

ASK THE HOMEGLURRRZ!



Synergy of Print and Web

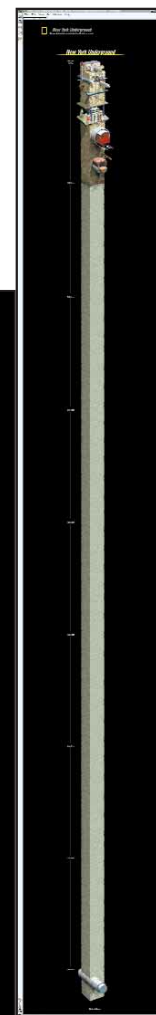
BY LYNDA WEINMAN

Excerpted and edited with permission from Lynda Weinman's newest book on Web design, <deconstructing web graphics.2>, published by New Riders Publishing and distributed in Canada by Prentice-Hall.



"NEW YORK UNDERGROUND" WEB SITE'S MISSION

The February, 1997 issue of NATIONAL GEOGRAPHIC magazine ran a 21-page feature article, "Under New York," which was about the intensely crowded terrain below New York City. With words, diagrams, and pictures, this article unearthed some staggering statistics about this "sub-urban" landscape. For example, did you know that New York City is punctuated by 465,000 manholes? These lead to an infrastructure of sewers, utilities, communications, and transportation that ranges in depth from just beneath the street to 80 stories below.



NATIONAL GEOGRAPHIC'S STRATEGY

NATIONAL GEOGRAPHIC INTERACTIVE's online, editorial developmental strategy is to add value to a magazine feature subject without redundancy. It is against their philosophy to repurpose content; they instead strive to develop online features and stories by developing new areas that traditional (linear) media are less able to handle. This development model allows the Society to attract a new audience to its existing products, such as web visitors drawn to the magazine's content. It also en-

ables existing members to find additional information via the web about magazine features that interest them. By clicking on the bottom text, "Click here for the scale version" in the previous screen, you will see an extremely long, scrolling iteration of this diagram that accurately represents the true distance between levels two and three. This is one of the most compelling examples of the scrolling capabilities of a web-based presentation found anywhere.

d e c o n s t r u c t i n g "Under New York" — National Geographic

The National Geographic Society and National Geographic Magazine don't need an introduction — they are reknowned for their high quality print publications, extraordinary photography, and mesmerizing feature stories. The magazine's approach to presenting a feature story is a proven winner, and this article bears witness to its equally excellent approach to online storytelling.

Web Design Firm: ContentFree, Marina del Rey, California
 Client: National Geographic Society, New York, NY
 Original URL: <http://www.nationalgeographic.com/features/97/nyunderground/>
 Archived URL: <http://www.uncom.com/dcwg2/>
 Type of Site: Web affiliate of printed magazine
 Server: Sun Ultra Sparc
 Operating System: Solaris 2.5 & 2.6
 Server Software: Netscape Enterprise
 Webmaster: Mark Powers—National Geographic
 Producer: Maria Bunai—National Geographic
 Assistant Producer: Mark R. Holmes—National Geographic
 Photography: Bob Sacha—National Geographic
 RealAudio/RealVideo of James Graseck Violinist: Mark Christmas—National Geographic
 RealAudio Tour: Info North
 Producer: Tim Stanton—ContentFree
 Art Direction: Trevor Elliot—ContentFree
 Illustration & Design: Don Foley—National Geographic, Oscar Valdez, Trevor Elliot—ContentFree
 HTML Authoring: Doron Tordjmon, Shane Bishop—ContentFree
 Development and Production Platforms: NT/Mac
 Design Software: Adobe Photoshop, Adobe Illustrator, Macromedia Director, Visual SlickEdit, Visio



www.nationalgeographic.com/features/97/nyunderground

ables existing members to find additional information via the web about magazine features that interest them.

Another part of the site's developmental intent is to put their best visual foot forward — with as efficient a download as possible. The Society has long been recognized as publishing world leaders in the development of photography, art, illustrations and diagrams, so their online presence could not be anything less.

NATIONAL GEOGRAPHIC INTERACTIVE is also mindful of developing content for an international, potentially non-English speaking audience that doesn't want the main thrust of the message delivered through a text-based delivery (between 30 and 40 percent of NATIONAL GEOGRAPHIC INTERACTIVE's traffic is from outside the United States). It's a fact that most visitors on the web today don't like to read lengthy passages of text on a computer screen, so why develop that way?

THE CREATIVE TEAM

New York-based NATIONAL GEOGRAPHIC INTERACTIVE hired two outside firms to collaborate on this site — ContentFree and InfoNorth, both located in the Marina del Rey area of Los

Angeles. According to Mark Holmes, "Our development model has always been to pair up our inhouse editorial teams with outside new media firms. These pairings benefit both sides. They learn how NATIONAL GEOGRAPHIC has traditionally developed stories, and we learn how to tell those stories interactively."

The creative direction for this site came from Tim Stanton and Trevor Elliot, founding partners of ContentFree, who worked through alliances with team members at both InfoNorth and NATIONAL GEOGRAPHIC INTERACTIVE.

Responding to whether he had any advice for budding web designers, Tim Stanton replied: "For sure. We'd bid on three or four jobs for NATIONAL GEOGRAPHIC INTERACTIVE and came close on a couple of cool ones, but we stayed in touch. Then Mark Holmes asked us to send in a proposal for a companion site for the "Under New York" magazine article that was coming up. He sent along some text and illustrato, Don Foley's 3D diagrams for the piece. It was easy to get into this idea and we had the contract in short order."

Foremost among the design problems that Tim Stanton and Trevor Elliot confronted in developing this site was the conundrum of, as Tim says, "showing the confusion of the underground in an non-confusing manner. There are so many

amazing things down there and I still don't think we've done justice to it all."

Trevor adds his observation, "With so much content and so little room, it was too easy to clutter the page. We were given total freedom, so we went overboard and then pared it down later. I focused on detail and space to ensure that every choice and detail on each image-mapped illustration was positioned perfectly."

THE CREATIVE PROCESS

Responding to a question regarding how they generate design concepts, Trevor replied, "Our aim is to loosen up and get untethered in a brainstorm." In concrete terms, this means that when Tim starts a project he tosses out "lots of ideas and garbage. Then I narrow the choices from that collection. I try to acknowledge the corny, clichéd, over-used notions and let them onto the list. I know that the beginnings of new good stuff will be mixed in there. Later, I go through and gather the notions that are worth developing."

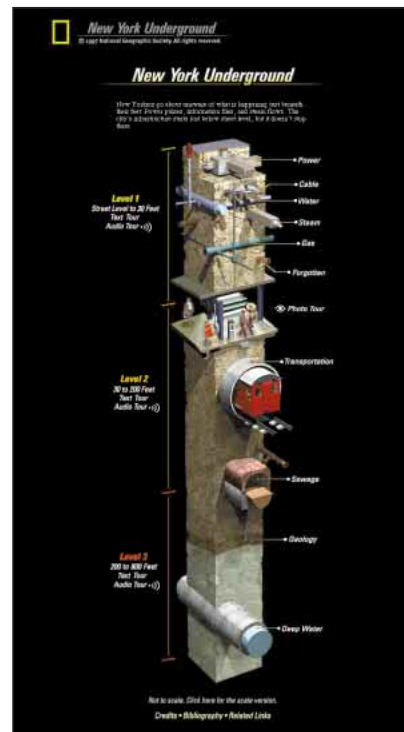
Regarding the specific process for this project, Trevor

IN <DECONSTRUCTING WEB GRAPHICS.2>, A BOOK WHICH I recently co-authored with Jon Warren Lentz, we chose to focus on the jewels of the web: the few and far between inspiring examples of what the medium is truly capable of. We profiled the artists and programmers who created each site, dissected their work, got into their heads to find out what inspired them, frustrated them, challenged them, and rewarded them. This book uses, if you will, a voyeuristic method of studying a subject of immense diversity and new challenges — the field of web design.

The world of web design is very different from other digital (and analog!) design mediums. It contains a host of workarounds, frustrations, variables, and barriers. Those who excel in this field are really pioneers, working with their individual goals in mind, while fighting the technical obstacles that block their way. It behooves anyone interested in web design to understand why and how successful sites work. The best way to learn, in my opinion, is to ask the people who made them.

You might be stunned by the amount of work that went into a single graphic or bit of code. Many books might tell you how easy authoring web content is, but in order to have an exemplary site, you have to truly care about every pixel and closing tag.

The "giant core sample diagram of the Big Apple" was adapted specifically to the strengths of the web. Note the uncluttered clarity of detail and the well-planned distribution of information. One of the finest details of this presentation is accessed by clicking the text at the bottom, "Not to scale. Click here for the scale version."



stated that “this was one of those rare projects where the final concept came quickly. We played with many ideas — going down a manhole, the point of view of a tunnel worker, the point of view of a sewer rat, an elevator going down, a direct cutaway view of the city. We were always scrolling down. Tim wanted to make the sewer the star of the show. On closer inspection, we agreed that was fun, but not what NATIONAL GEOGRAPHIC INTERACTIVE wanted, nor did it convey the information.”

They finally arrived at a concept that revolved around a navigation device that portrayed a “cutaway” diagram of what could be found in the New York City underground. This diagram was labeled the “core sample diagram”; a

name derived from drilling terminology (into the earth’s “core”, and soil “samples”). The core sample diagram idea just stuck. Trevor reported that initially, “Tim didn’t like this concept, but I just kept hammering on the idea until he got it. Then that scrolling idea started to make real sense.”

DIAGRAMS FOR THE WEB

The remarkable strength of the New York Underground site springs from the online development of an asset for which NATIONAL GEOGRAPHIC magazine is perhaps best known: the use of diagrams. Those who are familiar with NATIONAL GEOGRAPHIC know that most features within the magazine develop at least one particular part of the story

c o d e d e c o n s t r u c t i o n : m a i n m e n u c o r e d i a g r a m

The main menu of the NY Underground site is deconstructed here for its use of imagemaps, tables and fragments. The imagemaps in this example are “client-side imagemaps,” meaning they do not require an external CGI script or need to be executed at the server end. Client-side imagemaps are easier to code (because you eliminate the need for an external script), and easier on the server because they are executed on the client’s side (the visitor’s web browser). The disadvantage to using client-side imagemaps exclusively is that older browsers (anything below a 2.0 release and AOL’s native browser) will not be able to access the imagemaps at all.

```
<html>
<!-- (c)1997 National Geographic Society. All rights reserved.-->
<head>
<TITLE>New York Underground: Main Menu @
Nationalgeographic.com</TITLE></head>
<body bgcolor="#000000" text="#FFFFFF" link="#FFFFFF"
vlink="#cccc99">
```

```
■ 1 <MAP NAME="mainmenu">
<AREA SHAPE=RECT COORDS="215,30,272,50" HREF=ny110.html>
<AREA SHAPE=RECT COORDS="218,72,270,91" HREF=ny130.html>
<AREA SHAPE=RECT COORDS="216,100,271,118" HREF=ny210.html>
<AREA SHAPE=RECT COORDS="217,133,273,158" HREF=ny140.html>
<AREA SHAPE=RECT COORDS="217,168,275,191" HREF=ny240.html>
<AREA SHAPE=RECT COORDS="207,215,277,242" HREF=old510.html>
<AREA SHAPE=RECT COORDS="184,278,277,299" HREF=pic100.html>
<AREA SHAPE=RECT COORDS="193,363,288,391" HREF=ny330.html>
<AREA SHAPE=RECT COORDS="203,562,271,589" HREF=ny230.html>
<AREA SHAPE=RECT COORDS="198,664,267,691" HREF=geo410.html>
<AREA SHAPE=RECT COORDS="187,814,277,839" HREF=wat100.html>
<AREA SHAPE=RECT COORDS="126,904,287,925" HREF=myth000.html>
</MAP>
```

This first client-side imagemap correlates to the image, mainmenu.jpg, found later inside a table [9]. The MAP NAME element defines the “name” of the imagemap. The name can then be referenced anywhere else in the document, and will refer back to this data. You can use any name you want, but you must name the imagemap in order for it to work. See the description later in this section on Fragments to see how the NAME attribute is used for anchoring purposes. The AREA SHAPE elements describe the shape of the linked regions of the imagemap. The COORDS element lists the coordinates for the linked regions. The HREF element is where the target URL is specified.

```
■ 2 <MAP NAME="mainstak1">
<AREA SHAPE=RECT COORDS="32,33,86,48" HREF=ny120.html>
<AREA SHAPE=RECT COORDS="21,51,106,64" HREF="av/tour1.ram">
</MAP>
```

This second imagemap data correlates to the image mainstak1.gif, which is contained lower in the code, within a table [15]. Note that an imagemap can be generated with either a JPG or a GIF image. The only possible drawback to using the JPG format together with GIF for imagemaps on the

same page is that there is a potential color-shift problem with the JPG format. Refer to the “Web Graphics Appendix” at the back of the book for further information regarding browser safe color and the propensity of JPG to shift color.

```
■ 3 <MAP NAME="mainstak2">
<AREA SHAPE=RECT COORDS="12,36,65,50" HREF=ny220.html>
<AREA SHAPE=RECT COORDS="3,53,85,68" HREF="av/tour2.ram">
</MAP>
```

This imagemap correlates to mainstak2.gif, which is included lower in the code within a table [17].

```
■ 4 <MAP NAME="mainstak3">
<AREA SHAPE=RECT COORDS="9,33,63,47" HREF=ny320.html>
<AREA SHAPE=RECT COORDS="2,50,84,65" HREF="av/tour3.ram">
</MAP>
```

This imagemap correlates to mainstak3.gif, which is included lower in the code within a table [18].

```
■ 5 <MAP NAME="credbib">
<AREA SHAPE=RECT COORDS="1,0,37,11" HREF=cred100.html>
<AREA SHAPE=RECT COORDS="45,0,113,12" HREF=bib100.html>
<AREA SHAPE=RECT COORDS="125,0,193,12" HREF=rel100.html>
</MAP>
```

This imagemap correlates to credbib.gif, which is contained later in the code within a table [21].

```
■ 6 <MAP NAME="banner">
<AREA SHAPE=RECT COORDS="5,11,35,50" HREF=/main.html>
</MAP>
```

This imagemap correlates to banner.gif, shown later in the code [8].

```
■ 7 <center>
This <center> tag is pivotal to the positioning of the elements that follow. It ensures that both the TABLE (which contains two images appearing side-by-side) and the main head (which stacks beneath the table) are centered on the page.
```

So far, we’ve covered the parts of code that relate to the imagemaps, images, and type color. Tables and “nested” tables were used for alignment purposes on this site, and from here on out through the end of this deconstruction you’ll find the code and explanations for tables.

```
■ 8 <table border=0 width=560><tr><td>

```

```
</td>
Here is the opening for the first TABLE. It’s borderless, border=0, and has a single ROW, <tr>. The first CELL, <td>, of this row contains the image
```

banner.jpg. The ALT tag is being used to ensure the words “Ad Banner” will appear in the event the end user cannot view the banner image.



banner.jpg

```
■ 9 <td>
```

```
<a href="/event.ng/Type=click&ProfileID=2&RunID=1127&AdID=247&Redirect=http:%2F%2Fwww.planetk-12.com%2Fnational" target="_top">
</a>
```

```
</td></tr></table><br><br>
```

Here’s the second CELL, <td>, of the TABLE initiated at [8] above. Note that the extensive code is merely a very long HREF for the clickable destination of the ad. Some of this code relates to CGI scripts (see glossary) which help the advertiser track cookies and data about the client. The fine point here is the element, target=“_top”. Clicking the ad banner causes the destination URL for this ad to open and replace the current National Geographic feature. If this code were replaced with target=“new”, then clicking the ad banner would open a new browser window on top of the current National Geographic feature, thus helping to ensure that visitors remain at the National Geographic site. The typical tags follow to close the CELL, ROW, and TABLE. The dual

 provides a little space between the TABLE and the mainhed.jpg that follows in item [10]. Note that this is not nearly as precise as the use of a transparent GIF spacer because different browsers implement the
 tag with varying space allotments.

```
■ 10 
The mainhed.jpg is centered because of the tag <center> occurring at [7].
```



mainhed.jpg

```
■ 11 </center><br><br><center>
Here’s the closing </center> tag for the <center> tag at [7]. Notice that all of the CENTER tags bracket the TABLE containers within the HTML. Every time a table is specified, it requires its own CENTER tag, if you want that element to be centered.
```

```
■ 12 <table width=325 border=0 cellpadding=0
cellspacing=0><tr><td>
New Yorkers go about unaware of what is happening just beneath their
```

through diagrammatic presentation. Often, such presentations are a visual elucidation of concepts or interconnections that cannot be photographed.

Because of the ability to scroll and interact with the core sample diagram, the New York Underground website goes well beyond what the magazine has room to do on the small, static confines of its pages. While the site adheres to the central theme of the story as reported in print, it has both developed and added depth to the subject of the artwork. Unlike the magazine, the nature of a website enables the audience to enter the diagrammatic space, to interact with the labels and to access deeper levels of information.

In creating the art for the sample main menu, the team

feet:Power pulses, information flies, and steam flows. The city’s infrastructure starts just below street level, but it doesn’t stop there.

```
</td></tr></table></center><br><center>
```

The purpose of this second TABLE is to position and contain the text that occurs between the New York Underground banner and the main menu core sample assembly. Note that the color of this font is specified as an attribute text=“FFFFFF” within the BODY tag at [6] above. The font size is determined by the visitor’s preferences as specified in their browser. Note the special code at city’s and doesn&146;t which creates a “curly” apostrophe via HTML. These special characters are called “entities” in HTML. A list of other entities can be found online at http://www.luna.bearnet.com/iso8859-1.html. If an entity had not been used to specify the “curly apostrophe”, the HTML would have produced a straight line for the apostrophe, which is not considered proper in typographic circles.

```
■ 13 <table border=0 cellpadding=0 cellspacing=0><tr
valign=top><td>
```

```
<a name="part1"></a>
```

This is where the use of one TABLE nested within another TABLE begins to be quite interesting. The third TABLE that is initiated here is the container for the six image elements that comprise the aggregate core sample main menu. The order of these elements is ruled by the nesting of another TABLE with this one. Note that this only works seamlessly when the TABLE, ROW, and CELL are specified via attributes, which stipulate zero values for border, cellpadding, and cellspacing. The first CELL of this first ROW contains the entire nested TABLE. Also note the ANCHOR tag with the NAME attribute, . This is very useful because it permits the sublevel pages to link directly back to each subsector of this page, without scrolling. This feature is called a “fragment” and is discussed elsewhere in this article.

```
■ 14 <table border=0 cellpadding=0 cellspacing=0><tr><td
height=20 valign=center></td></tr>
```

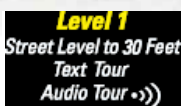
The nested TABLE commences here. The only CELL of the first ROW of this TABLE is merely a spacer 20 pixels high, which serves to push the subsequent ROW and CELL into alignment with the adjacent elements.

```
■ 15 <tr><td height=220 valign=center align=right>
```

```
<img width=113 height=62 border=0 src=images/mainstkl.gif
usemap="#mainstak1" alt="[Main Stak 1]"><br>
```

```
<font size=-1>
```

The second ROW and CELL of the nested TABLE contains the image element, mainstak1.gif. The attribute align=right ensures that this element will abut the image element, mainmenu.jpg, which appears to the right of mainstak1.gif. Note the inclusion of usemap=#mainstak1 that correlates this “mainstkl.gif” image to the map data, which resides at [2].



mainstak1.gif

```
■ 16 </td></tr><tr><td border=0 height=44 valign=bottom
align=left>
```

```
<font color="#000000"><a name="part2"></a></font>
```

This code begins with the closing tags for the CELL and ROW initiated at [15] above. The subsequent CELL is another spacer—this time, 44 pixels high. The next line of code is the second incidence of the ANCHOR tag with a NAME attribute, . It differs significantly in the manner that this is implemented. Here, the ANCHOR tags bracket a “. ” that is made to disappear by the COLOR attribute of the FONT tag (as a black dot on the black background). More information about the NAME attribute is at the end of this section.

```
■ 17 </td></tr><tr><td height=297 valign=center align=right>
```

```
<img width=77 height=63 border=0 src=images/mainstk2.gif
usemap="#mainstak2" alt="[Main Stak 2]"><br>
```

```
<font size=-1>
```

This code begins with the closing tags for the CELL and ROW discussed in [16] above and continues with the opening tag for the third ROW and CELL of the nested TABLE that is initiated at [14]. Note that the combined effect of the attributes for HEIGHT, height=297, and VERTICAL ALIGNMENT, valign=center coupled with the HEIGHT attribute height=63 of the image mainstak2.gif centers the image within a 297-pixel vertical space. Also note the usemap=“#mainstak2.gif” attribute that correlates this image to the map data located earlier in [1-6].



mainstak2.gif

```
■ 18 </td></tr><tr><td height=301 valign=center align=right>
```

```
<a name="part3"></a>
```

```
<img width=82 height=63 border=0 src=images/mainstak3.gif
usemap="#mainstak3" alt="[Main Stak 3]"><br>
The first and third line of this code is consistent with the explanation in
```

[17], only it refers to the image and imagemap NAME for mainstak3.gif. The middle line, which is the ANCHOR and NAME assembly for the third level of the core sample main menu, is consistent with the explanation as in [13].



mainstak3.gif

```
■ 19 </td></tr></table></td><td>
```

```
<br><br>
Here, </td></tr></table> are the closing tags for the nested TABLE, which is initiated at [14]. The subsequent </td> closes the first CELL of the TABLE, which is initiated at [13].
```

The final tag in this first line of code <td> opens the second CELL of that same TABLE initiated at [13]. This second CELL extends the full length of the assembly that is discussed in [14] through [19]. It contains the image element mainmenu.jpg. Note that the

 tags after the image serve to extend this CELL (and the entire TABLE) downwards, generating the open space between mainmenu.jpg and the following image element, scale.gif. Cleaner HTML syntax would have placed these

 after the close of the TABLE.

```
■ 20 </td></tr></table>
<center>
```

```
<a href="scale.html"></a>
```

```
</center><br><center>
Here’s the close of the final CELL initiated at [19] above and the close of the ROW and TABLE initiated at [13]. The following image item, scale.gif, is controlled merely by the <center> tag that precedes it.
```

```
■ 21 
```

```
</center>
```

```
</body></html>
This code places the last image element, credbib.gif, on the page. Like scale.gif above, credbib.gif is controlled merely by the <center> tag. Note that “credbib.gif” is the final imagemap.
```

Credits • Bibliography • Related Links

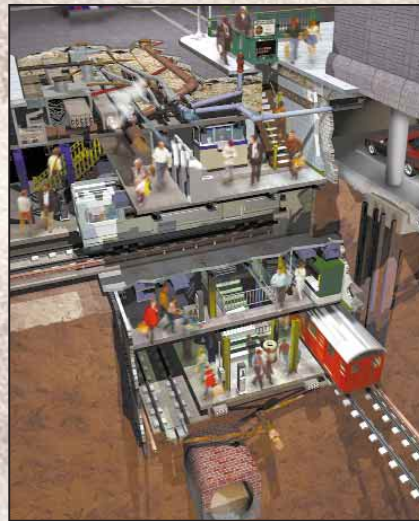
credbib.gif

attempts, there was always something off — perspective, distribution of detail, or clarity. By the time I made a detailed sketch for him of exactly how I wanted it, he was pretty well fed up with me. So in the end we did most of the finished production for the final art at ContentFree.

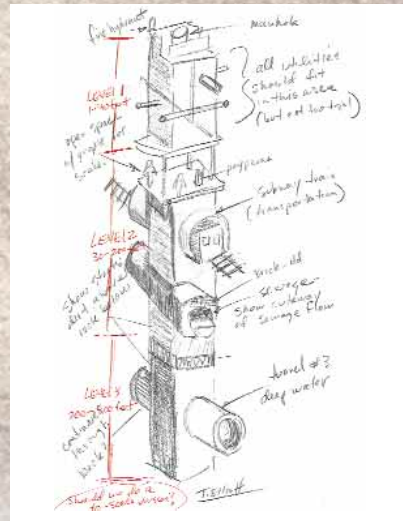
“What did I learn from this? No matter how talented and capable an artist is, if you have a firm idea about the look and feel, detailed sketches and hands-on art direction are a must from the start of the project.”

HUB AND SPOKES INFORMATION ARCHITECTURE

In discussing the structure of the site, Trevor Elliot recalls that Mark Holmes of NATIONAL GEOGRAPHIC INTERACTIVE had insisted on a “hub and spokes” model for the site’s architecture. A hub and spokes model of information architecture refers to a central navigation element that serves as the



This is the initial diagram from the magazine coverage that was developed into the core sample main menu. Trevor Elliot scanned this illustration from the actual magazine article, which was already in print when the online development began. It was created by NATIONAL GEOGRAPHIC illustrator, Don Foley. Although this artwork is fantastic, it had to be revised to adapt it to web space.



Here is the sketch that Trevor Elliot supplied for the web-based illustration of the core sample diagram. The perspective and layout were more fitting for a scrolling web page than the original magazine diagram. Why didn't he make this drawing in the first place? Probably because the groundwork hadn't yet been established to permit him to see this solution. It should be emphasized that the job of the art director is to have a hunch, an unrealized concept, and to hang onto that hunch, nudging and prodding the talent until the concept begins to materialize. With this in mind, developing multiple renditions is understood as an intrinsic part involved in obtaining the best possible art.

“hub”, with all the other branches originating from this main menu, which correspond to the “spokes”.

According to Mark, he chose this model because he wanted the visitors to interact with the main menu as both the central design feature and the central navigational device of the site. That is, the visitor clicks one aspect of the subject, steps off the hub page to interact with that aspect, then returns back to the hub page to select another aspect to explore.

IMAGEMAPS AND NAVIGATION

The core diagram of the site is actually composed of many small images which form the illusion of one giant diagram. This method of breaking up the images allowed the developers to make extensive use of imagemaps to implement its navigational branching (or “spokes” as discussed earlier).

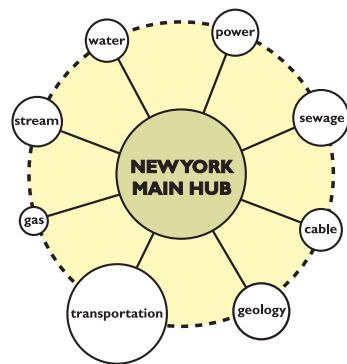
What was the purpose or advantage of using so many imagemaps on the NATIONAL GEOGRAPHIC Main Menu Core page? The use of imagemaps gave the site designers complete control over the fonts used to label each navigational item on this page.

If they had used straight HTML, they would not have been able to use images of fonts, but instead would have been forced to use the more limited text options that HTML affords.

note

Information Architecture

The hub and spoke model of interactive architecture that is used in developing the New York Underground site is essentially the same scheme that is employed in organizing the Bosch Tools site.



Note that although the information architecture is very similar, the experience and feel of these two sites is quite dissimilar. Information Architecture is a fundamental underpinning of good site design, but it does not necessarily pre-determine the quality of the experience that the site may produce. Provided that the architecture has been well planned, it will become almost transparent, and the experiential quality of the site will, most likely, become a dual function of both the story and the art direction employed in telling that particular story.

USE OF REALAUDIO

To implement audio for the site, RealAudio technology was chosen. RealAudio is a continuous or streaming sound technology from Progressive Networks' RealAudio. Streaming sound is sound that is played as it arrives. The alternative is a sound recording that doesn't start playing until the entire file has arrived, such as a WAV file. Support for streaming sound may require a plug-in player or may come with the browser.

A RealAudio player or client program may come included with a web browser or can be downloaded from the RealAudio or other websites. The latest application as of this writing for generating both RealAudio and RealVideo is RealPublisher 5.0. It is obtainable directly from <http://www.real.com/publisher/index.html>.

Until recently, to deliver RealAudio sound from your own website, either you or your web space provider needed to have a RealAudio enabled server. The latest application, however, no longer requires a streaming media server.

All Real-Audio and RealVideo content created with RealPublisher can be streamed directly from a standard web server using the HTTP protocol. This enables site visitors to play clips immediately, without download delays.

With RealPublisher, you can add both audio and video content to web pages.

Among its many features, it creates audio and video content using easy-to-use templates, generates web pages with embedded audio and video, automates content publishing to servers without FTPing, and creates compressed audio and video content from extant WAV, AU, AVI, and QuickTime files. RealPublisher also supports LIVE encoding, which means that advanced users can capture audio or video directly from the source and create RealAudio and RealVideo in real time.

There's also an HTML wizard available for generating audio/video enabled web pages. A RealAudio file will have a filename extension of either xxx.ra or xxx.ram. *

site summary

National Geographic New York Underground

The National Geographic Society's entry into web development enables it to take an asset, like the illustration from the printed feature, “Under New York,” and inject new information and life into it that would have previously gone largely underdeveloped. Not that the magazine doesn't get the whole story; actually, quite the opposite is true. Each asset that the Society develops has so much more potential than can be realized in the print medium's presentation. The new synergistic model of a feature's development, which utilizes the strengths of both print and the web, is perhaps the most exciting new development to touch either media.

The following epigraph from the New York Underground website, “The city's infrastructure starts just below street level, but it doesn't stop there” might well be paraphrased, “National Geographic's feature development has traditionally started with print, but it doesn't stop there.”

- The National Geographic Society has long been regarded as a leading innovator in the development of photography, art, and diagrammatic presentation for their printed features. The Interactive Division continues in that tradition by developing innovative web features that, together with the related print features, have resulted in a new, synergistic model of dual media development.
- Diagrammatic presentations can become the navigational centerpiece of an experiential web presentation, and can deliver far more information than the original static diagrams.
- Web developers should heed Tim Stanton's admonition not to accept discouragement when successive bids don't lead to a contract. Stay in touch with the client. Content-Free bid on three projects before they were contacted to submit a proposal for New York Underground. Perseverance works.
- The Brainstorm is a crucial step towards excellent web development. Honor your ideas.
- A labor of collaboration can be difficult. In order for really terrific work to see daylight, often both the Art Director and the Creative Talent must understand the nature of the process and simply keep going until they “get it.”
- Information Architecture is only one, albeit very important, aspect of web development. Similar architectures can be employed to obtain dissimilar experiences. Strong functionality requires a strong foundation, and that is Information Architecture.
- Properly implemented, imagemaps are useful for the development of graphically-based interactive content. One advantage is that imagemaps give designers absolute control over the typography of their navigational devices
- Nearly all web developers can stand to learn a fundamental lesson from the developers of NATIONAL GEOGRAPHIC INTERACTIVE's New York Underground. It is imperative that developers look for ways in which they can harness the intrinsic potentials of the medium to tell their story. The synthesis of architecture, scrolling, diagrammatic presentation, and anchoring to a fragment combine to make this one of the most powerful, savvy stories presented on the web to date. Look for the opportunities within what others might consider the “limitations” of the medium.