Appendix F – Part 5

Defendants' Supplemental Prior Art Statement
'228 Patent
(TC1356-TC1384)

to

TimeBase's Memorandum in Support of Its Motion
for Summary Judgment of No Invalidity

Prior Art Analysis
• **The Social Security Plus System:** The Social Security Plus system a method of using a system which displayed text-based legislation in response to a search. • **The UCC System:** The UCC system a method of using a system which displayed text-based legislation in response to a search.

(k) displaying text and/or one or more selectable links representing at least one additional attribute.

• **Agosti 1991:**

Agosti 1991 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Agosti 1991 discusses and shows a user interface that shows the stored nodes of text-based data together with links representing attributes. For example:

- *See generally* 322-324 (Figures 2-8)

- *See, e.g.,* "Figure 7. An example of a node: the representation of a Legal Authority document," at 324.

- *See, e.g.,* "The hyperdocument is made up of a network of structural links combined with the network of reference links...This means that the user may choose to follow along one path or another even in consideration of the direction of the references present within the semantic units," at 318.

- *See, e.g.,* "The model supports navigability through the document collection. Due to the fact that specific cross-references are often present between the documents of the collection, the system must explicitly be able to support navigability through these connections," at 318.

- *See, e.g.,* "Each of the two levels of the system's architecture represents a distinct network of nodes and links," at 319.

- *See, e.g.,* "The model supports navigation between the two levels by means of the navigability function. In this way it is at all times possible to pass from the hyperdocument to the hyperconcept and back again," at 320.

- *See, e.g.,* "By clicking the mouse button the object pointed is activated, i.e. the system receives the order to move in the direction indicated and to present the pertaining information or to execute the requisite function," at 322.

Prior Art Analysis
• *See, e.g.*, "It is possible to shift directly from any point in the hypertext network to other hyperdocuments by making use of the links existing between them," at 322.
• *See, e.g.*, "The nodes included within the single documents contains a function which allows all the links which bind that single document to the others to be displayed," at 323.
• Anwar 1996:
Anwar 1996 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Anwar 1996 discloses a method for displaying the multi-dimensional data, including text-based data, on a computer. For example:
• *See, e.g.*, "The multi-dimensional display and manipulation system includes an [sic] user interface and a multi-dimensional data object subsystem where the subsystem includes means for . . . retrieving. . . multi-dimensional data objects and the user interface includes means for displaying and graphically manipulating the multi-dimensional data objects in a window defined on a display device," at Summary of the Invention.
• *See, e.g.*, "The buyer can scroll through the data values associated with each side of the . . . n-gon using scroll bars to select the desired values of the . . . Attribute." Summary of the Invention.
• *See, e.g.*, "The buyer can then navigate, manipulate, perform operations, and define relationships and formula on the data or data groups through the UI or GUI of MAGIC as described in Analysis Scenario 1 until the necessary data is retrieved and [sic] from the database. Now the CC in conjunction with the GUI displays the data as requested by the buyer," at 18:32–38.
• Arnold-Moore 1994:
Arnold-Moore 1994 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Arnold-Moore 1994 discusses displaying units of text on the screen together with links representing attributes. For example:
• *See, e.g.*, "In this context hypertext would allow the note to be visible to the user only after they have selected (usually by pointing and clicking a mouse) a 'button' which is displayed with the text on the screen. This button could be positioned where one might expect an annotation to appear in a paper service. Each separate unit of text which is presented on the screen is termed a node," at 3.
• *See, e.g.*, "In this context hypertext would allow the note to be visible to the user only after they have selected (usually by pointing and clicking a mouse) a 'button'

Prior Art Analysis
which is displayed with the text on the screen. Each separate unit of text which is presented on the screen is termed a *node*. The interrelated nodes and the links between them together form *hypertext*," at 3. • *See, e.g.,* "Hypertext allows the user to do exactly that. It's applicability to the legal domain and particularly statutes is widely recognized," at 4. • *See, e.g.,* "The functionality of a hypertext database should also be supported. These include tracing links and queries based on the existence of links," at 5. • *See generally, e.g.,* 6. • *See generally, e.g.,* 12. • *See, e.g.,* "Within a versioned hypertext, two kinds of links are possible: 1. static links – which refer to a specific version or part of a version; 2. dynamic links – which refer to the latest version or part or, more generally, to the version at a corresponding time," at 14 • *See, e.g.,* "Whether links should be in-line (appearing explicitly in the text) or stored in a separate link table seems dependent on the intended application," at 14. • **Arnold-Moore 1994-2:** Arnold-Moore 1994-2 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Arnold-Moore 1994-2 discloses using the described storage system together with a graphical user interface that will display the stored text-based data. For example: • *See, e.g.,* "[I]t is anticipated that SGQL will be primarily used as an API to text and graphical user interfaces rather than used directly by the user. It is presumed that these interfaces will have access to the appropriate DTD's and output specifications so that users will be able to avoid knowing the exact generic identifiers required for every query," at THOM00196615. • *See, e.g.,* "This information is explored by browsing, rather than querying, however we may view the traversal of a link as another kind of query," at THOM00196608. • *See, e.g.,* "Finally, we will certainly wish to follow any hypertext links that are provided," at THOM00196608. • *See, e.g.,* "When versioning hypertext, links can either be static or dynamic. In order to support static links to element we require an absolute identifier for each ELF. The EID is also useful for supporting dynamic inclusion of sub-elements," at THOM00196611.

Prior Art Analysis

- **Arnold-Moore 1997:**

  Arnold-Moore 1997 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Arnold-Moore 1997 discloses providing the legislative drafter with a version of the Act or Regulation to be amended. For example:

  - *See, e.g.*, "Themis provides the legislative drafter with a version of the Act or Regulation to be amended on which the drafter marks the amendments directly," at 56.

  - *See, e.g.*, "An ideal drafting tool would present the drafter with the appropriate consolidation of the target of the amendment (see Figure 1) and allow him or her to mark amendments on that consolidation (see Figure 2)," at 57.

  - *See, e.g.*, "The drafter can view any Act or search the whole database using Boolean or ranking queries at any time point for which a valid version is stored on the system. This allows a drafter to check out the Principal Act to be amended as it was or will be at a given time," at 59.

- **Arnold-Moore 1997-2:**

  Arnold-Moore 1997-2 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Arnold-Moore 1997-2 discusses and shows a user interface that shows the stored nodes of text-based data. For example:

  - *See generally* 178, 180-181 (Figures 1-5)

  - *See, e.g.*, "While most queries are executed through graphical user interfaces," at 177.

  - *See, e.g.*, "Using a dual display with a table of contents on one side and the actual provision on the other provides an appropriate compromise (see Figure 3 which shows one of the results from Figure 2). By using SGML to store the Statutes, we can automate the process of fragmenting large documents and only present to the user the parts of the document that the user requests," at 179.

  - *See, e.g.*, "Legislation has been described as providing a cross-reference network," at 179.

  - *See, e.g.*, "Hypertext allows the user to do exactly that. It's applicability to the legal domain and particularly statutes is widely recognized," at 179.

  - *See, e.g.*, "This text needs to be associated with the intended target element. For example the reference to 'section 135' (See Figure 3) will need to be associated with

119

TC1359

Prior Art Analysis

the element which has a section number of '135' (See Figure 5) in the target document," at 181.

- *See, e.g.,* "Thus all links in Themis are dynamic rather than static," at 181.

- **Campbell 1988:**

Campbell 1988 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Campbell 1998 discloses displaying text-based data to the user, together with links representing attributes. For example:

- *See, e.g.,* "Nodes are related by links. A link defines a relationship between a source node and a destination node and can be followed in either direction. A cross-context link relates two nodes in different contexts and is useful for sharing data between two contexts. The generality provided by link attributes allows application writers to define their own notions of link types or link end-point attachment schemes," at 857.

- *See, e.g.,* "Replacement buttons replace the button icon displayed on the screen with the information associated with that button," at 858.

- *See, e.g.,* "Guide uses buttons – special areas on a screen – to represent links in a document between the information the screen and related information. When a button is selected, by clicking the mouse, Guide follows the link to display the related information. Replacement buttons replace the button icon displayed on the screen with the information associated with that button," at 858.

- *See, e.g.,* "The various button relationships are modeled as links," at 858.

- *See, e.g.,* "Figure 2 shows an example of a note button. The Document Browser contains the text being examined; the icon within the browser represents the note button. The Note Browser contains the note associated with the note button," at 858.

- *See, e.g.,* "Therefore, the other end of the link representing the button can point to the entire node that contains the button's information," at 858.

- *See, e.g.,* "FileBoxes can be represented in the HAM using nodes, links, and attributes. Both FileBoxes and notecards are equivalent to nodes. The model uses a node attribute to determine whether a node is a FileBox or a notecard. Links show which notecards (or FileBoxes) are in a particular FileBox. Link attributes determine which links refer to other FileBoxes and notecards," at 860.

- **Caplinger 1986:**

Caplinger 1986 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Caplinger 1986 discloses the

Prior Art Analysis

display of text, data, and links. For example:

- *See, e.g.,* "First and foremost, we wish to display data that are not inherently numeric," at 114.

- *See, e.g.,* "The best known application of SDMS was a database of naval ships. At the topmost level, the SDMS display consisted of a world map, with the locations of task forces displayed on it at their actual physical locations. A user could ask the system to zoom in on a particular group of ships, which were then shown as icons based on ship type, along with additional textual information like the ships' names and nationalities," at 114–15.

- *See, e.g.,* "Part of the information space consists of object locations. Additional information may be conveyed by the *attributes* of the objects in the space. One alternative is to give the objects no attributes or features at all, but simply display them as featureless points. We call this a *point space*. All of the information contained in a point space is held in object location. However, there may be characteristics of objects that make little sense as dimensions, particularly if we canot think of an ordering for them. In such cases, we may want to associate those characteristics with object attributes. For example, we might use geometric shapes as objects, and put information in their sizes, shapes, or colors," at 116.

- *See, e.g.,* "Once we have represented the database entries in the space themselves, we still have to add the link information. There are two ways of doing so. The first is simply to draw the links as arcs connecting the objects corresponding to linked entries. The problem with this is that the links are not visually useful if there are many of them—in fact, they will generate so much visual clutter that the actual objects will be obscured. A much prefereable way of representing links is implicitly, in the dimensions. In this scheme, linked entries are simply close to one another in space. We assign an inteer to each entry based on the path length from some root entry to that node," at 116.

- **Dolan 1998:**

  Dolan 1998 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Dolan 1998 discloses that the invention displays text and/or links to the user. For example:

  - "In accordance with the present invention, a user navigates through information items accessible through a computer network according to any of two or more network access protocols by selecting icons of a hierarchical navigation graph displayed on a computer display screen." 4:62–66.

  - "In particular, links which are embedded in the substantive information of an item, as is the case with HTML documents, are parsed from the item and added to the hierarchical graph. The user can thereafter retrieve an item referenced by a link

121

Prior Art Analysis
parsed from a previously retrieved item by selecting from the hierarchical graph a representation of the parsed link." Summary of the Invention

- **Haake 1992:**

  Haake 1992 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Haake discloses the display of text-based data to the user. For example:

  - *See generally* figure 3 and accompanying text.

- **Horne 1997:**

  Horne 1997 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Horne 1997 discloses the display of text-based data to the user, together with links representing attributes. For example:

  - *See, e.g.,* "SGML is not concerned with how that paragraph is formatted by the appropriate program on the user's computer," at 2.

  - *See, e.g.,* "The program on the user's computer could ignore the repealed text and display the inserted text. But the markup could go further. It could give the dates on which the amendments were made, the dates on which they took effect, and the names of the Acts or Sis which had made them, and the user's program could use this markup to display a statute as it was on a particular date chosen by the user and could offer hypertext cross-references to the amending legislation," at 3.

  - *See, e.g.,* "But markup could go further. It could give the dates on which the amendments were made, the dates on which they took effect, and the names of the Acts or SI which had made them, and the user's program could use this markup to display a statute as it was on a particular date chosen by the user and could offer hypertext cross-references to the amending legislation," at 3.

  - *See, e.g.,* "HMSO have a program called 'the Statute Law Database'. This is an electronic version of Statutes in Force. It contains in SGML form the law as it was on a particular date in the 1980s together with all acts and statutory instruments which have come into force since that time. All of these are linked together," at 3.

- **Larson 1988:**

  Larson 1988 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Larson 1988 discusses and shows a user interface that shows the stored nodes of text-based data together with links. For example:

  - *See, e.g.,* "All of the hypertext systems discussed below make use of the graphical

122

TC1362

Prior Art Analysis
interface features of workstations or personal computers to provide direct manipulation capabilities. They rely on high resolution screens to provide bitmapped windows and graphics, and on pointing devices, such as a 'mouse', for icon and menu selection. Each active (i.e. displayed) node is usually given its own window on the screen, and links to other nodes are represented by icons. Using the mouse, the user simply 'clicks' on these link icons to retrieve and display the linked node," at 196.

• **Lo 1996:**

Lo 1996 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Lo discloses

- *See, e.g.,* page 9, section 1.2.2 (Managing Functions). For example: "Link support is a facility provided by the basic service layer. Managing links is a direct support of non-linearity of documents as mentioned in Section 1.1. Link support is a prerequisite to information retrieval by browsing. It is also particularly important in depicting the dependence relationships between various documents, if such relationships need to be maintained and utilized . . . ."

- *See, e.g.,* page 11, section 1.3. For example: "Links and versioning are two important aspects of document management. Efficient management of links allows convenient cross referencing in information browsing."

- *See, e.g.,* page 12, section 1.4. For example: "In particular, SGML structures can be utilized to implement links."

- *See generally, e.g.,* section 2.1, starting on page 15, entitled "Linking."

- *See generally, e.g.,* section 2.3.2, starting on page 39, entitled "SGML Support for Linking."

- *See, e.g.,* figure 2.5, page 41.

• **Osterbye 1992:**

Osterbye 1992 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Osterbye 1992 discloses using the described system in connection with a user interface that allows a user to view the stored text-based data, together with links representing attributes. For example:

- *See, e.g.,* "The former allow the user to browse through information provided by someone else, but not to add new information. These systems can be found at for instance museums, or as instruction books," at 33.

123

TC1363

Prior Art Analysis

- *See, e.g.,* "Links are one-to-one, and can be anchored to nodes in both ends," at 34.

- *See, e.g.,* "A link can point to a specific element, in which case the link always points to the same element. Or the link can point to the current element, meaning the newest element in the version group," at 38.

- *See, e.g.,* "The link is an entity that relates a source node to a destination node (or subtypes of nodes)," at 38.

- *See, e.g.,* "Similarly, at the user interface level," at 40.

- **Promenschenkel 1995:**

  Promenshenkel 1995 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Promenshenkel 1995 discusses publishing text-based documents electronically. For example:

  - *See, e.g.,* "The STEPS system is designed to take a document through the publishing process from author's draft to finished print version or directly to a reader's computer screen," at 1.

- **Sacks-Davis 1994:**

  Sacks-Davis 1994 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Sacks-Davis 1994 discloses providing users with access to the stored text-base data, together with links representing attributes. For example:

  - *See, e.g.,* "A query language for accessing collections of structured documents, in particular SGML documents, requires support for several classes of query," at THOM00198845.

  - *See, e.g.,* "SGML can be used to support advanced presentation modes such as hypertext," at THOM00198835.

  - *See, e.g.,* "Access by SGML attributes is a commonly used method for supporting hypertext links," at THOM00198839.

- **Sacks-Davis 1995:**

  Sacks-Davis 1995 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Sacks-Davis 1995 discusses and shows a user interface that shows the stored nodes of text-based data, together with links representing attributes. For example:

  - *See, e.g.,* "The application is implemented under X windows. An example screen

124

TC1364

Prior Art Analysis

from this application is shown in Fig. 9, showing a person's details including three photographs, some notes, and names of some immediate relatives. At the right is a query window, which is used to find names using soundex or ranking," at 466.

- *See, e.g.*, "In addition to atomic attributes and structured attributes, Atlas supports reference attributes. A reference is a tuple comprising the global key of a record or nested record. In the hypertext example, bidirectional links between documents and their associated nodes are maintained using reference attributes, so that in table Hypertext, attribute doc has values from the domain of the key of the Document table, namely, attribute doc_id," at 456.

- *See, e.g.*, "Rather than store documents as monolithic objects in a database it is more efficient to represent documents as a set of smaller fragments, which can be connected by links. Links allow users to browse documents by following the original document structure, and to discover knowledge by browsing fragments in the other documents. This is the basic paradigm underlying hypertext systems," at 465.

- **Sciore 1991:**

  Sciore 1991 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Sciore 1991 discloses providing users with access to the stored versioned data. For example:

  - *See, e.g.*, "Our framework provides the means by which a database designer can specify a multi-dimensional logical structure to the version set. This logical structure can then be used to choose versions easily and conveniently," at 367.

- **Sciore 1994:**

  Sciore 1994 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Sciore 1994 discloses providing users with access to the stored versioned data. For example:

  - *See, e.g.*, "The constructs are high-level, allowing users to access versioned data in exactly the same non-procedural way as unversioned data," at 103.

- **Stonebraker 1994:**

  Stonebraker 1994 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Stonebraker 1994 discloses a multidimensional space stored in a POSTGRES database. Stonebraker 1994 further discloses navigation along the dimensional axes. For example:

  - "We present a user interface paradigm for database management systems that is motivated by scientific visualization applications. Our graphical user interface includes a 'boxes and arrows' notation for database access and a flight simulator

TC1365

Prior Art Analysis

model of movement through information space. We also provide means to specify a hierarchy of abstracts of data of different types and resolutions, so that a 'zoom' capability can be supported," at 1.

- "The browser has three ways to relocate its position in N-space: it can move to a previously designated identifier, it can move to a specific N-D-point which it calculates in some fashion, or it can move in some direction, denoted by $(\Delta_1, ..., \Delta_N)$ until some condition F(value) <operator> <constant> is true. This third relocation command is useful, for example, if a user is browsing Hurricane Hugo, and wishes to **fast-forward** the hurricane, i.e. skip or skim through images sorted by time, until Hugo hits land. If landfall of the hurricane can be expressed as a predicate, then the appropriate MOVE command would look like MOVE along (0,0,...,+1) until hits_land(Hurricane.hugo) = TRUE. The +1 means a movement along the positive time axis, assuming time is the last dimension in this coordinate system. Note that recipes may be fast-forwarded in this fashion in any dimension," at 5.

- **Taylor 1994:**

  Taylor 1994 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Taylor 1994 discloses a user interface that displays the information to a user. For example:

  - *See, e.g.,* figures 3 & 4, showing display of information, including text.

  - *See, e.g.,* section 5, entitled "Navigation Aids & Clustering," starting on page 242, and discussing the design considerations for the user interface.

- **Travis & Waldt:**

  Travis & Waldt discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Wilson 1988 discusses and shows user interfaces which display the stored text-based data, together with links representing attributes. For example:

  - *See, e.g.,* "Hidden beneath the formatted view of information prepared in tools that we commonly call WYSIWYG (What You See Is What You Get), or rich text, is data with buried coding that drives that same formatting…The following formatted view is what an author may wee while editing in a WYSIWYG environment," at 22.

  - *See generally* 23 (Figure 4).

  - *See, e.g.,* "HTML provides a simple means to place hypertext links in your document. These links can point to locations in your own document, to other documents at your side, or even to documents at other sites around the world," at 56.

  - *See, e.g.,* "It is more common to see a graphical front-end for systems that have

Prior Art Analysis
traditionally been command-line oriented. Version control systems are no exception. Microsoft SourceSafe has a native graphical front-end in the Windows, Windows NT, and Macintosh versions. This graphical front-end makes it easy to see the structure of a project or group of text files, and to view the current status," at 191. • *See generally* 191 (Figure 59). • *See generally, e.g.,* 241–42 (defining ID, IDREF, IDREFS). • *See generally, e.g.,* 293–95 ("In modern terms these [cross-references] are called hyperlinks."; "In SGML, we usually use an empty element to indicate a <u>link</u> to some other part of the document. The ID and IDREF declared values for attribute definition lists are used to assure uniqueness (in the case of ID) and valid reference (in the case of IDREF) within the document."). • **Wilkinson 1998:** Wilkinson 1998 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Wilkinson 1998 discloses displaying selectable links allowing the user to find related documents. For example: • *See, e.g.,* "A user's ability to find documents is enhanced if there are links between a currently viewed document and related documents. This is a consequence of the *clustering hypothesis*: closely associated documents tend to be relevant to the same requests. If one document of a cluster is identified, then others can be reached by navigation," at 96. • **Wilson 1988:** Wilson 1988 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Wilson 1988 discusses and shows user interfaces which display the stored text-based data, together with links representing attributes. For example: • *See, e.g.,* "Justus automatically highlights inter-statute references and intra-statute references. When a user selects a reference, the text corresponding with that reference is displayed," at 27. • *See, e.g.,* "Terms that are defined within the interpretation section of the statute are also highlighted through the statute; the definition can be displayed on request," at 27. • *See generally* 28, 31, 33, and 35-40 (Figures 1-18). • *See, e.g.,* "He can use his mouse to select the direct entry action button, then type in his chosen entry point: figure 5. The text of section 23 will be displayed for him:

Prior Art Analysis

figure 6," at 31.
 	
• *See, e.g.,* "The contents of the node, or the replacement text of the definition button, is the sentence constitute that subsection," at 32.
 	
• *See, e.g.,* "By selecting the button [BEFORE 5 JULY 1973], we can see the text of Section 167(2)(a) before it was amended: figure 9," at 35.
 	
• **Wilson 1990:**
 	
Wilson 1990 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Wilson 1990 discusses and shows user interfaces which display the stored text-based data, together with links representing attributes. For example:
 	
    • *See, e.g.,* "How the text is displayed varies from hypertext system to hypertext system…In Guide the conventional mode of display for any text is a single linear window. Whenever a definition button or usage button is selected, the button is expanded in place and the display window is reformatted to accommodate the replacement text for the button," at 123.
 	
    • *See generally* 124-126 (Figures 1-7).
 	
    • *See, e.g.,* "In directed graph systems, the text is divided into segments called nodes: in principle any node in the system should be accessible from any other node," at 123.
 	
    • *See, e.g.,* "Each node in a hypertext system has a label or name or, in Guide, a definition button. This label can be used as a link icon or, in Guide, a usage button or a glossary button, any number of times throughout the text. When a link icon or button (definition, usage or glossary) appears on the display it is highlighted in some way: in Guide, by using bold type face or by underlining. It can be selected using a pointed device such as a mouse. When this happens the hypertext system finds and displays the text associated with that icon or button," at 123.
 	
• **Wilson 1992:**
 	
Wilson 1992 discloses "displaying text and/or one or more selectable links representing at least one additional attribute." Specifically, Wilson 1992 discusses and shows user interfaces which display the stored text-based data, together with links representing attributes. For example:
 	
    • *See, e.g.,* "This label can be defined as a node icon or, in the Guide hypertext system, a definition button. The replacement text for this definition button is the actual words of the paragraph; for paragraph 6(2)(a)," at 161.

Prior Art Analysis

- *See generally* 163-164, 169-174, 178-182 (Figures 1-15).

- *See, e.g.,* "Explicit location references in the text to other nodes, either within the same document or in other documents, can be automatically converted to hypertext links," at 170.

- *See, e.g.,* "Local buttons are an ideal mechanism for multiple versions. An electronic system makes it easier to store the name of the amending author and the date of the amendment where these are required. Figure 12 shows a section of the Industrial Relations Act 1971 with local buttons for an earlier version. Figure 13 shows the button expanded," at 179-180.

- **The Pre-1997 Westlaw/Westmate System:**

  The Westlaw/Westmate system displayed text and selectable links representing attributes, and so using the system would entail performing this method.

  - The Essential Guide 1996, at 15: "Jump is the feature on WESTLAW that lets you move instantly from one location to another. To use Jump, simply press **Tab** until your cursor reaches the Jump marker (> or ▶), then press **Enter**. If you use a mouse, you can position the cursor on the Jump marker and click or double-click."

  - *See generally* The Essential Guide 1996, at Chapter "5.4 Jump"

  - The Essential Guide 1996, at 136, showing a statutory section, including some of the fields within a statute, as well as a link to a related case.

  - The Essential Guide 1996, at 154, showing a link from a law review article to a case.

- **The Pre-1997 Premise System:**

  The Premise system displayed text and selectable links representing attributes, and so using the system would entail performing this method. *See, e.g.:*

  - Premise Software & Statutes: Select "Search/Search Book…" menu item, and conduct a search of the Statutes to see the text of the document retrieved by the search. If the resulting document contains a link, then the link will be displayed.

  - Premise Research: Page 122, describing links and jumping to referenced information using links.

- **The Astoria System (pre-1997):**

  The Astoria System was used to display portions of text-based data or revised versions of text-based data and/or selectable links relating to attributes. For example:

129

TC1369

Prior Art Analysis
• *See, e.g.,* <u>Astoria 1997-1</u>: "Astoria lets users navigate through the document depository and view documents down to the individual components that comprise them." at THOM00211907.
• *See, e.g.,* <u>XSoft Astoria</u>: "Astoria deals with the concept of 'document components.' A document component is a piece that is designed to be maintained as a unit, whether this be at the volume or book level, or at some finer granular point, such as paragraph or list." (THOM00198652)
• *See, e.g.,* <u>Astoria 1997-1</u>: "Astoria provides a multilingual engine that lets users search on document content, structure, attributes, and version information," at THOM00211909.
• *See, e.g.,* <u>Astoria 1997-1</u>: "Astoria provides a mechanism for associating arbitrary, user-definable attributes with Astoria objects. Custom Attributes provide a means for Astoria users to store relevant information directly with any object, providing a robust foundation for object status tracking, and the search and assembly of individual document components." "Astoria users specify a value for the custom attribute and then can search, retrieve, and assemble new documents based on custom attribute values," at THOM00211911.
• *See, e.g.,* <u>Astoria 1997-1</u>: "Astoria Link Clusters allow users to link components in hypertext fashion within and between documents. Through Link Clusters, users can identify associations—for instance, topical relationships—between related components without changing the location of the component. This allows Astoria users to organize related information so they can reference and update it more quickly," at THOM00211908.
• *See, e.g.,* <u>XSoft</u>: "LINKS: Users can connect elements to other elements in hypertext fashion within and between documents using links. The links let workers create non-linear paths of relationship through the database," at THOM00198648-49.
• *See, e.g.,* Screen shot, at THOM00211908.

• **The EnAct System** (previously known as Themis):

The legislation within the EnAct system displays text and selectable links representing attributes, and so using the system would entail performing this method. *See, e.g.*:

• <u>Arnold-Moore 1997-2</u>, at 180, 181, figures 3 & 5 (showing cross-references and the target that is displayed when the cross-reference is activated by the user).

• **The SCALEplus System:**

The SCALEplus system displays text-based legislation and a selectable list of results, |

Prior Art Analysis
and so using the system would entail performing this method. *See, e.g.*:

- Kerr 2000: Paragraphs 189–92 (page 6-7).

- SCALEplus UM 2: "Results List Page" screen shot and the text describing this screen shot. (THOM00221697)

- SCALEplus UM 2: "Document Display Page" screen shot and the text describing this screen shot. (THOM00221701)

- **The Documentum/Interleaf System**:

  - The Documentum/Interleaf system displayed text.

- **The Core Materials on Legal Ethics System:**

  The Core Materials on Legal Ethics system involves a method of using a system which displayed text and selectable links representing attributes.

- **The Federal Rules of Civil Procedure System:**

  The Federal Rules of Civil Procedure system a method of using a system which displayed text and selectable links representing attributes.

- **The Law Desk NY System:**

  The Law Desk NY system a method of using a system which displayed text and selectable links representing attributes.

- **The Law Desk USCS System:**

  The Law Desk USCS system a method of using a system which displayed text and selectable links representing attributes.

- **The New Mexico Law System:**

  The New Mexico Law on Legal Ethics system a method of using a system which displayed text and selectable links representing attributes.

- **The NY Official Reports System:**

  The NY Official Reports system a method of using a system which displayed text and selectable links representing attributes.

- **The NY CLS Beta System:**

  The NY CLS Beta system a method of using a system which displayed text and

131

TC1371

Prior Art Analysis
selectable links representing attributes.   • **The OnPoint System:**   The OnPoint system a method of using a system which displayed text and selectable links representing attributes.   • **The Social Security Plus System:**   The Social Security Plus system a method of using a system which displayed text and selectable links representing attributes.   • **The UCC System:**   The UCC system a method of using a system which displayed text and selectable links representing attributes.
Claim 2: In addition to the prior art listed above in conjunction with Claim 1, and Subject to the Court's claim construction, and given Defendants' understanding of Plaintiff's incomplete contentions regarding the construction and application of the claims, the following references disclose, teach or render obvious Claim 2:
wherein the searching uses one or more attributes   • **Agosti 1991:**   Agosti 1991 discloses "searching uses one or more attributes." Specifically, Agosti 1991 discloses using attributes in query formation and indicates that the disclosed model could be extended to include attribute searching. For example: • *See, e.g.,* "EXPLICIT is based on a two-level architecture which holds the two main parts of the informative resource managed by an information retrieval tool: the collection of documents and the indexing term structure. The term structure is managed as a schema of concepts which can be used by the final user as a frame of reference in the query formulation process," at 316.   • *See, e.g.,* "The EXPLICIT hypertext retrieval model is based on a two-level architecture, which holds the two main parts of a database managed by an information retrieval system: the collection of documents, and the auxiliary data. By the term auxiliary data we mean the data describing the document information contents," at 317.   • *See, e.g.,* "a set of structured data which represents the different deterministic properties of the object (e.g., date of publication, title, list of authors, etc.)," at 318.   • *See, e.g.,* "When the object is inserted in the network it becomes a node of the structure. The data which the object contains are modeled as property values of the

132

TC1372

Prior Art Analysis

object and become, when inserted, actual node attributes. Some node attributes can be, for example, name, node type (e.g. legal authority documents, law documents, auxiliary data items), or the link type," at 320.

- *See, e.g.,* "Following the results of the user's requirements analysis which has been initially conducted, it has been decided to include in the model only a simple string search function, because the results of the analysis have indicated that it was not considered really important to include particularly sophisticated search functions," at 318.

- **Anwar 1996:**

  Anwar 1996 discloses "wherein the searching uses one or more attributes." Specifically, Anwar discloses a computer system for retrieving and analyzing multi-dimensional data objects. For example:

  - *See* 7:26–30, indicating that dimensions are attributes (*i.e.,* the number of dimensions is the number of attributes).

  - *See, e.g.,* "The multi-dimensional display and manipulation system includes an [sic] user interface and a multi-dimensional data object subsystem where the subsystem includes means for . . . retrieving. . . multi-dimensional data objects and the user interface includes means for displaying and graphically manipulating the multi-dimensional data objects in a window defined on a display device," at Summary of the Invention.

  - *See, e.g.,* Analysis Scenario 1, starting at 14:64–16:39, describing ways in which a user can formulate multi-dimensional queries using the attributes of the stored data.

- **Arnold-Moore 1994:**

  Arnold-Moore 1994 discloses "searching uses one or more attributes." Specifically, Arnold-Moore 1994 discloses a means of filtering through legislative material based on effective dates. For example:

  - *See, e.g.,* "Queries can use these indices to return a subset of the database which can then be filtered on time constraints," at *xvi*.

  - *See, e.g.,* "A time index on the version skeleton can be maintained independently of the content index to filter versions on time," at *xix*.

- **Arnold-Moore 1994-2:**

  Arnold-Moore 1994-2 discloses "searching uses one or more attributes." Specifically, Arnold-Moore 1994-2 discloses searching either by keyword, by attribute, or by a

TC1373

Prior Art Analysis

combination. For example:

- *See, e.g.*, "The language, Structured Generalized Query Language (SGQL), allows efficient access to the content, structure and attributes of documents at any level within their structure," at THOM00196608.

- *See, e.g.*, "Queries might specify that certain attributes have particular values, but have concentrated on matching against the content of the document," at THOM00196608.

- *See, e.g.*, "These databases will need to be searched by attribute," at THOM00196608.

- *See, e.g.*, "We thus see that a database system to support databases of large structured documents need a query language that allows retrieval: by exact matching Boolean combinations of words and phrases; by ranking by similarity to a given text; using hypertext links; by attribute," at THOM00106609.

- *See, e.g.*, Representative Queries at THOM00196609-10.

- *See, e.g.*, "The relational model extended to support content queries can support a whole range of queries including mixed content and structure, pure structure, and attribute queries," at THOM00196610.

- **Arnold-Moore 1997:**

  Arnold-Moore 1997 discloses "searching uses one or more attributes." Specifically, Arnold-Moore 1997 discloses searching by keywords and by attributes such as effective date. For example:

  - *See, e.g.*, "The drafter can view any Act or search the whole database using Boolean or ranking queries at any time point for which a valid version is stored on the system," at 59.

- **Arnold-Moore 1997-2:**

  Arnold-Moore 1997-2 discloses "searching uses one or more attributes." Specifically, Arnold-Moore 1997-2 discloses a means of filtering legislative material based on effective dates. For example:

  - *See, e.g.*, "Despite improved performance of ranking (or natural language) queries, lawyers who have used digital legal libraries will be most familiar with the Boolean query approach," at 177.

  - *See, e.g.*, "The SIM system supports both Boolean (with proximity operators) and

134

TC1374

Prior Art Analysis

ranking queries," at 177.

- *See, e.g.*, "A standard inverted-file word index can be used to extract a list of matching documents on content (or an enhanced index to allow queries on structure also), and then this list can be filtered by a time constraint using a time-index," at 179.

- *See, e.g.*, "Each fragment or table of contents has a valid start and end time associated with it. We then use an inverted-file index to give access to the fragments by content. As described for whole documents, we then filter results using the time information to collect just the fragments which are valid at the specified time defaulting to the current date (See Figure 1)," at 179.

- **Bachman 1973:**

  Bachman 1973 discloses "searching uses one or more attributes." Specifically, Bachman 1973 discloses searching by attributes, which he describes as "data keys." For example:

  - *See, e.g.*, "In sequential file technology, search techniques are well established. Start with the value of the primary data key, of the record of interest, and pass each record in the file through core memory until the desired record, or one with a higher key, is found. (A primary data key is a field within a record which makes that a record unique within the file.) Social security numbers, purchase order numbers, insurance policy numbers, bank account numbers are all primary data keys. Almost without exception, they are synthetic attributes specifically designed and created for the purpose of uniqueness. Natural attributes, e.g. names of people and places, dates, time, and quantities, are not assuredly unique and thus cannot be used," at 654.

  - *See, e.g.*, "Database management has two main functions. First is the inquiry or retrieval activity that reaccesses previously stored data in order to determine the recorded status of some real world entity or relationship," at 654.

  - *See, e.g.*, "In addition to a record's primary key, it is frequently desirable to be able to retrieve records on the basis of the value of some other fields. For example, it may be desirable, in planning ten-year awards, to select all the employee records with the 'year-of-hire' field value equal to 1964. Such access is retrieval by secondary data key. The actual number of records to be retrieved by a secondary key is unpredictable and may vary from zero to possibly include the entire file. By contract, a primary data key will retrieve a maximum of one record," at 655.

  - *See, e.g.*, "With the advent of retrieval on secondary data keys, the previously one-dimensional data space received additional dimensions equal to the number of fields in the record," at 655.

Prior Art Analysis

- **Bentley 1979:**

  Bentley 1979 discloses "searching uses one or more attributes." Specifically, Bentley 1979 discloses six alternative methods for searching in the disclosed k-dimensional space using attributes. For example:

  - *See, e.g.*, "In this section we investigate a number of search methods for range searching," at 398.

  - *See generally* 398-405.

- **Campbell 1988:**

  Campbell 1988 discloses "searching uses one or more attributes." Specifically, Campbell 1988 discloses searching the stored data by attribute. For example:

  - *See, e.g.*, "The HAM maintains history for these objects, allows selective access through a filtering mechanism…," at 856.

  - *See, e.g.*, "Attributes are also used in the predicates that are part of the HAM filters," at 857.

  - *See, e.g.*, "The HAM provides a filtering mechanism that allows subsets of HAM objects to be extracted from large graphs. Filters allow the user to specify visibility predicates, which are expressions relating to attributes and their values. HAM filters only return objects that satisfy the predicates. Filters also allow the user to specify a version time so that earlier versions of a graph can be examined," at 857.

  - *See, e.g.*, "*Get operations* retrieve data from existing objects. A get operation takes an object index and a version time, and returns the data that existed at the specified time. The object index specifies a unique identifier for the object from which data is being retrieved. The version time is a time range for the data retrieval," at 858.

  - *See, e.g.*, "*Filter* (and linearize) *operations* selectively retrieve information from a graph. A filter operation takes a predicate, a version time, and a list of attributes. These operations return a list of objects that satisfy the predicate and a list of requested attributes attached to each object. The version time specifies the time at which the filter is to search for the information. Each filter operation also has unique parameters in addition to those already specified," at 858.

- **Caplinger 1986:**

  Caplinger 1986 discloses "wherein the searching uses one or more attributes." Specifically, Caplinger 1986 discloses a computer system for that allows a user to search using attributes. For example:

136

Prior Art Analysis
• *See, e.g.*, "A user could ask the system to zoom in on a particular group of ships, which were then shown as icons based on ship type, along with additional textual information like the ships' names and nationalities," at 114–15. • **Elmasri 1990:** Elmasri 1990 discloses "wherein the searching uses one or more attributes." Specifically, Elmasri 1990 discloses attributes that can be used to retrieve information. For example: • *See, e.g.*, "In addition to the regular record attributes, A_i, each record will have an interval attribute, valid_time, consisting of two subattributes, t_s (valid start time), and t_e (valid end time)." Summary of the Invention. • *See, e.g.*, "However, numerous past versions of the object may also exist. These versions of an object are linked to the current version and may be recovered through the use of various known techniques . . . ." Summary of the Invention. • *See, e.g.*, "A time index for temporal databases is provided which enables the retrieval of database object versions that are valid during specified time periods. Unlike prior access and retrieval structures, the present index is based on objects whose search values are time intervals rather than time points." Abstract. • *See, e.g.*, "A search for objects that satisfy such a temporal condition combines selection based on a time interval with a selection based on conditions involving attribute values." Summary of the Invention. • **Haake 1992:** Haake 1992 discloses "searching uses one or more attributes." Specifically, Haake discloses a means for searching its text-based information using attributes. For example: • *See, e.g.*, "CHS offers nodes, links, and composites that can be equipped with application-defined attributes. Objects can be accessed by their attribute values using the query language of the underlying database system of CHS," at 46. • **Horne 1997:** Horne 1997 discloses "searching uses one or more attributes." Specifically, Horne 1997 discloses searching by attributes such as effective date. For example: • *See, e.g.*, "But markup could go further. It could give the dates on which the amendments were made, the dates on which they took effect, and the names of the Acts or SI which had made them, and the user's program could use this markup to display a statute as it was on a particular date chosen by the user and could offer hypertext cross-references to the amending legislation," at 3.

Prior Art Analysis

- *See, e.g.*, "There is a 'front-end' program which can be used to search the database and to display the results in HTML. So the user should be able to use the program to discover easily what the law is on a particular point on a particular date," at 3.

- **Kim 1996:**

  Kim 1996 discloses "searching uses one or more attributes." Specifically, Kim 1996 discloses searching either by keyword or attribute. For example:

  - *See, e.g.*, "First, since our hypermedia markup language is designed using SGML, the language can … support content-based and structure-based retrieval," at 496.

  - *See, e.g.*, "Therefore, it is necessary to support content-based and structure-based retrieval as well as database mechanisms for hypermedia documents," at 496.

  - *See, e.g.*, "Therefore, it is necessary to support an efficient information retrieval, which provides content and structure-based retrieval, and database query mechanism. Besides, the content-based retrieval method searches every object, which consists of the hypermedia network, and the object contents. On the other hand, the structure-based retrieval searches the logical and hypermedia network structures," at 498.

  - *See, e.g.*, "Since the data about document structure and attribute values can be stored as instances in the database, Postgres can directly process the structure-based retrieval. The other is a content-based retrieval. When a content-based retrieval query is given, the information retrieval manager performs full-text retrieval against the hypermedia document database," at 500.

  - *See, e.g.*, "For this reason, we design a new query language which supports both an information retrieval mechanism and a database query mechanism for handling structure hypermedia documents," at 500.

  - *See, e.g.*, "Element attribute search," at 501.

- **Larson 1988:**

  Larson 1988 discloses "searching uses one or more attributes." Specifically, Larson 1988 discloses attribute/value pairs that can be searched. For example:

  - *See, e.g.*, "Neptune also permits any number of descriptive attribute/value pairs to be assigned to any node or link, which may be searched," at 196.

  - *See, e.g.*, "The indexes supported in Telesophy include a keyword index (providing Boolean and proximity searching), a 'temporal index' that permits selection by the time an IU was created, and a 'spatial index' that 'places items in an N-dimensional space based on their attributes, then allows the space to be searched," at 197.

138

Prior Art Analysis

- **Lo 1996:**

  Lo 1996 discloses "wherein said searching uses one or more attributes." Specifically, Lo 1996 discloses a querying a document management system using attributes such as author and title. For example:

  - *See, e.g.,* "While it is reasonable to index the title and author field of a document, it is pointless to index or query against the whole piece of text because consequently at most only one document would match a given query," at 8–9, section 1.2.2.

  - *See generally* pages 36–37.

  - *See, e.g.,* "All the attributes in both database are indexed by the SIM DBS and are thus searchable," at 113.

- **Povilus 1995:**

  Povilus 1995 discloses, teaches or renders obvious this claim for the reasons stated by the Patent Examiner in the Office Action of March 24, 2000 (incorporated herein by reference) and others.

- **Sacks-Davis 1994:**

  Sacks-Davis 1994 discloses "searching uses one or more attributes." Specifically, Sacks-Davis 1994 discloses searching either by keyword or attribute. For example:

  - *See, e.g.,* "There is also sufficient information in the DTD to allow the application level to provide information to the user about the elements and attributes which are available for query for each different type of document in the database," at THOM00198836.

  - *See, e.g.,* "SGML's power can be utilized to create additional types of query over the whole database on the structural characteristics of the documents," at THOM00198839.

  - *See, e.g.,* "We also want to be able to query on SGML attributes, for instance: Query 7.1 Find <corres>s with attribute confidential = yes," at THOM00198839.

- **Sacks-Davis 1995:**

  Sacks-Davis 1995 discloses "searching uses one or more attributes." Specifically, Sacks-Davis 1995 discloses searching either by keyword or attribute. For example:

  - *See, e.g.,* "Text retrieval systems should have the ability to manipulate structured information and attributes, as do conventional database systems. Thus a text system should, for example, be able to refer to a paragraph within a section, a date of

139

TC1379

Prior Art Analysis

publication, or to one of a list of authors," at 454.

- **Sciore 1991:**

  Sciore 1991 discloses "searching uses one or more attributes." Specifically, Sciore 1991 discloses searching either by keyword or attribute. For example:

  - *See, e.g.,* "At the conceptual level, we show how versions can be chosen from a version set based on the values of their attributes," at 356-57.

  - *See, e.g.,* "The attribute occuredAT records the time at which the change took place. This attribute can be thought of as defining a one-dimensional time line, and allows the version set to be viewed as a function from times to versions," at 364.

  - *See, e.g.,* "In general, the attributes chosen as dimensions should form a key of the version set, so that at most one version is associated with any coordinate in the version space," at 366.

  - *See, e.g.,* "Our framework provides the means by which a database designer can specify a multi-dimensional logical structure to the version set. This logical structure can then be used to choose versions easily and conveniently," at 367.

- **Sciore 1994:**

  Sciore 1994 discloses "searching uses one or more attributes." Specifically, Sciore 1994 discloses, for its bicycle example, queries using the attributes of style, number of speeds, frame, and design date. For example:

  - *See generally* 81-83.

- **Stonebraker 1990:**

  Stonebraker 1990 discloses "wherein said searching uses one or more attributes." Specifically, Stonebraker 1990 discloses that users may query the POSTGRES database using attributes. For example:

  - *See generally* section II.B, starting on page 127 (demonstrating numerous examples of queries using attributes).

- **Stonebraker 1994:**

  Stonebraker 1994 discloses "wherein the searching uses one or more attributes." Specifically, Stonebraker 1994 discloses a multidimensional space stored in a POSTGRES database. Stonebraker 1994 further discloses navigation along the dimensional axes using attributes. For example:

Prior Art Analysis

- "Each object may be of an arbitrary type, but it must have associated with it a **geometry**. The geometry of an object describes its location in an **application coordinate space**. All objects in an application are located in this common N-dimensional coordinate system, whose dimensions are appropriate to the specific application. The geometry of an object may be either a polygon [footnote text: "In this document, 'polygon' refers to a general N-dimensional polyhedron, not merely a two-dimensional polygon."] or a point. It is the job of the human recipe designer to ensure that the recipe produces the geometry representation (polygon or point) expected by some browser. Failure to provide this will result in a type mismatch. To achieve a common polygon representation, we have defined a standard N-dimensional polygon, **N-D-polygon**. The generic tuple passed from the browser from a recipe will have the form: {value, type, location}. The value can be an instance of a base type or a composite type, and its location is represented by the N-D-polygon as indicated. For example, the value might be a satellite image; its type might be AVHRR, and the location associated with it might be a rectangle representing one of the quadrants of a U.S. Geological Survey map," at 4.

- "The browser has three ways to relocate its position in N-space: it can move to a previously designated identifier, it can move to a specific N-D-point which it calculates in some fashion, or it can move in some direction, denoted by $(\Delta_1, ..., \Delta_N)$ until some condition F(value) <operator> <constant> is true. This third relocation command is useful, for example, if a user is browsing Hurricane Hugo, and wishes to **fast-forward** the hurricane, i.e. skip or skim through images sorted by time, until Hugo hits land. If landfall of the hurricane can be expressed as a predicate, then the appropriate MOVE command would look like MOVE along (0,0,...,+1) until hits_land(Hurricane.hugo) = TRUE. The +1 means a movement along the positive time axis, assuming time is the last dimension in this coordinate system. Note that recipes may be fast-forwarded in this fashion in any dimension," at 5.

- **Taylor 1994:**

  Taylor 1994 discloses "said searching uses one or more attributes." Specifically, Taylor 1994 discloses searches on attributes such as time. For example:

  - "We have implemented several operators that reflect the relationships between temporal periods. . . . These operators accept a temporal term and returns [sic] a set of temporal terms satisfying the operator," at 241.

  - "The combination of the conceptual, temporal and geographical classification spaces and their respective operators means that information requests do not need to be limited to one particular dimension. They can be multi-dimensional. An example of such a query would be: Show me Costume from Pontypridd during the Victorian era. The temporal dimension provides a method by which a temporal walk through a concept can be obtained. A temporal walk consists of showing the development of an historical concept or geographic area over time. In practical terms this requires

141

Prior Art Analysis

the ordering of a set of media items according to the information stored in the temporal schema," at 242.

- "The results of navigation produce classification terms rather than media items. To convert the classes to media sets a query is formulated to identify which media items have the terms as attributes," at 240.

- **Travis & Waldt:**

  Travis & Waldt discloses "searching uses one or more attributes." Specifically, Travis & Waldt discloses SGML browsers that can conduct searches on the stored text-based data either by keyword or by attribute, or both. For example:

  - *See, e.g.,* "SGML browsers offer context-sensitive searching capabilities so that the user can quickly access the required information . . . . For example, a search can be defined to allow a user to search for a part number, but only if it is contained in a chapter that was updated after a certain date. Or, a user can have the browser return a list of all sections containing a particular phrase, but only if the phrase is contained in a note. These are examples of context-sensitive searches," at 52-53.

  - *See, e.g.,* pages 194–95 (and figure 61), 198 (and figure 64).

  - *See, e.g.,* "The loader also makes available to the database parameterized information that can be used later to search and retrieve the appropriate objects. Such parameter information is object identifiers, author names, creation and modification dates, and perhaps some keywords. Most of this information can be obtained by querying the attributes on the element tags in the content of the document object," at 204.

- **Wilkinson 1998:**

  Wilkinson 1998 discloses "wherein said searching uses one or more attributes." Specifically, Wilkinson 1998 discloses searching on attributes of documents. For example:

  - *See generally* section 5.6, beginning on page 93 (entitled "Access by Metadata").

  - *See, e.g.,* "Most metadata is organized as a set of (attribute, value) pairs. Thus we need a structure that can support queries of the form 'which documents have value A for attribute B?'" at 100.

- **Wilson 1990:**

  Wilson 1990 discloses "searching uses one or more attributes." Specifically, Wilson 1990 discloses searching either by keyword or attribute. For example:

  - *See, e.g.,* "When the user enters the Justus running under Guide he is given a choice

142

TC1382

Prior Art Analysis

of three methods of access: direct access, index of pre-defined terms, and boolean query," at 125.

- *See, e.g.,* "it is easy to provide a structured index composed of the terms appearing in the catchwords section," at 125.

- **Wilson 1992:**

  Wilson 1992 discloses "searching uses one or more attributes." Specifically, Wilson 1992 discloses examples of searches conducted by author name, key word, and date, all of which constitute attributes. For example:

  - *See generally* 183.

- **The Pre-1997 Westlaw/Westmate System:**

  The Westlaw/Westmate system discloses searching portions and amended portions of legislation using attributes. For example:

  - *See, e.g.,* DataBasics 1993, ("United States Code Annotated"): Disclosing mechanisms for searching using attributes, at doc no. 79858-59.

  - *See, e.g.,* Westlaw DB 1991, (disclosing the mechanism for searching the Westlaw databases using attributes), at 2–5, 14–15.

  - *See, e.g.,* Wren 1994, "you can use a field-restricted search request in LEXIS or WESTLAW to conduct highly specialized searches that would be nearly impossible—or at least tremendously tedious and time-consuming—to perform without a computer," at 75.

  - The Essential Guide 1996, at 29: "The citation field is the part of a document containing the citation. When you restrict your search to the citation field, you specify that WESTLAW search only the citation field of a document. By limiting your search in this way, you avoid retrieving extraneous documents."

  - The Essential Guide 1996, at 47: "You can use restrictions to limit your WIN search. For example, in a case law database, you can restrict your search by court, date, judge, attorney or added date."

  - *See generally* The Essential Guide 1996, at "Chapter 9 Searching Statutes Databases"

- **The Pre-1997 Premise System:**

  The Premise system discloses searching portions and amended portions of legislation

143

Prior Art Analysis

using attributes. For example:

- *See, e.g.,* <u>Premise Software & Statutes:</u> Select "Search/Search Book…" and then change the "Search Using" field to "Fields Template," which will then display a mechanism for searching the portions and amended portions using attributes.

- **The Astoria System (pre-1997):**

  The Astoria System contained a means for searching portions and amended portions of text-based data using attributes. Use of this system therefore constitutes a method wherein the searching uses one or more attributes For example:

  - *See, e.g.,* Astoria 1997-1: "Astoria provides a multilingual engine that lets users search on document content, structure, attributes, and version information," at THOM00211909.

- **The EnAct System** (previously known as Themis):

  The EnAct system discloses searching its text-based information using attributes. For example:

  - *See, e.g.,* <u>Arnold-Moore 1997-2</u>, figure 1 (showing ability to search the information with various attributes), and ("The SIM client/server architecture is built around Z39.50 [a standard for searching using attributes],") at 178, 177.

- **The SCALEplus System:**

  The SCALEplus system discloses searching using attributes. For example:

  - *See, e.g.,* <u>Kerr 2000</u>, Figures accompanying ¶ 180 (page 6-4), ¶ 187 (page 6-6), ¶ 429 (page 11-3), ¶ 491 (page 11-19), ¶ 172 (page 6-2).

  - <u>SCALEplus UM 2</u>: "SCALEplus presents all Law Databases obtained and/or prepared by Federal Attorney General's Department as Searchable and Browseable data." (THOM00221675)

  - <u>SCALEplus UM 2:</u> "Data in Scale is organised into separate HTML files that can be viewed through a Web browser. Each document contains sections which are called zones. These zones can be searched using the 'In' operator. Each document also has fields such as 'name' and 'date' associated with the document. These can also be searched using the 'contains' operator."

  - <u>SCALEplus UM 2:</u> "Advanced Search Screen" at THOM00221692 and text

- **The Documentum/Interleaf System:**

144

TC1384