

**Outlining, Diagraming and Storyboarding--Three Essential Strategies for
Planning and Creating Effective Educational Websites©
(The Anatomy of Website Design)**

Dr. Gerald D. Bailey
Bluemont Hall 303
Educational Administration and Leadership
College of Education
Manhattan KS 66506-5318
Voice (913) 532-5847
FAX (913) 532-7304
e-mail: jbailey@coe.educ.ksu.edu
URL: <http://www.educ.ksu.edu/go/bailey>

Dr. Marie Blythe
Coordinator, Planning and Reporting
K-State Research and Extension
127 Umberger Hall
Manhattan KS 66506-3410
Phone (913) 532-6775
FAX (913) 532-6290
e-mail: MBlythe@oz.oznet.ksu.edu

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The creation of effective educational Website is an exciting process, but facilitating beginning teachers and students is not as easy as many people would lead you to believe. First, creating an educational Website requires a thorough understanding of the *information* that is to be conveyed. Second, the authors must be skilled in *organizing the information* that is to be conveyed. Third, creators have to *package the information* using appropriate design principles. In several instances, the message, organization, and the packaging of the image are not always well balanced. As one novice remarked, ". . .too many Websites look good without being good." "Looking good" means that the Website has an dazzling array of text, sounds, graphics, and videos, but focuses on "bells and whistles" rather than the message. "Being good while looking good" means that there is substance, organization, and integrity in the information as well as the "bells and whistles" (balance of content and delivery). Too often, beginners fall into the trap of trying to "look good" without "being good." The purpose of this article is to describe three steps of planning and creating a Website--outlining, diagraming, and storyboarding which will allow Websites developed by educators "to be good as well as look good."

There are at least two critical assumptions that one needs to make creating an educational Website:

Assumption # 1: In the context of teaching and learning, an educational Website is seen as a product created *while* engaging in the steps of Information Literacy. In other words, Websites are created after discovering or creating new information--Websites are not created for the sake of creating Websites. Information Literacy can be defined as: (1) identifying the right question(s), (2) organizing your search, (3) selecting appropriate search tools (e.g., search engines), (4) subjecting your sources to scrutiny, (5) analyzing and synthesizing information, (6) creating new information (e.g., creation of Website or multimedia product, and (7) testing your information and identifying new questions. Information literacy involves the process assembling information that did not exist before. Thus, the Website is the result of serious, arduous, and painstaking thinking. The creation of an educational Website is a major way that information literate people convey knowledge to others. *Educational Websites are the product of learning and not an activity which substitutes for learning.*

Assumption# 2: In the context of the Internet, there are multiple types of Websites. Educational Websites are one of many types of Websites on the Internet,

but effective Educational Websites are tied to Information Literacy. Other authors have sorted Websites on the Internet into the following categories: (1) advocacy (supporting a cause), (2) business/marketing (selling or advertising), (3) news (events or happenings), (4) informational (providing knowledge such as a dictionary), and (5) personal (information about self or family). Most of these types of Websites are important and valuable but they are not guaranteed to be the product or result of Information Literacy (i.e., problem solving by identifying, accessing, analyzing, and creating information). In most instances, these Websites' purpose are distinctly different from Information Literacy-based Websites. Each of these categories will differ in the type of information, organization of information, and packaging of information depending on their purpose. *The educational Website must have it's own purpose, audience, and outcome and not just mimic another Website found in the categories described above.*

Creating Educational Websites

There are three different but related steps involved in creating a Website: (1) outlining the Website, (2) diagraming the Website, and (3) storyboarding the Website.

Content Outline--Step One. What is often overlooked by beginning Website creators is a basic outline of the information that they have assembled during the Information Literacy process. A *content outline* is a summary of information using headings and subheadings (See Figure 1). Questions answered by the content outline are:

1. What are the main concepts to be found in the Website?
2. What is a logical order for organizing information?
3. What are the main ideas/themes and the secondary ideas/themes?
4. What must the user/reader know (need to know)?
5. What would be interesting to know (nice to know but not mandatory)?

As the information is assembled, it is wise to match or correlate your Web materials which consist of audio, video, text, and graphics with the content.

Organizing information for publication in a Website should not be taken for granted. Educational Websites are designed to teach or facilitate the learning process, and content is a theme which needs to be developed in the Website.

For those who find the traditional content outline "too sequential," and wish to

Outline	Links	Audio Video	Graphics
<ul style="list-style-type: none"> A. Martin Luther King: The Man <ul style="list-style-type: none"> a. point/information/information 1 b. point/information 2 c. point/information 3 <ul style="list-style-type: none"> 1. minor-related point/information 2. minor-related point/information 			
<ul style="list-style-type: none"> B. Civil Rights: The Movement <ul style="list-style-type: none"> a. point/information 1 b. point/information 2 c. point/information 3 			
<ul style="list-style-type: none"> C. Martin Luther King: The Legacy <ul style="list-style-type: none"> a. point/information 1 b. point/information 2 <ul style="list-style-type: none"> 1. minor-related point/information 2. minor-related point/information c. point/information 3 			
<ul style="list-style-type: none"> D. America and the Civil Rights Movement <ul style="list-style-type: none"> a. point/information 1 b. point/information 2 c. point/information 3 d. point/information 4 e. point/information 5 <ul style="list-style-type: none"> 1. minor-related point/information 2. minor-related point/information 			

**Content Outline for Creating Educational Website
relating to Martin Luther King**

Figure 1

promote a nonlinear effect, try experimenting with the software called Inspiration® which is designed to help promote mindmapping strategies (See Figure 2). In mindmapping, the idea is to generate major concepts and related ideas.

Website Diagram--Step Two. As the Website content outline unfolds, a parallel question emerges: What kind of organization best suits this information? A Website Diagram or Website Map is necessary to develop the "big picture." Questions which should be addressed include:

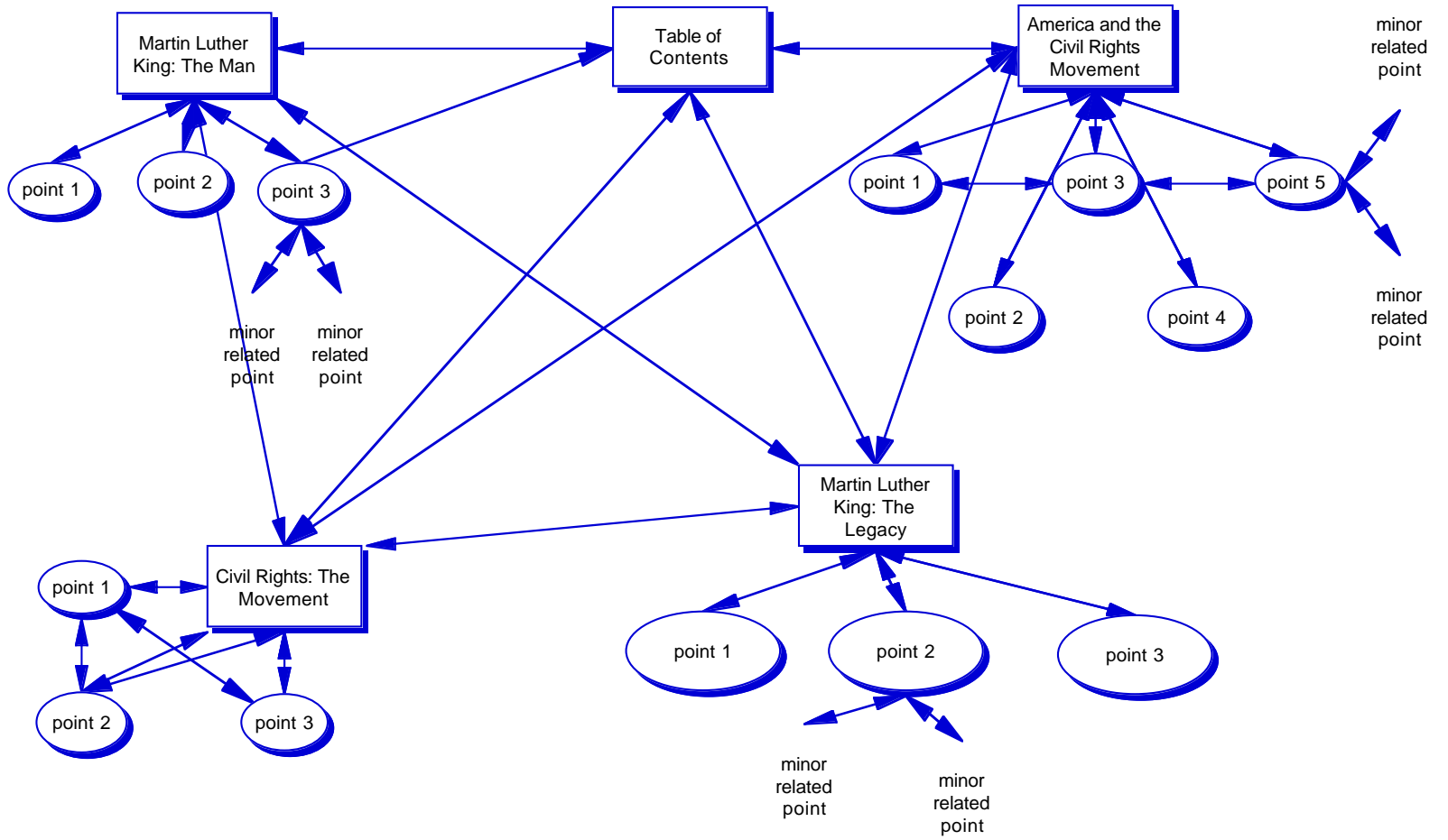
1. What is the main question or questions that the Website is attempting to answer? and where should this information be placed?
2. What is the purpose of the Website? and where should this information be placed?
3. Who is the intended audience (teachers, administrators, support staff, parents, students, business, community) of the Website? What are their needs? and where should this information be placed?
4. What is the nature of the content of the Website (i.e., technical or conversational, complex, simple)? How will this influence the organization of the Website?
5. What are natural connections between and among the concepts?

Different Website organizations need to be considered. There are three major types of Website diagrams (organizations): linear, hierarchical (tree), or nonlinear.

Linear Website Diagrams (see Figure 3) are designed like books. Access is sequential. Linear sites are preferred if you are presenting as series of steps or tracking a process from start to finish. Linear is a simple design that keeps users moving in a predetermined sequence. Effective linear organization provides clickable buttons that allow users to select the "next page," "previous page," or back to "Homepage." Linear Websites offer distinct advantages of conveying information in a simple, sequential fashion.

Hierarchical structures or Tree-design Website Diagrams (see Figure 4) have a Homepage that serves as the "table of contents" to other Webpages in the Website. Unlike the linear design, the hierarchical Website design provides more than one path that a user may take.

Hierarchical structures are important to allow the user to jump or branch from any point in a Website to any other point in that site with the click of a mouse. With a



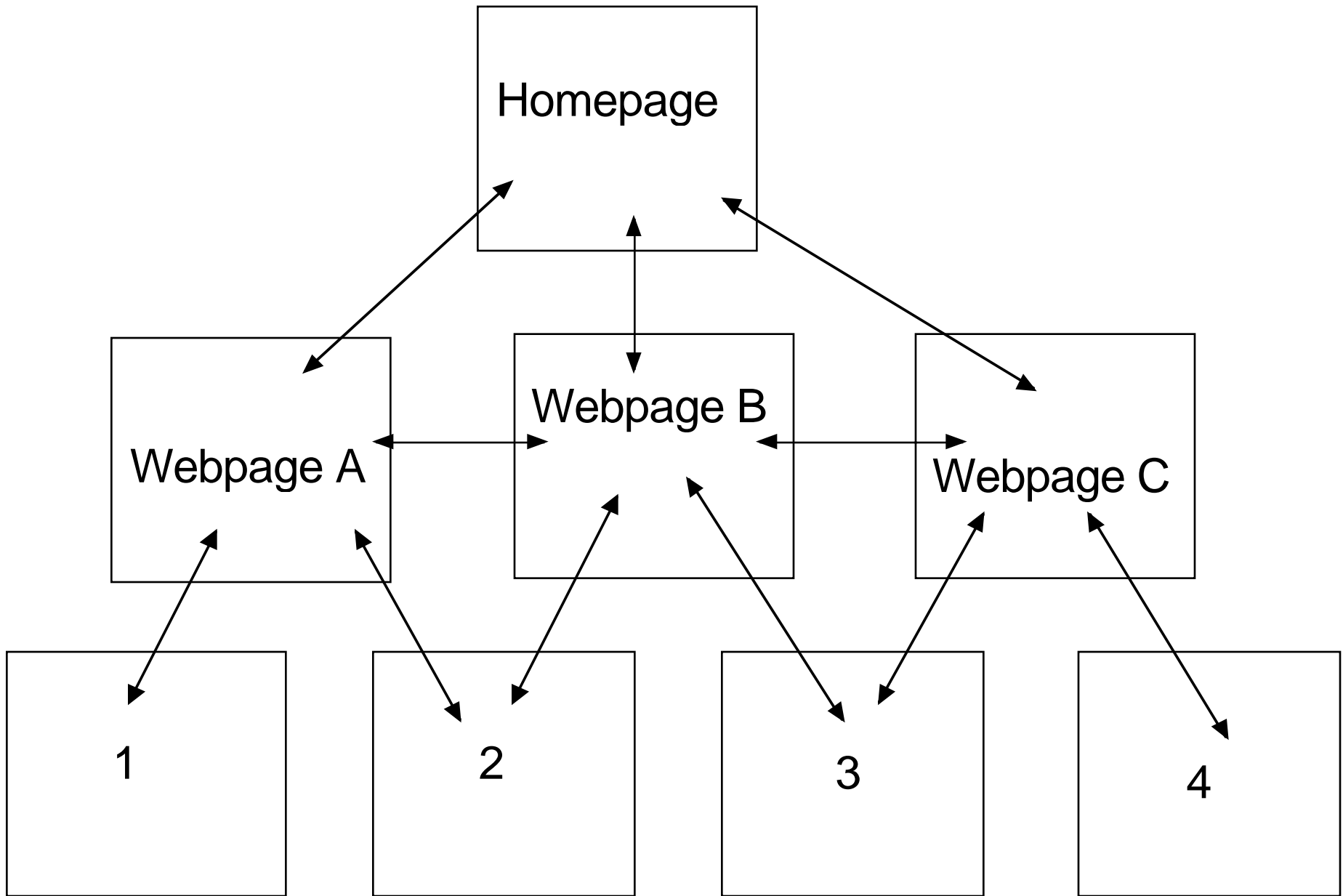
Mindmapping-styled Diagram

Figure 2



Linear-Design Website Diagram

Figure 3



Tree-Design Website Diagram

Figure 4

Hierarchical Web structure, your Homepage can take people to different Webpages which have related information (e.g., providing many different links).

This nonlinear approach allows people to connect many different ideas quickly. On the other hand, the hierarchical structure can be confusing to people who are unaccustomed to understanding how to keep track of where they are going, where they are at the present time, and where they have been during the last few minutes.

The third Website design is called a Branch-design Website Diagram (see Figure 5). This type of design allows users to jump (branch) from any point in a Website to any other point in that site with a click of a mouse. This Website design allows many interconnections. It is free flowing as to where the user wants to go.

Branch-design Websites are difficult to design for most beginners. Complex Websites give the user many different options. As a consequence, the Website designer has to make sure that users do not get lost.

Hints for Website Diagramming include the following:

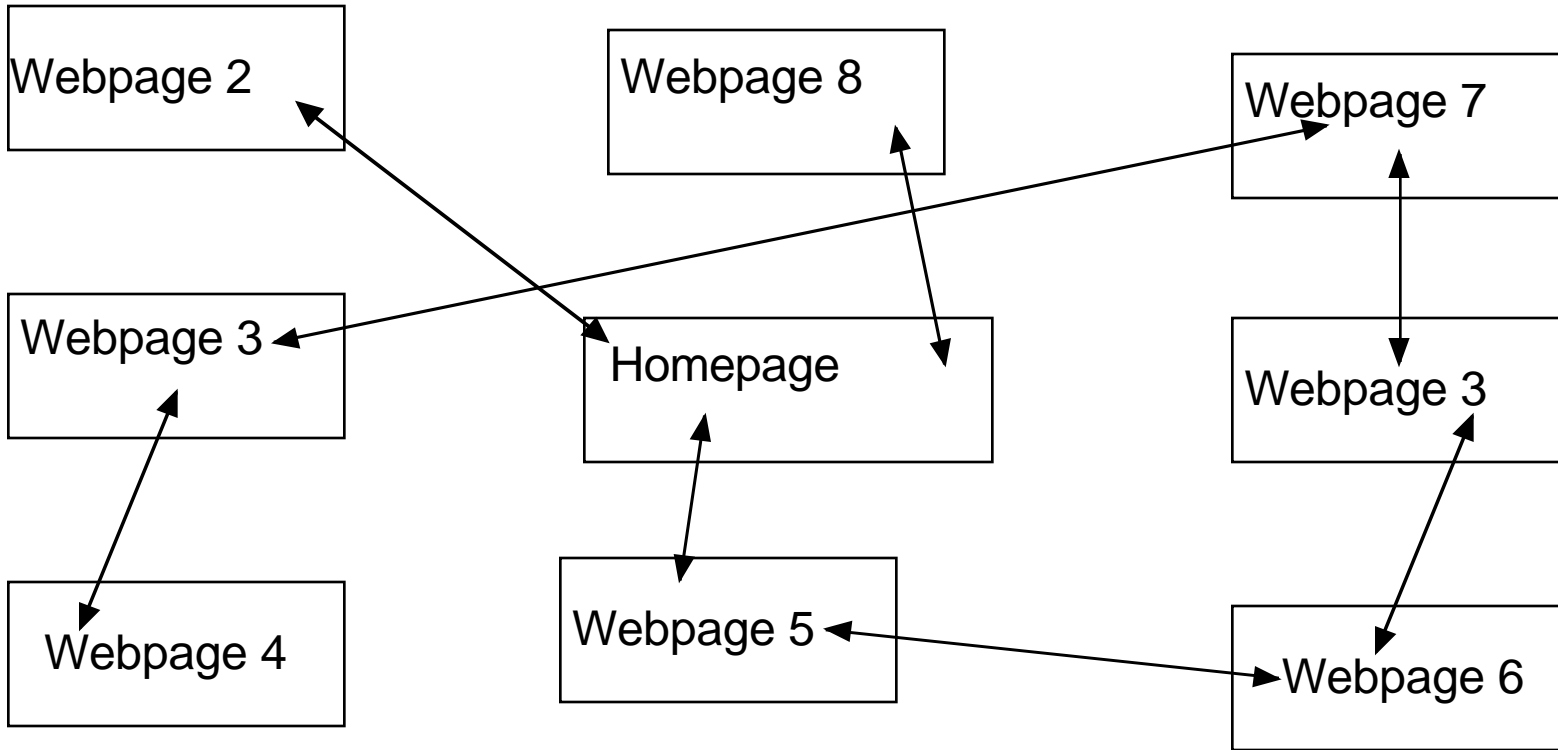
1. Try conducting a search using a search engine on a topic of interest.

Diagram the Website to see if determine if a linear-design, tree-design, or branch design emerges. Determine if the developer followed the rules of effective Website design (as described in this paper).

2. Identify "superior examples" as well as "poorly diagramed" Websites. What kind of designs promote easy navigation?

Website Storyboard--Step 3. Storyboarding (see Figure 6) is the detailed planning of information found on each Webpage (text, audio, video, graphics as well as font, color, spatial arrangement, etc.). The purpose of a storyboard is have a clear, detailed picture (Webpage by Webpage) of the information that is going to be delivered. Storyboarding involves a variety of questions:

1. What links do I want on each Webpage?
2. What kind of clip art or graphic items should be on the Webpage? What does this clip art have to do with the message that is being conveyed?
3. What text do I want on the Webpage? How much text is needed to convey the message? Will other mediums (audio, video, graphic, etc.) buttress the text message or provide additional information? How can other mediums convey the information without text?
4. What font(s), size(s) and colors should I use? How will this size font impact



Branch-Design Website Diagram

Figure 5

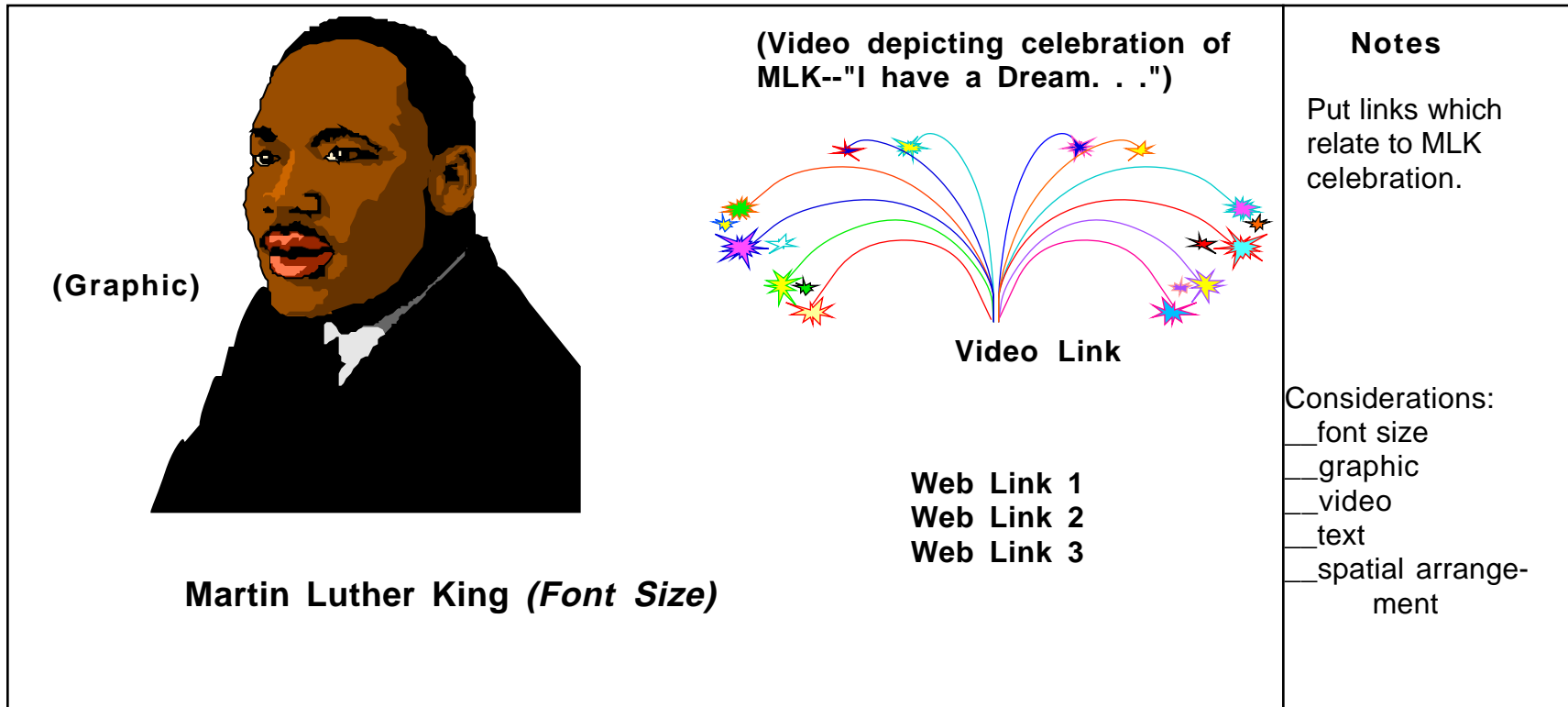


Illustration of Storyboard for One Webpage

Figure 6

the user? How will the color impact the user?

5. In the textfield, is it scrollable, transparent, hidden, etc.? Why is the textfield important to consider?

6. What kind of buttons (icons, names, etc.) will I have on the Webpage? What is the value of the buttons?

7. What sounds do I want to put on the Webpage? What is the purpose and value of the sound?

8. What kind of video do I want on the Webpage? What is the purpose and value of the video?

Hints for Storyboarding:

1. Use "stickies" or note cards to position where each page will be placed in the Website.

2. Place the text on each "stickie" or note card.

3. Place the graphics on each "stickie" or note card.

4. Draw the navigation tools that will be placed on each Webpage.

5. Rearrange the cards to determine the logic of their placement.

6. Ask other people to react to your storyboard?

Storyboarding presents some interesting challenges to educators. Organizing text (written word) is what educators have been taught how to do best during all of their education. Organizing text, graphics, audio, and video in a complimentary fashion is higher level skill that few people have thought about or experienced.

Equally complex, creating information through graphics, audio, and video **without** the presence of text is a formidable challenge to the novice. This latter skill is an emerging concept in Website design and Information Literacy that will undergo considerable discussion in the next few years. Essentially, the question being asked is what am I trying to convey in a meaningful fashion using any technology-related medium? Can I create information that is not dependent on text? Is another medium more powerful than common text-based format?

Questions for For Further Consideration

Website facilitators will want to anticipate a variety of questions when working with people in developing Websites. The following questions are common to those people who are striving to create an effective Website. Only time and more experience will provide the answers we need:

1. Why do I need a Content Outline, Website Diagram and Website Story Board to create a Website? Which one is done first? Is there a natural sequence of activities in Website planning and creation?

2. How complete must the Content Outline be before the Website Diagram is considered? Can I create the Content Outline and Website Diagram simultaneously?

3. What are the consequences of a poorly designed Content Outline? What are signs of poorly designed Website Diagrams? What are signs of poorly designed Website Storyboards?

Conclusion

Technology leaders who are working with novices have to help them see that creating a Website is more than what it appears to be--creating a Website. Overall, the technology leader has to help the novice gauge the balance of "information" with the "presentation of the information." One should not overpower the other. Outlining, diagraming, and storyboarding can help achieve the balance between integrity of information and the way that information is packaged and delivered. New content-format configurations found in Educational Website designs are in the early stages of development. We need new, bold explorers who will blaze the trail for learners who want "to be good" as well as "look good" on the Internet in the 21st century.