DISPLAYING MULTIPLE ROW AND COLUMN HEADER AREAS IN A SUMMARY TABLE

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. application Ser. No. 12/369,004 filed on Feb. 11, 2009 now U.S. Pat. No. 8,312,366, entitled "Displaying Multiple Row and Column Header Areas in a Summary Table," which is incorporated herein by reference.

BACKGROUND

[0001] A summary table is a data summarization tool that allows detailed, transactional source data to be "rolled-up" or summarized at varying levels of detail. Summary table functionality, also known as pivot tables, can be found in data visualization and analysis programs such as spreadsheets programs and data reporting tools. The data analysis program may allow a user to draw the summary table as a grid, specifying data fields from the source data for the row and column labels of the grid as well as the data values summarized in the grid. The data analysis program may then group, sort, count, and/or total the data values in the grid based on the row and column labels extracted from the source data.

[0002] The data analysis program may allow the user to specify multiple data fields for the row and/or column labels of the summary table. In this case, the data analysis program traditionally displays the data values summarized hierarchically by the row or column labels based on the order of the data fields specified. The data analysis program may also allow the user to interactively manipulate the summary table, expanding and collapsing row labels or column labels in the hierarchy to display more or fewer data values, depending on the user's requirements.

[0003] Traditional implementations of summary tables are limited to a single set of row labels, or "row header area," and single set of column labels, or "column header area." As a consequence, a user wishing to have data summarized for two distinct views of data, for example, two different row headers areas based on different or the same data fields from the source data summarized across a common set of column labels, may have to build two separate summary tables. This creates a cumbersome process requiring redundant parameters to be specified as well as redundant displays of the common column labels. This also limits the ability of the distinct views of data to be manipulated together,

What is claimed is:

1. A computer-implemented method for displaying a summary table, the method comprising:

receiving a column header data field selection associated with a plurality of column header areas of the summary table;

receiving a row header data field selection associated with a plurality of row header areas of the summary table, the row header data field selection having at least one data field different from the column header data field selection;

reading data from a data source, the data containing column data field values for data fields selected via the column header data field selection and row data field values for data fields selected via the row header data field selection;

transforming the data from the data source to summary level data for rendering the summary table; and

rendering to a display device the plurality of column header areas and the plurality of row header areas in the summary table, the plurality of column header areas comprising a distinct set of columns labeled with the column data field values from the column header data field selection, and the plurality of row header areas comprising a distinct set of rows labeled with the row data field values from the row data field selection.

2. The computer-implemented method of claim 1, wherein an aggregate label is displayed in a row header area of the plurality of row header areas, such that the row data field values for data fields selected via the row header data field selection are summarized in a single row.

3. The computer-implemented method of claim 2, wherein operations performed in regard to the row header area of the plurality of row header areas in the summary table affect the rendering of the plurality of column header areas.

4. The computer-implemented method of claim 1, wherein an aggregate label is displayed in a column header area of the plurality of column header areas, such that the column data field values for data fields selected via the column header data field selection are summarized in a single column.

5. The computer-implemented method of claim 4, wherein operations performed in regard to the column header area of the plurality of column header areas in the summary table affect the rendering of the plurality of row header areas.

6. The computer-implemented method of claim 1, wherein rendering to the display device the plurality of column header areas and the plurality of row header areas in the summary table comprises rendering to the display device the plurality of column header areas and the plurality of row header areas in the summary table to the display device by a spreadsheet program.

7. The computer-implemented method of claim 1, wherein operations performed to an entirety of the summary table affect the rendering of both the plurality of row header areas and the plurality of column header areas.

8. The computer-implemented method of claim 1, wherein the plurality of row header areas are adjacent to each other.

9. The computer-implemented method of claim 1, wherein the plurality of column header areas are adjacent to each other.

10. An optical disk, a magnetic storage device, or a solid state storage device having computer executable instructions stored thereon that, when executed by a computer, cause the computer to:

receive a selection of data fields associated with a plurality of row header areas of a summary table;

receive a selection of data fields associated with a plurality of column header areas of the summary table, the selection of data fields associated with the plurality of row header areas having at least one data field different from the selection of data fields associated with the plurality of column header areas;

read data from a data source, the data containing column data field values for data fields selected via the selection of data fields associated with the plurality of column header areas and row data field values for data fields selected via the selection of data fields associated with the plurality of row header areas;

transform the data from the data source to summary level data for rendering the summary table; and

render to a display device the plurality of row header areas and the plurality of column header areas in the summary table, the plurality of row header areas comprising a distinct set of rows labeled with the row data field values and the plurality of column header areas comprising a distinct set of columns labeled with the column data field values.

11. The optical disk, the magnetic storage device , or the solid state storage device of claim 10, wherein an aggregate label is displayed in a row header area of the plurality of row header areas, such that the row data field values associated with the plurality of row header areas are summarized in a single row.

12. The optical disk, the magnetic storage device, or the solid state storage device of claim 10, wherein an aggregate label is displayed in a column header area of the plurality of column header areas, such that the column data field values associated with the plurality of column header areas are summarized in a single column.

13. The optical disk, the magnetic storage device, or the solid state storage device of claim 10, wherein rendering the summary table to the display device comprises rendering the summary table to the display device by a spreadsheet program.

14. The optical disk, the magnetic storage device, or the solid state storage device of claim 10, wherein operations performed to an entirety of the summary table affect the display of both the plurality of row header areas and the plurality of column header areas.

15. The optical disk, the magnetic storage device, or the solid state storage device of claim 10, wherein the plurality of row header areas are adjacent to each other.

16. The optical disk, the magnetic storage device, or the solid state storage device of claim 10, wherein the plurality of column header areas are adjacent to each other.

17. A computer, comprising:

a processor; and

a computer-readable storage medium in communication with the processor, the computer-readable storage medium comprising computer-executable instructions storage thereupon which, when executed by the processor, cause the processor to : receive a selection of data fields associated with a plurality of row header areas of a summary table;

receive a selection of data fields associated with a plurality of column header areas of the summary table, the selection of data fields associated with the plurality of row header areas having at least one data field different from the selection of data fields associated with the plurality of column header areas;

read data from a data source, the data containing column data field values for data fields selected via the selection of data fields associated with the plurality of column header areas and row data field values for data fields selected via the selection of data fields associated with the plurality of row header areas;

transform the data from the data source to summary level data for rendering the summary table; and

render to a display device the plurality of row header areas and the plurality of column header areas in the summary table, the plurality of row header areas comprising a distinct set of rows labeled with the row data field values and the plurality of column header areas comprising a distinct set of columns labeled with the column data field values.

18. The computer of claim 17, wherein an aggregate label is displayed in a row header area of the plurality of row header areas, such that the row data field values associated with the plurality of row header areas are summarized in a single row.

19. The computer of claim 17, wherein the plurality of row header areas are adjacent to each other.

20. The computer of claim 17, wherein the plurality of column header areas are adjacent to each other.