



# From Webmaster to Web manager to address new challenges

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## 1. Introduction

With a team of students and staff at the University of Illinois's National Centre for Supercomputing Applications (NCSA), Marc Andreessen created the NCSA Mosaic browser prototype for the Internet (De J Cronje 1991). Since then, the World-Wide Web (WWW), as it became known, has come a long way.

Traditionally used for advertising and information sharing, the WWW has evolved to become a strategic business tool, not only allowing organizations and individuals the opportunity to cost effectively market themselves internationally, but the WWW also created new business opportunities requiring a new way of thinking. Apart from the WWW being a source of information, many brick-and-mortar organizations have implemented electronic commerce successfully, while other organizations are known as trading only on-line.

The WWW has opened doors to many opportunities, but who are the people behind the Web sites? Who are the people who make this possible? What are their roles and responsibilities?

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## 2. Internet

The Internet was developed in the late 60s and used by the United States Department of Defence for communication. Because of the technology and infrastructure utilized,

communication was assured, even if one of the nodes in the network was not functioning. Soon thereafter, the Internet became global with universities connecting to one another for research and communication purposes. Standards were set and more and more organizations connected to the Internet, enabling them to communicate with each other (Couger 1995). The Internet has therefore made it possible for organizations and individuals to share information and communicate instantaneously from just about anywhere in the world.

This network of interconnected computers, known as the Internet, could therefore be defined as a public, co-operative, self-sustaining system accessible throughout the world.

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### **3. World-Wide Web**

With the creation of the NCSA Mosaic browser prototype for the Internet, Marc Andreessen founded Netscape Communications in April 1994 with Jim Clark. The NCSA Mosaic browser prototype, developed by a team of staff and students at the University of Illinois's National Centre for Supercomputing, made friendly, point-and-click methods for navigating the Internet possible (Deek et al. 2000). A great number of browsers have since been developed making use of the friendly, point-and-click graphical interface method for navigating the Internet.

These browsers made it possible for users from any networked computer to view graphical information from any other networked computer. This led to the creation of Web sites.

The WWW can therefore be defined as all the users and resources on the Internet using the Hypertext Transfer Protocol (HTTP) (De J Cronje 1991).

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### **4. Web site**

Information is made available to users from networked computers on the WWW as individual electronic pages called Web pages. A collection of these Web pages, stored on a single server, all dealing with a particular subject, can be referred to as a Web site.

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### **5. Webmaster**

In an environment such as the WWW, where users navigate and move from one Web site to another, the users' initial attention has to be gained. To achieve this, the Web site design has to be creative, according to Deek et al. (2000).

Once this has been accomplished and the user is in the Web site, the user's attention must be retained. The content and the way in which the information is presented becomes an important factor (Couger 1995).

The creative design, content and the way in which the information is presented will only be effective if the logical coding and technical design are implemented properly (Couger 1995).

In a research study by Deek et al. (2000), three areas of the Webmaster's competencies were identified. These areas of competencies are:

1. Graphical design
2. Content
3. Technical issues
4. Defining the Webmaster

### **5.1 Graphical design**

To attract a user and draw his/her attention to a Web site, the Web site design must be creative, attractive and original. This can be accomplished by the graphical design of the Web site, including artwork and graphical layout.

When the WWW was still in its infancy, little attention was given to the graphical design of a Web site. Only later, when competition for a user's attention on the WWW became a factor, was attention paid to graphical design to attract and draw users to the Web site. This leads us to believe that the first, or traditional Webmasters may not have been specialists in graphic design, but acquired this skill later on in the evolution of the WWW when more attention was given to graphical design.

Deek et al. (2000) identified the skills required for this competency as creativity and creative thinking. According to Guilford (1967), creative thinking is related to factors such as fluency and originality. Characteristics of these creative thinkers, according to Couger (1995), are that they are more willing to take risks and that they have the ability to examine the advantages and disadvantages of the risk. They are non-conformists, able to think beyond the realms of conventional norms and hence willing to consider unusual ideas and generate more than one solution.

From this discussion, it is evident that one of the Webmaster's roles is that of graphic designer. It is now a very important role in a Web site and requires a good understanding and knowledge of computer graphics and design.

### **5.2 Content**

The content has always been the most important aspect of a Web site, and the way in which information is presented is an important factor in retaining users' attention (Couger 1995).

The Webmaster requires certain skills to capture and retain users' attention. According to Flower (1994), he/she must possess the ability to interpret the situation and select the most relevant information for the situation. The Webmaster must then organize this information so that it follows on from previous text and leads to following text.

A second role of the Webmaster becomes clear. The Webmaster should be a writer, able to capture and retain the users' attention by getting a message across clearly and accurately by applying the rules of electronic publishing. Along with this, the Webmaster must have the ability to sort the information into logical structures which allow for quick and effortless access to key information.

### **5.3 Technical issues**

Of the three competencies of the Webmaster, this one has developed the most. Traditionally the WWW and Web sites formed part of Information Technology (IT), and the Webmaster was often seen as a computer programmer responsible for developing the Web site using Hypertext Markup Language (HTML).

As a computer programmer, the Webmaster required certain skills revolving from problem

solving and program development. The Webmaster should be able to understand a problem and provide a solution to the problem. He/she should also be able to convert this solution into programming language syntax, test the product and deliver a complete solution (Deek et al. 2000).

A third role of the Webmaster is therefore that of programmer. As the WWW developed from information provider to service provider, the requirements changed and Web sites required more powerful backend programming. The Webmaster went from standard HTML writing to Internet programming, to database development. Each of these could be seen as individual roles of the Webmaster.

Remaining with the technical issues, another role of the Webmaster is that of server administrator. As the WWW changed, more and more emphasis was placed on platforms, systems and services as well as security, as opposed to static Web sites in the early years.

#### **5.4 Defining the Webmaster**

A Webmaster can therefore be defined as a person responsible for the development and maintenance of a Web site utilizing graphic design, copy writing, HTML writing, programming, database development and server administration skills.

The role of the Webmaster within an organization also became more important as the WWW became more of a business tool for achieving goals and objectives.

In many organizations, the responsibilities of the Webmaster have become overwhelming and too much for one person to handle. A team of Webmasters was introduced. This team was made up of Webmasters with a sound working knowledge of the areas mentioned above, while each specialized in at least one.

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### **6. Web manager**

When one talks about a group working together to accomplish a common goal, it is clear that a person is required to guide and lead the group. The person taking on the responsibility of leading the team is the Web manager.

To understand the roles and responsibilities of the Web manager, issues relating to managers in general are discussed:

#### **6.1 Manager**

Management decides what should be done, and how it should be done as well as when it should be done, and determines whether it has been done. This is generally known as the management activities. In short: planning, organizing, leading and controlling (De J Cronje 1991).

In an organization/department, planning is the activity that determines the mission and goals, and the ways in which these goals and objectives are to be reached. Once the goals and objectives have been identified, resources have to be allocated, procedures set and roles defined that will enable the organization/department to achieve its objectives.

Leading involves ensuring that staff are motivated and influenced. This involves leading. Management must open the channels and initiate communication between management and

staff and among staff. Good and effective communication has a positive effect on the climate prevailing within the organization/department.

Controlling could be defined as constantly confirming whether the organization/department is on course towards achieving its goals and objectives (De J Cronje 1991).

## 6.2 Web manager

The management activities of the Web manager involve planning, organization, leading and controlling the Web environment and performing management functions such as decision making, motivating, coordinating and budgeting.

The planning role of the Web manager involves outlining the goals and objectives the department must achieve. If a layout design artist forms part of the team, the Web manager does not have to design the graphical interface of the Web site himself/herself, but is responsible for the graphical interface and must ensure that it is effective and functional and that it complies with the objectives.

To achieve the objectives and goals, the Web manager must organize and coordinate the resources, including human resources. He/she must ensure that each resource is used to its full potential and that enough resources are available for each project.

A motivated team is an asset to any department and organization, and it is the responsibility of the Web manager to ensure that the team is always motivated and that a positive climate exists among them.

By regularly evaluating the effectiveness of, for example, the navigation structures or content of the Web site and taking corrective measures, the Web manager ensures that the department is on course to achieve its set objectives.

As in any field, the manager should have a working knowledge and experience in the field. In other words, the Web manager should have a working knowledge and experience of a WWW environment, including layout design, content and navigation. He/she would normally have to manage a team of specialists and motivate the team to work towards a common goal.

The Web manager is in many ways a technically minded person who takes on the roles and responsibilities of a manager. He/she should have a good understanding of the organization as a whole and should keep abreast with new developments, not only in the WWW environment, but also other technological environments, for example mobile communication, hardware and software, to see how best these could be implemented in his/her WWW environment.

In short, the Web manager must ensure a profitable return on investment by effectively managing the WWW environment within the organization.

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