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Serial No. : CPA of 08/673,255 Group Art Unit: 2771
Prior Application Filed : June 28, 1996 Examiner: W. Amsbury
For : DOCUMENT STREAM OPERATING SYSTEM

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PRELIMINARY AMENDMENT

This Preliminary Amendment is filed in connection with the above-identified continuation continued prosecution application ("CPA") of U.S. Serial No. 08/673,255 filed June 28, 1996 ("Prior Application"). An Office Action was issued in the Prior Application on April 17, 1998 setting a three-month period for a response. On October 16, 1998, applicants filed a Petition for A Three-Month Extension Of Time from July 17, 1998 to October 17, 1998 to respond to the Office Action. Accordingly, the Prior Application is pending today and this CPA and Preliminary Amendment are timely filed.

Before examining the CPA, applicants respectfully request that the CPA be amended as indicated below.

IN THE CLAIMS

As indicated below:

- (1) Please cancel claims ~~3~~, ~~5~~, and ~~13~~ without prejudice; and
- (2) Please amend claims 1, 2, 4, 6-12, 14-21, and 23 by

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deleting the text in the square brackets "[]" and by inserting the underlined text; and

(3) Please add ~~new~~ claims 25-36.

Claims 22 and 24 are unchanged, but are included below to present all the pending claims in one document.

Sub C1
B1
--1. (Twice Amended) A computer [program] system for organizing [one or more] each data [units] unit received by the computer system, comprising:

means for generating one or more data unit streams, the data unit streams including a main data unit stream;

means for receiving [one or more of the data units,] each data unit [associated with one or more chronological indicators];

means for selecting a timestamp to identify each data unit;

means for associating each data unit with at least one chronological indicator having the respective timestamp; [and]

means for linking each [of the] data [units] unit according to the timestamp in the respective chronological [indicators] indicator so as to include each [of the] data [units] unit in at least [one of] the main data unit [streams] stream; and

means for storing each data unit stream according to the chronological indicators.--

B2
--2. (Amended) The computer [program] system of claim 1, wherein [the chronological indicators comprise] each timestamp is selected from the group consisting of: past, present, and future times.--

--3/ (Canceled).--

B3
3
--4. (Amended) The computer [program] system of claim 1, wherein

each data unit includes textual data, video data, audio data
and/or multimedia data.--

~~--5. (Canceled).--~~

B4
~~4~~6. (Amended) The computer [program] system of claim 1, wherein
the means for receiving further comprises means for receiving
data units from the [Word] World Wide Web.--

5
--7. (Amended) The computer [program] system of claim 1, wherein
said means for receiving further comprises means for receiving
data units from a client computer.--

B5
Sub
C2
--8. (Twice Amended) A method for organizing [one or more] each
data [units] unit received by a computer system, comprising the
steps of:

generating one or more data unit streams, the data unit
streams including a main data unit stream;

receiving [one or more of the] data units,] each data unit
[associated with one or more chronological indicators];

selecting a timestamp to identify each data unit;

associating each data unit with at least one chronological
indicator having the respective timestamp; [and]

linking each [of the] data [units] unit according to the
timestamp in the respective chronological [indicators] indicator
so as to include each [of the] data [units] unit in at least [one
of] the main data unit [streams] stream; and

storing each data unit stream according to the chronological
indicators.--

B6
45
--9.14 (Amended) The method of claim 8,13 wherein [the chronological

indicators comprise] each timestamp is selected from the group consisting of: past, present, and future times.--

Sub C3
B6
concl.
~~--10. (Amended) The method of claim 8, further comprising the step of displaying the data unit streams[, wherein respective indicia represent each data unit] on a display device as visual streams.--~~

17 13
~~--11. (Amended) The method of claim 8, wherein each data [units] unit includes textual data, video data, audio data and/or multimedia data.--~~

B7
Sub C4
~~--12. (Twice Amended) The method of claim [8] 10, wherein step of displaying the data unit streams further comprises the steps of:~~

a) receiving from a user one or more [values indicative] indications of one or more selected segments of the data unit streams corresponding to one or more selected intervals of time, and

b) displaying the selected segments [of the streams corresponding to the selected intervals of time].--

~~--13. (Canceled).--~~

Sub C5
B8
~~--14. (Amended) A computer [program according to claim 1 further] system for organizing each data unit received by the computer system, comprising:~~

means for generating more than one data unit stream; means for associating each data unit with at least one chronological indicator having a respective timestamp which identifies the data unit; means for chronologically linking each data unit to other

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data units according to the respective chronological indicator;
means for storing each data unit stream according to the
chronological indicators;

means for generating a data unit having indicia to allow
access to a first data unit stream from a second data unit
stream;

means for including the data unit having the indicia in the
second data unit stream; and

means for providing access to [a] the first data unit stream
from [a] the second data unit stream [by generating a data unit
indicating the first stream] in accordance with the indicia.--

--15. (Amended) A computer [program] system according to claim
[1] 14 further comprising:

means for providing limited access to [a] the first data
unit stream from [a] the second data unit stream by generating
a data unit indicating [the first stream and] access privileges
to the first data unit stream.--

--16. (Amended) The computer [program] system according to claim
1, further comprising:

means for displaying [data from one] alternative versions
of the content of the data units [in abbreviated form].--

--17. (Amended) A computer [program] system according to claim
1 further comprising:

means for summarizing [data from one or more] the contents
of data units in a data unit stream to generate one or more
overview data units.--

--18. (Amended) A computer [program] system according to claim

1 further comprising:

means for archiving a data [units having] unit associated with a chronological [indicators] indicator older than a specified time point while retaining the respective chronological indicator and/or a data unit having a respective alternative version of the content of the archived data unit.--

--19. (Amended) A computer [program] system according to claim 17, wherein the means for summarizing further comprises means for continuously updating the overview data units to include changes in the contents of data units in the data unit stream being summarized.--

--20. (Amended) The method of claim 8, further comprising the step of:

providing access to a first data unit stream from a second data unit stream by generating a data unit indicating the first data unit stream.--

--21. (Amended) The method of claim 8, further comprising the [step] steps of:

selecting access privileges to provide to a first data unit stream [for access of] from a second data unit stream [to a first stream]; and

providing access to the first data unit stream from the second data unit stream according to the access privileges.--

--22. (Unchanged) The method of claim 8, further comprising the step of:

displaying data from one of the data units in abbreviated form.--

Sub B9C1
--23. (Amended) The method of claim 8, further comprising the step of:

summarizing [data from one or more] the contents of data units in a data unit stream to generate one or more overview data units.--

N.G.
--24. (Unchanged) The method of claim 8, further comprising the step of:

archiving data units having chronological indicators older than a specified time point.--

Sub C9 B10
--25. (New) The computer system of claim 1, wherein the computer program further comprises one set of operations for operating on all data units regardless of the type of timestamp in the respective chronological indicator, the type of timestamp selected from the group consisting of past, present, and future times.--

--26. (New) The computer system of claim 1 further comprising:
means to generate additional data unit streams from existing data unit streams.--

--27. (New) A computer system for organizing each data unit received by the computer system, comprising:

means for generating at least one data unit stream; means for associating each data unit with at least one chronological indicator having a respective timestamp which identifies the respective data unit; means for chronologically linking each data unit to other data units according to the respective chronological indicator; means for storing each data unit stream according to the chronological indicators;

means for representing one or more data units of a selected data unit stream on a display device as document representations, each document representation including the timestamp of the respective data unit and the order of appearance of each data representation on the display device determined by the timestamp of the respective data unit;

means for selecting which data units are represented on the display device by selecting one of the document representations and displaying document representations corresponding to data units having timestamps within a range of a timepoint; and

means for selecting one or more of the document representations with a pointing device so that the data units represented by the selected document representations are further displayed with a second document representation comprising an alternative version of the content of the respective data unit.--

210 Conf.
²⁶
--~~28~~. (New) A computer system as in claim ²⁵~~27~~, wherein the document representations form a visual stream having a three-dimensional effect.--

²⁸
--~~28~~. (New) A computer system as in claim ²⁵~~27~~, wherein each document representation comprises a polygon and the polygons overlap to form a visual stream of polygons.--

²⁷
--~~30~~. (New) A computer system as in claim ²⁶~~28~~, wherein the three-dimensional effect further comprises a perspective view.--

²⁹
--~~31~~. (New) A computer system as in claim ²⁵~~27~~, wherein the alternative version is an abbreviated version.--

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³⁰
--~~32~~. (New) A computer system as in claim ²⁵~~27~~, wherein the alternative version is a caption version.--

³¹
--~~33~~. (New) A computer system as in claim ²⁵~~27~~, wherein the alternative version is an expanded version.--

³²
--~~34~~. (New) A computer system as in claim ²⁵~~27~~, further comprising:
means for selecting one or more alternative versions of the content of a respective data unit to display another alternative version of the content of the data unit.--

¹²
--~~35~~. (New) A computer system as in claim 1, further comprising:
means for generating a data unit comprising an alternative version of the content of another data unit; and

means for associating the alternative version data unit with the chronological indicator of the another data unit.--

³³
--~~36~~. (New) A computer system as in claim ²⁵~~27~~, further comprising:
means for updating the display device to provide a document representation for data units associated with chronological indicators having timestamps which become the present time.--

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REMARKS

Claims 1-24 were pending in this application. Claims 3, 5, and 13 have been canceled without prejudice, claims 1, 2, 4, 6-12, 14-21, and 23 have been amended, and new claims 25-36 have been added by this Preliminary Amendment. Accordingly, claims 1-2, 4, 6-12, and 14-36 are presently being examined.

Applicants have amended independent claims 1 and 8 to more clearly recite the subject matter of invention. Specifically, amended claims 1 and 8 recite that: (1) each data unit received by the computer system is organized and included in at least the main data unit stream; (2) each data unit is identified by a timestamp selected for a chronological indicator; (3) the chronological indicator is associated with the data unit; (4) each data unit is linked to other data units according to the timestamp in the chronological indicator; and (5) each data unit stream is stored according to the chronological indicators. Claims 2 and 9 have been amended to conform to the recitation of timestamps in amended claims 1 and 8, respectively. Further, claims 1, 2, 4, 6, 7, and 14-19 have been amended to recite a computer system. Support for these amendments can be found, inter alia, from page 11, line 12 to page 12, line 10, on page 12 in lines 21-25, on page 20 in lines 14-19, and on page 27 in lines 9-14 and 19-21 of the subject specification.

Claim 10 has been amended to specifically recite that a data unit stream can be displayed as a 'visual stream'. Support for this amendment can be found, inter alia, in Fig. 1 and on page 17 in lines 11-13 of the subject specification.

Claims 16-19 and 23 have been amended and new claims 27 and 31-35 have been added to more clearly recite using the content of one or more data units: (1) to generate additional data units having alternative versions of the content (amended claims 17,

19, 23, and new claim 35) ; (2) to display alternative versions of the content (amended claim 16 and new claims 27 and 31-34); (3) to use data units having alternative versions of the content as part of the archiving aspect of the subject invention (amended claim 18). Support for these amendments and new claims can be found, inter alia, on page 14 in lines 11-23, on page 17 in lines 13-16, on page 18 in lines 1-3, on page 21 in lines 10-21, from page 24, line 17 to page 25, line 6, one page 27 in lines 9-21, on page 33 in lines 15-19 of the subject specification.

Claims 12, 15, 20, and 21 have been amended to consistently recite 'data unit stream(s)' instead of 'stream(s)'. Support for these amendments can be found, inter alia, on page 11 in lines 11-22 of the subject specification. Claim 12 also has been amended to recite 'indications' instead of values. Support for this amendment can be found, inter alia, on page 21 in lines 4-9 of the subject specification. Claim 15 has been further amended to be dependent on amended claim 14 and to allow for a separate data unit for providing the access privileges. Support for this amendments can be found, inter alia, on page 23 in lines 11-18 of the subject specification. In addition, claims 12, 15 and 21 have been further amended to simplify the claim language, and claims 6, 11 and 12 have been amended to correct typographical errors. Support for these amendments can be found, inter alia, in the claims themselves.

Applicants also have amended claim 14 to be an independent claim which recites essentially the same subject matter as amended claim 1 except for the main data unit stream, and also to recite: (1) means for generating a data unit having indicia which provides access to a first data unit stream from a second data unit stream; (2) means for including the access indicia data unit in the second data unit stream; and (3) means for providing

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access to the first data unit stream using the indicia. Support for these amendments can be found, inter alia, from page 11, line 12 to page 12, line 10, on page 12 in lines 21-25, on page 20 in lines 14-19, on page 27 in lines 9-14 and 19-21, and from page 21, line 22 to page 22, line 10 of the subject specification.

In addition, applicants have added new claim 25 to explicitly recite the symmetry of the computer system, to wit, the same operations are used to operate on data units associated with chronological indicators having timestamps of the past, present, or future. Support for this amendment can be found, inter alia, from page 11, lines 22 to page 12, line 1 of the subject specification. New claim 26 also has been added to recite that a data stream can be formed from another data stream. Support for this amendment can be found, inter alia, on page 19 in lines 15-18 of the subject specification.

Applicants additionally have added new independent claim 27 which derives from canceled dependent claims 3 and 5, and dependent claim 16. Specifically, new claim 27 recites essentially the same subject matter as amended claim 1 except for the main data unit stream, and also recites: (1) means for representing data units on a display device as document representations, each document representation having the timestamp, and ordered according to the timestamp; (2) means for selecting which data units are represented on the display using a timepoint; and (3) a pointer device for selecting document representations to be further displayed with an alternative version of the respective data unit. Support for these amendments can be found, inter alia, from page 11, line 12 to page 12, line 10, on page 12 in lines 21-25, from page 15, line 24 to page 16, line 2, on page 17 in lines 13-16, on page 20 in lines 14-19, from page 25, lines 19 to page 26, line 2, on page

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27 in lines 9-14 and 19-21, and in Fig. 1 of the subject specification.

New claims 28-30 have been added to specifically recite the way in which the visual stream is displayed, that is: (1) three-dimensionally (new claim 28); (2) as data representations of overlapping polygons (new claim 29); and (3) in a perspective view (new claim 30). Support for these new claims can be found, inter alia, from page 25, lines 19 to page 26, line 2 and in Fig. 1 of the subject specification.

New claim 36 has been added to specifically recite that data units associated with a chronological indicator having a timestamp of a future time become displayed when the future time becomes the present time. Support for this new claim can be found, inter alia, on page 20 in lines 19-22 and in Fig. 1 of the subject specification.

The Office Action has 26 numbered sections: (1) sections 1, 2 and 23-26 are of an informational nature and do not require a response from the applicants; (2) sections 3, 4, 7, 12, and 16 reject claim 13 which has been canceled without prejudice by this Preliminary Amendment; (3) sections 5, 8-10, 13, and 14 maintain and repeat rejections from the September 19, 1997 Office Action; (4) sections 17-22 reject claims first presented in the previous Amendment; and (5) sections 6, 11 and 15 respond to the applicants' arguments in the previous Amendment.

In this Preliminary Amendment, each of the following documents are referred to by the short form provided in the parenthesis following the full title of the document:

- (1) "The Cyber-Road Not Taken" by David Gelernter from The Washington Post dated April 3, 1994 ("Gelernter Article");
- (2) U.S. Patent No. 5,530,859 to Tobias, II et al. ("Tobias");
- (3) "Getting Results with Microsoft Outlook 97", pp. 28-29 ("Outlook"); and

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(4) U.S. Patent No. 5,297,032 to Trojan et al. ("Trojan").

Section 2 of the Office Action states that the Petition for the addition of David Gelernter as an inventor was to be forwarded to the Petitions Branch for processing after the mailing of this Office Action.

Applicants have received a Corrected Filing Receipt for the Prior Application indicating that David H. Gelernter has been added as an applicant (inventor). Accordingly, as indicated on the Preliminary Amendment, both the Prior Application and this CPA have two inventors, Eric Freeman and David H. Gelernter.

Sections 3, 4, 7, 12, and 16 of the Office Action, respectively, rejected claim 13 under: (1) 35 U.S.C. §112, second paragraph as being indefinite; (2) 35 U.S.C. §101 as being directed to non-statutory subject matter; (3) 35 U.S.C. §102(b) as being clearly anticipated by the Gelernter Article; (4) 35 U.S.C. §102(a) as being anticipated by Tobias; and (5) 35 U.S.C. §102(a) as being anticipated by Outlook.

Applicants hereinabove have canceled claim 13 without prejudice. Accordingly, applicants respectfully submit that the rejections of claim 13 under 35 U.S.C. §112, second paragraph, 35 U.S.C. §101, and 35 U.S.C. §102 are now moot.

In view of the cancellation of claim 13, applicants respectfully request that the rejections raised against claim 13 be reconsidered and withdrawn.

Sections 5 and 6 of the Office Action rejected claims 1-4, and 8-11 under 35 U.S.C. 102(b) as being clearly anticipated by the Gelernter Article.

Specifically, the Office Action states that the rejection made in the previous Office Action is maintained. Applicants note that in the previous Office Action, no particular reason was

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made for this rejection. However, this Office Action states that applicants' arguments in the previous Amendment that the Gelernter Article does not anticipate chronological indicators were not persuasive because the 'paradigm' (broadly interpreted) as described in the Gelernter Article contains chronological indicators which are inherently required in interactive navigation of a chronological stream. The Office Action also notes that: (1) the 'paradigm' of the Gelernter Article allows entries at arbitrary points; (2) appointments are inherently included; (3) the claim language includes the case of a single data stream that includes all data units, which is clearly anticipated by the Gelernter Article phrase "Your 'lifestreams captures your whole life"; and (4) nothing is claimed about symmetry, other than in the sense of the Gelernter Article in which any data unit can be included in a chronological stream.

Applicants hereinabove have amended claims 1 and 8 to emphasize and more clearly recite: selecting a timestamp to identify each data unit, associating each data unit with a chronological indicator including the timestamp, linking each data unit into a data unit stream according to the timestamp, and storing the data unit stream according to the chronological indicators. The Gelernter Article, in contrast, fails to teach or suggest any such means or steps. Indeed, the Gelernter Article only addresses display of data units in chronological order, and neither teaches nor suggests any implementations of the 'paradigm', and specifically, does not teach or suggest the identification, association, linkage, and storage steps or means for data units of data unit streams as recited in the amended claims. While a time indication traditionally has been used to prepare a display of data in chronological order, using a time indication for the purposes of identification, association,

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linkage and storage for data units in data unit streams is not. Thus, applicants respectfully submit that, for at least this reason, amended claims 1 and 8 are not anticipated by, nor unpatentable over, the Gelernter Article.

Further, applicants respectfully submit that the 'paradigm' described in the Gelernter Article neither 'inherently' includes nor renders obvious to one of skill in the art, the timestamp/chronological indicator identification, association, linkage, and storage any more than that the 'paradigm' inherently "allows entries at arbitrary points" or includes future "appointments". Applicants submit that the Gelernter Article never discusses or suggests inclusion of data units anywhere but at the end of the stream (that is, at the present) or inclusion of a future time data unit in a data unit stream. Instead, the Gelernter Article only discusses display of data units of the past and adding data units in the present.

With respect to the inclusion of all data unit in a single data stream, applicants respectfully submit that while the Gelernter Article discusses including all "chunks of information" in a single lifestream, the Gelernter Article fails to teach or suggest the generation of additional streams as recited in amended claims 1 and 8. Indeed, the Gelernter Article teaches away from additional streams by stating on page 4: "I want to spend no time whatsoever organizing it [my life]. In short, I want a 'lifestream'" (emphasis added). Also, while the Gelernter Article relates to viewing its Lifestream selectively, there is no teaching or suggestion that the "chunks of information" of a selectively viewed Lifestream are linked to be included in a data unit stream entity or that a data unit stream is generated and stored according to chronological indicators as taught by the subject invention and as recited in at least amended claims 1 and

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8.

With respect to symmetry, applicants note that new claim 25 explicitly recites such 'symmetry' in that the same operations can be performed on a data unit regardless of whether the data unit has a past, present, or future timestamp.

Since amended claim 3 has been canceled, and because amended claims 2 and 4 and amended claims 9-11 are dependent on amended claims 1 and 8 respectively, and because a claim which depends on another claim is subject to all the limitations of that other claim, applicants respectfully submit that amended claims 2, 4, and 8-11 are not anticipated by, nor unpatentable over, the Gelernter Article for at least the same reasons discussed above with respect to amended claims 1 and 8.

Therefore, at least because amended claims 1-2, 4 and 8-11 each recite, or are dependent upon a claim which recites: selecting a timestamp to identify each data unit, associating each data unit with a chronological indicator including the timestamp, linking each data unit into a data unit stream according to the timestamp, and storing the data unit stream according to the chronological indicators, amended claims 1-2, 4 and 8-11 are neither anticipated by, nor unpatentable over, the Gelernter Article.

In view of the remarks above, applicants respectfully request that the rejection of claims 1-4 and 8-11 as anticipated by the Gelernter Article under 35 U.S.C. §102(b) be reconsidered and withdrawn.

Section 8 of the Office Action rejects claims 5-7, and 12 under 35 U.S.C. 103(a) as being unpatentable over the Gelernter Article.

Specifically, the Office Action states that the rejection made in the previous Office Action is maintained. The previous

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Office Action stated that claims 5-7, and 12 were rejected because: (1) displaying segments of a Lifestream according to intervals of time would have been obvious to one of skill in art; (2) one of skill in the art would know an entire Lifestream could not be displayed on a television set at once; and (3) with respect to claims 6 and 7, one of skill in the art would know how to receive data units from the World Wide Web or client computer.

Since claim 5 has been canceled and since claims 6, 7, and 12 are dependent on claims 1 and 8 respectively, and because a claim which depends on another claim is subject to all the limitations of that other claim, applicants respectfully submit that claims 6, 7, and 12 are not unpatentable over the Gelernter Article for the at least the same reasons discussed above with respect to amended claims 1 and 8.

In view of the remarks above, applicants respectfully request that the rejection of claims 6, 7, and 12 as being unpatentable over the Gelernter Article under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Sections 9 and 11 of the Office Action reject claims 1-5, 8-12 under 35 U.S.C. 102(a) as being anticipated by Tobias.

Specifically, the Office Action states that the rejection made in the previous Office Action is maintained. The previous Office Action stated that claims 1-5 and 8-12 were rejected because: (1) with respect to claims 1 and 8, Tobias teaches receiving/receiving means, and linking/linking means; (2) with respect to claims 2 and 9 Tobias discusses that the software clock can run forward or backward; (3) with respect to claims 3, 4, 10, and 11 Tobias targeted displaying the clocks and multimedia; and (4) with respect to claim 5 and 12, Tobias focused on showing segments of time for presentation. The Office Action also notes with respect to applicants' arguments in the

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previous Amendment that Tobias: (1) fails to link all the data units into a stream; and (2) distinguishes between data units which perform a task and those which do not, were not persuasive. The Office Action states that these distinctions are specious because the claims recite "one or more data units", which is not every unit in some specified system, and, also, do not recite any task performance of the data units. According to the Office Action, therefore, the claims do not distinguish over the units of Tobias. The Office Action also noted that the Gelernter Article 'paradigm' as "described in numerous sources" requires that each data unit be applied to all items associated with a system and/or person as part of the definition, motivation, and organization of the 'paradigm'.

Applicants hereinabove have amended claims 1 and 8 to more clearly recite that "each data unit" received by the computer system is identified by a selected timestamp, associated with a chronological indicator including the timestamp, linked into a data unit stream according to the timestamp, and stored as part of a data unit stream according to the chronological indicator. In contrast, Tobias does not teach or suggest such timestamp/chronological indicators for identification, association, linkage, and storage for data units of a data unit streams as taught by the subject invention and as recited in at least amended claims 1 and 8. For example, in column 18, lines 10-22 and 54-63, and in Figs. 28 and 30 of Tobias, graphic objects and MIDI sequences are discussed and illustrated without any teaching or suggestion that all of these objects or sequences are identified by a timestamp, associated with a chronological indicator including the timestamp, linked into a data unit stream according to the timestamp, and stored as part of a data unit stream according to the chronological indicator. Indeed,

according to Tobias, MIDI sequences and graphic objects only become associated with a time, that is, a clock object in Tobias, when the user decides to create such a linkage, see column 19, lines 54-65 of Tobias. Accordingly, unlike the subject invention and as recited in amended claims 1 and 8, Tobias fails to teach or suggest a computer system in which each data unit received by the computer system is identified by a selected time stamp, associated with a chronological indicator having that timestamp, linked into a data unit stream according to the timestamp, and stored as part of a data unit stream according to the chronological indicator.

Also, with respect the particular application of Tobias in which segments of music, that is MIDI sequences, are chronologically related by the timestamps, one of skill in the art would not consider using the subject invention as recited in at least amended claims 1 and 8, because the timestamps of the subject invention and, thus, linkages are selected irrespective of the content of the data unit. Accordingly, even if only data units having music content are received by the computer system of the subject invention, the data units will be placed in the main data stream without regard to the musical flow, resulting only in noise mixed with data units having nothing to do with music. Thus, at least because amended claims 1 and 8 specifically recite that each data unit received by the computer system is linked and stored in at least a main data stream (that is, without regard to the task to be performed by that data unit) according to a timestamp in a chronological indicator, amended claims 1 and 8 are neither anticipated by, nor unpatentable over, Tobias. In addition, Tobias, like the Gelernter Article, fails to teach or suggest any means or steps for storing the data unit streams according to the chronological indicators.

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With respect to the uncited "numerous sources" which describe the paradigm of lifestreams of Gelernter, applicants respectfully submit that a broad paradigm stating that "all items associated with a system and/or a person" is insufficient to teach or suggest how the items become associated with a system or person, and certainly fail to teach or suggest how the items become identified by a selected timestamp, associated with chronological indicators having the selected timestamp, linked into a data unit stream according to the timestamp, and stored as part of a data unit stream according to the chronological indicator as taught by the subject invention and as recited in amended claims 1 and 8.

Since claims 3 and 5 have been canceled, and because amended claims 2 and 4 and amended claims 9-12 are dependent on amended claims 1 and 8 respectively, and because a claim which depends on another claim is subject to all the limitations of that other claim, applicants respectfully submit that amended claims 2, 4, and 8-12 are neither anticipated by, nor unpatentable over, Tobias for the same reasons discussed above with respect to amended claims 1 and 8.

In view of the remarks above, applicants respectfully request that rejection of claims 1-5 and 8-12 as anticipated by Tobias under 35 U.S.C. §102(a) be reconsidered and withdrawn.

Section 10 of the Office Action rejects claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Tobias.

Specifically, the Office Action states that the rejection made in the previous Office Action is maintained. The previous Office Action stated that claims 6 and 7 were rejected because one of skill in the art would know how to receive data units from the World Wide Web or client computer.

Since claims 6-7 are indirectly dependent on claim 1 and

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because a claim which depends on another claim is subject to all the limitations of that other claim, applicants respectfully submit that claims 6-7 are not unpatentable over Tobias for at least the same reasons discussed above with respect to amended claim 1.

In view of the remarks above, applicants respectfully request that the rejection of claims 6-7 as unpatentable over Tobias under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Sections 13 and 15 of the Office Action rejected claims 1-3, 6-8, and 10 under 35 U.S.C. 102(a) as being anticipated by Outlook. Specifically, the Office Action states that the rejection made in the previous Office Action is maintained. The previous Office Action stated that claims 1-3, and 6-8 were rejected because: (1) with respect to claims 1, 3, 8, and 10, Outlook has data units dated in a sequence displayed in a journal; and (2) with respect to claims 6 and 7, the Web and client computers are well-known sources of e-mail. The Office Action also states that applicants' arguments in the previous Amendment that Outlook fails to link all data units into a stream in that only selected records are linked is not persuasive. The Office Action states that these distinctions are specious because the claims recite "one or more data units", which is not every unit in some specified system. According to the Office Action, therefore, the claims do not distinguish over the units of Outlook.

As discussed above with respect to Tobias, applicants hereinabove have amended claims 1 and 8 to more clearly recite that "each data unit" received by the computer system is identified by a selected timestamp, associated with a chronological indicator having the timestamp, linked into a data unit stream according to the timestamp, and stored as part of a

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data unit stream according to chronological indicators. In contrast, Outlook does not teach or suggest such timestamp/chronological indicator identification, association, linkage, and storage for data units of data unit streams. For example, on page 28 of Outlook, the "contacts" are discussed and illustrated without any indication that the "contacts" are identified by a timestamp, associated with a chronological indicator, linked into a data unit stream according to the timestamp and stored as part of a data unit stream according to chronological indicators. Indeed, these "contacts" are not listed in the chronological journal of Outlook. Instead, the journal of Outlook records "activities related to the contacts". Thus, if Outlook provides a teaching of how to identify, associate, link, and store "contacts", that teaching is not to use timestamps/chronological indicators to form data unit streams as taught by the subject invention, but instead to list the "contacts" as shown by the non-chronological display of "contacts" on page 28 of Outlook. Accordingly, Outlook teaches away from identifying, associating, linking, and storing each data unit received by the system into data unit streams according to a timestamp/chronological indicator. Since amended claims 1 and 8 specifically recite that each data unit received by the computer system is identified by a timestamp, associated with a chronological indicator having the timestamp, linked into a data unit stream according to the timestamp, and stored as part of a data unit stream according to chronological indicators, amended claims 1 and 8 are neither anticipated by, nor unpatentable over, Outlook under 35 U.S.C. §102(a).

Since claim 3 has been canceled, and because amended claims 2, 6, 7, and 10 are dependent on amended claims 1 or 8 respectively, and because a claim which depends on another claim

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is subject to all the limitations of that other claim, applicants respectfully submit that amended claims 2, 6, 7, and 10 are not anticipated by, nor unpatentable over, Outlook for the same reasons discussed above with respect to amended claims 1 and 8.

In view of the remarks above, applicants respectfully request that the rejection of claims 1-3, 6-7, 8 and 10 as anticipated by Outlook under 35 U.S.C. §102(a) be reconsidered and withdrawn.

Section 14 of the Office Action rejected claims 2, 4-5, 9, 11 and 12, under 35 U.S.C. 103(a) as being unpatentable over Outlook.

Specifically, the Office Action states that the rejection made in the previous Office Action is maintained. The previous Office Action stated that claims 2, 4-5, 9, 11, and 12 were rejected because: (1) with respect to claims 2 and 9, it would have been obvious to one of skill in the art to include past, present and future times because Outlook deals with "all activities" associated with "contacts"; (2) with respect to claims 4 and 11, meeting data involves multimedia of various kinds; (3) with respect to claims 5 and 12, one of skill in the art would display designated segments of the "Journal" at one time.

Since claim 5 has been canceled without prejudice, and since amended claims 2, 4, 9, and 11-12 are dependent on amended claims 1 or 8, and because a claim which depends on another claim is subject to all the limitations of that other claim, applicants respectfully submit that amended claims 2, 4, 9, and 11-12 are not unpatentable over Outlook for at least the same reasons discussed above with respect to amended claims 1 and 8.

In view of the remarks above, applicants respectfully request that rejection of claims 2, 4-5, 9, and 11-12 as

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being unpatentable over Outlook under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Section 17, 18 and 19 of the Office Action rejects claims 16-19, 22-24 under U.S.C. 103(a) as being unpatentable over the Gelernter Article, Tobias or Outlook.

Specifically, the Office Action states that the limitations of these claims were well known in the art at the time of the invention and follow naturally as housekeeping and organizational details required to manage access to a complex or extensive stream of data units. In particular, the Office Action states that: (1) an "abbreviated form", as recited in claims 16 and 22, of a data record corresponds to the title, abstract, or summary of a document or other data unit; (2) "summarizing data", as recited in claims 17 and 23 corresponds to a title, abstract, or summary, and to a summary record in a spreadsheet or tax form line; (3) for data acquired in chronological order, it is necessary to update such data dynamically, as recited in claim 19; and (4) since storage capacity is not infinite, data such as E-mail, tax records, snapshots, and the like are archived, as recited in claims 18 and 24. According to the Office Action, therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the limitations of these claims to the system of the references because they enhance efficiency and organizational viability in those systems.

Applicants respectfully submit that because claims 16-19 and 22-24 are directly or indirectly dependent on amended claims 1 or 8, and because a claim which depends on another claim is subject to all the limitations of that other claim, for at least the reasons discussed above with respect to amended claims 1 and 8, claims 17-19 and 22-24 are not anticipated by, or unpatentable

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over, the Gelernter Article, Tobias, or Outlook taken alone or in combination.

In addition, applicants hereinabove have amended claims 17 and 23 to more clearly recite that the overview data unit is a summary of a data unit stream. In contrast, the Gelernter Article does not discuss summaries or, indeed, any operations on data units or data unit streams which combine the contents of data units from a data unit stream into a data unit. Similarly, neither Tobias nor Outlook combine the contents of data units from a data unit stream for the purposes of a summary. In particular, applicants note that while the journal in Outlook lists activities according to type, Outlook fails to teach or suggest providing a summary of the contents of such activities. Also, while a traditional spreadsheet or an automated tax form can summarize data, such a summary is not derived from data units in a data unit stream. Applicants respectfully submit that one of skill in the art would not naturally access the contents of data units in a data unit stream to create a summary absent the teaching of the subject invention. Indeed, the paradigm as presented in the Gelernter Article fails to teach or suggest such summaries. With respect to claim 19, applicants respectfully submit that because none of the cited art teaches or suggests overview data units combining the contents of data units from a data stream, the cited art also does not teach or suggest continuously updating the overview data units. Thus, applicants respectfully submit that claims 17, 19 and 23 are not unpatentable over the Gelernter Article, Tobias, or Outlook for at least this reason.

Also, with respect to amended claims 17-19, and 23 applicants respectfully submit that none of the cited art teaches or suggests the generation of data units in data unit streams

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having alternative versions of the content of another data unit, and with respect to amended claim 18, the use of such alternative content data units as part of the archiving means.

In view of the remarks above, applicants respectfully request that the rejections of claims 16-19 and 22-24 as being unpatentable over the Gelernter Article, Tobias or Outlook be reconsidered and withdrawn.

Sections 20, 21 and 22 of the Office Action rejected claims 14, 15, 20, and 21 under U.S.C. 103(a) as being unpatentable over any of the Gelernter Article, Tobias, or Outlook, in view of Trojan.

Specifically, the Office Action states that Trojan teaches: (1) a secure connection between data streams in the paradigm of market trading, where a "second stream" such as the NSD trade stream is copied, but only in part, into the "first stream" of a trader; and (2) that the passing of data units into an improper first stream is clearly a breach of security. While the Office Action states that Trojan is not explicit about using a "data unit" in a stream to properly divert a copy to a trader, the Office Action argues that the corresponding functionality is clearly necessary. Also, the Office Action states that the data stream of a trader must access the NSD stream in order to track whether or not a specific bid or ask transaction, (not an equivalent one), has been executed and that this chronological sequencing of data units of Trojan is crucial to the operation of the system. Thus, the Office Action states, Trojan teaches the access of one data stream to another at specific sequenced data units, but does not specify the mechanism. Nevertheless, the Office Action states that it would have been obvious to one of ordinary skill in the art at the time of the invention to use a data unit to encapsulate a connection between streams with a

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data unit in Gelernter, Tobias, or Outlook because their data units provide the means of sequencing.

Applicants hereinabove have amended claim 14 to be recited in independent form to emphasize that a data unit stream according to the subject invention comprises multiple data unit streams, each data unit in the data unit streams identified by a selected timestamp, associated with a chronological indicator having the timestamp, linked into a data unit stream according to the timestamp, and stored as part of a data unit stream according to chronological indicators. In addition, amended claim 14 recites that a data unit stream can access another data unit stream by providing the second data unit stream with a data unit permitting such access.

Applicants respectfully submit that Trojan does not indicate to a second stream the presence of a first stream by sending a data unit which would be included in the second data unit stream to allow such access. Instead, as noted in the Office Action, Trojan does not teach how such access is performed. Although the Office Action states that one of ordinary skill in the art would use such a data unit to provide access, this solution is neither taught nor suggested in any of the cited art. The Gelernter Article has only one chronological stream; Tobias interconnects data according to time sequences, but does not pass data units from one sequence to another; Outlook only provides a chronological list of activities related to contacts, not lists of journals; and Trojan's datastream is limited to the NASDAQ information stream. Thus, applicants respectfully submit that the cited art lacks any teaching or suggestion for one of ordinary skill in the art to follow in order to provide access from one data unit stream to another as taught by the subject invention and as recited in at least amended claim 14. Thus, for

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at least this reason, applicants respectfully submit that amended claim 14 is not unpatentable over the Gelernter Article, Tobias, or Outlook in view of Trojan under 35 U.S.C. §103(a).

Because amended claim 15 is dependent on amended claim 14 and because a claim which depends on another claim is subject to all the limitations of that other claim, applicants respectfully submit that amended claim 15 is not unpatentable over the Gelernter Article, Tobias, or Outlook in view of Trojan under 35 U.S.C. §103(a) for at least the same reasons discussed above with respect to amended claim 14.

Since amended claims 20-21 are dependent on amended claim 8 and because a claim which depends on another claim is subject to all the limitations of that other claim, applicants respectfully submit that amended claims 20-21 are not unpatentable over the Gelernter Article, Tobias, or Outlook for at least the same reasons discussed above with respect to amended claim 8.

In view of the remarks above and the amendments to claims 14-15 and 20-21, applicants respectfully request that the rejections of claims 14-15 and 20-21 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Finally, applicants respectfully note that while the Gelernter Article can be viewed as presenting a broad paradigm for a lifestream, the lifestream described in the Gelernter Article fails to teach or suggest the data unit streams of the subject invention as recited in the amended claims. Indeed, the unique identification, association, linkage, and storage of the data units using a timestamp in chronological indicators as taught by the subject invention and as recited in the amended claims is not taught or suggested by the Gelernter Article or any of the other cited art, alone or in combination. Furthermore,

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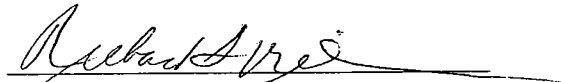
none of the cited art teaches or suggests the operations which can be performed on or between the data unit streams as recited in the claims 14-24, as amended. In addition, new claims 27-34 and 36 recite a unique display for presenting the visual form of the data unit streams according to one embodiment of the subject invention. Also, new claims 25, 26 and 35 clarify other unique aspects of the subject invention, to wit: a single set of operations for past, present and future times, the ability to generate additional data unit streams from an existing data unit stream, and the generation of data units having content which is an alternative version of the content of another data unit.

In view of the remarks and amendments in this Amendment, applicants respectfully request that the objection and rejections in the Office Action be withdrawn and earnestly solicits the allowance of claims 1, 2, 4, 6-12, and 14-36, as amended.

Applicants respectfully submit that a telephone interview could be of assistance in advancing prosecution of the subject application as discussed in a short October 15, 1998 telephone conference between the Examiner and the applicants' undersigned attorney. Accordingly, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee is deemed necessary in connection with the filing of this Preliminary Amendment. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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