UNITED STATES DISTRICT COURT
FOR THE DISCTRICT OF COLUMBIA

DOW JONES & COMPANY, INC., Plaintiff, v. ABLAISE LTD ("Ablaise") GENERAL INVENTIONS INSTITUTE A, INC., ("GIIA") Defendants.	**Civil Action No. 1:06CV01014** **Judge James Robertson**
DOW JONES REUTERS BUSINESS INTERACTIVE, LLC. Plaintiff, v. ABLAISE and GIIA Defendants.	**Civil Action No. 1:06CV01015** **Judge James Robertson**

State of Massachusetts
County of Middlesex

AFFIDAVIT OF CHRISTIAN B. HICKS REGARDING CLAIM CONSTRUCTION

I, Christian B. Hicks, having been duly sworn, and being under oath, state:

1. My name is Christian Hicks. I am the president of Elysium Digital, L.L.C., a technical litigation consulting company located in Cambridge, MA.
2. I graduated from Princeton University *summa cum laude* with an A.B. in Computer Science in 1997. I was awarded the Computer Science Senior Prize and made a member of the Sigma Xi Research Society. My *Curriculum Vitae* and my statement of prior testimony are attached (see Attachments A-1 and A-2).
3. I co-founded Elysium Digital, L.L.C. In 1997. Since the company's founding, I have

advised clients on computer science issues in more than 40 different matters, including matters regarding copyright and patent infringement.

4. This affidavit addresses the meanings of certain disputed terms in the patents in the above-referenced case.

5. In preparing this affidavit, I have considered US Patent 6,961,737 (the "'737 patent"), US Patent 6,295,530 (the "'530 patent"), the file histories for these patents, and the "Opening Brief of Plaintiff Dow Jones & Company, Inc. and Dow Jones Reuters Business Interactive, LLC Concerning Claim Construction" (the "Plaintiff's Claim Construction Brief") and attached exhibits, the IBM Dictionary of Computing, as well as any other materials referenced in this affidavit.

6. Before discussing the meanings of the disputed terms, I will provide an overview of the World Wide Web circa 1995, which is the technological area at issue in the patents in this case.

OVERVIEW OF THE WORLD WIDE WEB

7. To understand how the World Wide Web works, one must first understand how network protocols, the Internet, and document markup work.

8. **Network protocols**: Networked computers communicate using protocols. The meaning of the computer term "protocol" is very similar to the everyday meaning of the term "protocol": It is a prearranged understanding for how parties will communicate. For example, a Presidential Debate has a protocol: The parties come onto stage, shake hands, and go to their podiums. Perhaps then one of the candidates is asked a question by the moderator. That candidate might have two minutes to answer, after which the other candidate might get one minute to respond. This communications protocol is prearranged, and the debate would not function if the parties did not hew to the protocol (although it would probably make for better

television.)

9. Similarly, network protocols regiment how two computers will communicate with each other to complete a particular task. A network protocol lays out precisely what each computer should do to do its part in the communication. Computer networks typically use several protocols, some of which are layered on top of each other.

10. **The Internet:** The Internet is an international network of computers. Computers on the Internet identify each other by Internet Protocol address. The Internet Protocol specifies a format for assigning an Internet Protocol ("IP") address for a particular computer. A typical IP address is four numbers separated by periods, e.g. "66.228.85.84".

11. Knowing a computer's IP address provides someone only with a way to send network packets to that computer. It does not specify any more about how the computers will communicate. For that, other protocols must be used. One protocol commonly used to transmit packets reliably to another computer is called the Transmission Control Protocol ("TCP"). Much of the communication on the Internet involves using TCP to exchange data with a computer identified by its IP address. This combination is called "TCP/IP".

12. Once two computers on the Internet can send each other information using TCP/IP, many different kinds of applications are possible. One computer can use a protocol to send e-mail messages to the other. One computer can also use a protocol to retrieve web pages from the other. This protocol is called the Hypertext Transmission Protocol ("HTTP"). When HTTP is used, a "client" computer initiates a connection to the "server" computer – in this case, a web server – and requests a file or document (usually a web page.) The server responds to the request by preparing and transmitting (or "serving") the requested material back to the client.

13. **Document markup:** In general, formatted documents have two basic components: The text, audio, image and video data that communicate the substance of the document (also called the "content"), and the data that determine how the document should be formatted when it is presented (the "formatting"). Different kinds of documents use different mechanisms to determine the formatting for a document.

14. One common way to format documents is to use a special language to embed special sequences of characters (or "tags") within the content. Such languages are called "markup languages". One commonly used markup language is called the Hypertext Markup Language ("HTML"). For example, in HTML, inserting "<P>" in the content will cause the content that follows to be in a new paragraph. Inserting "<H1>" and "</H1>" tags around some of the content will format that part of the content into a more prominent heading.

15. If an HTML document is viewed in a web browser like Internet Explorer or Firefox, then the tags don't appear. Instead, the browser applies the formatting that is specified by the tags, so that the user sees the document formatted in the way that the author intended. A more detailed example of certain HTML tags and the formatting they create is attached as Attachment A-3.

16. Such markup tags can be inserted into the document by hand, or they can be inserted automatically by software. Such markup tags can be inserted automatically by software when the web server is transmitting the web page, thereby allowing the formatting of the document to be customized depending on the situation.

17. **The World Wide Web:** The World Wide Web ("WWW") has two basic components: The set of all publicly accessible computers on the Internet that serve web pages via HTTP ("web servers"), and the set of HTML pages that are served from those computers ("web pages"). Users of the WWW point their browsers at a particular

web page on a particular web server, e.g. "http://www.uscourts.gov/ adminoff.html". This creates an HTTP connection to that web server, which retrieves the specified web page to the user's browser. There, the HTML in the web page is parsed, and the browser uses the tags in the web page to format it for presentation to the user. Such a web page can also contain "links". When the user clicks on a link in the browser, the browser points itself at the new address specified by the link, which causes the browser to use HTTP to retrieve the linked web page, and so on.

18. The web server can serve the requested web page via one of two basic mechanisms: It can either have a previously-created HTML page ready and simply transmit that page, or it can use software to create an HTML page dynamically in response to the web browser's request. One early mechanism for such dynamic page generation was the Common Gateway Interface ("CGI"), which provided a standard for how such programs for dynamic web page generation should function.

19. In 1994 and 1995, this notion of using CGI to generate web pages on the fly was quite new. (http://www.w3.org/CGI/). I worked for AT&T Bell Labs in 1995 and 1996, and our research group was experimenting with using CGI for creation of dynamic web pages at that time. In 1995, there were web sites that dynamically changed content, but such sites were still relatively rare.

20. In fact, the entire WWW was fairly new and quite small in 1995. A company called Netcraft has tracked WWW statistics since 1995. In August 1995, Netcraft recorded a mere 18,957 web sites on the WWW. By November 2006, there were more than 100 million web sites on the WWW. (http://news.netcraft.com/ archives/ 2006/ 11/ 01/ november_2006_web_server_survey.html).

TERMS FROM THE '737 PATENT

21. **"Displayed at a browsing device"** -- I agree with Ablaise that this term requires

no construction. Web pages are displayed at browsing devices after they have been served by a web server, and received and parsed by a browsing device. The display of web pages at browsing devices is not part of the process of serving of the pages.

22. **"Storing executable functions"** -- I understand that Ablaise's construction of this term is: "Storing two or more functions, where a function is an identifiable unit of computer instructions". In my opinion, this is how one of ordinary skill in the art at the time of the invention would interpret this claim language. Functions can be identified by name, memory address, index, or other mechanism, depending on the circumstances.

23. **"In response to identifying a request for specified content data and a user identifier"** -- I agree with Ablaise that this term requires no construction.

24. **"Receiving formatting identifiers identifying the type of formatting required"** -- I agree with Ablaise that the term "Receiving" requires no construction and does not limit origin. I understand that Ablaise's construction of the term "format identifier" is: "An identifier corresponding to a type of formatting specified by a user from at least two types of formatting available to the user for specified content data." In my opinion, this is how one of ordinary skill in the art at the time of the invention would interpret this claim language. Examples of "identifiers" include strings of characters, bits, names, tokens, and elements. The defining characteristic of an identifier is that it identifies something.

25. I agree with Ablaise that "formatting" means "layout or presentation of content". Accordingly, one of ordinary skill in the art at the time of the invention would understand that "type of formatting" simply refers to one kind of layout or presentation of content as opposed to another.

26. **"Selecting a set of stored functions in dependence upon a received format**

identifier and said read user information" -- I understand that Ablaise's construction of this term is: "Selecting one or more functions, where that set of functions is selected based upon a received format identifier and the read user information." In my opinion, this is how one of ordinary skill in the art at the time of the invention would interpret this claim language.

27. For example, in an embodiment in the written description, functions are selected by the calling of the functions. ('737 Patent 13:48-56). Such calling of functions is necessary for the computer to transfer control to the function so that the code in the function will be executed. This generally involves the passing of data into the function.

28. The term "set" is "a finite or infinite number of objects of any kind, of entities, or of concepts that have a given property or properties in common." (IBM Dictionary of Computing (Tenth Edition) Def. 2). For example, a specific embodiment discussed in the written description of both patents makes clear that the set of functions might contain only one function. ('737 Patent 13:48-56, Fig. 9).

29. "Executing said set of functions to generate viewable data comprising said selected content data and formatting data" -- I understand that Ablaise's construction of "formatting data" is: "markup language, such as HTML tags." In my opinion, this is how one of ordinary skill in the art at the time of the invention would interpret this claim language. For example, specific embodiments in both patents use HTML tags as formatting data. ('737 Patent Fig. 8, 14). HTML tags control many different aspects of formatting, including for example the bolding, underlining, alignment or other flow of content.

TERMS FROM THE '530 PATENT

30. **"Identifying request from browsing devices that define a request for**

specified viewable data, said request including formatting type identification data" -- I understand that Ablaise's construction of "formatting type identification data" is: "Data corresponding to a specified page format chosen from at least two page formats available to the requesting browsing device for specified viewable data". In my opinion, this is how one of ordinary skill in the art at the time of the invention would interpret this claim language.

31. **"Maintaining a plurality of formatting types of data defining respectively corresponding predetermined formats for portions of said viewable data"** -- I understand that Ablaise's construction of "maintaining a plurality of formatting types of data" is simply the storing of those types of data used for formatting, and therefore: "storing a set of markup tags, such as HTML tags". In my opinion, this is how one of ordinary skill in the art at the time of the invention would interpret this claim language. Such tags could be stored in any suitable location, including in a database, a file, in code, or in some other mechanism. Claim 1 later requires the selection of one set of tags or another: "selecting a specific one of said types of formatting data in response to ..." ('530 Patent Claim 1).

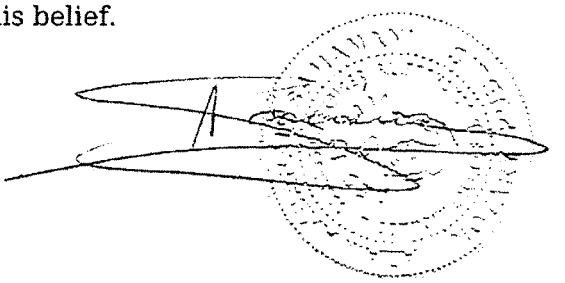
32. **"Selecting a specific one of said types of formatting data in response to said formatting type identification data"** --

33. I understand that Ablaise's construction of "types of formatting data" is simply those types of data used for formatting, and therefore: "a set of markup tags, such as HTML tags". In my opinion, this is how one of ordinary skill in the art at the time of the invention would interpret this claim language. Claim 1 earlier requires the maintaining of such sets of tags: "maintaining a plurality of formatting types of data defining respectively corresponding predetermined formats for portions of said viewable data" ('530 Patent Claim 1).

Signature: _____ Date: 3 Apr 2007

On this 3rd day of April, 2007, before me, the undersigned notary public, personally appeared Christian Hicks, proved to me through satisfactory evidence of identification, which were personal knowledge, to be the person who signed the preceding or attached documents in my presence, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of his belief.

Azam A. Samanani
Notary Public
Commission Expires Dec. 15, 2011



Attachment A-1

ELYSIUM DIGITAL

telephone 617-621-3100

Ten Canal Park, First Floor
Cambridge, MA 02141
www.elys.com

fax 617-621-3113

Name: **Christian B. Hicks**

Education:

- Princeton University, A.B. Computer Science 1997
- NTI, Data Forensics Training 2003

Awards and Distinctions:

- Summa Cum Laude
- Sigma Xi
- 1997 Recipient of the Computer Science Senior Prize

Employment History:

- 1997 - Present, Elysium Digital, L.L.C., President and Co-Founder
- 1996, AT&T Consumer Lab, Consultant
- 1995, AT&T Bell Labs, Summer Researcher

Publications:

- Inventor of U.S. Patent 5,982,892, "System and method for remote authorization for unlocking electronic data."
- Inventor of U.S. Patent 6,567,793, "Remote authorization for unlocking electronic data system and method."
- Undergraduate Thesis: Predictive Computer Models for Time-Series Tracking Data Applied to *Lemur catta*
- Journal Article: Metamodeling with Perl and AMPL, C. Hicks and D. Pachamanova, Dr. Dobbs Journal, January 2005

Attachment A-2

Statement of prior testimony:

The following is listing of any other cases in which I have testified as an expert at trial or by deposition within the preceding four years:

I gave deposition testimony in the matter of TV Interactive Data Corp v. Microsoft Corporation in the United States District Court, Northern District of California, San Francisco Division. I also submitted expert reports in this case.

I gave deposition testimony in the matter of Hark Chan; Techsearch, LLC; and IP Innovation, LLC v. Intuit, Inc.; Symantec Corporation; and Electronic Arts, Inc. in the United States District Court, Northern District of California, San Francisco Division.

I gave deposition, hearing and trial testimony in the matter of StorageTek v. Custom Hardware Engineering and Consulting, Inc. in the United States District Court, District of Massachusetts. I also submitted affidavits and expert reports in this case.

I gave deposition testimony in the matter of Paul Cozza v. McAfee, Inc. in the United States District Court, District of Massachusetts. I also submitted expert reports in this case.

Attachment A-3

HOW HTML WORKS

HTML is a document markup language. Embedding HTML tags inside a document affects the formatting of the document when it is displayed on a proper device.

The '530 and '737 patents provide a good example of HTML tags and the resulting formatted document. Figure 8 shows an example of a web page, including its HTML tags:

ASCII transmission to a browser

```
1  <HEAD><TITLE>Home Shopper</TITLE></HEAD>
2  <BODY>
3  <hr size=1>
4  <H1>Contents Page></H1>
5  <A HREF="http://localhost:8081/vdl/123456/1000/123/999">
6  <img src="/im/sport.gif" align=middle hspace=5>Sports</A>
7  <A HREF="http://localhost:8081/vdl/123456/1001/123/999">
8  <img src="/im/elec.gif" align=middle hspace=5>Electrical</A>
9  <p>
10 <A HREF="http://localhost:8081/vdl/123456/1002/123/999">
11 <img src="/im/elec.gif" align=middle hspace=5>Computers</A>
12 <A HREF="http://localhost:8081/vdl/123456/1003/123/999">
13 <img src="/im/child.gif" align=middle hspace=5>Childrens</A>
14 <p>
15 <A HREF="http://localhost:8081/vdl/123456/1004/123/999">
16 <img src="/im/gard.gif" align=middle hspace=5>Gardening</A>
17 <A HREF="http://localhost:8081/vdl/123456/1005/123/999">
18 <img src="/im/clth.gif" align=middle hspace=5>Clothing</A>
19 <hr size=1>
20 <p>
21 </BODY>
```

Figure 8

Figure 7 is illustrative of the resulting formatted output when the HTML is displayed:

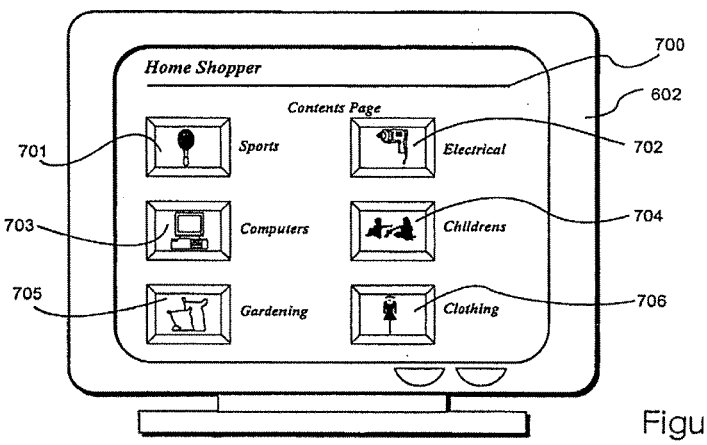
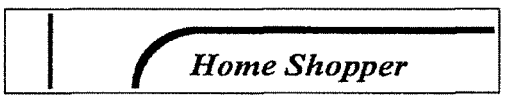


Figure 7

If we break down the HTML tags shown in Figure 8, we see that they begin with HEAD and TITLE tags:

```
1 | <HEAD><TITLE>Home Shopper</TITLE></HEAD>
```

The "<HEAD>" tag denotes the beginning of the Head Element, which contains information about the document. The "</HEAD>" tag at the end of the line denotes the end of the end of the Head Element. Within this Head Element, the "<TITLE>" tag denotes the beginning of the document title, in this case, "Home Shopper", while the "</TITLE>" tag denotes the end of the title. In total, this line of HTML indicates to the HTML display device (typically a web browser) that the title of this document is "Home Shopper". As a result, in Figure 7, the title "Home Shopper" is placed prominently up top:



On line 2 of Figure 8 is a "<BODY>" tag marking the beginning of the main body of the document:

```
2 | <BODY>
```

And there is a matching "</BODY>" tag marking the end of the main body of the document on line 21 of Figure 8:

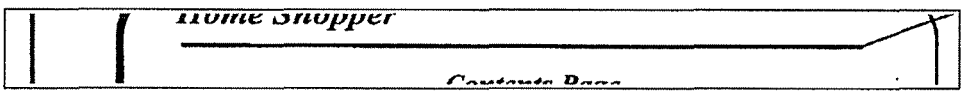
```
21 | </BODY>
```

These BODY tags tell the display device that the main body of the document is located between those two tags. In the case of Figure 8, that means that the body of the document is contained on lines 3-20.

The next line (line 3) of Figure 8 contains the following:

3	<hr size=1>

This "<hr size=1>" tag tells the display device to create a horizontal line (or "rule") or size 1 in the document. The resulting line is shown on Figure 7 as item 700:



Line 4 of Figure 8 contains a Heading:

4	<H1>Contents Page></H1>

The "<H1>" denotes the beginning of the Heading, and the "</H1>" denotes the end of the Heading. (There appears to be a typographical error in the line in that there is an additional ">" after the word "Page".) As a result of this line, the words "Contents Page" appear prominently as a heading in the formatted output in Figure 7:

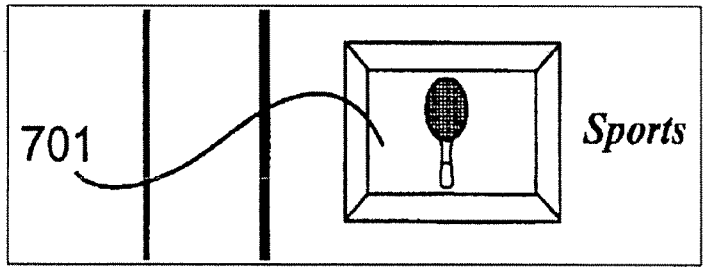
Contents Page

Lines 5-6 of Figure 8 contain the HTML for a link that contains both an image and text:

```
5 | <A HREF="http://localhost:8081/vdl/123456/1000/123/999">
6 | <img src="/im/sport.gif" align=middle hspace=5>Sports</A>
```

The tag beginning with "<A HREF=" indicates that this is an "Anchor" tag, which means that it can link to another location in the document or to another document. The "</A>" at the end of line 6 denotes the end of the Anchor – in this case, the Anchor includes everything on lines 5 and 6. The "HREF" part of the Anchor tag shows where it links to – in other words, what document the display device should load if the user clicks on the link. In this case, clicking on the link would send a browser to the web page at "http://localhost:8081/vdl/123456/1000/123/999". Line 6 begins with a tag that begins with "<img". This is an image tag, and it tells the display device to insert a particular image at that location in the document. This image tag contains the arguments "align=middle", which specifies how the image shall be aligned with regard to the surrounding text, as well as "hspace=5", which defines the white space on the left and right sides of the image. The text "Sports" is the text portion of the link. Clicking on either the included image or the word "Sports" will activate the link and cause the browser to load the new document.

These HTML tags and content result in the following formatted output in Figure 7:



This is a combined image and text link to another web page on Sports. Clicking either the icon or the text will take the user to the Sports web page.

Lines 7-8 of Figure 8 simply describe another link like the one on lines 5-6, only for a different subject. Line 9 of Figure 8 contains a paragraph identifier:

9	<p>

This simply tells the display device to begin a new paragraph, which causes the subsequent content in Figure 7 to be displayed on the next line.

The remainder of Figure 8 simply contains more image/text links like the one on lines 5-6, broken up into lines with paragraph tags like the one on line 9. The result is the three rows, each with two links, that can be seen in Figure 7.