString() + "'", con);
            SqlDataAdapter da = new SqlDataAdapter(cmd);
            da.Fill(ds);
            con.Close();
            a = ds.Tables[0].Rows[0]["logincount1"].ToString();
        }
    }
}
```

```

        Response.Write(a);
    }
    int a1 = Int32.Parse(a);
    if (a1 <= 4)
    {
        SqlDataSource select = new SqlDataSource();
        select.ConnectionString = "Data Source=MAHESH-PC;Initial
Catalog=juit;Persist Security Info=True;User ID=sa;Password=sql";
        select.SelectCommand = "SELECT * FROM [puser] WHERE ([email] =
@UserName) AND ([pass] = @Password)";
        select.SelectParameters.Add("UserName", roll_txt.Text);
        select.SelectParameters.Add("Password", pass_txt.Text);
        DataView results = (DataView)select.Select(DataSourceSelectArguments.Empty)

        if (roll_txt.Text == "" || pass_txt.Text == "")
        {
            LabelOnLgnPage.Visible = true;
            LabelOnLgnPage.Text = "Your Email Id or password has not been entered.";
        }
        else
        {
            if (results.Count > 0)
            {
                // The user exists and the information matches! Create a cookie and do not let
it persist by saying false at the end.
                FormsAuthentication.SetAuthCookie(roll_txt.Text, false);
                Session["userid"] = roll_txt.Text;
                string s2 = Request.QueryString["c1"];

                Response.Write("success");
                string Connectionstring = "Data Source=MAHESH-PC;Initial
Catalog=juit;Persist Security Info=True;User ID=sa;Password=sql";
                cn = new SqlConnection(Connectionstring);
                string str1 = "update puser set logincount1=0 where email= " +
roll_txt.Text.ToString() + """;
                cn.Open();
                try
                {
                    cmd = new SqlCommand(str1, cn);
                    cmd.ExecuteNonQuery();
                    cn.Close();
                    Response.Write("successfully logged in");
                }
                catch (Exception ex)
                {
                    Response.Write("kk");
                }
            }
        }
    }
}

```

```

    }
    string str2 = "update puser set logincount2=0 where email= " +
roll_txt.Text.ToString() + """;
    cn.Open();
    try
    {
        cmd = new SqlCommand(str2, cn);
        cmd.ExecuteNonQuery();
        cn.Close();
        Response.Write("successfully logged in");
    }
    catch (Exception ex)
    {
        Response.Write("kk");
    }
    Response.Redirect("MemberPages/Members.aspx")
}
else
{
    LabelOnLgnPage.Visible = true;
    LabelOnLgnPage.Text = "Please check your Email id or password and try
again.";
    string Connectionstring = "Data Source=MAHESH-PC;Initial
Catalog=juit;Persist Security Info=True;User ID=sa;Password=sql";
    cn = new SqlConnection(Connectionstring);
    string str1 = "update puser set logincount1=logincount1+1 where email= "
+ roll_txt.Text.ToString() + """;
    cn.Open();
    try
    {
        cmd = new SqlCommand(str1, cn);
        cmd.ExecuteNonQuery();
        cn.Close();
    }
    catch (Exception ex)
    {
        Response.Write("kk");
    } } } }
else
{
    Response.Write("Too much login attempts");
    string senderID = "lkgkbc4@gmail.com";// use sender's email id here..
    const string senderPassword = "Yah1pr29783101279";// sender password here...
    try
    {
        SmtplibClient smtp = new SmtplibClient

```

```
{
    Host = "smtp.gmail.com", // smtp server address here...
    Port = 587,
    EnableSsl = true,
    DeliveryMethod = SmtpDeliveryMethod.Network,
    Credentials = new System.Net.NetworkCredential(senderID,
senderPassword),
    Timeout = 30000,
};
    MailMessage message = new MailMessage(senderID, re, "Security alarm By
Webhobs", "possible hacker account on your password");
    smtp.Send(message);
}
catch (Exception ex2)
{
    Response.Write("Email sender is not working");
} } }
```

Search engine optimization for website

Search engine optimization is the process of affecting the visibility of a website or a web page in a search engine's unpaid results - often referred to as "natural," "organic," or "earned" results. In general, the earlier (or higher ranked on the search results page), and more frequently a site appears in the search results list, the more visitors it will receive from the search engine's users. SEO may target different kinds of search, including image search, local search, video search, academic search, news search.

As an Internet marketing strategy, SEO considers how search engines work, what people search for, the actual search terms or keywords typed into search engines and which search engines are preferred by their targeted audience. Optimizing a website may involve editing its content, HTML and associated coding to both increase its relevance to specific keywords and to remove barriers to the indexing activities of search engines. Promoting a site to increase the number of backlinks, or inbound links, is another SEO tactic.

Content is king

There is no replacement of content that can make a website to show more in results or we can say that only if you providing something that is really useful for the users of internet. So if you providing rich content you will be on top pages of search engine results, but if your content is not appropriate you will be not on the top pages of search engine and may you are not on any page of search result. So now the thing is clear always write the rich content but still the tricks are always there or you can say these are not tricks just to find out some patterns of algorithms that search engine are using for indexing of websites. Here I want to tell some interesting points to increase the rank of your website:-

Importance of Title tag

The <title> tag defines the title of the document. The title element is required in all HTML/XHTML documents and is one of the key on-page SEO elements. The title tag appears on the results pages just above the URL (see below) and also appears at the top of a browser.

Titles give users a quick insight into the content of the web page and how it might be relevant to their query. It is often the primary piece of information with the meta description (see below) that is used by potential visitors to decide which search result to click on, so it's important to use high-quality and meaningful titles when you optimise your web pages. Here are best practice guidelines for writing title tags:

- Title tags generally should be less than 70 characters long so the whole tag fits on results pages when it is displayed and people can read it at a quick glance.
- Every title tag on your website should be unique with distinct, descriptive titles for every page on your site.
- Use keywords in title tags and place important keywords close to the front of the title tag. Search Engines will “bold” (or highlight) those terms in the search results when a user has performed a query with those terms.
- Avoid keyword spamming. There is no reason to have the same words or phrases appear multiple times.

Meta description tag

Matt Cutts, Google's head of Webspam announced in 2009 that neither meta descriptions nor meta keywords factor into google ranking algorithm for web search. However, he stresses that it is still important to write a meta description as Google will sometimes use the summary in search results snippets (located below the URL) if the Search Engine believes it is an accurate synopsis of the page.

Accurate meta descriptions can also help improve your click-through rates along with relevant title tags.

- Meta description tags generally should be approximately 150-160 characters long so the whole tag fits on Search Engine Results Pages when it is displayed and people can read it at a quick glance.
- Ideally every page on your site should have a unique meta description. Google suggests using site-level descriptions on the main home page or other aggregation pages, and use page-level descriptions everywhere else.
- For a large site, creating unique meta descriptions may be time consuming. Google suggests that at the least, create a summary for the critical URLs like your home page and popular pages. The HTML suggestions page in Webmaster Tools lists pages where Google has detected missing or problematic meta descriptions.
- The meta description tag should ideally target a unique keyword for each web page but again avoid keyword spamming and have the keyword only appear once.
- Descriptions are like a short sales pitch or summary for the page. Write keyword-rich descriptions that engage visitors and entice them to click-through to your website.
- The meta description does not have to be a full sentence.

What are Headings?

Headings are pieces of HTML code that allow you to make certain words stand out on a page. To understand how headings work on a web page, let's consider an article in a magazine or newspaper. The title of the article is usually bigger and more pronounced than other words. It may be bold, colored, underlined or have some other format quality that makes it stand out. Whatever the case, this allows you to scan a page in a magazine or newspaper and pick out the sections you want to read. An H1 tag is similar. It makes certain words to stand out, which allows readers of your website to see what the page is about immediately, and determine whether or not they want to read it. It also helps tell search engines what your page is about, and when used in conjunction with page title, META description, keywords and keyword targeted content, helps improve search engine ranking for specific keywords and phrases.

Importance of H1 tag

The H1 tag is the most important heading because it's the highest level tag that shows what your specific page is about. Search engines generally give this tag more weight over other headings, so it usually improves your search engine ranking when you use it correctly. If you give main heading of the page using h1 tag or in second scenario in h2 you can see the significant amount of difference in search engine ranging of both page indexing but this not mean you use a lot of h1 tag in a page generally is a favorable to use only h1 tag in a page but not is the hot discussion topic that whether we should use one h1 tag in a page or we can use more then one or as much as we want to use like till 4 and 5.

How many H1 tag we can use in a page

Whether you're a webmaster or a web designer, there's a question you've most likely either asked or answered many times over the years. That question is, "How many h1 tags can I use per page, and how exactly should I implement them?"

There are generally two reasons this question is asked. The first and most common is for SEO purposes; ensuring content is formatted in the best way possible to aid search engine indexing. The second is technical correctness; ensuring that markup is written in accordance with the appropriate W3C spec.

With the advent of HTML5 the answer to this question has significantly changed in both SEO and technical regards. It's now not only possible to have multiple h1 level headings per webpage that will make sense to search engines, but in most cases it's actually the recommended course.

However, because the HTML5 spec is not all that widely understood yet, there is still a lot of advice floating around, some even written very recently, based on the rules of pre-HTML5 web design.

The Pre HTML5 "Single <h1> Tag" Rule

For a long time it was considered one of the cardinal rules of HTML and SEO that each individual page of a site should have one h1 level heading, and one only. Additionally, the rule prescribed that this singular h1 heading should denote the primary subject matter of the page.

This rule was generally followed with the goal of helping search engines better understand the primary subject matter of each page, so they could determine their relevance to various search phrases, improve search engine accuracy and hence improve rankings for well-crafted sites.

Let's consider an example pre-HTML5 business website. In this example site the business name is displayed in the header section on all pages, the homepage features a description of the business, and in another area of the site expert articles are published.

In following the "Single h1 Tag" rule, the homepage of this website has h1 tags applied to the name of the business in the header section, indicating the business itself is the primary subject matter of that page.

However, in an article published elsewhere on that same website, h1 tags are removed from the business name in the header and instead applied to the article's title. This is done because the article title provides a more representative label for the primary subject matter of the page, which is now the article's content as opposed to the description of the business that was on the homepage.

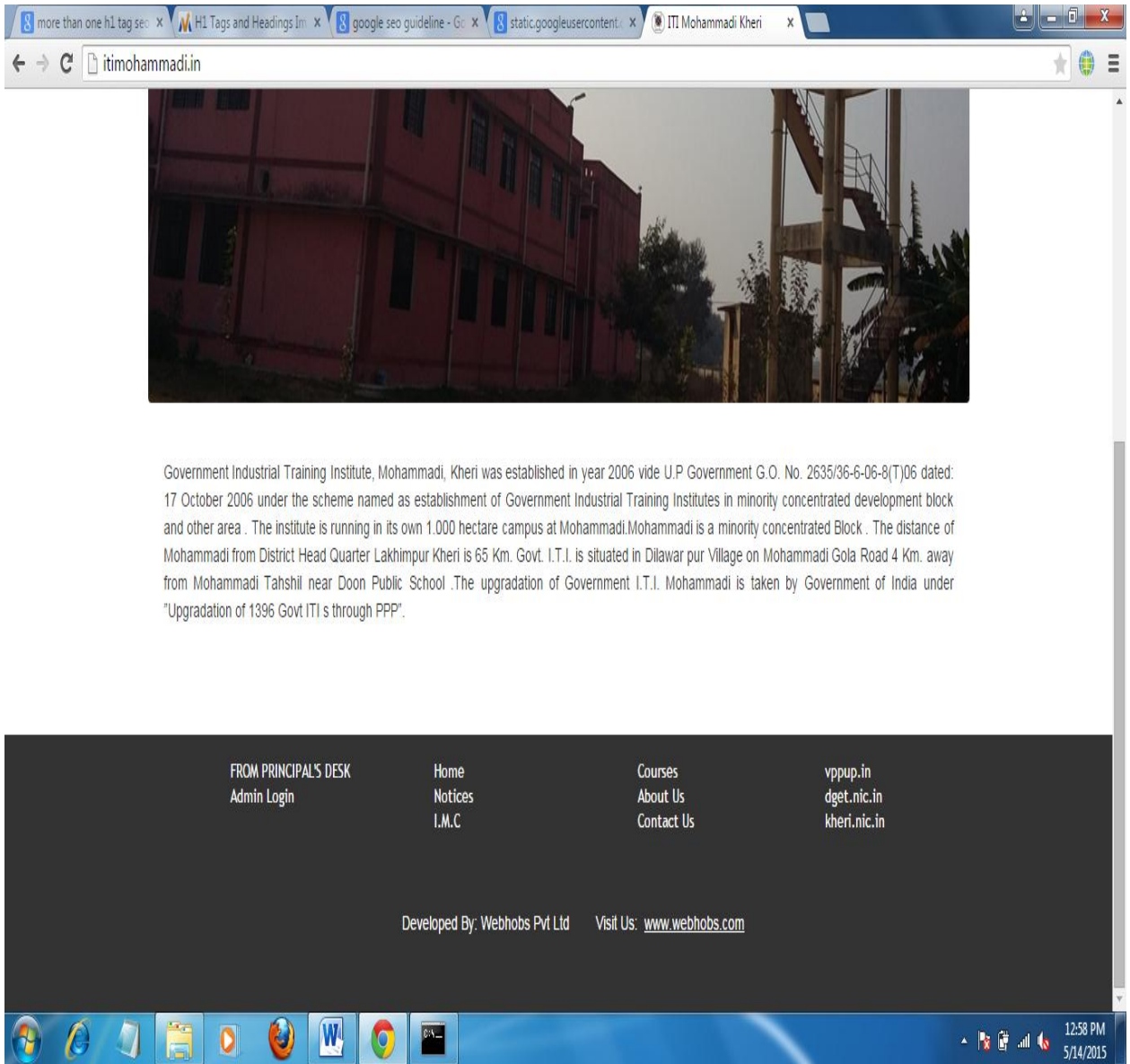
HTML5's New <h1> Usage Rules

Yes, it's true. You can now use as many sets of h1 tags as are required, via HTML5. But that doesn't mean they should be freely added in arbitrary locations. Just as there were rules of h1 tag usage that came from old document outlines, so too are there now new rules based on the HTML5 document outlining algorithm.

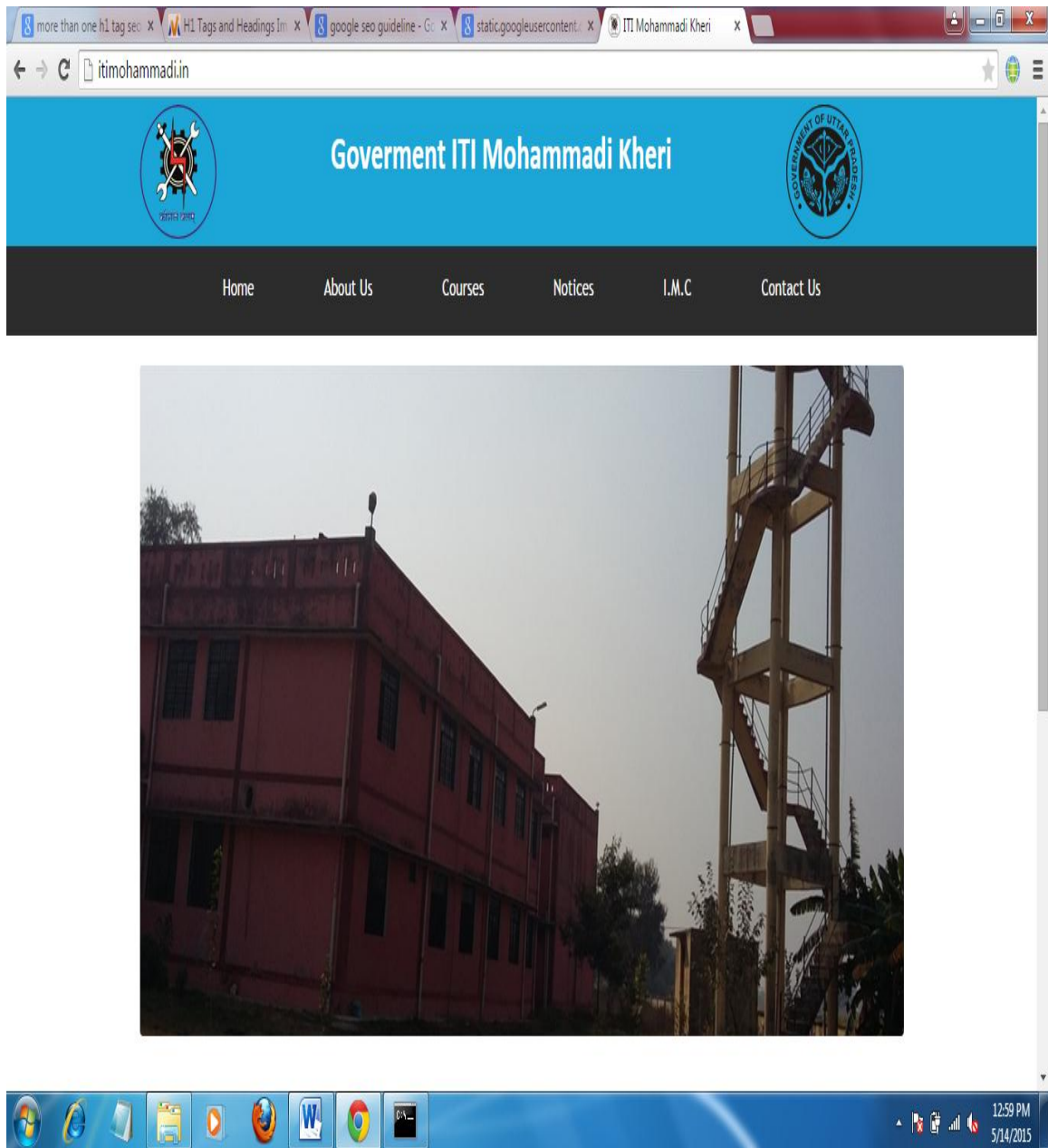
- Use one set of h1 tags per sectioning root or content section.
- There should always be a h1 level heading between the opening body tag and the first content section, to label the overall document.
- When 1 h1 level heading is to be used to label a content section, it should be the first heading that appears in the section, because the first heading is always interpreted as the section's label.
- If a h1 level heading is used to label a content section, any other headings used in that section should be h2 or lower in order to create an accurate document outline.

Make your site easier to navigate

The navigation of a website is important in helping visitors quickly find the content they want. It can also help search engines understand what content the webmaster thinks is important. Although Google's search results are provided at a page level, Google also likes to have a sense of what role a page plays in the bigger picture of the site. All sites have a home or "root" page, which is usually the most frequented page on the site and the starting place of navigation for many visitors. Unless your site has only a handful of pages, you should think about how visitors will go from a general page (your root page) to a page containing more specific content. Do you have enough pages around a specific topic area that it would make sense to create a page describing these related pages (e.g. root page -> related topic listing -> specific topic)? Do you have hundreds of different products that need to be classified under multiple category and subcategory pages?



Itimohammadi website

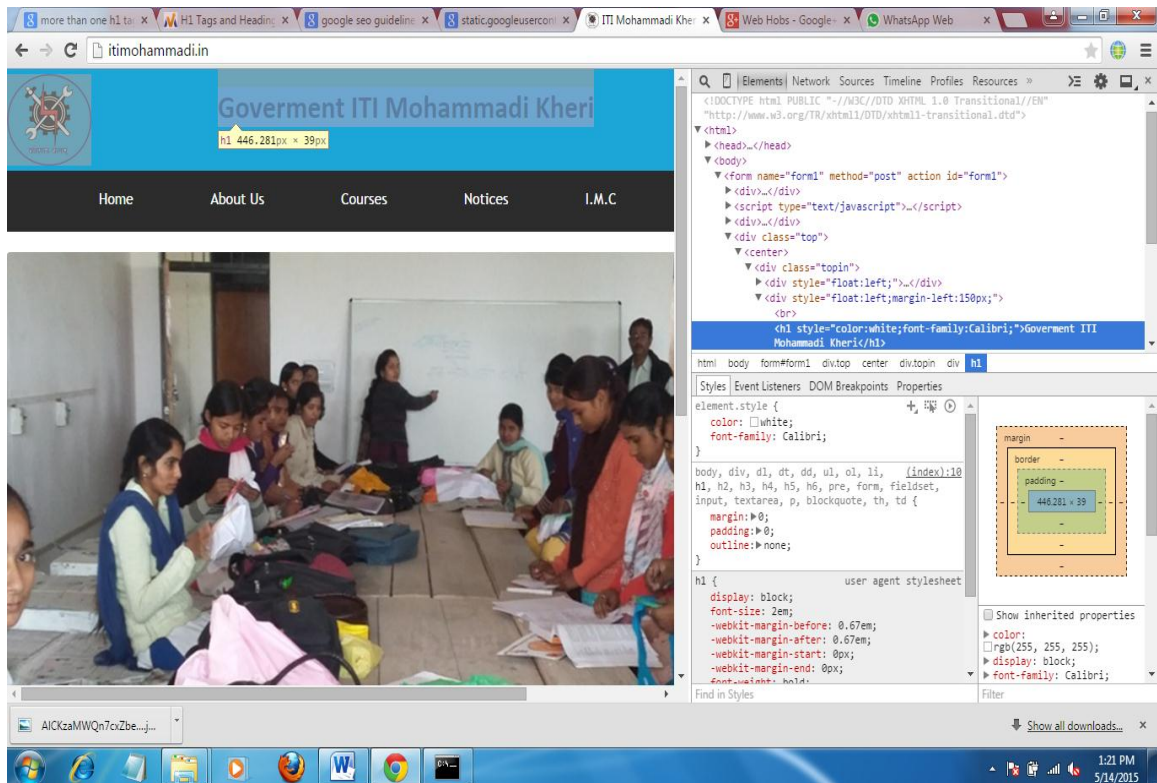


Itimohammadi website

Punishment of using wrong tags

I developed two website itimohammadi.in and itichandanchauki.in both website has almost same content just have one single difference and that is first one using h1 tag with the content written in that is “Government ITI MOHAMMADI” and the second website has the content “GOVERNMENT ITI CHANDAN CHAUKI” but the tag which holds this content is a tag now if you type in search engine like in google itimohammadi the website itimohammadi.in is one first page first rank but if you type on google itichandanchauki itichandanchauki.in is not found on first page not even in secong page that this is the live experiment of using wrong tags and getting punishment of that.

I typed first name itimohammadi in google search and the results are:-





87%



01:13



itimohammadi

1



Google

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ITI Mohammadi Kheri

itimohammadi.in

Government Industrial Training Institute,
Mohammadi, Kheri was established in year 2006
vide U.P Government G.O. ...

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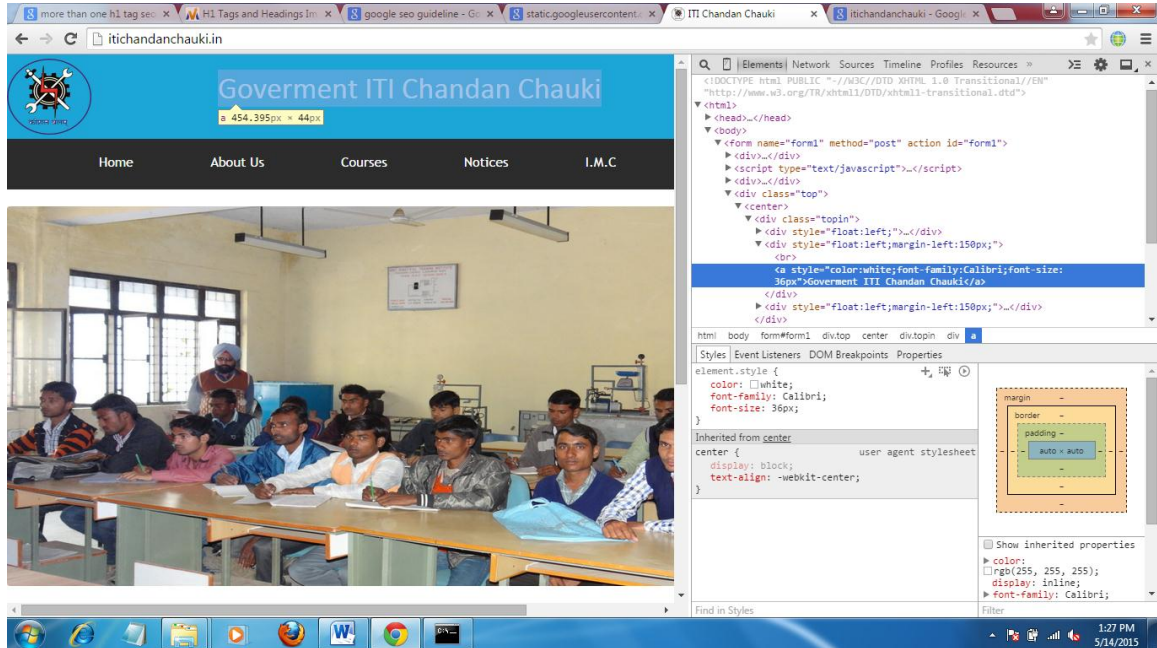
[from principal's desk](#)

[itimohammadi.in > principleme...](http://itimohammadi.in/principleme...)

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After that I typed second name in google search itichandanchauki and the results are not in favour the website which is developed by me is nowhere.



Itimohammadi website h1 tag live view



85%



01:22



itichandanchauki



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Link building importance

Since the late 1990s search engines have treated links as votes for popularity and importance in the ongoing democratic opinion poll of the web. The engines themselves have refined the use of link data to a fine art, and use complex algorithms to perform nuanced evaluations of sites and pages based on this information.

Links aren't everything in SEO, but search professionals attribute a large portion of the engines' algorithms to link-related factors). Through links, engines can not only analyze the popularity websites and pages based on the number and popularity of pages linking to them, but also metrics like trust, spam, and authority. Trustworthy sites tend to link to other trusted sites, while spammy sites receive very few links from trusted sources.

Link Signals Used by search engines

How do search engines assign value to links? To answer this, we need to explore the individual elements of a link, and look at how the search engines assess these elements. We don't fully understand the proprietary metrics that search engines use, but through analysis of patent applications, years of experience, and hands-on testing, we can draw some intelligent assumptions that hold up in the real world. Below is a list of notable factors worthy of consideration. These signals, and many more, are considered by professional SEOs when measuring link value and a site's link profile.

Global Popularity

The more popular and important a site is, the more links from that site matter. A site like Wikipedia has thousands of diverse sites linking to it, which means it's probably a popular and important site. To earn trust and authority with the engines, you'll need the help of other link partners. The more popular, the better.

Local/Topic-Specific Popularity

The concept of "local" popularity, first pioneered by the Teoma search engine, suggests that links from sites within a topic-specific community matter more than links from general or off-topic sites. For example, if your website sells dog houses, a link from the Society of Dog Breeders matters much more than one from a site about roller skating.

Anchor Text

One of the strongest signals the engines use in rankings is anchor text. If dozens of links point to a page with the right keywords, that page has a very good probability of ranking well for the targeted phrase in that anchor text. You can see examples of this in action with searches like "click here," where many results rank solely due to the anchor text of inbound links.

TrustRank

It's no surprise that the Internet contains massive amounts of spam. Some estimate as much as 60% of the web's pages are spam. In order to weed out this irrelevant content, search engines use systems for measuring trust, many of which are based on the link graph. Earning links from highly-trusted domains can result in a significant boost to this scoring metric. Universities, government websites and non-profit organizations represent examples of high-trust domains.

Link Neighborhood

Spam links often go both ways. A website that links to spam is likely spam itself, and in turn often has many spam sites linking back to it. By looking at these links in the aggregate, search engines can understand the "link neighborhood" in which your website exists. Thus, it's wise to choose those sites you link to carefully and be equally selective with the sites you attempt to earn links from.

Freshness

Link signals tend to decay over time. Sites that were once popular often go stale, and eventually fail to earn new links. Thus, it's important to continue earning additional links over time.

Social Sharing

The last few years have seen an explosion in the amount of content shared through social services such as Facebook, Twitter, and Google+. Although search engines treat socially shared links differently than other types of links, they notice them nonetheless. There is much debate among search professionals as to how exactly search engines factor social link signals into their algorithms, but there is no denying the rising importance of social channels.

Put an HTML site map page on your site, and use an XML Sitemap file

A simple site map page with links to all of the pages or the most important pages (if you have hundreds or thousands) on your site can be useful. Creating an XML Sitemap file for your site helps ensure that search engines discover the pages on your site and avoid using two things:-

1. Letting your HTML site map page become out of date with broken links
2. Creating an HTML site map that simply lists pages without organizing them, for example by subject.

Have a useful 404 page

Users will occasionally come to a page that doesn't exist on your site, either by following a broken link or typing in the wrong URL. Having a custom 404 page that kindly guides users back to a working page on your site can greatly improve a user's experience. Your 404 page should probably have a link back to your root page and could also provide links to popular or related content on your site. Google provides a 404 widget that you can embed in your 404 page to automatically populate it with many useful features. Avoid using three things:-

1. Allowing your 404 pages to be indexed in search engines (make sure that your webserver is configured to give a 404 HTTP status code when non-existent pages are requested)
2. providing only a vague message like "Not found", "404", or no 404 page at all
3. using a design for your 404 pages that isn't consistent with the rest of your site

Make effective use of robots.txt

A "robots.txt" file tells search engines whether they can access and therefore crawl parts of your site. This file, which must be named "robots.txt", is placed in the root directory of your site. You may not want certain pages of your site crawled because they might not be useful to users if found in a search engine's search results. If you do want to prevent search engines from crawling your pages, Google Webmaster Tools has a friendly robots.txt generator to help you create this file. Note that if your site uses subdomains and you wish to have certain pages not crawled on a particular subdomain, you'll have to create a separate robots.txt file for that subdomain. For more information on robots.txt, we suggest this Webmaster Help Center guide on using robots.txt files

Be aware of rel="nofollow" for links

Another use of nofollow is when you're writing content and wish to reference a website, but don't want to pass your reputation on to it. For example, imagine that you're writing a blog post on the topic of comment spamming and you want to call out a site that recently comment spammed your blog. You want to warn others of the site, so you include the link to it in your content; however, you certainly don't want to give the site some of your reputation from your link. This would be a good time to use nofollow. Lastly, if you're interested in nofollowing all of the links on a page, you can use "nofollow" in your robots meta tag, which is placed inside the tag of that page's HTML.

Guide mobile users accurately(Google specific)

Running desktop and mobile versions of your site Redirect mobile users to the correct version Homepage Product page Mobile version Homepage Redirect Redirect Mobile user (1) An example of redirecting a user to the mobile version of the URL when it's accessed from a mobile device. In this case, the content on both URLs needs to be as similar as possible. Desktop version Product page Glossary One of the most common problems for webmasters who run both mobile and desktop versions of a site is that the mobile version of the site appears for users on a desktop computer, or that the desktop version of the site appears when someone accesses it on a mobile device. In dealing with this scenario, here are two viable options: When a mobile user or crawler (like Googlebot-Mobile) accesses the desktop version of a URL, you can redirect them to the corresponding mobile version of the same page. Google notices the relationship between the two versions of the URL and displays the standard version for searches from desktops and the mobile version for mobile searches. If you redirect users, please make sure that the content on the corresponding mobile/desktop URL matches as closely as possible (1). For example, if you run a shopping site and there's an access from a mobile phone to a desktop-version URL, make sure that the user is redirected to the mobile version of the page for the same product, and not to the homepage of the mobile version of the site. We occasionally find sites using this kind of redirect in an attempt to boost their search rankings, but this practice only results in a negative user experience, and so should be avoided at all costs. On the other hand, when there's an access to a mobile-version URL from a desktop browser or by our web crawler, Googlebot, it's not necessary to redirect them to the desktop-version. For instance, Google doesn't automatically redirect desktop users from their mobile site to their desktop site; instead they include a link on the mobileversion page to the desktop version. These links are especially helpful when a mobile site doesn't provide the full functionality of the desktop version—users can easily navigate to the desktop-version if they prefer.

Some sites have the same URL for both desktop and mobile content, but change their format according to User-agent. In other words, both mobile users and desktop users access the same URL (i.e. no redirects), but the content/format changes slightly according to the User-agent. In this case, the same URL will appear for both mobile search and desktop search, and desktop users can see a desktop version of the content while mobile

users can see a mobile version of the content (2). However, note that if you fail to configure your site correctly, your site could be considered to be cloaking, which can lead to your site disappearing from our search results. Cloaking refers to an attempt to boost search result rankings by serving different content to Googlebot than to regular users. This causes problems such as less relevant results (pages appear in search results even though their content is actually unrelated to what users see/want), so we take cloaking very seriously. So what does "the page that the user sees" mean if you provide both versions with a URL? As I mentioned in the previous post, Google uses "Googlebot" for web search and "Googlebot-Mobile" for mobile search. To remain within our guidelines, you should serve the same content to Googlebot as a typical desktop user would see, and the same content to Googlebot-Mobile as you would to the browser on a typical mobile device. It's fine if the contents for Googlebot are different from those for Googlebot-Mobile. One example of how you could be unintentionally detected as cloaking is if your site returns a message like "Please access from mobile phones" to desktop browsers, but then returns a full mobile version to both crawlers (so Googlebot receives the mobile version). In this case, the page which web search users see (e.g. "Please access from mobile phones") is different from the page which Googlebot crawls (e.g. "Welcome to my site"). Again, we detect cloaking because we want to serve users the same relevant content that Googlebot or Googlebot-Mobile crawled.

Promote website in the right ways

About increasing backlinks with an intention to increase the value of the site Master making announcements via blogs and being recognized online My blog Website Product page Glossary By having your business registered for Google Places, you can promote your site through Google Maps and Web searches. News: "I have a new card!" User's blogs Social media service Newsletter, DM, Posters, etc. Online Offline Promoting your site and having quality links could lead to increasing your site's reputation. While most of the links to your site will be gained gradually, as people discover your content through search or other ways and link to it, Google understands that you'd like to let others know about the hard work you've put into your content. Effectively promoting your new content will lead to faster discovery by those who are interested in the same subject . As with most points covered in this document, taking these recommendations to an extreme could actually harm the reputation of your site. A blog post on your own site letting your visitor base know that you added something new is a great way to get the word out about new content or services. Other webmasters who follow your site or RSS feed could pick the story up as well. Putting effort into the offline promotion of your company or site can also be rewarding. For example, if you have a business site, make sure its URL is listed on your business cards, letterhead, posters, etc.

Conclusion

From this we can say that in website hosting the prime concern is security of the hosting panel. All the hosting companies using the parallel plesk hosting panel manager. I developed my own panel for managing the website data. The authentication is also the concern in website hosting. If some person access someone panel by using a bypass authentication technique this will be the big problem. I keep this thing in my mind and make best authentication in my knowledge.

List of references

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<http://www.plesk.com/#c177772>