

EXHIBIT 7
TO DECLARATION
OF CHAD DROWN

Registered Patent Agents
Registered Trade Mark Agents
European Patent Attorneys
Community Trade Mark Attorneys

Anne Ryan M.Sc.
John Ryan B.Sc.

60, Northumberland Road,
Ballsbridge,
Dublin 4,
Ireland.

EPO - Munich
80
23. Sep. 2005

Telephone: +353-1-668 0094
Facsimile: +353-1-668 0412
E-mail: anneryan@indigo.ie

Your Ref:
Our Ref: P99-45-EP/AR/ad

ANNE RYAN & Co

European Patent Office,
D-80298 Munich,
GERMANY.

BY REGISTERED POST

September 19, 2005

Dear Sirs,

Re: European Patent Application No. 98901249.7-1527
TIME BASE PTY. LIMITED

Zur Kasse
2. 02001

I refer to the Communications dated January 28, June 9, and September 8, 2005, and I am now in a position to respond to the first-mentioned Communication.

I herewith seek further processing of the Application in accordance with Article 121 EPC. I enclose herewith the on-line payment receipt as evidence of payment of the requisite fee.

I also enclose a replacement set of claims and I request that further examination of the Application be based on these claims.

A revised Summary section, marked "A", to be inserted in place of the text of the published International Application at page 4, line 25 to page 5, line 12 is also enclosed.

Also enclosed is an acknowledgement of D2, marked "B", for insertion at page 4, between lines 18 and 19.

Copies of pages 4 and 5 showing, in manuscript, where inserts "A" and "B" should be inserted are also enclosed.

Finally, I enclose a replacement page 19.

Dealing with the matters raised in the Communication dated January 28, 2005, in turn I have the following comments.

1. The Applicant submits that claims 1 to 58 are clear, for the reasons set out below, and accordingly the requirements of Article 84 EPC are satisfied.
 - 1.1 The Applicant submits that each of the independent system and recording medium claims 1 and 20, and the claims that depend therefrom, are clear. The Applicant notes that these claims have been in this format since the time of filing, and asserts that independent claims 1 and 20 are directed to a system and a recording medium, respectively, rather than methods.

In particular, claim 1 defines a computer-implemented system for publishing an electronic publication using text-based data. The Applicant submits that the system is not disembodied; rather the system of claim 1 is implemented using a computer. Such a computer-implemented system is supported by the disclosure of Figs. 5 and 6, and the associated text on pages 14 to 16. Fig. 6 is a flow diagram illustrating a method of electronic publishing according to a first embodiment. Fig. 5 then presents a conventional general-purpose computer on which the first embodiment may be practised, wherein processes for providing and managing the information are carried out using software executed on the computer. The Applicant submits that the category of the claims and the scope of the protection defined by independent claim 1, and the claims that depend therefrom, are clear.

Similar arguments to those presented above in respect of claim 1 are also valid for independent claim 20, which is directed to a computer readable recording medium for publishing an electronic publication using text-based data.

Accordingly, the Applicant submits that the category and scope of protection defined by claim 20, and the claims that depend therefrom, are also clear.

- 1.2 Independent claims 1, 20 and 40 have been amended and are now presented in a two-part form in accordance with rule 29 (1) EPC, with those features known in combination from the prior art being placed in the preamble and with the remaining features being included in the characterising part. The Applicant submits that this objection has been overcome.
- 1.3 The Applicant submits that this objection is wrongly taken. The Applicant notes that the language in question has been used since the outset. Further, the basis for all of the changes in the revised set of claims was clearly set out in our letter dated September 25, 2002.

The expression "*linking means*" in claim 1 has been defined to be of a markup language. As indicated in our letter dated September 25, 2002, the feature of "*a plurality of linking means*" is based upon the original wording of claim 1. Each predefined portion of the text-based data is defined to be encoded with at least one linking means, and the linking means has been defined to be of a markup language. Original claim 6 defined that the predefined portions of data are encoded using SGML or XML. Thus, the limitation of "*a markup language*" is based upon original claim 6. Further support for this limitation is found at page 9, lines 8 to 13, and page 11, lines 3 to 22. Page 9, lines 8 to 11 recite, in respect of a particular embodiment, "*Publication data ... is encoded using Standard Generalized Markup Language (SGML) or Extensible Markup Language (XML) which adds codes to the publication data and provides functionality to the data*".

It is clear that, in that particular embodiment, the *"linking means of a markup language"* relates to one or more of the codes added by the SGML or XML to provide means for connecting the predefined portions of publication data. The Applicant submits that the term *"linking means"* and the expression *"being encoded with at least one linking means"* are clear in light of the disclosure of the specification, and would be readily understood by a person skilled in the relevant art.

Claim 3 recites that the means for searching within the system *"uses one or more attributes ..."* and claim 4 recites that the searching means *"uses any predefined portion, any modification of a predefined portion, or any word or phrase within such predefined portion or such modification"*. The Applicant concedes that the term "uses" is broad in its ambit, but argues that such a term is clear and would be readily understood in defining that the respective attributes and portions are utilized by the searching means for searching within the system. As the Examiner suggests, the use of the attributes and portions may include being retrieved by the search, and employed as query arguments of the search, but is not restricted to these specific actions.

The Applicant submits that the expression *"said linking means comprises any piece of information additional to the body of the text-based data"* in claim 8 is clear. Claim 1 defines a plurality of predefined portions of text-based data, wherein each portion is encoded with at least one linking means. The restriction of claim 8 does not define a superset of information consisting of only text-based data and the linking means, as the predefined portion may, in some embodiments, contain further information. Rather, the linking means is being

restricted to the information contained in the predefined portion that is not text-based data.

The Applicant submits that the term "*encoded*" in claim 13 is clear. The term is also present in claim 1 in respect of linking means. Support for the term may be found, for example, at page 9, lines 8 to 11 which recites "*Publication data ... is encoded using Standard Generalized Markup Language (SGML) or Extensible Markup Language (XML) which adds codes to the publication data and provides functionality to the data*". The Oxford Dictionary of Computing, Oxford University Press, 4th Ed., defines "*encoding*" as the transformation of a message into an encoded form, from a source alphabet to a target alphabet. The Applicant submits that the terminology is supported by the description, and the expression "*predefined portions are encoded with one or more attributes*" would be readily understood by a person skilled in the art to mean that the predefined portions have been modified to contain one or more inherent attributes.

2. The Applicant submits that claims 1 to 58 are novel and inventive in light of each of the cited documents D1 and D2, whether considered alone or together, for the reasons presented below.

D1: Kim H. et al. "OOHS: An object-oriented hypermedia system"

20th Annual International Computer Software and Applications Conference (COMPSAC) Seoul, KR, 21 August, 1996 (1996-08-21), -23 August 1996 (1996-08-23) pages 496-501, XP000684382 IEEE Comp. Soc., Los Alamitos, CA, US ISBN: 0-8186-7579-9.

D2: Arnold-Moore T. et al.: "The ELF data model and SGQL query language for structured document databases"

Sixth Australasian Database Conference, ADC'95, Adelaide, AU, [Online] vol. 17, no. 2, 30 January 1995 (1995-01-30), -31 January 1995 (1995-01-31) pages 17-26, XP002204886 Australian Computer Science Communications ISSN: 0157-3055 Retrieved from the Internet:
URL:<http://www.mds.rmit.edu.au/~tja/papers/index.html>> [retrieved on 2002-07-05]

- 2.1 The Applicant submits that neither of the cited documents discloses or suggests all of the essential features of the independent claims.

The ability to store multiple copies of a predefined portion of text is an essential feature of the system/apparatus/method described in the present Application for managing and presenting versions of the parts of a document that have been modified over time and, thus, providing users with point-in-time functionality. Accordingly, independent claim 1 recites "*at least one predefined portion being modified and stored*".

The system/apparatus/method described by the present application does not involve the storage or maintenance of multiple versions of documents, rather all versions of each included predefined portion are stored in the one document. Hence, the computer-implemented system for publishing an electronic publication includes not only a plurality of predefined portions, but also at least one predefined portion that has been modified and stored. By storing each modified predefined portion, a single document contains every version of the

real document that it represents in a single document. This is supported by the description, particularly with reference to page 6, lines 30 to 31, and with reference to the DTDs in Appendices B and E. An end user is able to query this single document to view or print only those versions of the included portions that were valid at a nominal time, or in accordance with some other retrieval criteria.

Both D1 (p 500, l/h col, 2nd para) and D2 (p 20 r/h col last para; p 21 l/h col lines 1 ff) consider the need to provide for versioning of the information stored.

Significantly, D1 states (p 499 r/h col lines 13-14) that versioning had not been implemented at the time of writing. Notwithstanding this, D1 indicates that version management would take advantage of the default setting for Postgres (the database management system to be used) by which prior data is not deleted after an update operation: p 500 l/h col lines 14-15.

D1 speaks of sharing hypermedia data between documents to avoid redundant data: p 497 l/h col lines 35-38. This clearly implies that multiple versions of documents would also be maintained, such a version being essentially a “skeleton” containing sequences of references to whichever versions of the included text elements were appropriate for that version of the document.

D2 (p 20 r/h col last para), as cited by the Examiner at 2.1 para b, discusses the versioning of elements. Contrary to the Examiner’s conclusion, the Applicant submits that D2 does not teach or even suggest the storage of modified predefined portions, because the system described by D2 does not provide for

storage of SGML data, only the representation of such data as a list in a database. Further, the passage cited by the Examiner indicates that the system described in D2 envisages the maintenance of multiple versions of documents, as discussed above with respect to D1. In contrast, claim 1 of the present Application is directed to storing a single publication encompassing all versions of each portion of text through the storage of modified predefined portions.

D2 at p 18 l/h col lines 19-32, as cited by the Examiner at 2.1 para a, speaks of SGML in general terms. However, the model proposed in D2 is to represent every element in a document as an item in a list of elements (ELFs). The operative word here is "*represent*" because, in fact, D2 does NOT describe a method of storing the text of a document. On the contrary, D2 leaves open the choice of storage method completely to the implementor: p 24 r/h col lines 6-9. The implementor can choose to store the text as whole documents or as a collection of the lowest level elements and primitive content tokens (eg, pure text containing no elements). Neither of those options is the one described and claimed in the present Application, which requires that a particular level element be predefined as the portion for storage purposes and that the text actually be stored in such portions. Specifically, the description of the present Application rejects both of those options as being incapable of solving the problems which the system in the present Application is designed to solve (Page 2, line 40 onwards). Furthermore, there is no discussion in D2 of predefining a portion for the particular purpose of efficiently organising the information.

The Applicant submits D1 and D2 teach the storage of multiple versions of publications, rather than the storage of modified predefined portions of text-

based data within an electronic publication, as claimed in the present Application.

Claim 1 further recites "*..., each predefined portion of said text-based data and said at least one modified predefined portion of text-based data being encoded with at least one linking means*". Thus, the links belong to and are encoded as part of each predefined portion.

D1 treats links as separate objects that may or may not be *associated* with portions of text: p 497 l/h col line 23. D1 recognises the need for some form of dynamic linking means, to avoid the problem of links being superseded in an environment where information changes: p 497 l/h col lines 30-32; also p 498 l/h col lines 13ff. D1 deals with this problem by treating links as non-versionable objects (p 497 l/h col lines 43ff). Associating such a non-versionable object with a predefined portion is in contrast to claim 1 of the present Application, in which the links are not separate objects, but are encoded as part of the plurality of predefined portions and the at least one modified predefined portion. Thus, it is clear that D1 does not disclose the feature of "*..., each predefined portion of said text-based data and said at least one modified predefined portion of text-based data being encoded with at least one linking means*".

D2, at p 20 r/h col lines 46-47 (as cited by the Examiner at 2.1 para c), discusses the need for absolute identifiers element (EIDs) to support static links. Further, the EIDs described by D2 at the passage cited are "Features", that is external attributes and, therefore, not linking means of a markup language. Thus, the

Applicant submits that D2 also fails to disclose the feature of "..., *each predefined portion of said text-based data and said at least one modified predefined portion of text-based data being encoded with at least one linking means*".

Claim 1 further recites "*a plurality of attributes, each attribute being a point on an axis of a multidimensional space for organising said plurality of predefined portions and said at least one modified predefined portion of said text-based data*".

The attributes of a predefined portion of text data (such as the first and last dates on which a legislative provision is in force) are the means by which the system/apparatus/method described in the present Application organises the portions of text. Under the present Application, only those elements at a predefined level in the hierarchy of the publication being managed (eg, sections of legislation) are treated as portions for the purposes of data management (see, for example, page 7 lines 23 to 29).

The Applicant submits that the use of attributes to organise predefined portions of text-based data, and modified portions of text-based data, into a multidimensional space for the purpose of publishing the text electronically is novel and inventive.

Both D1 (p 497 r/h col lines 1-32) and D2 (p 18 l/h col lines 36-38) refer to the use of SGML/XML attributes.

The passage cited from D1 refers to specific attributes of the SGML elements employed in that system and, in particular, to attributes associated with versioning (p 497 r/h col lines 9-10) and linking (p 497 r/h col lines 16-18). As described above, the versioning and linking described in D1 requires the storage of multiple versions of a publication, and the linking means are implemented as non-versionable objects. D1 does not disclose a system in which a plurality of attributes are utilised for organising a plurality of predefined portions and at least one modified predefined portion of text-based data.

The passage cited from D2 refers to SGML attributes in general terms only. The data model described in D2 is characterised by the use of attributes that are external to the SGML documents being represented. These attributes are known as "features" (hence ELF—"ELements with Features"): p 18 r/h col lines 9ff. The term "features" was chosen deliberately by the authors to distinguish them from SGML "attributes" and to avoid relying on the SGML document designer to build in all of the attributes that may be necessary for such a system. While D2 speaks elsewhere of queries based on SGML attributes (p 18 r/h col line 1; p 19 l/h col lines 15ff; p 23 r/h col lines 12ff), this is with reference to the specialised query language (SGQL) described by D2. Accordingly, the Applicant submits that D2 fails to disclose the feature of *"a plurality of attributes, each attribute being a point on an axis of a multidimensional space for organising said plurality of predefined portions and said at least one modified predefined portion of said text-based data"*.

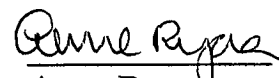
The Applicant contends that D1 and D2 fail to disclose, or even suggest, all of the essential features of claim 1, and thus submits that claim 1 is novel and inventive in light of D1 and D2.

Independent claims 20 and 40 recite corresponding features to those recited in claim 1, and the Applicant submits that claims 20 and 40 are novel and inventive in light of D1 and D2 for the reasons presented above. Claims 2 to 19 depend from claim 1, and the Applicant submits that claims 2 to 19 are novel and inventive in light of D1 and D2 for at least the reasons presented above. Similar arguments apply in respect of claims 21 to 39 and 41 to 58, which depend from claims 20 and 40, respectively.

3. The Applicant notes the objections raised and has taken appropriate actions as described below.
 - 3.1 The Background has been amended to include a reference to the cited reference D2.
 - 3.2 The statement in the description on page 9, lines 18 to 20 has been amended, and the Applicant submits that the alleged inconsistency has been removed.
 - 3.3 The Summary section has been amended to recite formal consistory statements corresponding to the amended form of the independent claims. The Applicant submits that the description conforms with the amended claims.

It is submitted that the Application is now in order for allowance. However, if the Examiner does not share this view and intends to refuse the Application, then oral proceedings are respectfully requested. However, in the latter regard, it will be appreciated that the Applicant has made every effort to overcome the objections raised and thus if there are any outstanding matters, I take the view that it would be reasonable to issue a further Communication under Article 96(2) EPC.

Yours faithfully,



Anne Ryan
Professional
Representative

Encs.

- 19 -

field of that record contains the actual text of that version of Section 6. The next field identifies it as Section 6 of the ITAA, the next field gives the date this version came into being, the next field contains the section of the amending act that created this particular version, the next field contains the day this version became superseded, another field
5 contains the subject(s) this version addresses, another field contains the case(s) that have addressed this version of section 6 and so on. Storing the data in this way allows multidimensional database techniques to be applied to the data.

An XML DTD for implementing the second embodiment is set forth in Appendix E. It will be apparent to one skilled in the art that the second embodiment may
10 be readily implemented in view of the foregoing description of the first embodiment, which is not repeated here for the purpose of brevity, and in view of the accompanying DTD set out in Appendix E.

The foregoing only describes a small number of embodiments of the invention, and modifications and changes apparent to those skilled in the art can be made thereto
15 without departing from the scope and spirit of the invention as defined in the claims herein. For example, the embodiments of the invention have been described with reference to SGML. The embodiments may alternatively be practiced with the extensible markup language (XML) as well. Also, the embodiments may alternatively be practiced with a Style Sheet Mechanism (SSM) instead of, or in addition to, one or more DTDs.

CLAIMS:

1. A computer-implemented system for publishing an electronic publication using text-based data, comprising a plurality of predefined portions of text-based data with each predefined portion being stored, and a plurality of linking means of a markup language;
5 said computer-implemented system characterised by:
at least one predefined portion being modified and stored, each predefined portion of said text-based data and said at least one modified predefined portion of text-based data being encoded with at least one linking means; and
10 a plurality of attributes (s1, s2, s3, s4, L, C, J), each attribute being a point on an axis of a multidimensional space (100) for organising said plurality of predefined portions and said at least one modified predefined portion of said text-based data.
2. The system according to claim 1, further characterised by means for searching
15 within the system.
3. The system according to claim 2, characterised in that said searching means uses one or more attributes.
- 20 4. The system according to either one of claims 2 or 3, characterised in that said searching means uses any predefined portion, any modification of a predefined portion, or any word or phrase within such predefined portion or such modification.
5. The system according to claim 1, further characterised by means for searching at
25 least one of said text-based predefined portions of said data using said plurality of attributes, wherein said plurality of attributes are coupled to each of said predefined portions by said respective linking means, and for retrieving one or more of said predefined portions using said plurality of attributes to define a point in said multidimensional space.
- 30 6. The system according to any one of claims 1 to 3 and 5, characterised in that said markup language is Standard Generalised Markup Language (SGML) or eXtensible Markup Language (XML).

- 91 -

7. The system according to claim 6, characterised in that said text-based data is encoded using one or more Document Type Definitions (DTD) (610) or Style Sheet Mechanisms (SSM).

5 8. The system according to any one of claims 1 to 3 and 5, characterised in that said linking means comprises any piece of information additional to the body of the text-based data.

9. The system according to claim 8, characterised in that said linking means is a code or markup that allows departure and destination points to be created between
10 portions of said text-based data.

10. The system according to any one of claims 1 to 3 and 5, characterised in that said at least one linking means comprises an identification code for said respective predefined
15 portion.

11. The system according to any one of claims 1 to 3 and 5, characterised in that a first database comprises said plurality of predefined portions of text-based data.

20 12. The system according to claim 11, characterised in that a second database comprises said plurality of attributes for managing said first database.

13. The system according to any one of claims 1 to 3 and 5, characterised in that said predefined portions are encoded with one or more attributes.
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14. The system according to any one of claims 1 to 3 and 5, characterised in that said respective predefined portion is changed by performing one of the group consisting of adding at least one attribute to said respective predefined portion, deleting at least one attribute from said respective predefined portion, and modifying at least one of the
30 attributes of said respective predefined portion.

15. The system according to any one of claims 1 to 3 and 5, characterised in that said respective predefined portion is changed by performing one of the group consisting of

adding data to said respective predefined portion, deleting data from said respective predefined portion, and modifying data of said respective predefined portion.

16. The system according to any one of claims 1 to 3 and 5, characterised in that said text-based data comprises legislation.

17. The system according to claim 16, characterised in that each of said plurality of predefined portions of said text-based data is a respective provision of said legislation.

18. The system according to claim 17, characterised in that said provision is a section or schedule of an Act, or a regulation or schedule of a Regulation(s).

19. The system according to any one of claims 1 to 3 and 5, characterised in that each predefined portion is a block of said text-based data, said block being larger than a single word and less than an entire document of said text-based data.

20. A computer readable recording medium for publishing an electronic publication using text-based data, comprising a plurality of predefined portions of text-based data with each predefined portion being stored, and a plurality of linking means of a markup language; said computer readable recording medium characterised by:

at least one predefined portion being modified and stored, each predefined portion of said text-based data and said at least one modified predefined portion of text-based data being encoded with at least one linking means; and

a plurality of attributes (s1, s2, s3, s4, L, C, J), each attribute being a point on an axis of a multidimensional space (100) for organising said plurality of predefined portions and said at least one modified predefined portion of said text-based data.

21. The recording medium according to claim 20, characterised in that means for searching can be used to search the recording medium.

22. The recording medium according to claim 21, characterised in that said searching means uses one or more attributes.

23. The recording medium according to claim 21 or 22, characterised in that said searching means uses any predefined portion , any modification of a predefined portion, or any word or phrase within such predefined portion or such modification.

5 24. The recording medium according to claim 20, further characterised by means for searching at least one of said predefined portions of said text-based data uses said plurality of attributes, wherein said plurality of attributes are coupled to each of said predefined portions by said respective linking means, and for retrieving one or more of said predefined portions using said plurality of attributes to define a point in said
10 multidimensional space.

25. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said markup language is Standard Generalised Markup Language (SGML) or eXtensible Markup Language (XML).

15

26. The recording medium according to claim 25, characterised in that said text-based data is encoded using one or more Document Type Definitions (DTD) (610) or Style Sheet Mechanisms (SSM).

20 27. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said linking means comprises any piece of information additional to the body of the text-based data.

28. The recording medium according to claim 27, characterised in that said linking means is a code or markup that allows departure and destination points to be created
25 between portions of said text-based data.

29. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said at least one linking means comprises an identification code for
30 said respective predefined portion.

30. The recording medium according to any one of claims 20 to 22 and 24, characterised in that a first database comprises said plurality of predefined portions of said text-based data

31. The recording medium according to claim 30, characterised in that a second database comprises said plurality of attributes for managing said first database.

5 32. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said predefined portions are encoded with one or more attributes.

33. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said respective predefined portion is changed by performing one of
10 the group consisting of adding at least one attribute to said respective predefined portion, deleting at least one attribute from said respective predefined portion, and modifying at least one of the attributes of said respective predefined portion.

34. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said respective predefined portion is changed by performing one of
15 the group consisting of adding data to said respective predefined portion, deleting data from said respective predefined portion, and modifying data of said respective predefined portion.

20 35. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said text-based data comprises legislation.

36. The recording medium according to claim 35, characterised in that each of said plurality of predefined portions of said text-based data is a respective provision of said
25 legislation.

37. The recording medium according to claim 36, characterised in that said provision is a section or schedule of an Act, or a regulation or schedule of a Regulation(s).

30 38. The recording medium according to any one of claims 20 to 22 and 24, characterised in that said recording medium is made from one of the group consisting of magnetic media, optical media, and magneto-optical media.

39. The recording medium according to any one of claims 20 to 22 and 24, characterised in that each predefined portion is a block of said text-based data, said block being larger than a single word and less than an entire document of said text-based data.

5 40. A computer-implemented method for publishing an electronic publication using text-based data, comprising the steps of providing a plurality of predefined portions of text-based data with each predefined portion being stored, and providing a plurality of linking means of a markup language; said method characterised by the steps of:

providing at least one predefined portion being modified and stored;

10 encoding each predefined portion of said text-based data and said at least one modified predefined portion with at least one of said linking means; and

providing a plurality of attributes (s1, s2, s3, s4, L, C, J), each attribute being a point on an axis of a multidimensional space (100) for organising said plurality of predefined portions and said at least one modified predefined portion of said text-based data.

15 41. The method according to claim 40, further characterised by the step of searching said text-based data.

20 42. The method according to claim 41, characterised in that said searching step uses one or more attributes.

25 43. The method according to either one of claims 41 or 42, characterised in that said searching step uses any predefined portion, any modification of a predefined portion, or any word or phrase within such predefined portion or such modification.

30 44. The method according to claim 40, further characterised by the step of searching at least one of said predefined portions of said text-based data using said plurality of attributes, wherein said plurality of attributes are coupled to each of said predefined portions by said respective linking means, and for retrieving one or more of said predefined portions using said plurality of attributes to define a point in said multidimensional space.

- 96 -

45. The method according to any one of claims 40 to 42 and 44, characterised in that said markup language is Standard Generalised Markup Language (SGML) or eXtensible Markup Language (XML).

5 46. The method according to claim 45, characterised in that said text-based data is encoded using one or more Document Type Definitions (DTD) (610) or Style Sheet Mechanisms (SSM).

10 47. The method according to any one of claims 40 to 42 and 44, characterised in that said linking means comprises any piece of information additional to the body of the text-based data.

15 48. The method according to claim 47, characterised in that said linking means is a code or markup that allows departure and destination points to be created between portions of said text-based data.

20 49. The method according to any one of claims 40 to 42 and 44, characterised in that said at least one linking means comprises an identification code for said respective predefined portion.

50. The method according to any one of claims 40 to 42 and 44, characterised in that a first database comprises said plurality of predefined portions of said text-based data.

25 51. The method according to claim 50, characterised in that a second database comprises said plurality of attributes for managing said first database.

52. The method according to any one of claims 40 to 42 and 44, characterised in that said predefined portions are encoded with one or more attributes.

30 53. The method according to any one of claims 40 to 42 and 44, characterised in that said respective predefined portion is changed by performing one of the group consisting of adding at least one attribute to said respective predefined portion, deleting at least one attribute from said respective predefined portion, and modifying at least one of the attributes of said respective predefined portion.

54. The method according to any one of claims 40 to 42 and 44, characterised in that said respective predefined portion is changed by performing one of the group consisting of adding data to said respective predefined portion, deleting data from said respective predefined portion, and modifying data of said respective predefined portion.

55. The method according to any one of claims 40 to 42 and 44, characterised in that said text-based data comprises legislation.

10 56. The method according to claim 55, characterised in that each of said plurality of predefined portions of text-based data is a respective provision of said legislation.

57. The method according to claim 56, characterised in that said provision is a section or schedule of an Act, or a regulation or schedule of a Regulation(s).

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58. The method according to any one of claims 40 to 42 and 44, characterised in that each predefined portion is a block of said text-based data, said block being larger than a single word and less than an entire document of said text-based data.

5 1974); No. 126, 1974; Nos. 80 and 117, 1975;
 Nos. 50, 143 and 205, 1976; Nos. 87 and 172,
 1978; No. 27, 1979; No. 24, 1980; Nos. 108 and
 154, 1981; No. 103, 1983; Nos. 47 and 123,
 1984; No. 168, 1985; Nos. 41, 48, 52 and 154,
 10 1986; No. 138, 1987; Nos. 73, 97, 105 and 107,
 1989; Nos. 20, 35 and 135, 1990; Nos. 4, 5,
 100 and 216, 1991; Nos. 80, 98 and 224, 1992;
 Nos. 17, 18, 57 and 82, 1993; Nos. 138 and
 181, 1994; Nos. 5 and 169, 1995

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It is both difficult and impractical to store the complete amendment history of every word and phrase within section 6. Trying to track all changes on such a

Insert "B" →

Largely, the split between historical and present information has come about because of the publishing and information industry's own development, and not because such is the desired or best way to manage information. Thus, a need clearly exists for an electronic publishing system that can overcome one or more of the disadvantages of conventional techniques and systems.

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Insert "A" →

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SUMMARY

In accordance with a first aspect of the invention, there is provided a system for publishing electronic information, comprising:

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a plurality of predefined portions of data with each predefined portion being encoded with at least one linking means, and, for each predefined portion, the each predefined portion is stored and, where such predefined portion has been modified, each such modified predefined portion is stored; and

a plurality of attributes, each attribute being a point on an axis of a multidimensional space for organising the data.

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In accordance with a second aspect of the invention, there is provided a recording medium for publishing electronic information, comprising:

a plurality of predefined portions of data with each predefined portion being encoded with at least one linking means, and, for each predefined portion, the each predefined portion is stored and, where such predefined portion has been modified, each such modified predefined portion is stored; and

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a plurality of attributes, each attribute being a point on an axis of a multidimensional space for organising the data.

5 In accordance with a third aspect of the invention, there is provided a method for publishing electronic information, comprising:
providing a plurality of predefined portions of data with each predefined portion being encoded with at least one linking means, and, for each predefined portion, the each predefined portion is stored and, where such predefined portion
10 has been modified, each such modified predefined portion is stored; and
providing a plurality of attributes, each attribute being a point on an axis of a multidimensional space for organising the data.

BRIEF DESCRIPTION OF THE INVENTION

15 A small number of embodiments of the invention are described with reference to the drawings, in which:
Fig. 1 illustrates a grid of a multidimensional space according to the first embodiment;
Fig. 2 illustrates the effect of the various axes;
20 Fig. 3 illustrates the mapping of various axis intersection points, or nodes, that is used to organize, present, and find information (present and past) according to the first embodiment;
Fig. 4 illustrates the application of legal information to mapped nodes according to the first embodiment;
25 Fig. 5 is a block diagram illustrating a general purpose computer that can be used to implement the electronic publishing system according to the first embodiment;
Fig. 6 is a flow diagram illustrating the method of electronic publishing according to the first embodiment; and
30 Figs. 7 to 17 are screen shots illustrating operation of the first embodiment as a software application executing on a general purpose computer.

DETAILED DESCRIPTION

The present invention is directed towards a system of electronic publishing
35 that can overcome the disadvantages of conventional information publishing, both in print and electronic form. The present invention reduces, if not eliminates, end user problems with conventional information publishing including:
(1) the connectivity between related pieces of information;
(2) analysis of the type and subject of information; and
40 (3) finding information appropriate to the point in time with which they are concerned.

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SUMMARY

In accordance with a first aspect of the present disclosure, there is provided a computer-implemented system for publishing an electronic publication using text-based data, comprising a plurality of predefined portions of text-based data with each predefined portion being stored, and a plurality of linking means of a markup language; the computer-implemented system characterised by:

at least one predefined portion being modified and stored, each predefined portion of the text-based data and the at least one modified predefined portion of text-based data being encoded with at least one linking means; and

a plurality of attributes (s1, s2, s3, s4, L, C, J), each attribute being a point on an axis of a multidimensional space (100) for organising the plurality of predefined portions and the at least one modified predefined portion of the text-based data.

In accordance with a second aspect of the present disclosure, there is provided a computer readable recording medium for publishing an electronic publication using text-based data, comprising a plurality of predefined portions of text-based data with each predefined portion being stored, and a plurality of linking means of a markup language; the computer readable recording medium characterised by:

at least one predefined portion being modified and stored, each predefined portion of the text-based data and the at least one modified predefined portion of text-based data being encoded with at least one linking means; and

a plurality of attributes (s1, s2, s3, s4, L, C, J), each attribute being a point on an axis of a multidimensional space (100) for organising the plurality of predefined portions and the at least one modified predefined portion of the text-based data.

In accordance with a third aspect of the present disclosure, there is provided a computer-implemented method for publishing an electronic publication using text-based data, comprising the steps of: providing a plurality of predefined portions of text-based data with each predefined portion being stored, and providing a plurality of linking means of a markup language; the method characterised by the steps of:

providing at least one predefined portion being modified and stored;

encoding each predefined portion of the text-based data and the at least one modified predefined portion with at least one of the linking means; and

providing a plurality of attributes (s1, s2, s3, s4, L, C, J), each attribute being a point on an axis of a multidimensional space (100) for organising the plurality of predefined portions and the at least one modified predefined portion of the text-based data.

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"The ELF data model and SGQL query language for structured document databases", Arnold-Moore, T. et al., SIXTH AUSTRALASIAN DATABASE CONFERENCE, ADC'95, Adelaide, Australia, [Online] vol.17, no. 2, 30 January 1995 – 31 January, 1995, pages 17-26, XP002204886 Australian Computer Science Communications ISSN: 157-3055 describes a data model and query language for accessing structured documents expressed in SGML. In particular, this document describes a data model for structured text which relies solely on the Document Type Definitions (DTD) to provide a schema for the data and supports element access directly without join operations. The database is considered to be a list of ELF's (ELements with Features) where an ELF is: a complete SGML element - primitive content tokens (#PCDATA, CDATA and RCDATA) are considered to be elements for this purpose; a list of features associated with that element. Every element in every document is in this list. In general, the result of a query is a list containing a subset of the ELF's in the database.