The Three-Layered Genealogy Website
(Simple and Very Effective)
by Thornton and Marty Gale

Note – This article gives an explanation of how to create a three-layered genealogy website. Not only is this form of a genealogy website easy to create, it is also a very effective way to organize any genealogy website. For a complete explanation of creating a genealogy website, see the book "Getting Started on Your Genealogy Website" available from the *www.genealogyhosting.com* website.

Recall that in a previous article we introduced the genealogy essay (see "The Genealogy Essay" available on the articles web page of *www.genealogyhosting.com*). The point about the genealogy essay is that it is a high quality literary work that captures the meaning of the author's family heritage. We pointed out that it is very special and should be implemented as a single purpose genealogy website perhaps as a first website project.

We recommended that if the author does not have a proper website authoring application such as Macromedia Dreamweaver, Microsoft FrontPage or Microsoft Expression Web, then he or she can always just use Microsoft Word. This is because Microsoft Word can create an HTML file as an alternative format to its normal DOC format. The resulting essay is written as a literary work using Microsoft Word in the usual way but in the alternate and fully Word-functional HTML format. Since the essay is in HTML format, it is also a proper web page and can be published as a one page website.

The genealogy essay makes for a powerful website which captures the meaning of the author's family heritage. However, it is light on explanations and backup documents since these are not usually included in the essay literary form. Therefore, once the author has published a genealogy essay website, he or she will naturally want to expand it into a full genealogy website. In this way, the author can include the missing explanations and backup documents. In fact, the genealogy essay is actually the first of three structural parts of a full genealogy website, what we call the three-layered genealogy website. If you've already completed a genealogy essay website then it can be expanded into a full genealogy website in a straight-forward project by adding two additional structural parts. If you are just starting out and haven't already completed a genealogy essay website then not to worry. It will simply be an additional step on your way to a three-layered genealogy website.

In this article, we will explain how to create a three-layered genealogy website.

Information Structure of a Website

The first thing to think about when building any website, including the genealogy kind, is its information structure. The requirement is that any website will present information to the public. How this information is organized determines how efficiently the public can access it, understand it, and use it. At *www.genealogyhosting.com,* we have defined some terms which will be useful to the budding website author to design the information structure of a genealogy website:

Information Element

The design of any website is concerned with the placement of information on web pages. The packets of information that are placed on web pages, are given a special name at *www.genealogyhosting.com*: we call them "information elements." An information element is one or more pieces of information about a specific topic that can be thought of as a whole. A good way to grasp the concept of an information element is to think of it as containing about the same quantity of information as the average paragraph (remember your high school English class – a paragraph is one or more sentences about one topic). A web page will have one or more information elements. For example, these are all examples of information elements:

- A family group sheet,

- A person on the family group sheet,

- A list of people buried in a cemetery,

- A description of the cemetery itself,

- A plat map of a county,

- A description of the county itself.

Notice that information elements can always be decomposed into lower-level information elements. For example a family group sheet can be decomposed into people. Structuring the information of a genealogy website comes down to the actual placement of the information elements on specific web pages of the website at a specific level of decomposition.

Hyperlink Model

In a website, not all the information elements for a topic needs to be put together in one place on a web page (although there is nothing preventing this). Rather, the author can take advantage of the idea of hypermedia – the linking of web pages so visitors are not limited to reading the material sequentially and can jump around using hyperlinks based on their needs. In other words, with hypermedia, the information elements of a topic may be spread over more than one web page. Then the web pages are interlinked via hyperlinks so that visitors can access the information elements in a nonsequential and ad-hoc order.

So how does the author of a website know on which web page a particular information element goes? The placement of information elements is controlled by what we call "the hyperlink model." Think of the hyperlink model as collecting all the hyperlinks of the whole website together into one pot. In other words the hyperlink model, consisting of all the hyperlinks of the website, is designed and thought of as a single entity by the author.

The author focuses on the hyperlink model during the design of the website. The author will design the hyperlink model as a logical structure which controls the presentation and linking of all the information elements of the website. In other words, the hyperlink model controls what the visitor will see and the order in which it is revealed to the visitor. The hyperlink model is an abstraction mechanism hiding how the website is actually constructed from a complex arrangement of physical files and folders.

Genealogy websites are specialized websites which are designed by and consumed by specialists called genealogists. So, while the design of the hyperlink model requires high organizational skills, any genealogist would have no trouble both designing and understanding a hyperlink model for a genealogy website. The point is that genealogists, being specialists, will understand the organization of any genealogy website as revealed to them by its hyperlink model. They would instantly be able to navigate any genealogy website because of their specialized knowledge.

The hyperlink model is implemented by making use of hypermedia in which hyperlinks are placed in the information elements of the web pages of the website. Thus, the hyperlink model is distributed throughout the information elements on the various web pages of a website. However, as we said, the author designs the hyperlink model as a single whole even though it is implemented by distributing it in the content throughout the website.

This means the information elements of the web pages of a genealogy website have two duties: first the information elements carry the actual genealogy information of the website and second, the information elements have the hyperlinks of the hyperlink model embedded in them to implement the hyperlink model.

Multilayered Structures

So the hyperlink model presents the information structure of a website to the visitor. The information structure of a genealogy (and other websites) can take advantage of what we call a "multilayered structure." In other words, the hyperlink model will implement the information structure as a multilayered structure. What's a multilayered structure? A multilayered structure is our theory about the structure of information that proposes that any body of information can be naturally organized into a series of logical "layers." Multilayered structures can be used to organize any non-fiction literary work including books, articles, essays, or in our case, a genealogy website. The power of multilayered structures is that the resulting website (or any other nonfiction literary work) is highly logical and visitors to the website can easily understand its structure.

We have included a complete explanation of the multilayered structure in the article "Using the Multilayered Structure to Design a Genealogy Website" available on the *www.genealogyhosting.com* web site.

The Layers of a Multilayered Structure

What's a layer? A layer is simply a group of one or more web pages that fit together (more in a moment). For a website, the information elements are placed on web pages which are in turn placed into a particular layer. Once information elements have been put onto a web page and the web pages have been put into layers, then the author stacks the layers to form the overall structure of the literary work. The literary work appears to the reader as a single whole but its internal structure is highly logical and separated into logical structural parts. For a non-fiction book, this stacking is imperfect because the author is still limited by the requirement that the work will be read sequentially for the most part. However, for a website, the stacking of layers is the ideal way to organize a hypermedia document. The layers of a website organized as a multilayered structure have the following characteristics:

- A particular layer consists of web pages which seem to fit together. They are each similar in format, all seem to have the same purpose as it relates to their specific topic, seem to form a complete series. Often (but not always), the series of web pages on a particular layer cover the entire topic of the website at their particular level of detail in the whole-part sense.

- The web pages of a particular layer don't overlap. That is, they contain information elements representing real world entities that are independent from each other.

- The web pages of a particular layer are all on about the same level of generalization – specialization. The author arranges the layers of the website from the general to the specific. That is, the web pages on upper layers tend to be general or intangible and the web pages on the lower layers tend to be specialized or concrete.

- The general-to-specific arrangement of the website corresponds to the way most visitors will navigate the website, from the general to the specific. Upper layers provide deeper understanding or significance while lower layers provide details about the subject matter.

- The web pages of the upper layer tend to be dependent on the web pages of the lower layers in some sense based on the criteria used to categorize the web pages into layers. However, the reverse is not true: the lower web pages are independent of the web pages on the upper layers.

Creating a Multilayered Structure

Multilayered structures are created by the author by classifying the information elements and placing them in what we call "categories." A category is just a proto-layer that has not as yet been put into the stack. When creating a non-fiction literary work, it is always possible to perform this categorization of the information elements into categories (i.e., layers). This is because the body of related information in question comes from an underlying discipline (field of study, business, avocation) which has methodologies, theories, and practices. We call it a body of "related" information because the information is coherent, interrelated, and logical since it comes from an underlying discipline.

In our case, the author is a genealogist and the discipline is genealogy. Also, whenever a practitioner of the discipline reads or consumes a non-fiction literary work which draws on the body of related information and which is organized as a multilayered structure, he or she would quickly understand the categories and would thus instantly understand the organization of the work.

Once the information elements have been classified into categories, then the categories can be manipulated to achieve the information structure of the work. The categories are arranged into layers, stacked like bricks by the author, in which the order of a category in the stack is important. For a website, the stacking of the layers is achieved by the hyperlink model. This is because the hyperlink model is an abstraction mechanism, and the author can easily present the underlying information elements as a series of layers even though the website is actually a hodge-podge of physical files located literally anywhere on the internet.

Special Case: The Three-Layered Structure

A multilayered structure which uses three layers is very common for organizing many literary works. The three layers are very straight forward and appeal to everyone's sense of organization: a top "General" layer, a middle "Synthesis" layer and a bottom "atom" layer (Figure 1). This particular multilayered structure is very important to us because websites and especially genealogy websites fall naturally into this three layered structure.

Let's describe a generic non-fiction literary work which uses this three-layered structure then in a moment we will adapt it to a three-layered genealogy website.

- General (top) Layer:

  The top layer completely covers the topic of the non-fiction literary work at a high level – the view from 40,000 feet, the big picture. This is where the author puts the general content of the work: an introduction, general statements, overview information, theories, explanation of significance, conclusions, etc. The author will make references (i.e., hyperlinks for a website) to the middle "Synthesis" layer and the bottom "Atoms" layer in the text to backup the generalizations. In this way, the text of the top layer does not get bogged down with overly detailed information. In fact, sometimes, the top layer is the only information many readers will need. That is, many readers may not bother reading the contents in the other layers since they have gotten what they want out of the work – an overview.
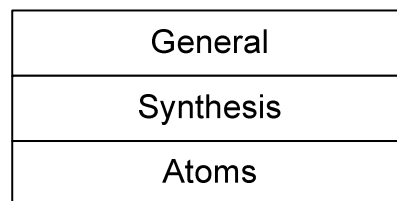
General
Synthesis
Atoms

Figure 1 – Three-Layered Structures to Organize Information

- Synthesis (middle) Layer:

  The "Synthesis" layer will contain the meat of the non-fiction literary work – the intellectual product of the author. The "Synthesis" layer synthesizes the "Atoms" (next). That is, the "Synthesis" layer consolidates, integrates, categorizes, abstracts, or gives insight into the "Atoms" and their various combinations or configurations depending on the literary work. The information elements of the "Synthesis" layer are then referenced from the "General" layer to provide explanations, interpretations, clarifications, or insights. The "Synthesis" layer completely covers the subject matter of the non-fiction literary work in the whole-part sense. The "Synthesis" layer is the place where the work is expanded as new insights are documented.

  The "Synthesis" layer provides the means to understanding the meaning of the "Atoms". The "Atoms" are detailed and numerous in which the average reader would be unable to grasp or appreciate or understand them on their own. So the "Synthesis" layer attempts to do this. For example, a common approach used by many non-fiction authors is to use the "Synthesis" layer to explain insights or observations about the bottom "Atoms" especially their meaning. Then these explanations are referenced from the "General" layer to explain or backup the generalizations.

- Atoms (bottom) Layer:

  The bottom layer contains information elements representing entities which are not further decomposed in the non-fiction literary work – they stand alone for purposes of the scope of the work. Since they are so numerous, so detailed and often rich in minutia, seldom would the average reader be able to grasp the meaning or purpose of the total work by reading the "atoms" on their own, such as embarking on a sequential reading of them (this is the purpose of the "Synthesis" layer). However, the "atoms" must be included in the work for backup, proof, explanation, or support. They makeup the bulk of the physical content of the work.

  The "atoms" are information elements representing individual, independent concrete entities that don't overlap. The bottom layer contains every "Atom" of the topic of the non-fiction literary work and the "Atoms" cover the topic in the whole-part sense. That is, the topic can be viewed as consisting of these primitive entities represented by the "Atoms" on the bottom layer. A given "Atom" may be referred to many times and in may different contexts from the middle "Synthesis" layer or the top "General" layer. Each "Atom" may be included in multiple consolidations of the "Synthesis" layer.

Expanding the Genealogy Essay into a Three-Layered Structure

So with the above theory of multilayered structures under our belts, let's get back to creating a genealogy website. We are going to start with the genealogy essay and expand it info a full three-layered genealogy website.

Prior to creating your three-layered genealogy website, you will need to register a domain name if you haven't already from a web hosting company such as *www.genealogyhosting.com.* We have a detailed article "Stake Your Claim with a Domain Name" available on the articles web page of *www.genealogyhosting.com.* Once

you register a domain name at *www.genealogyhosting.com*, you can use the free website that comes with each domain name to create your three layered genealogy website.

If you do not have a proper website authoring application such as Macromedia Dreamweaver, Microsoft FrontPage or Microsoft Expression Web then you can just use Microsoft Word. Using Microsoft Word to create your website will get you started quickly and you won't have to spend any up-front money or learning time on a new program. Later, you can purchase and learn a proper website authoring application.

The Layers

The natural way to expand the genealogy essay is to use the particular 3-layered structure shown in Figure 2. Let's go through each layer:

- At the top is the genealogy essay. Now we see where it fits into the complete genealogy website. It serves as a general treatise of the topic and emphasizes the significance or meaning of the genealogy topic(s) of the website. This isn't surprising considering what the purpose of the genealogy essay is. Recall that it presents the meaning of the genealogy heritage of the overall website. The top layer will contain numerous hyperlinks to the web pages on the synthesis and documents layer to illustrate, backup, or prove the points being made.

- The middle layer synthesizes the facts of the documents (next) into meaningful generalizations so that they can be referenced (linked to) from the top genealogy essay layer. Much of the purpose of these web pages is to provide useful consolidations to aid in the understanding of the minutiae of the documents. That is, the author would consolidate or combine the facts of the documents pointing out useful or interesting interrelationships or connections between them. This is, in fact, the basic work of genealogy.

- At the bottom are historical documents which have been scanned or transcribed to prove or support the statements made on the website. The web pages of this layer can be created as a clerical process since they are independent and don't depend on other web pages of the website. They can simply be produced as time permits over a period of time.
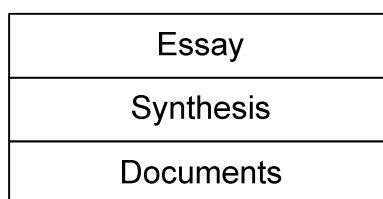
Essay
Synthesis
Documents

Figure 2 – Expanding the Genealogy Essay

Hypermedia

The author would interlink the web pages using hyperlinks. For example, the three-layered genealogy essay might resemble Figure 3. This is an overview of the hyperlink structure and shows how the essay "E" has hyperlinks to the synthesis web pages "S" as well as the documents "D". The synthesis web pages "S", in turn, have hyperlinks to the

documents "D" which they synthesize. The documents are independent and don't contain further downward hyperlinks.

Notice Figure 3 only shows the hyperlinks related to the information structure of the website. As a practical matter, most websites will contain other hyperlinks to ease navigation or provide efficient paths for the visitor.
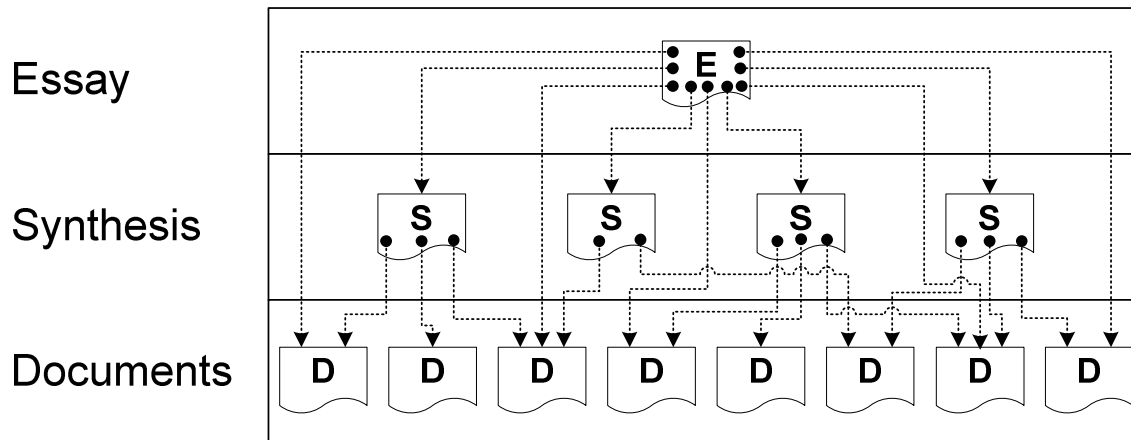
Figure 3 – Interlinking the Web Pages Using Hyperlinks

The Hyperlink Model

The actual hyperlink model of our emerging three-layered genealogy website might resemble Figure 4.
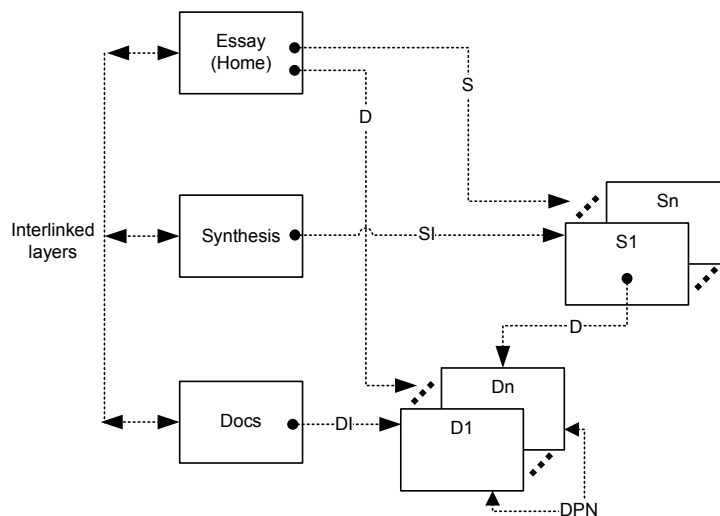
Figure 4 – Hyperlink Model

- The genealogy essay ("Essay") is the home page of the website. It has hyperlinks "S" pointing at the various synthesis web pages that the essay harnesses to explain or prove. Also the essay may contain hyperlinks "D" pointing at various hard facts in the documents to support the narrative.

- The bottom two layers ("Synthesis," "Docs") each have their own "home" pages which serve as a base for accessing the web pages on that layer. This gives the visitor a way to consume the web pages of the layer on their own using the indexes labeled "SI" and "DI." These indexes are lists which visitors can use to navigate to the "Synthesis" or "Documents" independently (i.e., instead of having to navigate down from the essay).

- The three layers are interlinked (Figure 4, left) so that the visitor can navigate to any of the layers from any of the other layers.

- The documents on the bottom layer are a collection which can be accessed with "previous" or "next" buttons labeled "DPN."

Conclusions

In this article, we have seen how the genealogy essay can be used as a starting point for creating a full genealogy website. The three-layer structure can be plugged into most genealogy websites and provides an instant design for their information structure.

In general, the three-layered structure is a common organizational strategy. It is used often in non-fiction literary works to give an overall structure to the work. For example, most technical books are organized using a three-layered structure. For a website, it provides a very understandable hyperlink model. It is not only easy to understand by the visitor to the website but also easy to implement by the author of the website.