

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MING C. HAO, PANKAJ K. GARG,  
MUSTAZIRUL SHAWN ISLAM, VIJAY MACHIRAJU,  
UMESHWAR DAYAL, SHARON BEACH,  
and KLAUS WURSTER

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Appeal 2008-2512  
Application 10/463,716  
Technology Center 2600

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Decided: September 3, 2008

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Before MAHSHID D. SAADAT, ROBERT E. NAPPI, and JOHN A.  
JEFFERY, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the final  
rejection of claims 9 through 23 and 25 through 40.

We affirm in part the Examiner's rejections of these claims.

### INVENTION

The invention is directed to an information visualization system where a user may select subsets of data for further analysis. The user may select different attributes of the data and different details of the data will be displayed. See pages 2 and 3 of Appellants' Specification. Claim 9 is representative of the invention and reproduced below:

9. An information visualization method comprising:  
providing data, to a processor-based system, for a plurality of data items of a data set;  
arranging the data items of the data set using the data;  
first displaying the data items of the data set in a first graphical representation after the arranging;  
identifying a subset of the data items after the displaying;  
partitioning the data items of the subset responsive to the identifying: and  
second displaying the partitioned data items in a second graphical representation to convey information regarding the partitioned data items in addition to information conveyed regarding the identified data items via the first graphical representation.

### REFERENCE

Bauernschmidt                      US 2004/0168115 A1      Aug. 26, 2004

### REJECTION AT ISSUE

Claims 9 through 23 and 25 through 40 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bauernschmidt. The Examiner's rejection is on pages 3 through 7 of the Answer.

Throughout the opinion, we make reference to the Brief (received March 9, 2007), Reply Brief (received February 1, 2008) and the Answer (mailed December 7, 2007) for the respective details thereof.

## ISSUES

### *Rejection of claims 9 through 14, 31 and 32.*

Appellants argue on pages 6 through 8 of the Brief that the Examiner's rejection of claims 9 through 14 and 31 through 33 is in error. Appellants argue on page 7 of the Brief, that Bauernschmidt does not teach a second graphical representation to convey information regarding the partitioned data items in addition to the information conveyed regarding the identified data items in the first representation as claimed. Further, Appellants argue that Bauernschmidt does not teach partitioning the data items as claimed. App. Br. 5, Reply Br. 5 and 6.

Thus, Appellants' contentions with respect to the rejection of claims 9 through 14 and 31 through 33 present us with two issues. The first issue presented to us is whether the Examiner erred in finding that Bauernschmidt teaches a second graphical representation which conveys information regarding data items in addition to information conveyed regarding the identified data items in the first representation as claimed. The second issue is whether the Examiner erred finding that Bauernschmidt teaches partitioning the data items in response identifying a subset of data.

### *Rejection of claim 33.*

In addition to Appellants' arguments directed to claim 9, the claim upon which claim 33 depends, Appellants separately argue that the rejection of claim 33 is in error. App. Br. 3-6. Appellants argue that claim 33 recites that the first graphical representation is depicted in an area and that a portion of the area of a graphical representation is used to identify the subset of data items. App. Br. 4. Appellants argue that this feature is not taught by

Bauernschmidt, rather Bauernschmidt teaches using a display of labels in window 414 to select data items. App. Br. 5, Reply Br. 3 and 4.

Thus, Appellants' contentions with respect to the rejection of claim 33 present us with the issue of whether the Examiner erred in finding that the Bauernschmidt teaches identifying a portion of an area of a graphical representation to identify the subset of data items as claimed in claim 33.

*Rejection of claims 15 through 20 and 34 through 37.*

Appellants argue on pages 8 and 9 of the Brief that the Examiner's rejection of claims 15 through 20 and 34 through 37 is in error. Similar to claim 9, Appellants assert that Bauernschmidt does not teach displaying a depiction of information of a subset of data items in a second graphical representation in addition to the information conveyed regarding the identified data items in the first representation as claimed. Further, on page 9 of the Brief, Appellants state that claim 15 recites that the subset of data items comprises selected data items and that the selected items are associated with a different grouping of the data items. Appellants argue that these features are not taught by Bauernschmidt. App. Br. 5, Reply Br. 7 and 8.

Thus, Appellants' contentions with respect to the rejection of claims 15 through 20 and 34 through 37 present us with two issues. The first issue is whether the Examiner erred in finding that Bauernschmidt teaches a second graphical representation which conveys information regarding data items in addition to information conveyed regarding the identified data items in the first representation as claimed. The second issue is whether the Examiner erred in finding that Bauernschmidt teaches that the subset of data

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is associated with different groupings of the subset in the first and second graphical representations as recited in claim 15.

*Rejection of claims 21 through 23, 25, and 38.*

Appellants argue on pages 9 and 10 of the Brief that the Examiner's rejection of claims 21 through 23, 25, and 38 is in error. Appellants assert that Bauernschmidt does not teach displaying a second graphical representation which depicts information regarding a second attribute of the data item not conveyed in the first representation as claimed. App. Br 10, Reply Br. 9.

Thus, Appellants' contentions with respect to the rejection of claims 21 through 23, 25, and 38 present us with the issue of whether the Examiner erred finding that Bauernschmidt teaches a second graphical representation which conveys information regarding data items not conveyed in the first representation as claimed.

*Rejection of claims 26 through 30, 39, and 40.*

Appellants argue on pages 10 and 11 of the Brief that the Examiner's rejection of claims 26 through 30, 39, and 40 is in error. Appellants state that claim 26 recites that a depiction of selected data items according to a second hierarchy level to convey an increased amount of information for the selected data items compared with the first hierarchal level. Appellants argue that this feature of claim 26 is not taught by Bauernschmidt. App. Br 11.

Thus, Appellants' contentions with respect to the rejection of claims 26 through 30, 39, and 40 present us with the issue of whether the Examiner

erred finding that Bauernschmidt teaches a depiction of data items in a second hierarchal level to convey increased amount of information as recited in claim 26.

#### FINDINGS OF FACT

1. Bauernschmidt teaches a method for displaying user configurable reports. Abstract.
2. Figure 3 of Bauernschmidt depicts a report definition screen. This screen shot depicts a report window 330, which contains data on hard drive failures. Para. 0016 and 0047.
3. The report window provides information using a “treemap” graphical form, in which data is represented as squares which contain nested borders which allow a user to identify related data. Para. 0007, and 0047.
4. The report window, item 330 of Figure 3, depicts information (on hard drive failure) on the data for a whole year (i.e., the hierarchical level of the data is depicted based upon year). Para. 0048.
5. The individual treemaps in Figure 3 are arranged to show data (of hard drive failure) grouped by quarter, month and week, the boarders (items 340) define the groups. The treemaps also have part numbers associated with the hard drive failures in colored and labeled boxes; however, as seen from Figure 3, some boxes are too small to have numeric labels of the part number. Para. 0048.

6. Figure 4 depicts a screen shot of another report window where the user has requested data at a different hierarchical level. Figure 4's treemap shown in report window 440 depicts data only by weeks. Para 0017, 0052.
7. The treemaps of the data items in Figure 4 contain information on the data item only for the weeks selected by the user. These treemaps also contain information concerning part numbers associated with the hard drive failures in colored and labeled boxes. As seen in Figure 4, all boxes have numerical labels (of part no.). Para. 0052.
8. As seen from Figures 3 and 4, the graphical representation of the treemap for a selected week in Figure 4 is a larger version of the treemap shown in Figure 3, e.g., the treemap of week 28 in Figure 4 depicts the same arrangement and relative size of the boxes as shown in the treemap of week 28 in Figure 3.
9. In the larger version of the treemaps, i.e., displayed at a finer hierarchical level, as shown in Figure 4, there is a text box which provides summary information for the data item. The information identified in the data box is not represented in the report window of Figure 3. Para. 0059.
10. The user selects the treemaps to be displayed in the Figure 4 report window by selecting the week or quarter identified by a node of the control tree items 314, 414. Para. 0051 and 0052.

## ANALYSIS

### *Rejection of claims 9 through 14, 31, and 33.*

Appellants' arguments have not persuaded us that the Examiner erred in rejecting claim 9. Claim 9 recites "displaying the partitioned data items in a second graphical representation to convey information regarding the partitioned data items in addition to information conveyed regarding the identified data items via the first graphical representation." Thus, the scope of claim 9 includes that there is a second graphical representation of data items and that the second representation includes information in addition to information in the first graphical representation.

The Examiner states on pages 11 and 12 of the Answer:

A user, after selection of a time period, sees more detail about the hard drive part failures in that time period. For instance, comparing figure 4 to figure 3, a user can better identify what percentage of total failures each individual type of failure makes up. Note also that each portion of the graph in week 28 has a number associated with it in figure 4, while in figure 3 this is not the case. These numbers represent the part number (see element 420 and p. 9, section 0052 which describes "part number cells"). Not all part numbers are identifiable in figure 3, but all are shown as identifiable in figure 4. All of the above are examples of additional information about data items (hard drive part failures) that can be seen only in or better in a second representation (figure 4) as opposed to a first representation (figure 3). The selected data items are partitioned into a subset for view in the transition between figure 3 and figure 4, when a user selects the specific weeks to be viewed.

We concur with the Examiner's findings. Figure 3 depicts a report window that includes graphical representations (treemaps) of data items (parts numbers of parts that failed in a hard drive) of a data set (the failed hard drives). Facts 3 and 4. The treemaps of figure 3 depict all the hard drive failures, organized by week, month and quarter, for a year. Fact 4.

The treemaps are labeled and color coded identifying the part that failed. Fact 5. As is apparent in from viewing figure 3 not all of the boxes in the treemap are labeled identifying the part that failed. Figure 4 depicts a report where the user has requested information on specific weeks, i.e., specified a subset of hard drive failures for specific weeks. Fact 6. The report window in Figure 4 includes the treemaps of the subset of data items selected by the user. Facts 6 and 7. The treemaps depicted in Figure 4 are similar to the treemaps for the respective weeks in the report window of Figure 3 and are also labeled and color coded identifying the part that failed. Facts 5 and 7. The treemaps of Figure 4, however, differ from those in Figure 3 in that all boxes of the treemaps have a numerical identifier. Thus, we find that the display of Figure 4 meets the claimed second graphical representation as it presents information of the identified data items depicted in the first graphical display (Figure 3) and additional information the numerical indicators in the boxes of the treemap which are not shown in Figure 3. Accordingly, Appellants have not persuaded us that the Examiner erred finding that Bauernschmidt teaches a second graphical representation which conveys information regarding data items in addition to information conveyed regarding the identified data items in the first representation as claimed.

Further, Appellants' arguments have not persuaded us that the Examiner erred finding that Bauernschmidt teaches partitioning the data items in response identifying a subset of data. Claim 9 recites "identifying a subset of the data items" and "partitioning the data items of the subset responsive to the identifying." Appellants' Specification in Paragraph 0031 discusses the step of partitioning as a step of grouping the data. Thus, we

consider the scope of claim 9 includes that the subset of data items is identified and the data is grouped responsive to the identifying.

The Examiner states, on page 11 of the Answer, that Bauernschmidt teaches partitioning, reasoning that a subset of data items displayed is inherently “partitioned.” We concur, and find that Bauernschmidt teaches partitioning the data items in response to the step of identifying. As discussed above, the Figure 3 display includes a report window which contains treemaps depicting hard drive failures for a year. Fact 4. The treemaps in Figure 3 depicts failures for a week, the failures for each week are grouped together with other failures for that month, and similarly the months of each quarter are grouped together. Fact 5. When the user identifies the specific weeks to be displayed, the Figure 4 display is generated. The treemaps of Figure 4 are grouped by week. Fact 7. Thus, Bauernschmidt teaches in response to the user’s selection of subgroups (selection of weeks) the data items displayed are grouped, (i.e., partitioned), in response to the user’s selection. Accordingly, we find ample evidence to support the Examiner’s finding that Bauernschmidt teaches partitioning the data items in response identifying a subset of data.

For the aforementioned reasons, Appellants’ arguments have not persuaded us of error in rejecting claim 9. Appellants have not presented arguments directed to the rejection of claims 10 through 14, 31 and 32, which depend upon claim 9 and as such, these claims are grouped with claim 9. Thus, we sustain the Examiner’s rejection of claims 9 through 14, 31, and 32.

*Rejection of claim 33.*

Appellants' arguments have not persuaded us that the Examiner erred in rejecting claim 33. Claim 33 is dependent upon claim 9 and recites that "the first graphical representation are depicted using an associated area of a display." Claim 33 further recites that "identifying comprises identifying a portion of the area to identify the subset of the data items." The Examiner states that the phrase "identifying a portion of an area to identify a subset of the data items" has various reasonable interpretations and states:

As claimed, there are many ways a portion of an area could be identified without a user graphically drawing a box around an area. For instance, on a map, a user could enter text, such as a latitude-longitude coordinate or city name, in order to only show a portion of an area with only a subset of the total data items. In other applications, a user could double click on a point, which would zoom in and therefore identify only a subset of items surrounding a point. The phrase "identifying a portion of an area to identify a subset of the data items" in the claims has several possible interpretations, and a system in which a user selects an area by selecting a "week" node in a list of many "week" areas of a graph is certainly one recognized by one skilled in the art.

Ans. 10. We concur with the Examiner's claim interpretation and consider claim 33 to further limit claim 9 by reciting that the identification process involves identifying a portion of the area to identify the subset of data items. However, we do not consider claim 33 to recite any method of selecting an area.

The Examiner has found that the trees in display 314 and 414 of Bauernschmidt's Figures 3 and 4 are used to select specific weeks of data to be displayed in a second graphical representation. Ans. 8, 9. We concur with this finding. Bauernschmidt teaches that the control tree in items 314 or 414 allow the user to select a group of data items to be displayed in the

report window. Fact 10. The Figure 3 display includes all of the data for a year depicted (in an area 334, 434) as treemaps grouped by quarter/month/week. Facts 4 and 5. Thus, the nodes in the control tree identify the individual treemaps (which are in an area of Figure 3) of the data set, and the user by selecting a node in the control tree is identifying the treemap (a portion of the area) to be the subset of items to be included in the report window. Thus, Appellants' arguments have not persuaded us that the Examiner erred in finding that the Bauernschmidt teaches identifying a portion of an area of a graphical representation to identify the subset of data items as claimed in claim 33. Accordingly, we sustain the Examiner's rejection of claim 33.

*Rejection of claims 15 through 20 and 34 through 37.*

Appellants' arguments have not persuaded us that the Examiner erred in finding that Bauernschmidt teaches a second graphical representation which conveys information regarding data items in addition to information conveyed regarding the identified data items in the first representation. Claim 15 recites a processing circuit to control the display to depict a second graphical representation comprising information of a subset of items in addition to information illustrated in a first graphical representation. As discussed *supra*, with respect to claim 9, we find Bauernschmidt's teaching of the display of numerical indicators in Figure 4 and not Figure 3 represent the claimed additional information not shown in the first graphical representation of Figure 3.

Further, Appellants' arguments have not persuaded us that the Examiner erred in finding that Bauernschmidt teaches that the subset of data

is associated with different groupings of the subset in the first and second graphical representations as recited in claim 15. Claim 15 recites that “the selected data items are individually associated with different groupings of the data items of the subset in the first and second graphical representations.” Thus, the scope of claim 15 includes that the data items are grouped differently in the first and second graphical representation. Bauernschmidt teaches that the report window of Figure 3 has the treemaps grouped based upon quarter/month/week. Fact 5. Bauernschmidt also teaches that the report window of Figure 4 has the treemaps grouped based upon weeks. Fact 7. Thus, we find that Bauernschmidt teaches that the first and second graphical representations have different groupings.

For the aforementioned reasons Appellants’ arguments have not persuaded us of error in rejecting claim 15. Appellants have not presented arguments directed to the rejection of claims 16 through 20, and 34 through 37, which depend upon claim 15 and as such these claims are grouped with claim 15. Thus, we sustain the Examiner’s rejection of claims 15 through 20 and 34 through 37.

*Rejection of claims 21 through 23, 25, and 38.*

Appellants’ arguments have persuaded us that the Examiner erred in finding that Bauernschmidt teaches a second graphical representation which conveys information regarding data items not conveyed in the first representation. Claim 21 recites controlling the display to depict a second graphical representation of the data items of the subset including information regarding the data items not identifiable in the first graphical representation.

Further, claim 21 recites that the first graphical representation depicts information regarding a first attribute of the data item and the second graphical representation depicts information of a second attribute and different than the first attribute. As discussed *supra*, with respect to claim 9, we find Bauernschmidt's teaching of the display of numerical indicators in Figure 4 and not Figure 3 represents the claimed additional information not shown in the first graphical representation of Figure 3. However, Bauernschmidt's teaching does not teach different attributes as claimed. Both Figures 3 and 4 depict the attribute related to part (identified by part numbers) associated with hard drive failure, thus in both of the report windows of Bauernschmidt, information about the same attribute is depicted. Accordingly, we do not find that Bauernschmidt teaches all of the limitations of independent claim 21 and we will not sustain the Examiner's rejection of this claim nor of claims 22, 23, 25 and 38 which depend upon claim 21.

*Rejection of claims 26 through 30, 39 and 40.*

Appellants' arguments have not persuaded us of error in the Examiner's rejection of claim 26. Claim 26 recites controlling a depiction of a selected data item according to a second hierarchal level to convey an increased amount of information for the selected data items compared with the first hierarchical level. The Examiner finds, on page 15 of the Answer, that the part numbers in Figure 4 which are not present in Figure 3, meets the limitation of the increased information. We concur with the Examiner's findings. We find that the report window of Figure 4 of Bauernschmidt depicts the data items at a different hierarchical level than shown in Figure

3. Facts 4 and 7. Further, as discussed above with respect to claim 9, the report window of Figure 4 includes numerical and color identifiers of the parts which failed, where as Figure 3 does not include a numerical identifier for all parts. Thus, Figure 4 conveys additional or an increased amount of information than displayed in figure 3. Thus, Appellants have not persuaded us that the Examiner erred in finding that Bauernschmidt teaches a depiction of data items in a second hierarchal level to convey increased amount of information as recited in claim 26. Accordingly, we sustain the Examiner's rejection of claim 26 and claims 27 through 30, 39 and 40, which are grouped with claim 26.

#### CONCLUSION

For the foregoing reasons, we sustain the Examiner's rejections of claims 9 through 20, 26 through 37, 39 and 40 under 35 U.S.C. § 102(e), and we reverse the Examiner's rejection of claims 21 through 23, 25, and 38 under 35 U.S.C. § 102(e).

#### ORDER

The decision of the Examiner is affirmed-in-part.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

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