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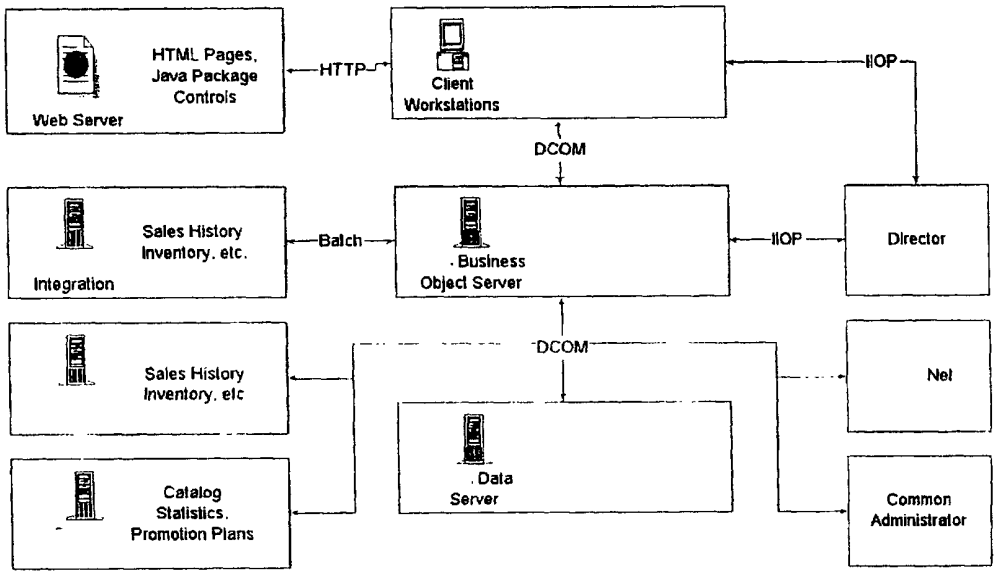
(54) Title: MERCHANDISING AND MARKETING SYSTEMS AND PROCESSES



(57) **Abstract:** System and processes for providing analysis tools for analyzing business data (Figure 1). The system and processes include automatic generation of performance data such as business metrics including automatic square inch drawings, historical and real-time sales data (Figure 1), and other information for creating promotions and other business activities (Figure 1). The system and processes also enable product and sales information to be associated with digital images of the individual products and advertisements.

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MERCHANDISING AND MARKETING SYSTEMS AND PROCESSES

Field of the Invention: This invention relates to the field of systems and process for merchandising and marketing.

BACKGROUND OF THE INVENTION

Catalog and/or direct marketing are an ever-increasing avenue for marketing merchandise, whether by print catalogs, flyers, inserts or on-line catalogs. A number of questions must be answered before such catalogs can be produced. The accuracy in answering these questions determines in large part the success of the marketing strategy. These questions include determining which products to sell, how many of each product to sell, whom to sell the products to, how may catalogs to print, at what price point to sell the products, where to place the products in the catalogs, duration of the marketing of the products, and many others. The answers to such questions depends on current and historical product performance, the current and historical performance of past single or multiple promotions, and other data.

As the amount of data increases, the analysis of the data becomes increasingly complex. The time frame for reacting to this data is usually critical in order to create new promotion strategies and to meet schedules. Additionally, there is normally pressure to minimize expenses and maximize profitability in creating the catalogs.

Typically, merchandisers, product buyers, forecasters, marketers, executives and others involved in the decision making process as well as the content and layout process of the catalog use cumbersome and time-consuming tools. The typical merchandising analysis process involves collecting historical data from physical copies of past catalogs and reams of computer reports obtained from their Information Technologies department and/or their order management systems.

This information is dissected by product categories and subcategories; by price point analysis; by pages, spreads, and themes; and by comparing past catalogs. The product category analysis provides information to the

merchandisers how each product line is performing compared to other lines. The performance measurement parameters normally include how many units in each category were sold, what was the total dollar sales of each of the categories; did each of the categories cover its overhead costs; and the like. The price point analysis provides information about the product pricing. For example, this analysis includes what price did the customer most often select from; were enough items offered in each price range; whether to change the product mix based on the price offered; did items on a particular page work well together; did one item cause another item to have additional sales; did a particular theme generate additional sales; and other such information. Another critical measurement in merchandising analysis is the number of square inches each product occupies on a page to determine its contribution to associated overhead costs and it's profitability. This is currently done by manual measurement.

The information compiled during the merchandising analysis then must be communicated to the creative and production departments for use in planning promotions and preparing catalogs. This information is only as useful as the compilation and analysis of the data. Presently, this information is relatively painful to prepare and communicate.

Presently, there is a need for automated tools to assist in compiling and analyzing such data.

SUMMARY OF THE INVENTION

The present invention provides solutions for every step of the merchandising and marketing analysis in the form of a single, easy-to-use system. The system and processes of a preferred embodiment of the present invention utilizes data from the existing order management system of the user as well as digital images from the catalog prepared on a publishing system such as QuarkXPress. The end-result is a single-point solution for merchandising and marketing analysis.

In the preferred embodiment of the present invention, the system and processes include flexible, easy-to-use statistical analysis tools to view data from

current and past online and print promotions. The system provides a module to analyze promotions and compare single or multiple promotions, forecasted to actual data, product category, price point performance and/or other data. The system and processes include the ability to view a digital image of the catalog page in context with the performance data for each item on the page. The square inch measurement associated with each product in a catalog is automatically calculated to determine the profitability per square inch of each product, sales curve analysis, contribution and other business metrics. The use of the integrated product images and page information allows the calculations to be integrated directly into the analysis models. The cost of each product advertisement is allocated based on the product space in the catalog.

Once the current and past promotions have been analyzed, this data can be used to plan a new promotion. The system and processes of the preferred embodiment of the present invention includes tools that enables a user to quickly and efficiently assemble the variety of products that will be included in the promotion. The system provides a module that provides forecast templates for setting high-level circulation, product category, and price point goals for the promotion. Once the goals are established, the tools enable the user to simply drag-and-drop products or pages from the promotion analysis module discussed above into the promotion builder module. The product information (product, performance and layout data) related to each of those products is automatically incorporated into a detailed spreadsheet that provides users with a blueprint for the new promotion. The goals and forecast data can be viewed by the user on a real-time basis.

This module includes user friendly wizards to create forecasted goals for new promotions, such as in product categories, themes and price points. This module, and others described herein can be utilized with data warehousing systems.

The system and processes of the present invention also provide tools for tracking new products that come into the company. This tool digitally records the product description, pricing, vendor, competitor information, and other information that is usually tracked on paper presently. This tool also allows a user to enter a picture of the product, assign a rating, include comments, and

route the product information to other members of the organization for their comments and feedback. An image of the product can be viewed alongside the product, page and promotion information. The integration of the page data and catalog images in this module and in the other modules eliminates the need to correlate page numbers, locations, catalog versions, etc. with the products.

The system and processes of the present invention also provide tools for tracking and notifying the progress of the promotion. These tools include an Alert module for proactively generating alerts to inform users when requested conditions have been met. For example, a user may want to be notified when Demand Dollars or Contribution Dollars are above or below the original forecast, or when selected product sales exceed forecasted Demand Dollars or Demand Units. The present invention includes tools to allow conditions to be set and reports or alerts automatically generated and sent immediately to the designated user.

The tools described above perform real-time analysis on current promotions. The actual sales data can be tracked compared to the forecasted data. Variances and factor to completion can be calculated and reported as desired.

The system and processes of the present invention also provide tools for performing data analysis and delivering reports in either pre-defined formats or in user-defined formats. The present invention can integrate online analytical processing tools to perform sophisticated, multidimensional analysis of the warehoused data.

The system and processes of the present invention provide these tools and others in a single-point solution that is flexible and easy-to-use for merchandising and marketing analysis, and promotion planning. These systems and processes enable merchandisers to analyze promotion performance, create promotions, source new products: executives/managers to track business performance, set business goals; marketers to analyze promotion performance, monitor circulation plans; buyers to analyze product inventory and schedule inventory; and many other tasks and uses.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a diagram of the infrastructure of a preferred embodiment of the present invention.

Figure 2 shows a data process flow chart of the system of Figure 1.

Figure 3 shows a process flow chart of the system of Figure 1.

Figure 4 shows a typical workflow process of the system of Figure 1.

Figure 5 shows a screenshot of the Promotion Analysis module.

Figure 6 shows a screenshot of current status of a promotion in the module of Figure 5.

Figure 7 shows a screenshot of the promotion at an individual product level.

Figure 8 shows a screenshot of the promotion at a detail level.

Figure 9 shows a screenshot of the promotion at a further detail level.

Figure 10 shows a screenshot of the details of the promotion.

Figure 11 shows a screenshot of the Promotion Details by categories.

Figure 12 shows a screenshot of additional Promotion Details of the promotion.

Figure 13 shows a screenshot of additional details of the promotion.

Figure 14 shows a screenshot of Promotion Analysis module.

Figure 15 shows a screenshot of the Promotion Plan Summary.

Figure 16 shows a screenshot of the Promotion Plan Detail.

Figure 17 shows a screenshot of the Promotion Plan Price Points.

Figure 18 shows a screenshot of the Price Points for a category.

Figure 19 shows a screenshot of the Price Points for a product level.

Figure 20 shows a screenshot of the Price Points for a Category level.

Figure 21 shows a screenshot of the Price Points for another category.

Figure 22 shows a Plan Summary for a Page/Spread.

Figure 23 shows a Page/Spread for a partial promotion.

Figure 24 shows a Page/Spread screenshot sorted by Gross Profit.

Figure 25 shows a screenshot of the Page/Spread sorted by categories.

Figure 26 shows a screenshot of the Visual Layout.

Figure 27 shows a screenshot of the Visual Layout with the associated data.

Figure 28 shows another screenshot of the Visual Layout.

Figure 29 shows another screenshot of the Visual Layout.

Figure 30 shows another Visual Layout screenshot.

Figure 31 shows a screenshot of the Visual Layout with data from a previous promotion.

Figure 32 shows a screenshot of the Visual Layout with data for a new promotion.

Figure 33 shows a screenshot of the Visual Layout with a new product added.

Figure 34 shows a screenshot of the Visual Layout with a new promotion.

Figure 35 shows a screenshot of the Visual Layout adding new products.

Figure 36 shows a screenshot of the Visual Layout updating promotions.

Figure 37 shows a screenshot of the Visual Layout with other promotions.

Figure 38 shows a screenshot of the Visual Layout adding new products.

Figure 39 shows a screenshot of the Visual Layout modifying the promotion.

Figure 40 shows a screenshot of the Visual Layout adding new products.

Figure 41 shows a screenshot of the Visual Layout with detailed spreadsheets.

Figure 42 shows a screenshot of the spreadsheet analysis of forecast summary of the promotion.

Figure 43 shows a screenshot of the New Product module.

Figure 44 shows a screenshot of entering information for a new product into the New Product module.

Figure 45 shows a screenshot of rating the new product.

Figure 46 shows a screenshot of routing the information on the new product.

Figure 47 shows a screenshot for entry information for a new product.

Figure 48 shows a screenshot of Alerts for the promotion.

Figure 49 shows a screenshot of the Content Management module.

Figure 50 shows a screenshot of the Add New Asset module.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

The present invention provides solutions for every step of the merchandising and marketing analysis in the form of a single, easy-to-use system. The system and processes of a preferred embodiment of the present invention utilizes data from the existing order management system of the user as well as digital images from the catalog prepared on a publishing system such as QuarkXPress. The end-result is a single-point solution for merchandising and marketing analysis.

In the preferred embodiment of the present invention, the system and processes include flexible, easy-to-use statistical analysis tools to view data from current and past online and print promotions. The Promotion Analysis module can compare single or multiple promotions, forecasted to actual data, product category, price point performance and/or other data. The system and processes include the ability to view a digital image of the catalog page in context with the performance data for each item on the page. The square inch measurement associated with each product in a catalog is automatically calculated to determine the profitability per square inch of each product, sales curve analysis, contribution and other business metrics. The use of the integrated product images and page information allows the calculations to be integrated directly into the analysis models. The cost of each product advertisement is allocated based on the product space in the catalog.

Once the current and past promotions have been analyzed, this data can be used to plan a new promotion. The system and processes of the preferred embodiment of the present invention includes tools that enables a user to quickly and efficiently assemble the variety of products that will be included in the promotion. The Promotion Builder module provides forecast templates for setting high-level circulation, product category, and price point goals for the promotion. Once the goals are established, the tools enable the user to simply drag-and-drop products or pages from the promotion analysis module discussed above into the promotion builder module. The product information (product, performance and layout data) related to each of those products is automatically incorporated into a detailed spreadsheet that provides users with a blueprint for

the new promotion. The goals and forecast data can be viewed by the user on a real-time basis.

This module includes user friendly wizards to create forecasted goals for new promotions, such as in product categories, themes and price points. This module, and others described herein can be utilized with data warehousing systems.

The system and processes of the present invention also provide tools for tracking new products that come into the company. This tool, the New Product module, digitally records the product description, pricing, vendor, competitor information, and other information that is usually tracked on paper presently. This tool also allows a user to enter a picture of the product, assign a rating, include comments, and route the product information to other members of the organization for their comments and feedback. An image of the product can be viewed alongside the product, page and promotion information. The integration of the page data and catalog images in this module and in the other modules eliminates the need to correlate page numbers, locations, catalog versions, etc. with the products.

The system and processes of the present invention also provide tools for tracking and notifying the progress of the promotion. These tools include an Alert module for proactively generating alerts to inform users when requested conditions have been met. For example, a user may want to be notified when Demand Dollars or Contribution Dollars are above or below the original forecast, or when selected product sales exceed forecasted Demand Dollars or Demand Units. The present invention includes tools to allow conditions to be set and reports or alerts automatically generated and sent immediately to the designated user.

The tools described above perform real-time analysis on current promotions. The actual sales data can be tracked compared to the forecasted data. Variances and factor to completion can be calculated and reported as desired.

The system and processes of the present invention also provide tools for performing data analysis and delivering reports in either pre-defined formats or in user-defined formats. The present invention can integrate online analytical

processing tools to perform sophisticated, multidimensional analysis of the warehoused data.

The system and processes of the present invention provide these tools and others in a single-point solution that is flexible and easy-to-use for merchandising and marketing analysis, and promotion planning. These systems and processes enable merchandisers to analyze promotion performance, create promotions, source new products; executives/managers to track business performance, set business goals; marketers to analyze promotion performance, monitor circulation plans; buyers to analyze product inventory and schedule inventory; and many other tasks and uses.

A preferred embodiment of the present invention is described herein for explanatory purposes. It is to be expressly understood that this descriptive embodiment is not intended to limit the scope of the present invention.

A chart of the technical architecture of the system of the preferred embodiment is illustrated on Figure 1. The architecture of the system is a three-tiered client/server system. The three tiers include a catalog management/order management system and the data warehouse, the server application and the client application. The client application allows the user, e.g., merchandiser, marketer, executive, buyer, etc., to access the system.

A chart illustrating the data process flow is shown on Figure 2. This illustration is intended only as an illustrative concept and is not meant to limit the implementation of the present invention to this particular set-up.

Figure 3 illustrates a process flow chart of the preferred embodiment. Again, this is intended for descriptive purposes only, and is not meant to limit the implementation of the present invention.

A typical workflow process is illustrated on Figure 4. This workflow process allows the merchandiser to access the Promotion Analysis module to review historical promotion data. The merchandiser also is able to access the Promotion Builder to use data from the Promotion Analysis module to create new promotions. The buyer then uses the new Promotion Forecast to schedule inventor. The forecast data is used as a data source for the catalog management system.

In the preferred embodiment, the system and processes include a Promotion Analysis module, a Promotion Builder module, a New Products module, an Alerts Manager module; a Dimensions (OLAP) module; and a Reports module. These modules will be described in more detail below. All of these modules are integrated together to create a single-point solution for merchandising and marketing analysis, promotion planning and product tracking needs.

Promotion Analysis module

The Promotion Analysis module, as discussed above, allows a user to view and analyze information from current and past promotions. In the preferred embodiment, the Promotion Analysis module provides Promotion Detail views, Promotion Plan views, Price Point views and Page/Spread views.

Promotion Detail views

The initial view of the Promotion Analysis module, shown in the screen shot on Figure 5, provides a tree view of the promotion being analyzed. In this screenshot, the Easter 1999 catalog is selected, and the Promotion Detail view is clicked. The screen shot on Figure 5, and the screen shot on Figure 6 show the current status and activity for the promotion by Product Category. The user is able to drill down into each category and subcategory, right down to the individual product level, as shown by the screen shot on Figure 7. The Promotion Detail view shows a data grid that provides a complete view of the current performance of all Categories, Subcategories and products in the selected Promotion, as shown in the screen shots on Figure 8 and on Figure 9. This information includes percentage of total products, RPM, percentage of Demand, percentage of space, cost of space, Demand dollars, Gross Profits, Gross Profit percentage, Contribution dollars, Contributions per square inch, Net Contribution, etc. of actual and forecasted goals.

The user can determine the most profitable category for a promotion, compare promotion-to-promotion and season-to-season performance data, use real-time actual product performance to estimate product completion by using a "Factor-to-Completion" function, quantify product performance based on creative presentation and other functions.

Promotion Plan views

From the Promotion Analysis window, the user is able to select the promotion for which the status information is desired to be viewed, as shown in the screen shot on Figure 9. Then, the user clicks the Promotion Plan button. The Promotion Plan window for that promotion is then viewable. The Plan Summary for that promotion is then viewed as shown in the screen shot on Figure 10. The user can then click on the Detail button to obtain further details, such as the current status of the promotion, as shown on Figure 11. This grid provides the current and forecasted metrics for the selected promotion. Other information includes comparison of catalog metrics and commonly used statistics across different circulation efforts; quick reference points for key facts and performance measurement indicators for the entire promotion; monitoring of promotion response rates and bottom-line promotion performance and other information as shown in Figures 12 - 16.

Price Point views

Examples of the Price Point views are illustrated in the screen shots on Figures 17 - 21. Price points in the selected promotion can be viewed. These price points can be analyzed in terms of different metrics, e.g., percentage of total demand sales compared to percentage of total products and percentage of total space. The least productive and most productive price points for a particular promotion can be quickly and easily determined. Other functions performed by the Price Points view include determining the demand created for products offered compared to the demand created for products purchased; comparison of percentage of space to percentage of demand; analysis of price points from promotion to promotion, or within a promotion, by viewing product category and sub-category price points and other useful functions.

Page/Spread view

The Page/Spread views, as shown in Figures 22 - 25, provide data in regard to pages within the promotion. For example, the screen shots of Figures 22 - 25 provides a data grid of Summary information for each page in the promotion, including Demand Dollars, Gross Profit, Contribution Information. Other available information includes percentage of completion of the promotion and results of the promotion at one hundred percent completion.

The information in this view can be sorted to be easier to understand. Any category can be selected to be sorted. For example, in the screen shot on Figure 25, the data was sorted by Gross Profit, which identified page 7 as the most profitable page in the promotion.

The user can also click on the Visual Layout tab. This provides view and analyze of particular products on the page. Particular page numbers of the spread can be entered or else the arrow buttons clicked to the get to the appropriate page. The actual pages from the data are displayed along with associated data, as shown in Figures 26 - 41.

This view allows such functions as determining which pages in a particular promotion are the most productive based on demand dollars, gross profit and contribution; determining which products on those pages contributed the most to the bottom line; view the square inch metrics to determine contribution per square inches; comparison of product rank and index against all products in the promotion; measurement of product performance based on creative presentation and other functions.

A visual representation of the actual product or products being analyzed is shown along with the particular detail or details of the product in that promotion or previous promotions or forecasted promotions.

Summary of Promotion Analysis module

The Promotion Analysis module provides a single-point solution for analyzing promotion and product performance. The point-and-click interface allows for quick and easy access to information, unlike the current manual use of queries, reports, and spreadsheets. The Promotion Analysis data grids are customizable so users can set up their own data views to meet individual needs.

Promotion Builder module

The Promotion Builder module allows a user to quickly assemble the variety of products that will be included in a promotion. Forecast templates for setting high-level circulation, product category and price point goals for new promotions are provided by this module. Products, pages and promotions from the Promotion Analysis module can be simply dragged-and-dropped into the Promotion Builder module.

This allows new promotions to be created by adding products and pages from existing promotions. The resulting promotion specifications can the be used to produce a new promotion.

An example of the Promotion Builder module is illustrated in Figure 31. The left window, as shown in the screen shots, displays spread information from a previous promotion. The Promotion Builder window on the right displays the pages specified for the promotion. Products can be selected from the spread information in the left window and dragged over to the desired page location in the new promotion in the right window. The product is simply dropped on the icon representing the desired page in the right window and that product is added to the new promotion on that page. All the data associated with that product is included and the appropriate fields are updated to reflect the forecasted goals specified in the new promotion. New products can continued to be added by this process or other existing promotions can be opened and products added from them.

As products are added, the inserted product information (product, performance and layout data) is incorporated into a detailed spreadsheet to provide a blueprint for the new promotion as shown in Figures 26 - 42.

The Promotion Builder module not only allows users to easily incorporate products from existing promotions, but also allows the users to create and monitor high-level product category and price point goals to keep on track when building promotions; start with an existing promotion, delete unprofitable products, and add new products; create a detailed spreadsheet to serve as the foundation for a new promotion, driven by category, price point, revenue per thousand, and unit forecasts and other functions.

New Product module

The New Product module allows users to track new products that come into the organization. The module provides an interface for entering the product description, pricing, vendor, and competitor information. The module also allows a digital image of the product to be integrated with this information. The user can also add ratings and comments and route the information to others in the organization. The product information is also able to be used in the Promotion Builder module.

Examples of the New Product module interface are shown in Figures 43 - 47. The module interface, as shown on Figure 42, allows the user to record new product data in centralized database. This allows for efficient routing and reporting of the information as well as providing access to the product information for the Promotion Builder module. The product information typically includes the product name, the product category, the product or promotion theme, the season, the promotion, the product source, country of origin, the date available, item number, unit cost, advertising allowance, retail price, vendor information, competitors, opportunities to cross-sell or up-sell and other such information. A digital image of the product is also entered.

After the new product information is entered, the user can then enter ratings and comments concerning the product. The information can then be routed electronically to other decision makers in the organization. The New Products module also allows the user to export selected fields to "Item master" the new product in the order management system. These new products can also be selected for inclusion in a new promotion under construction in the Promotion Builder module. This information can also be used by buyers for future inventory control.

Alerts module

The Alerts module proactively generates alerts to inform users when product or promotion-level conditions (defined by the users) have been met. This provides a "snapshot" view of the business without the user being forced to manually seek such information. An example of setting up an Alert is illustrated on Figure 48. The Alert Manager window shown in that screenshot allows the user to select from Alert types, such as Product Categories, Top Sellers, etc., define the Alert and activate the Alert. The Configuration window, shown on Figure 49, allows the user to configure the Alert, such as frequency, number of items, benchmark level and name of the Alert. The Alert then appears on the user's home page when the conditions defined for the alert have been met. The user simply clicks on an Alert link, shown on Figure 48 to generate the associated report view.

Alerts are typically used for generating Top Seller reports for a given promotion, New Product reviews, changes to the promotion curve, promotion

status changes, promotion performance, product category performance and product performances (top/low sellers). Other alerts can be conFigure d for almost any conditional report.

Reports module

The Reports module enables to the user to generate clear concise reports for fully understanding the data for effective business decision making. The Reports module includes many useful, predefined reports. These reports can reiewed on-screen, printed or routed to other users of the system.

The Reports module, in the preferred embodiment, is provided through the Seagate Crystal Reports runtime component. It is to be understood that other components could be used as well.

The Reports module includes predefined report templates, such as Promotion Analysis by Product Category/Subcategory; Promotion Analysis by Theme/Pages, Promotion Analysis Comparison; Square Inch Analysis by Campaign, Promotion, Product/Page; Promotion Analysis – Rank & Index; Promotion Comparison – Actual to Forecast; Price Point Analysis by Promotion; Price Point Analysis by Product Category/Subcategory; Curve Analysis by Promotion; Weekly Curve Analysis; Curve Comparison by Promotion; Curve Reporting by Demand Dollars; Curve Reports by Units; and many others. The user may create customized reports as well. Any reports created by the user can shared with other uses as well.

Dimensions module

The Dimensions module allows users to run powerful, ad hoc promotion and product-related queries against the systems multidimensional online analytical processing data (OLAP) warehouse. The OLAP multidimensional tools allow the user to interact directly with the data, instead of sifting through static reports. The OLAP tools generate visual graph representations of the data. These tools enable to the user to quickly combine dimensions with measures to provide in-depth analysis of business data and quickly create ad hoc promotion queries.

Examples of using the Dimensions module are shown on Figures 26 -41. The user is using the Dimensions module to determine which catalog produced the highest revenue in the last quarter. As shown on Figure 29, the user selects

the appropriate dimensions from the menu. In this example, the dimensions selected are the Promotion and Product dimensions. These menu items are dragged-and-dropped onto the form shown in the screen shot window. The measure selected in this example is the Actual Amount. This selection is also dragged-and-dropped onto the form.

The user then "drills down" into the list of Promotions to find the catalogs to be compared. A visual representation of the data for each of these catalogs is immediately generated on the screen, as shown on Figure 31. In this example, it is immediately shown that the Easter catalog is bringing in more revenue than the Summer Vacation catalog.

Other comparisons can be quickly done at that point as well. As shown on Figure 32, product comparisons or category comparisons can be quickly generated and visual and/or graphical results displayed. Product and/or categories can be isolated from other products or categories for direct comparisons, as shown on Figures 26 -41. The results can also be displayed in a data grid format and sorted as desired by the user.

Important decisions can be made in a very short time period by the use of the Dimensions module. Previously these decisions would have required the generation of numerous reports which are then analyzed and compared. That process was quite tedious and time-consuming.

Other features provided by the Dimensions module includes generation of graphs to visualize relationships, exporting of information to a spreadsheet, comparing data sets on the fly in a real-time environment instead of programming and running complex reports and the ability to plug in any OLAP tool. In the preferred embodiment, the OLAP tools include Seagate Analysis, Excel 2000 and Knosys ProClarity. Other OLAP tools may be used as well.

Summary

The systems and processes of the present invention provide business analysis tools for Catalogers/Direct Marketers and others with needs to analyze business data. These tools enable users to have quick access to product and promotion reports. The integration of the catalog management system with associated performance data creates an invaluable tool and provides greater efficiencies in building promotions. Automatic generation of business metrics,

such as automatic square inch calculations enhances efficient and powerful business analysis. The data analysis and decision support tools enable the users to examine historical and real-time sales data from prior and current promotions. The innovative merchandise assortment planning tool speeds up the creating of promotions. These and the other tools and features discussed herein provide a single-point solution that enables companies to make decisions and take actions that will increase profitability.

The descriptive embodiments provided herein are intended for explanatory purposes and are not meant to limit the scope of the appended claims.

CLAIMS

We claim:

1. A system for analyzing information, said system comprising:

a storage device for storing information;

means for associating digital images of products with statistical information associated with each of said products;

means for calculating information from said statistical information on each of said products;

means for associating said statistical information, said calculated information and said digital images with each of said products; and

means for storing said statistical information, said calculated information and said digital images in said storage device.

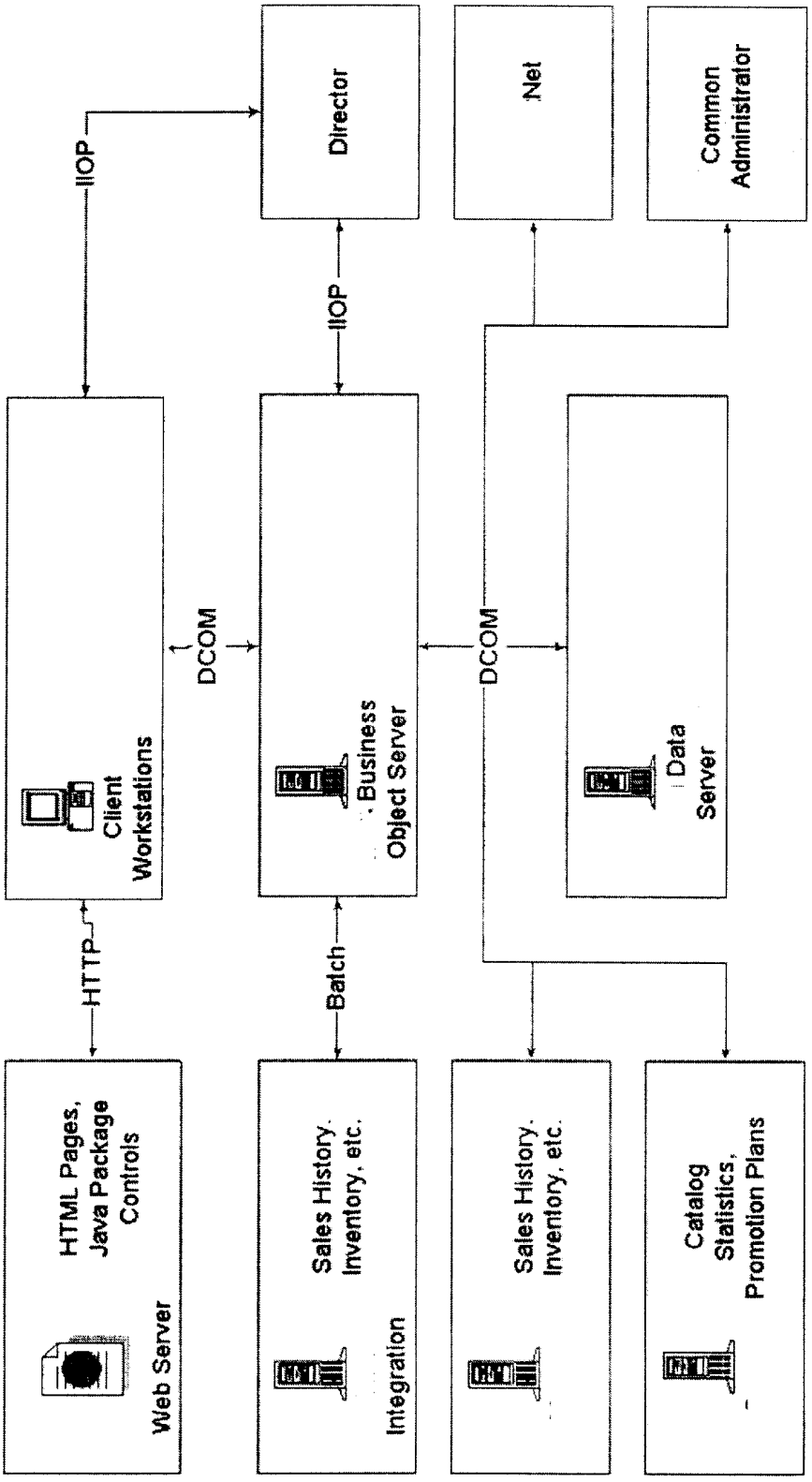

Director
Net
Common Administrator
IIOP
IIOP
Client Workstations
DCOM
Business Object Server
DCOM
Data Server
HTTP
Batch
HTML Pages, Java Package Controls
Web Server
Sales History, Inventory, etc.
Integration
Sales History, Inventory, etc.
Catalog Statistics, Promotion Plans

Figure 1

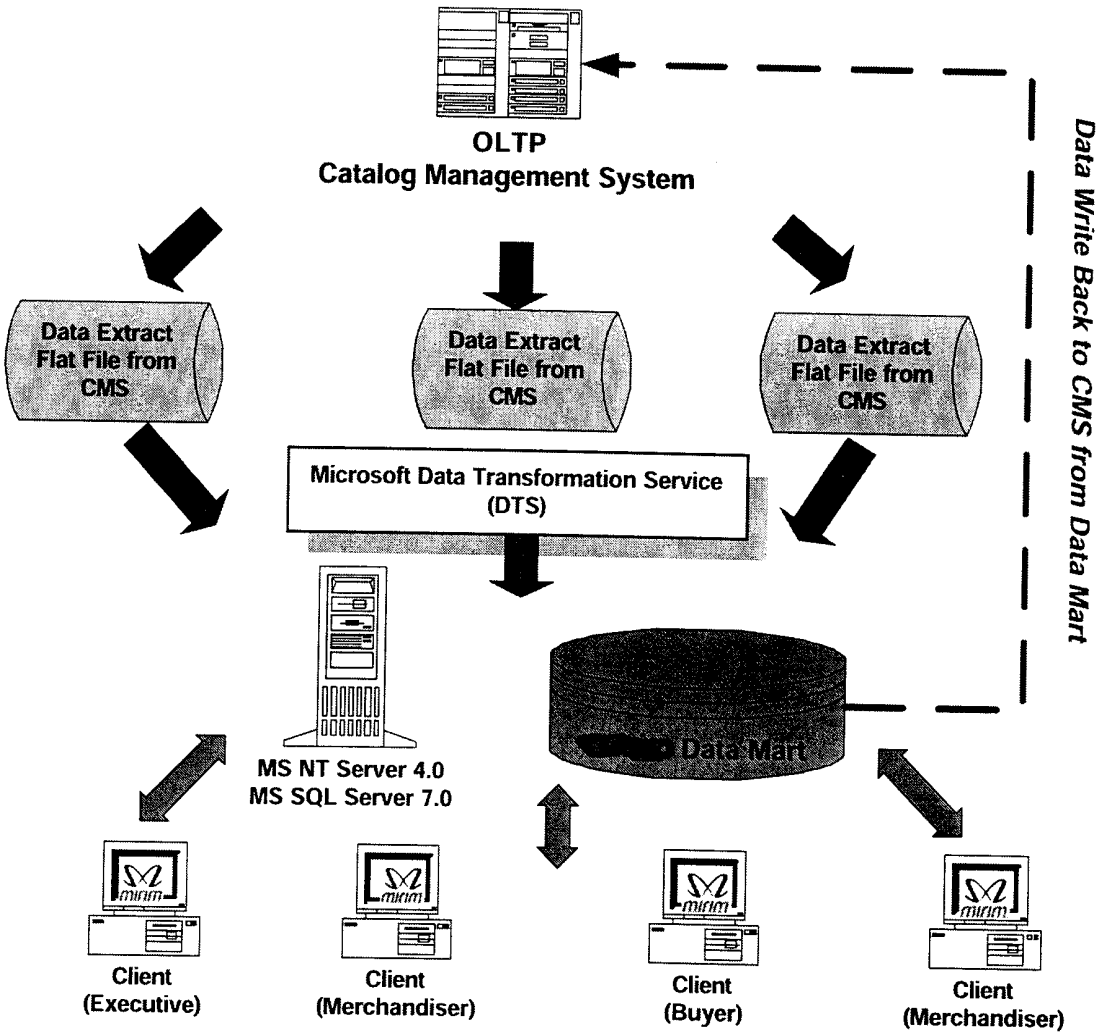

OLTP
Catalog Management System
Data Write Back to CMS from Data Mart
Data Extract Flat File from CMS
Data Extract Flat File from CMS
Data Extract Flat File from CMS
Microsoft Data Transformation Service (DTS)
MS NT Server 4.0
MS SQL Server 7.0
Data Mart
Client (Executive)
Client (Merchandiser)
Client (Buyer)
Client (Merchandiser)

Figure 2

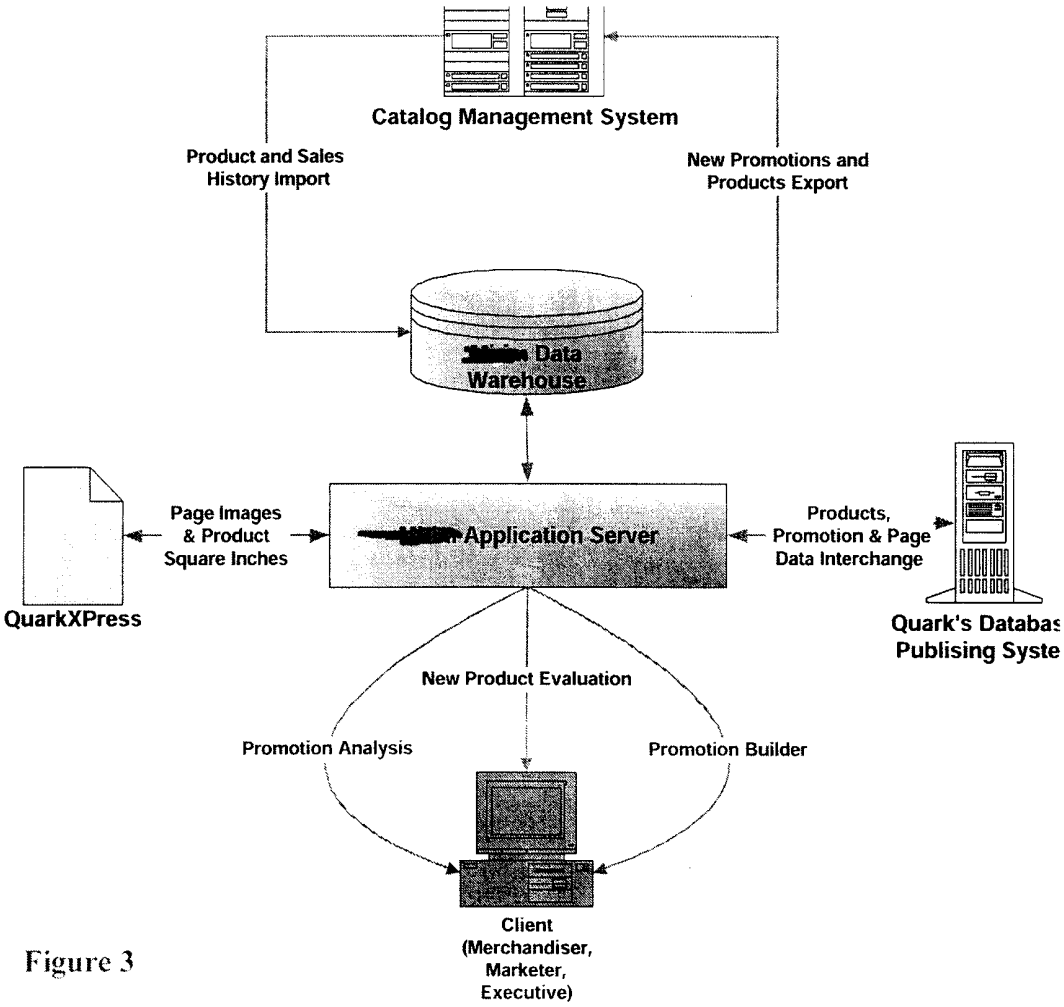

Catalog Management System
Product and Sales History Import
New Promotions and Products Export
Data Warehouse
Page Images & Product Square Inches
Application Server
Products, Promotion & Page Data Interchange
QuarkXPress
Quark's Databas Publising Syste
New Product Evaluation
Promotion Analysis
Promotion Builder
Client (Merchandiser, Marketer, Executive)

Figure 3

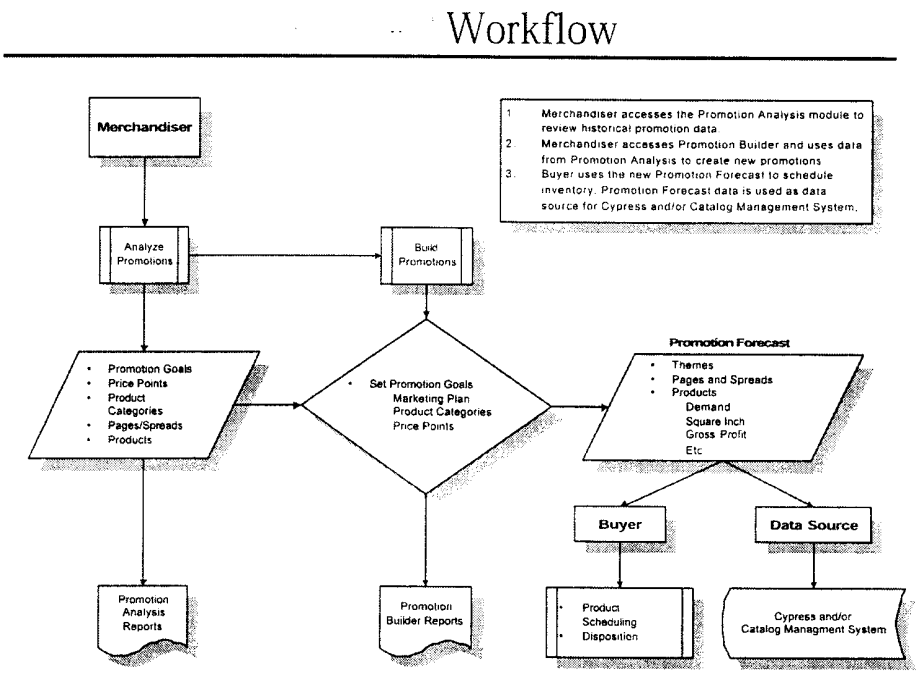
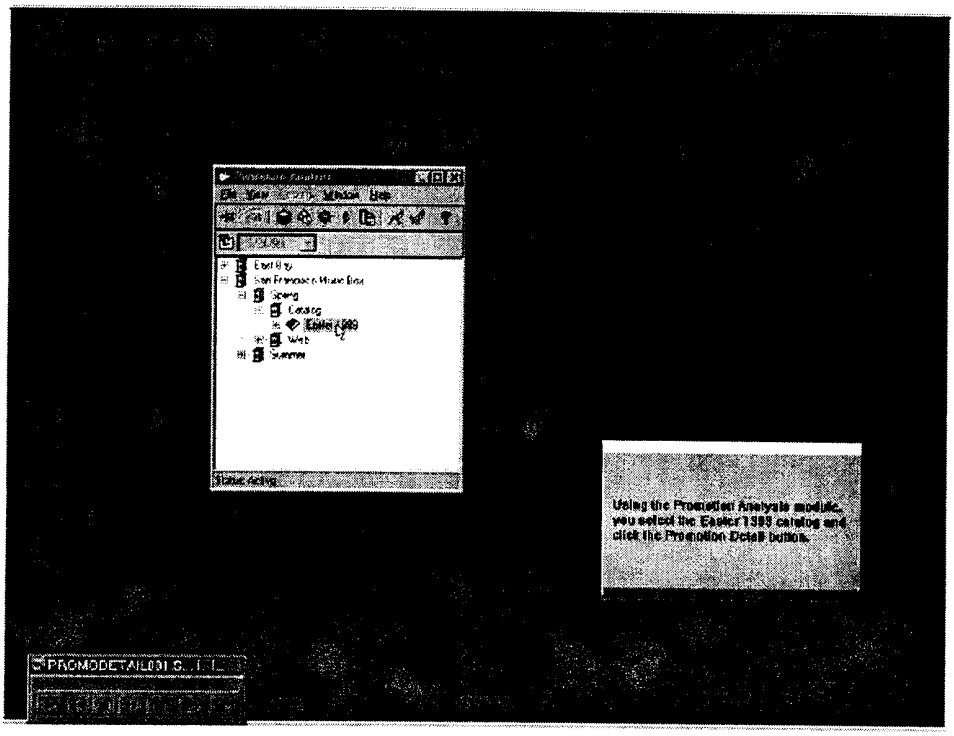

Workflow
Merchandiser
1. Merchandiser accesses the Promotion Analysis module to review historical promotion data.
2. Merchandiser accesses Promotion Builder and uses data from Promotion Analysis to create new promotions
3. Buyer uses the new Promotion Forecast to schedule inventory. Promotion Forecast data is used as data source for Cypress and/or Catalog Management System.
Analyze Promotions
Build Promotions
Promotion Goals
Price Points
Product Categories
Pages/Spreads
Products
Set Promotion Goals
Marketing Plan
Product Categories
Price Points
Promotion Forecast
Themes
Pages and Spreads
Products
Demand
Square Inch
Gross Profit
Etc
Buyer
Data Source
Promotion Analysis Reports
Promotion Builder Reports
Product Scheduling
Disposition
Cypress and/or Catalog Managment System

Figure 4



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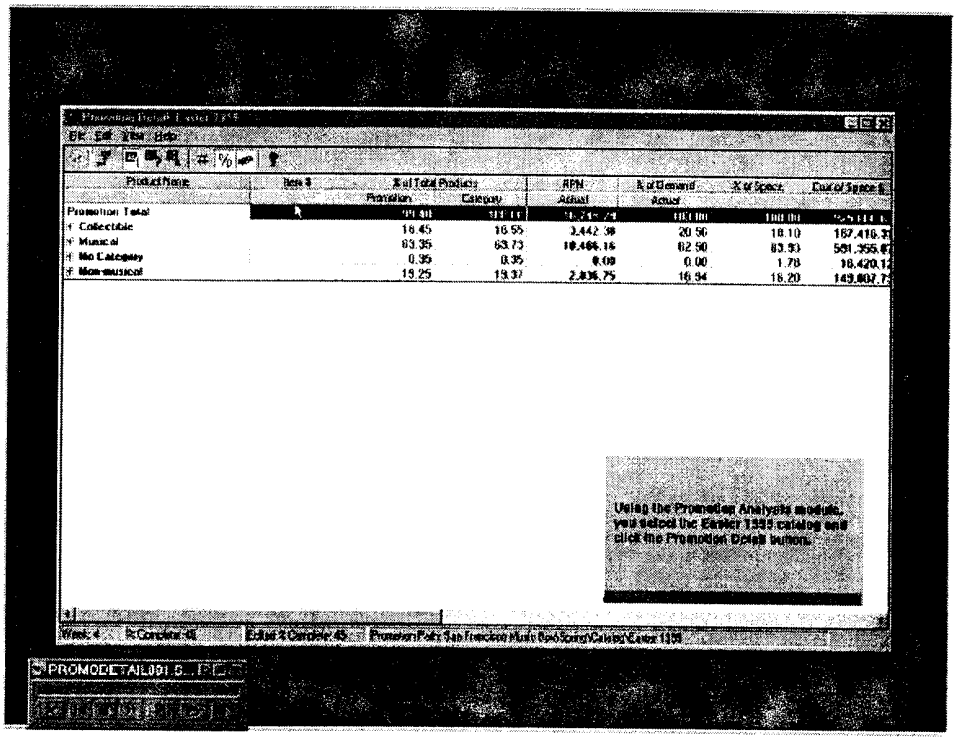


Figure 6

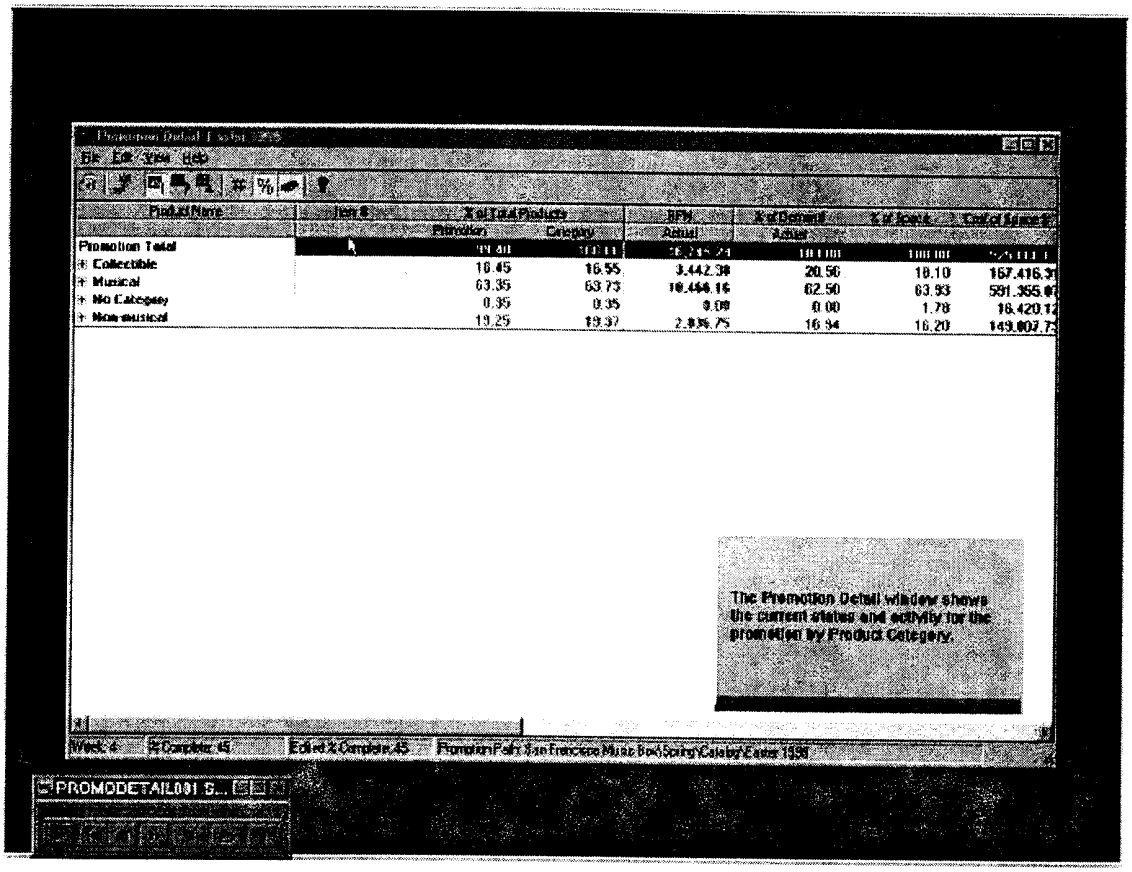


Figure 7

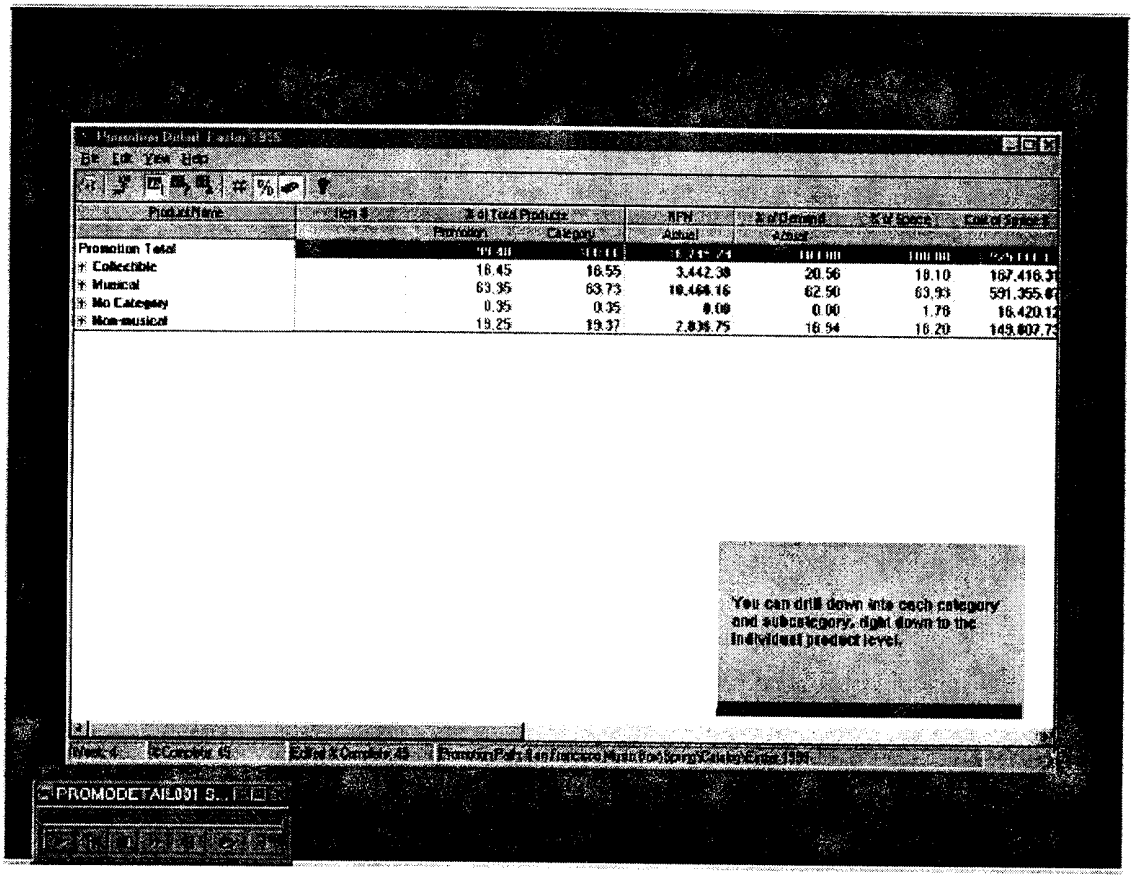
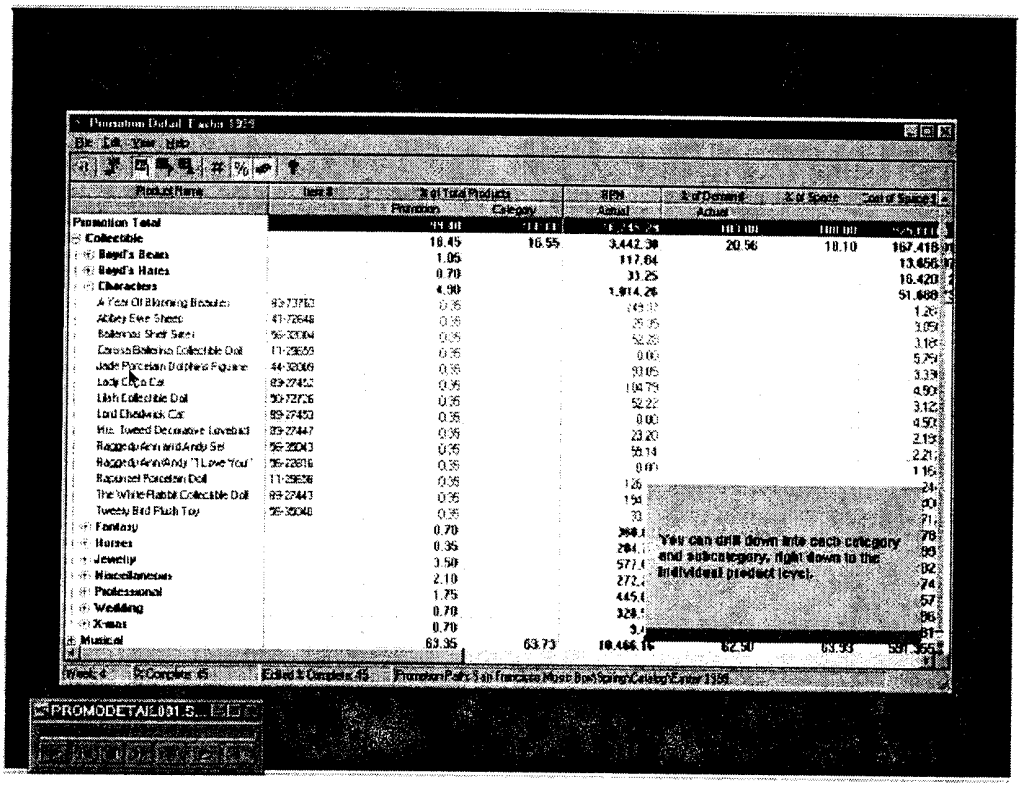


Figure 8



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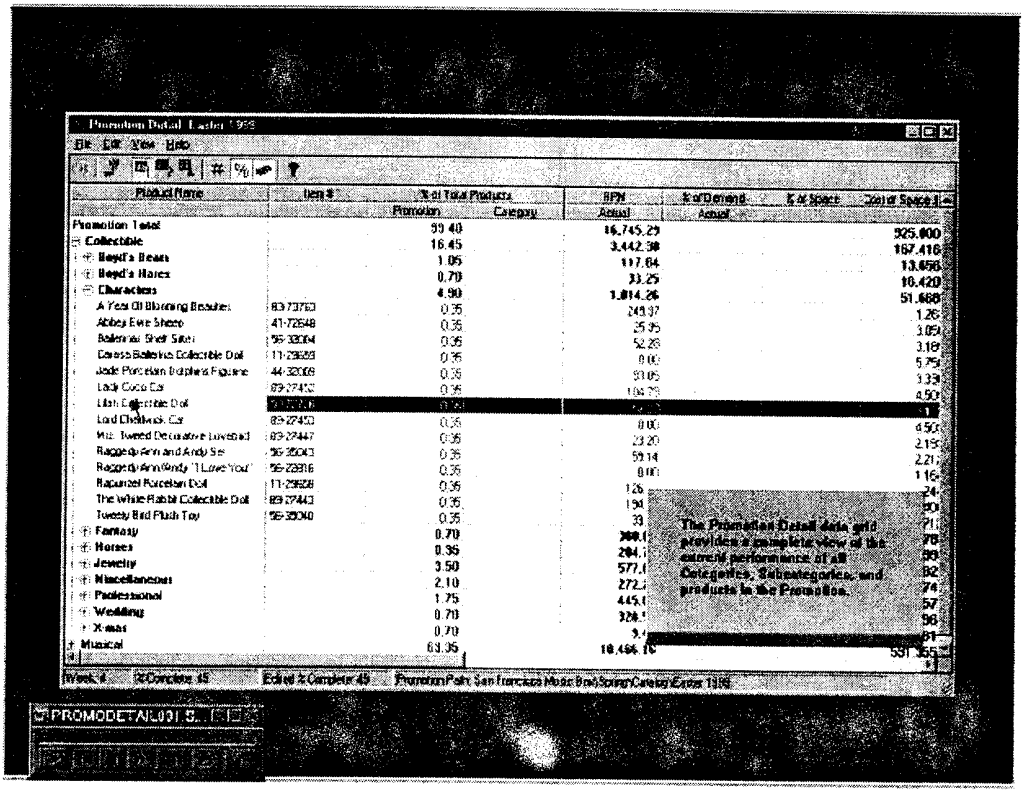

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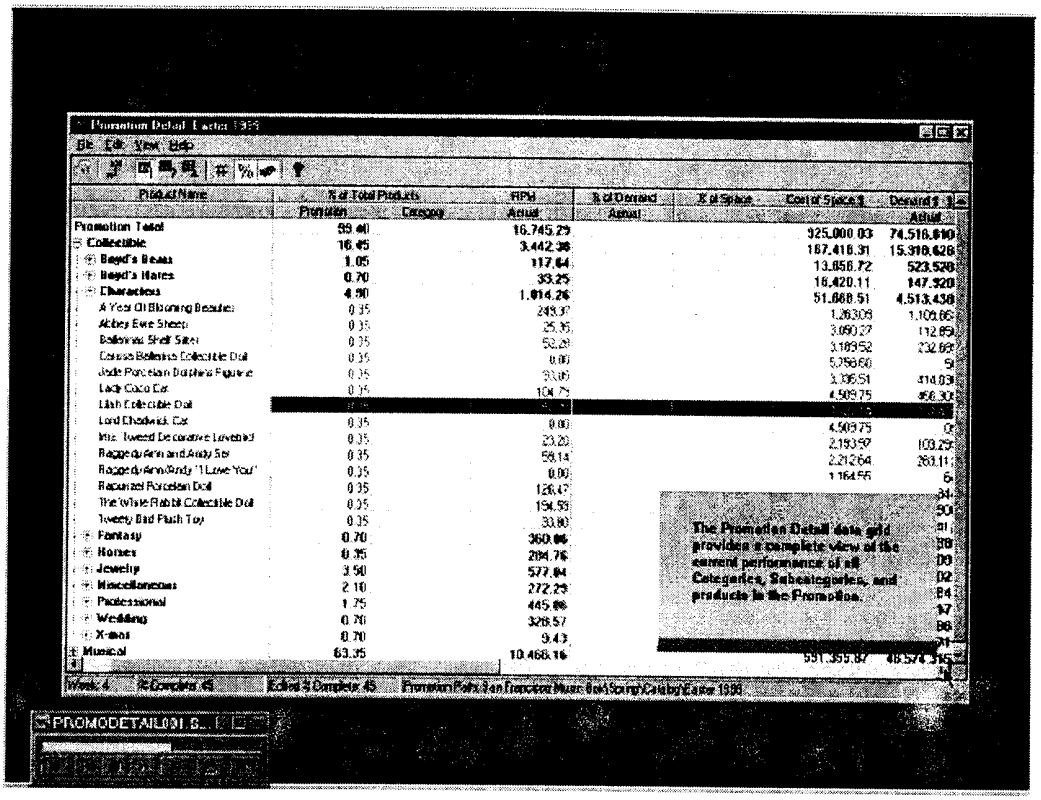

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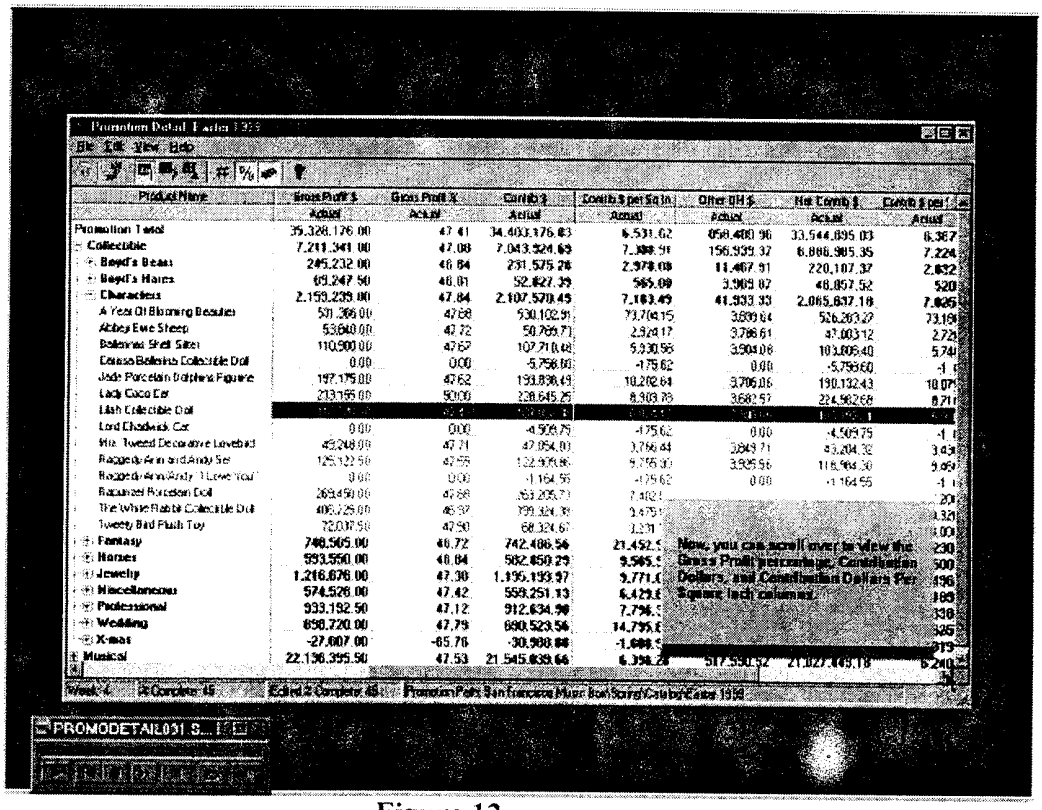

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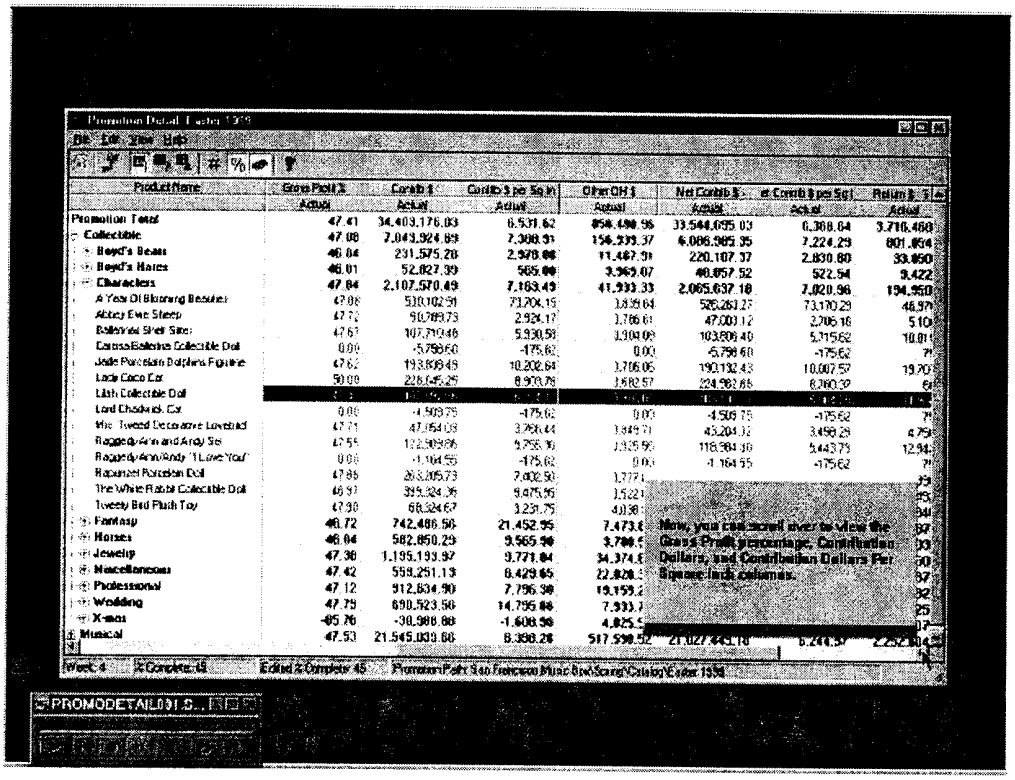

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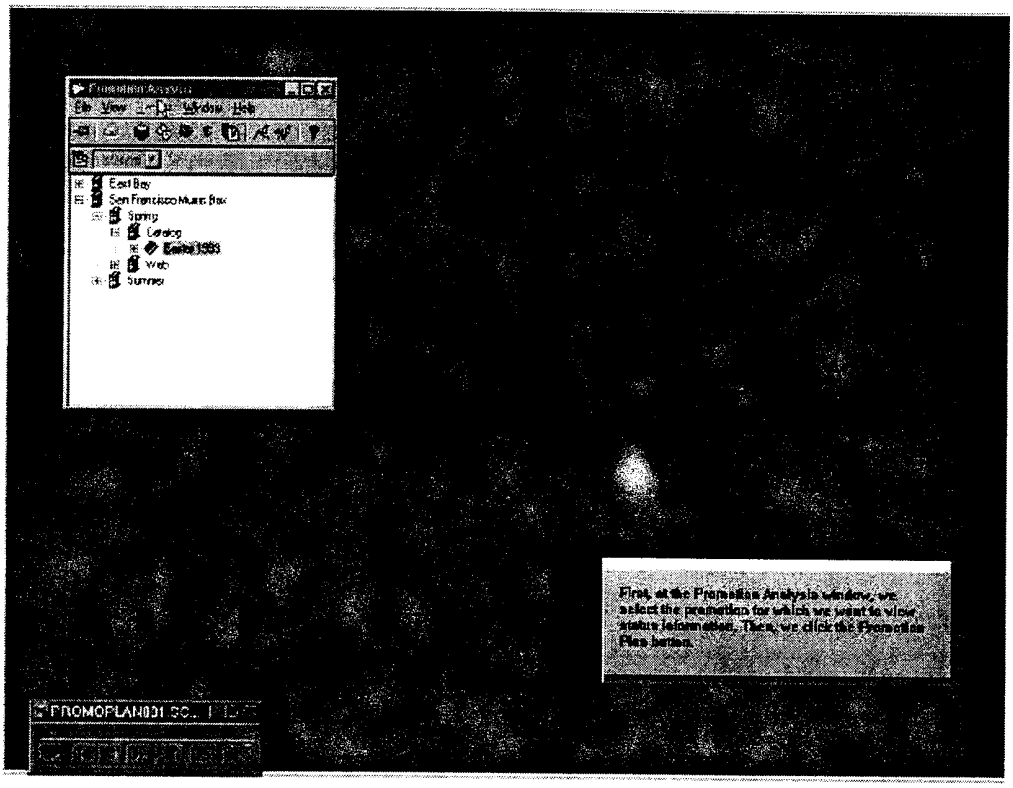

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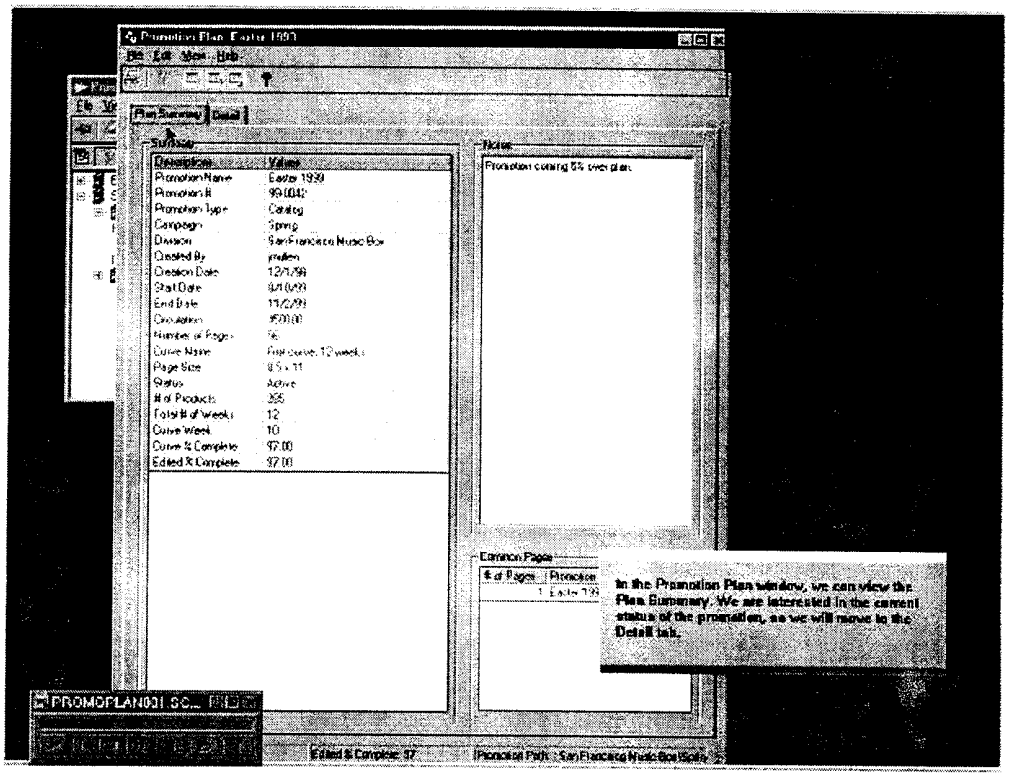

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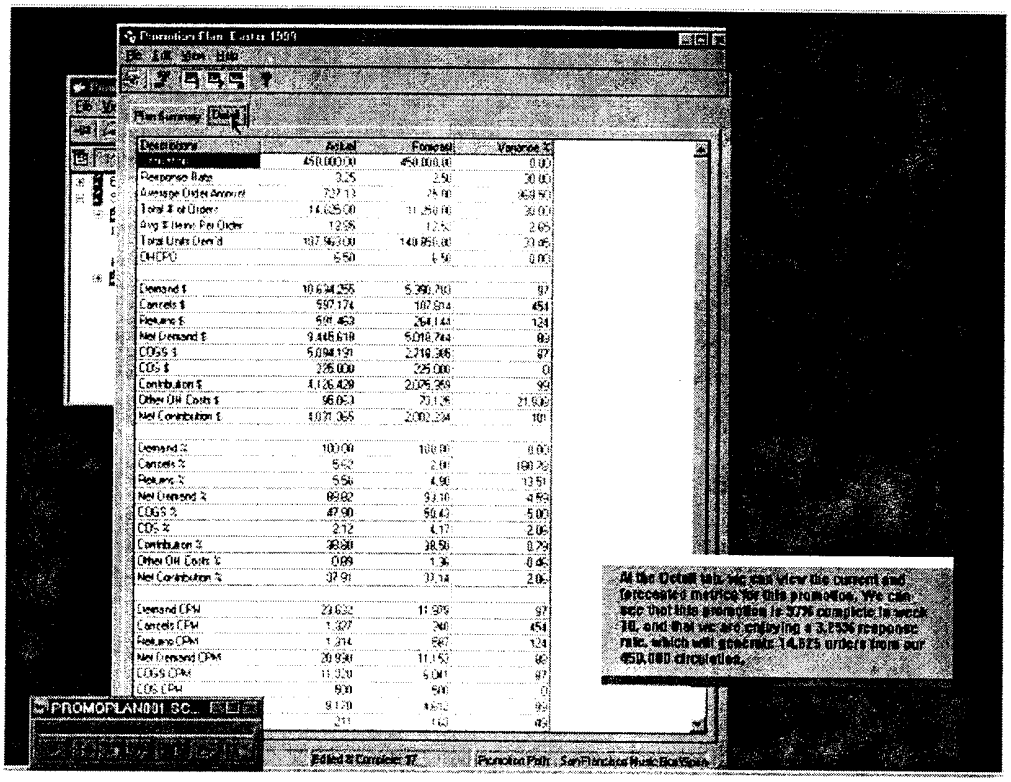

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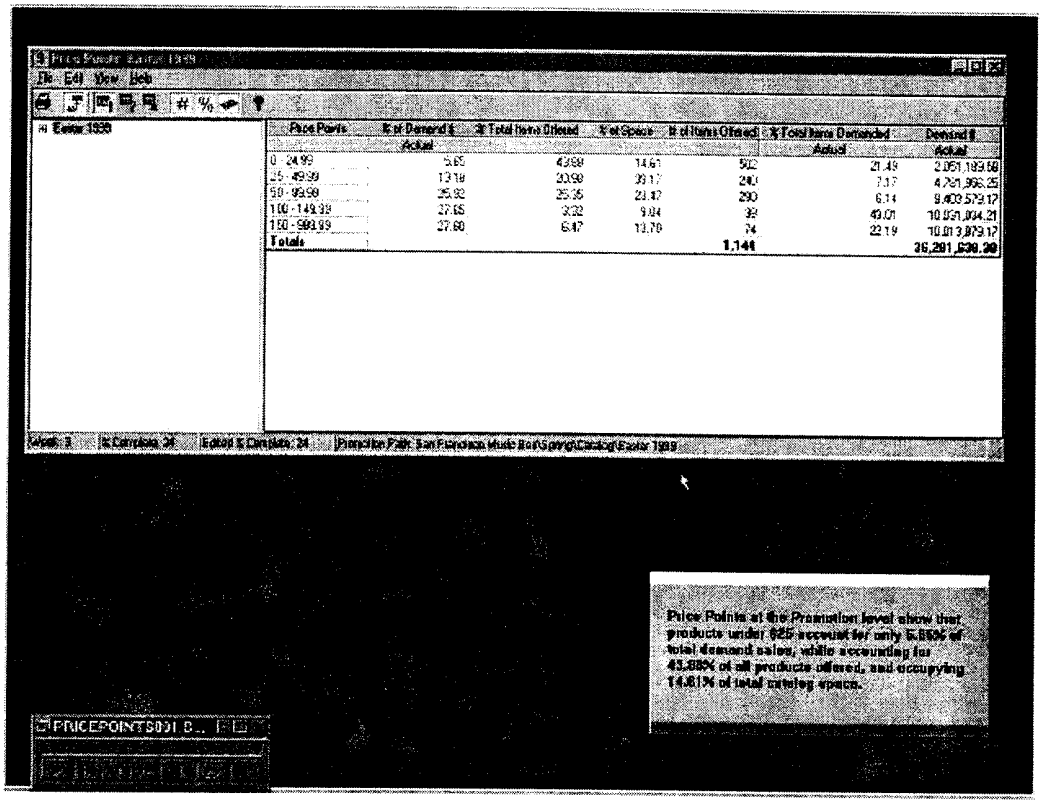

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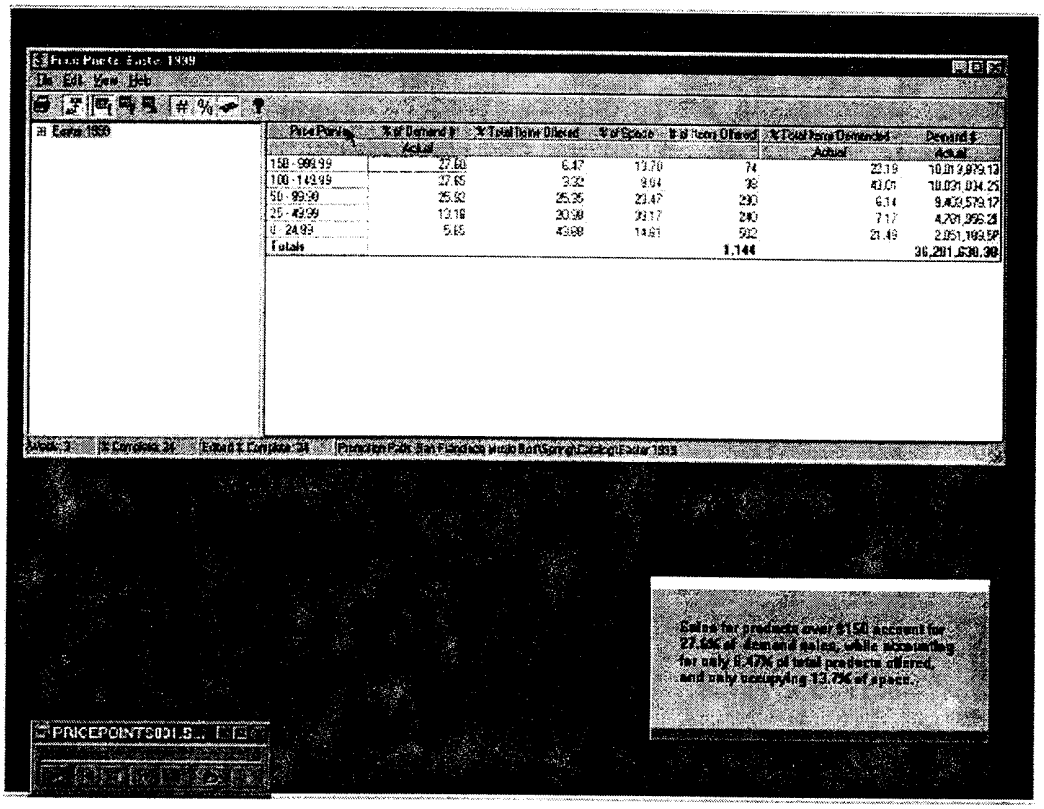

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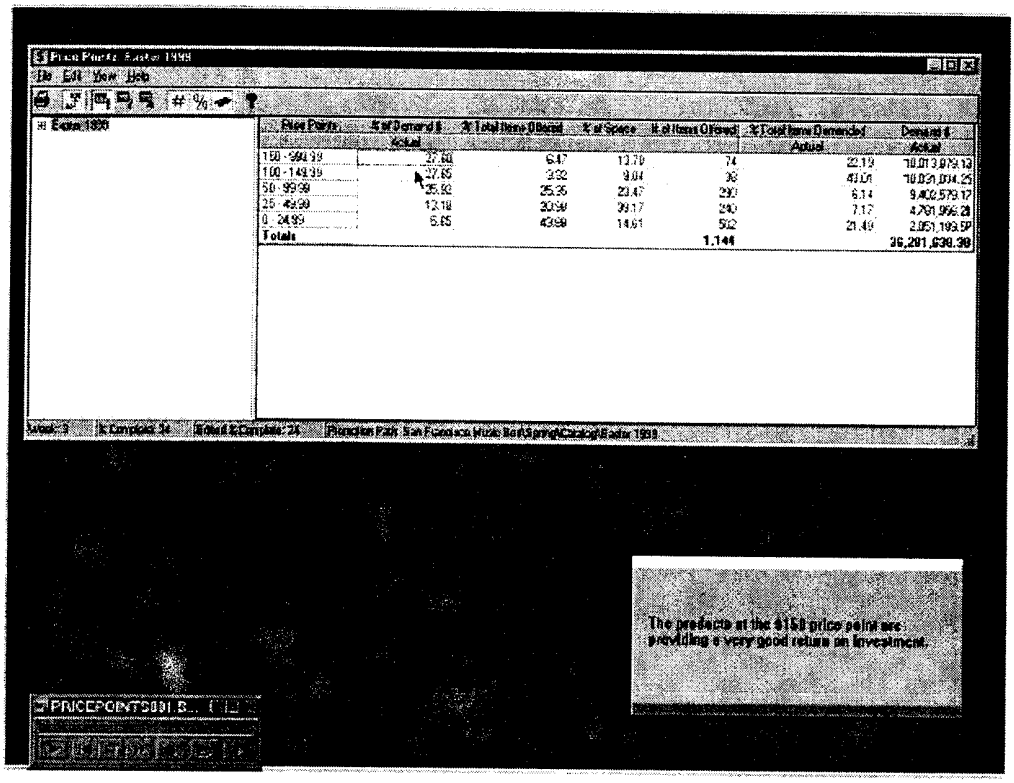

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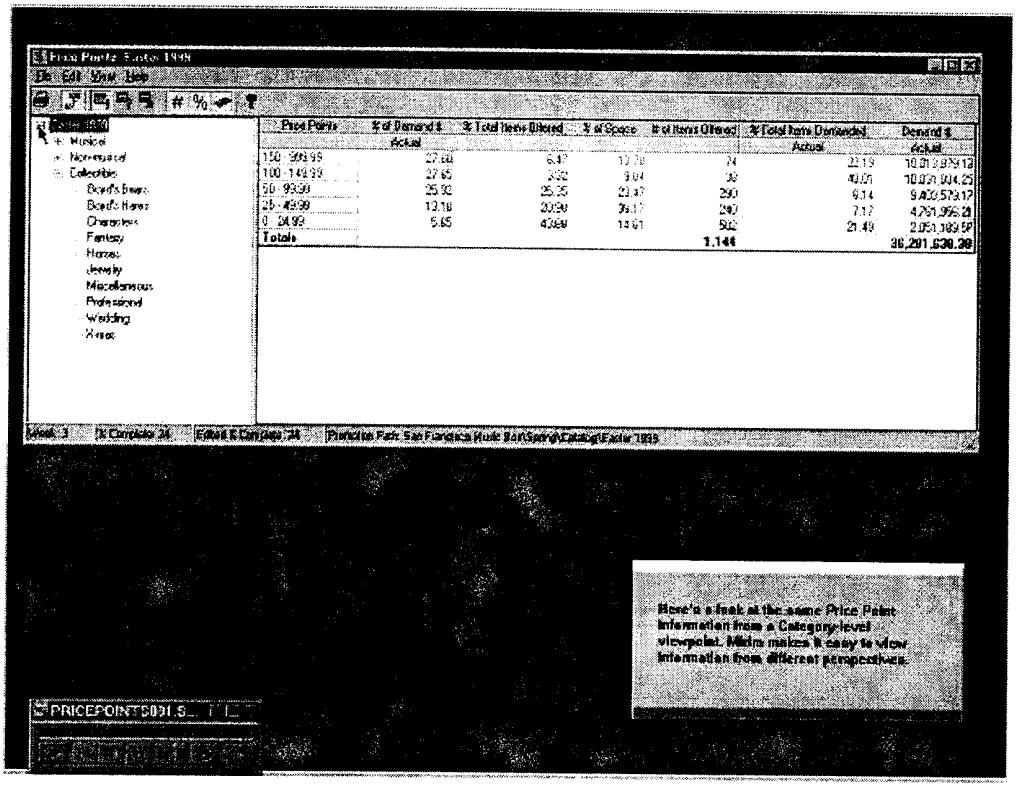

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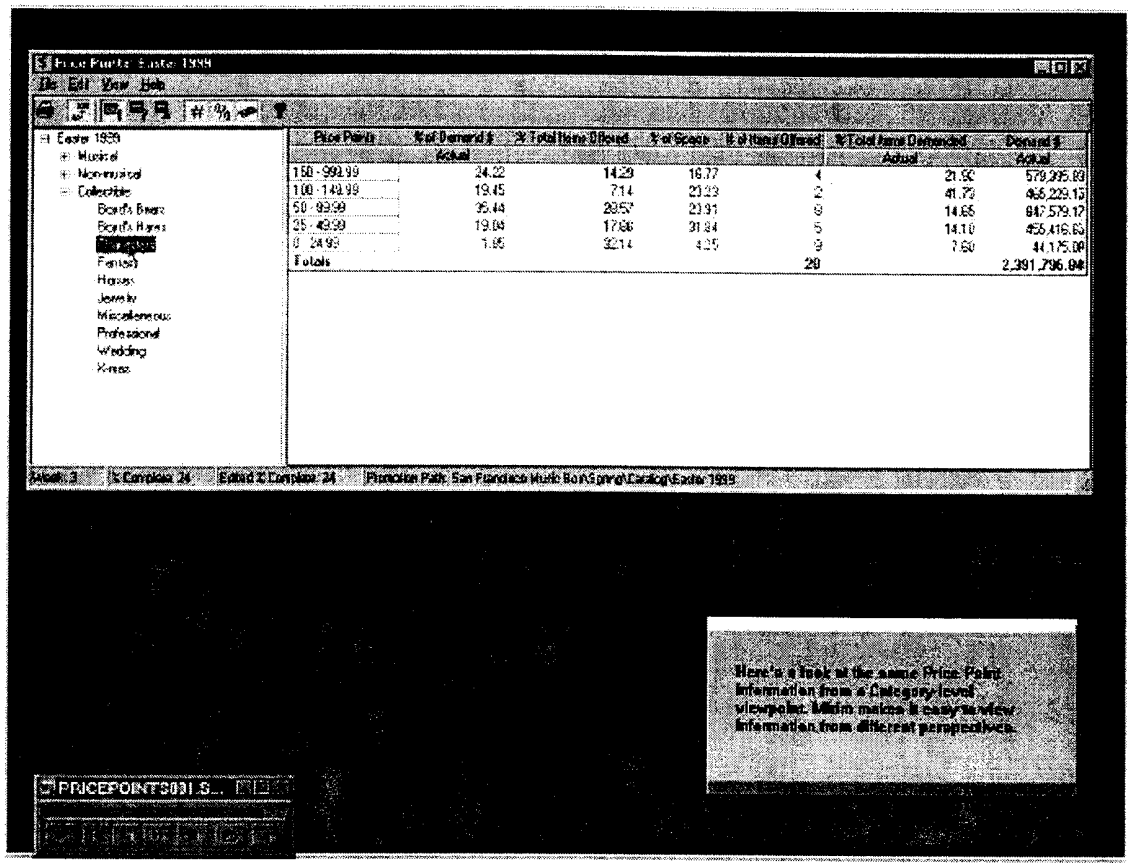

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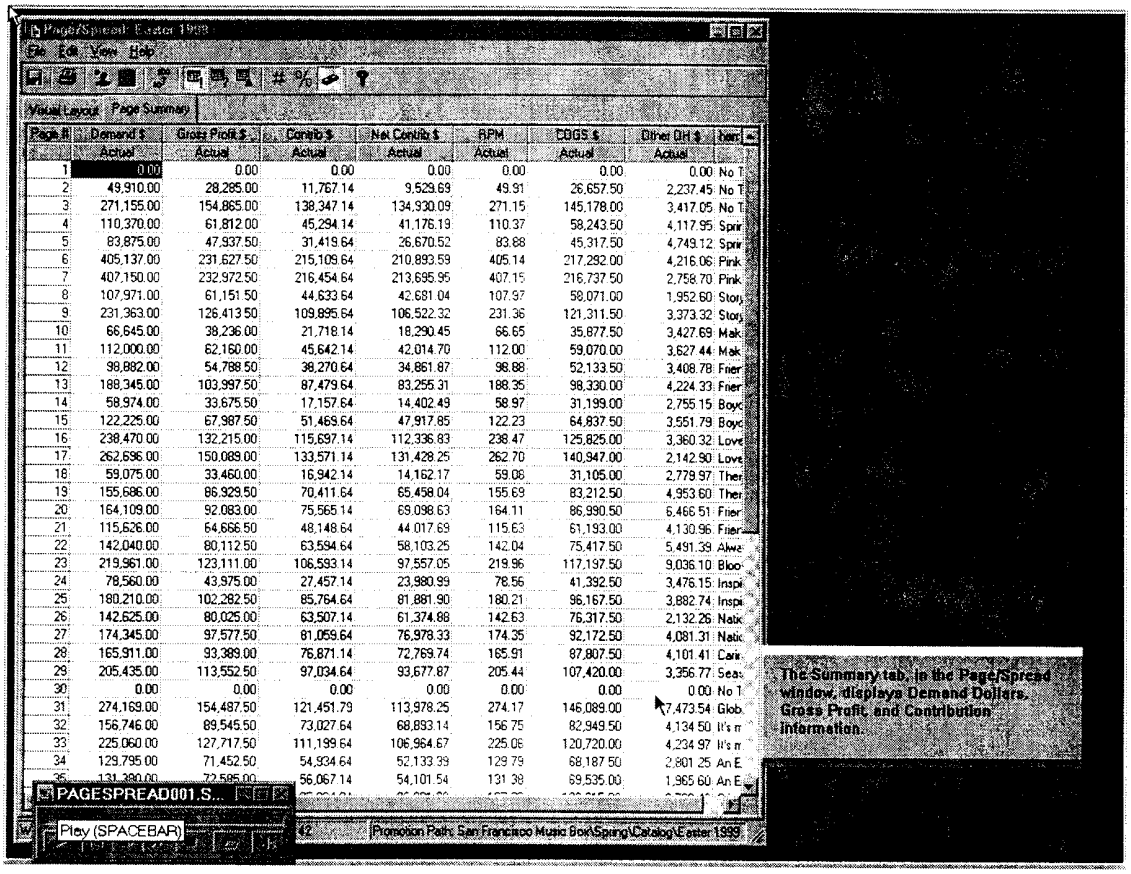

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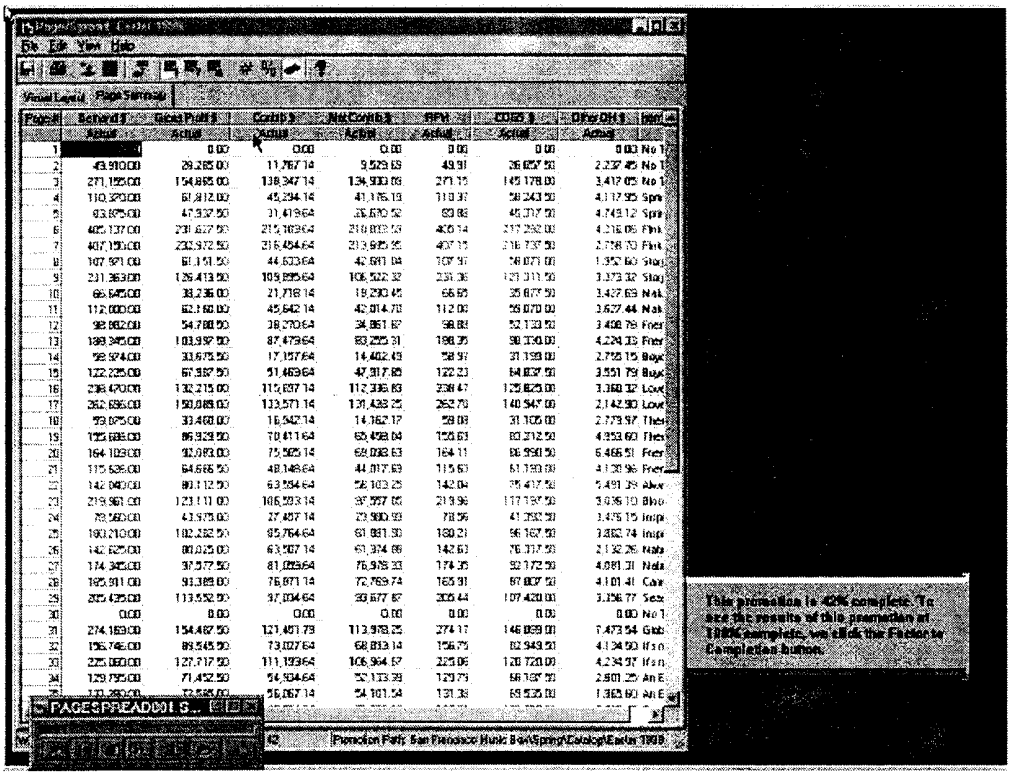

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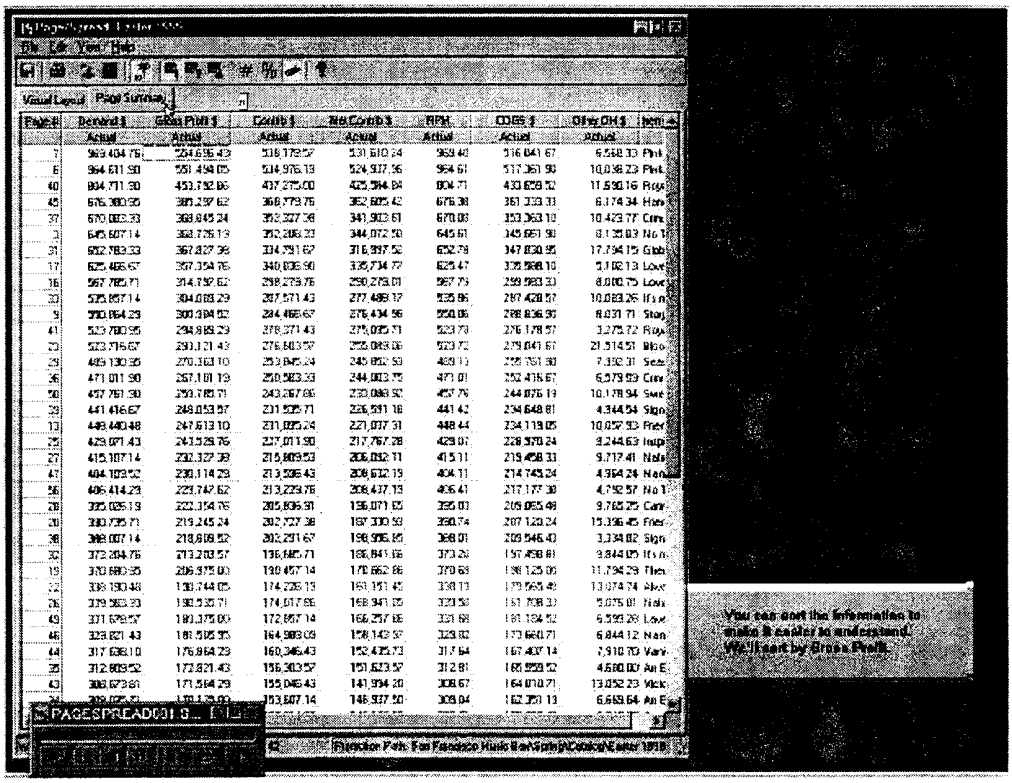

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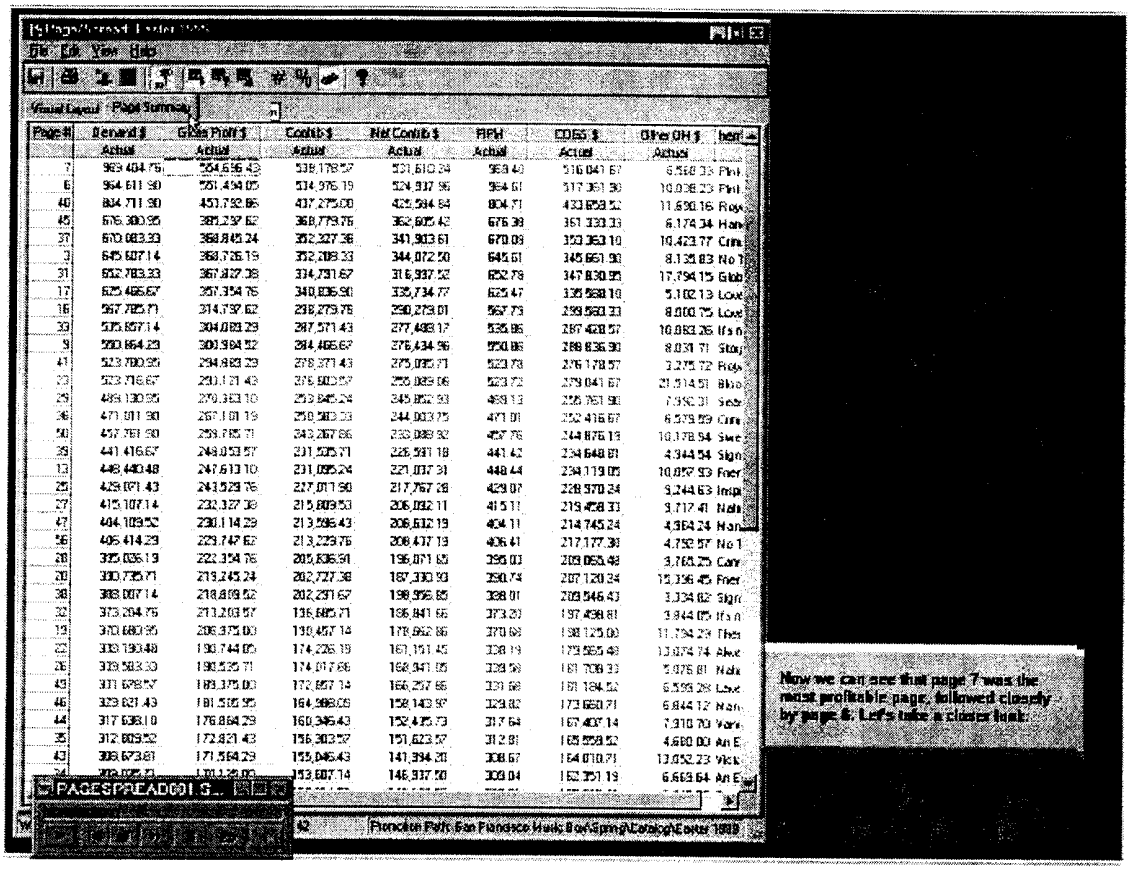

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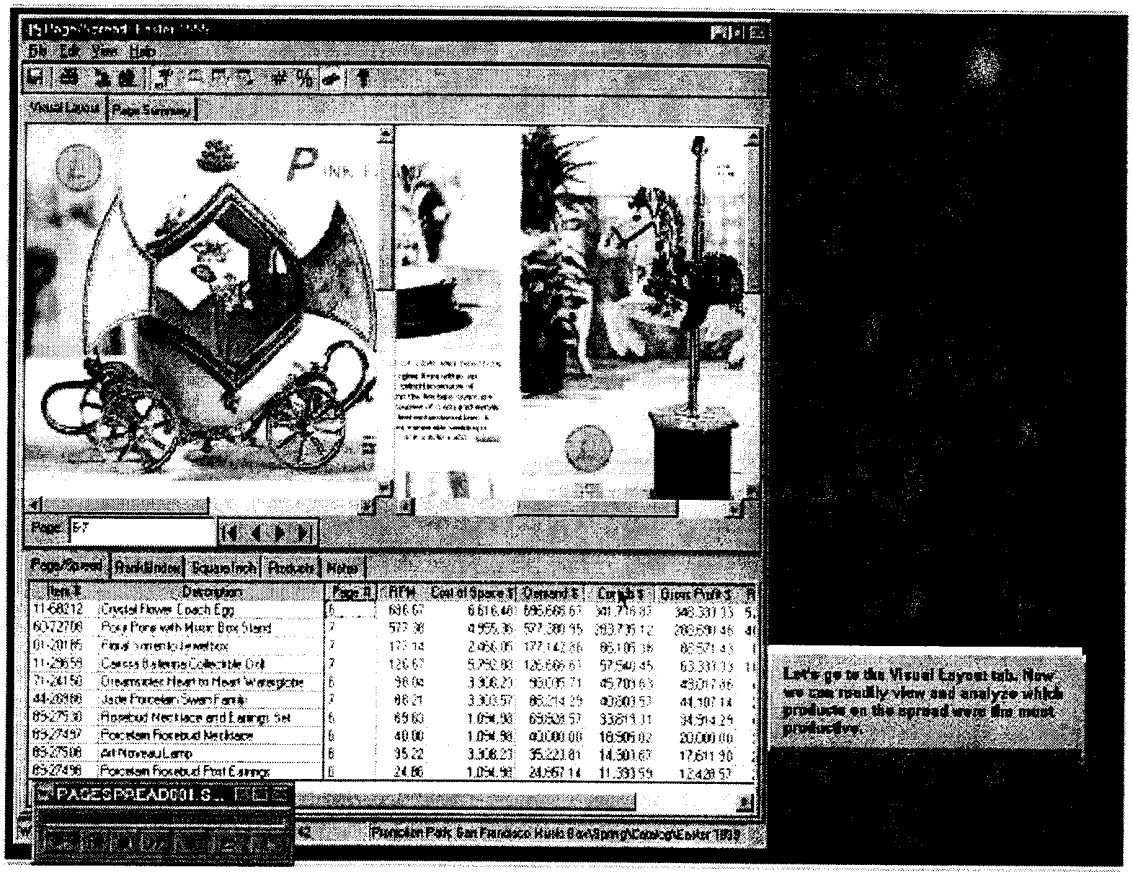

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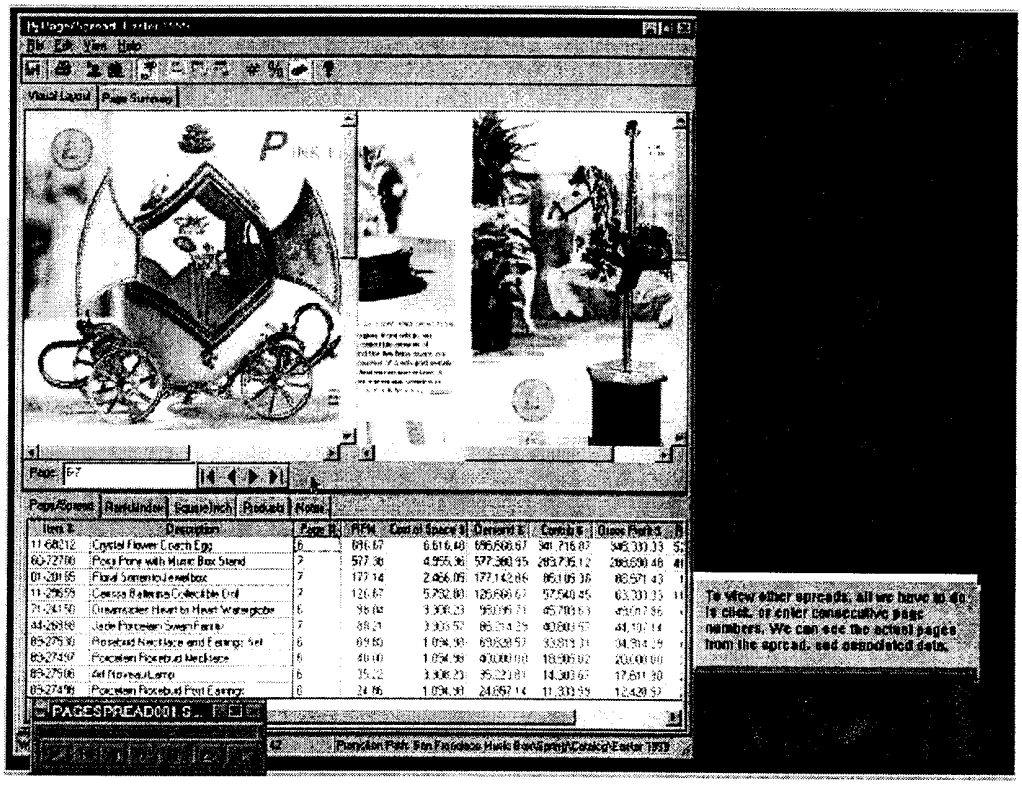

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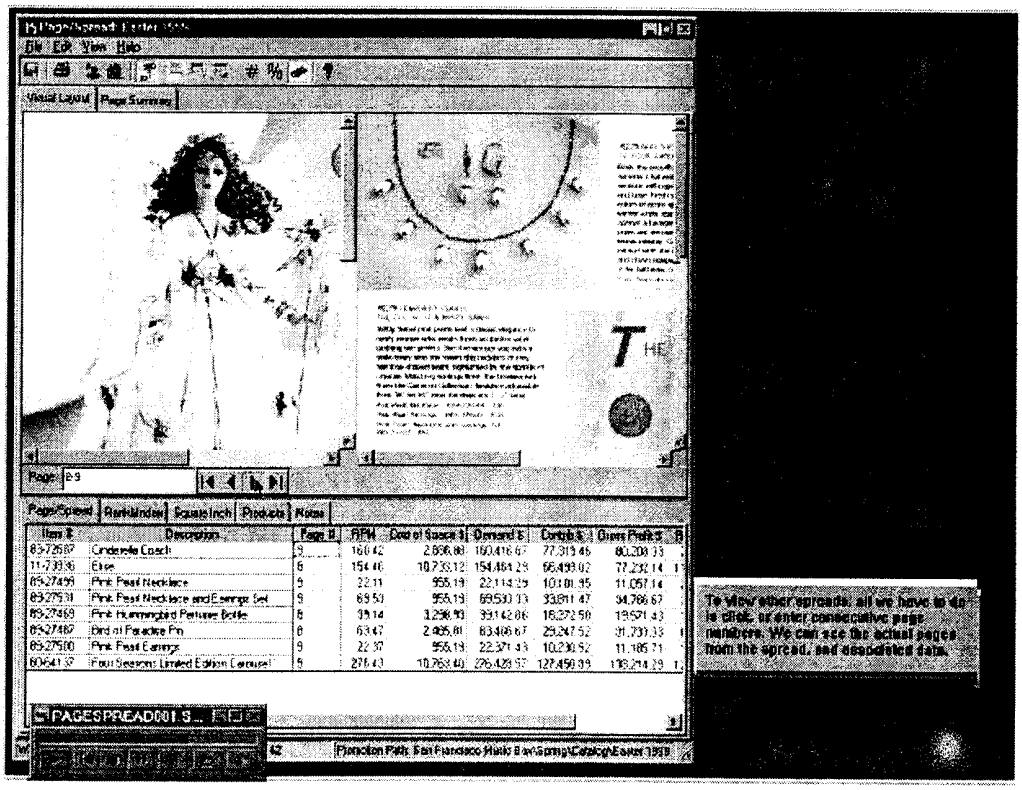

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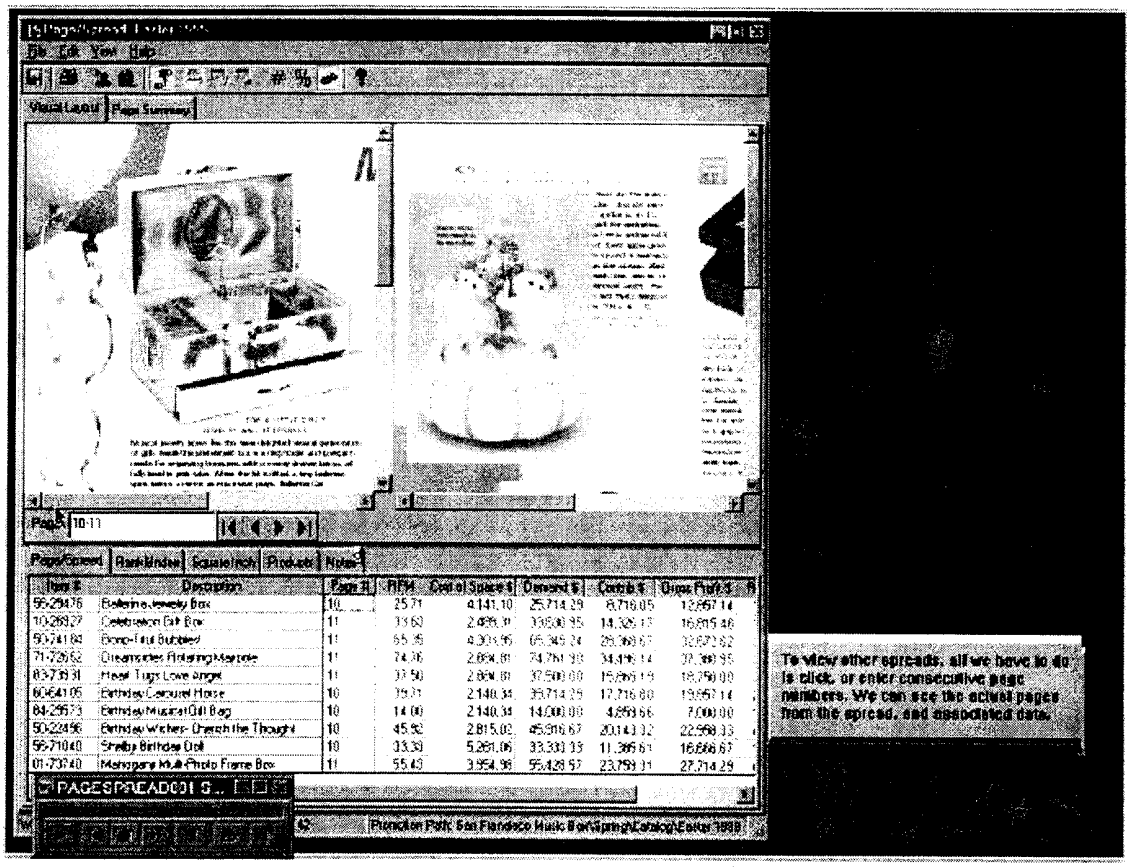

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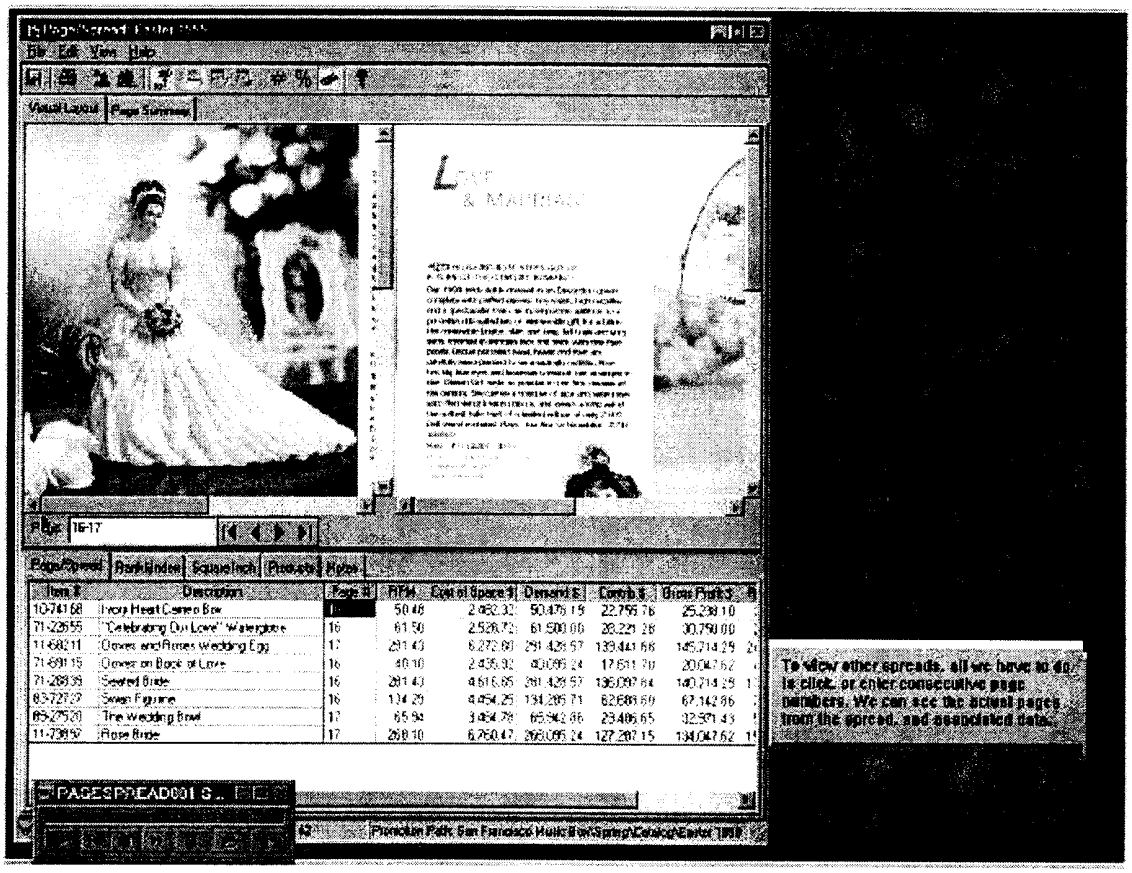

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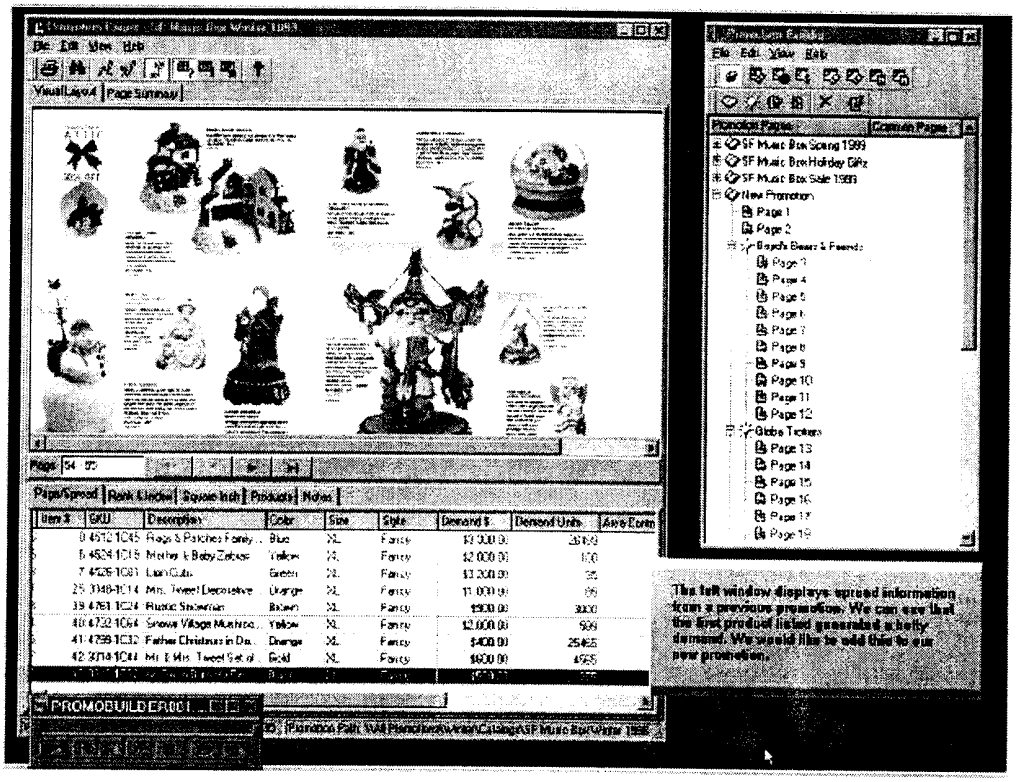

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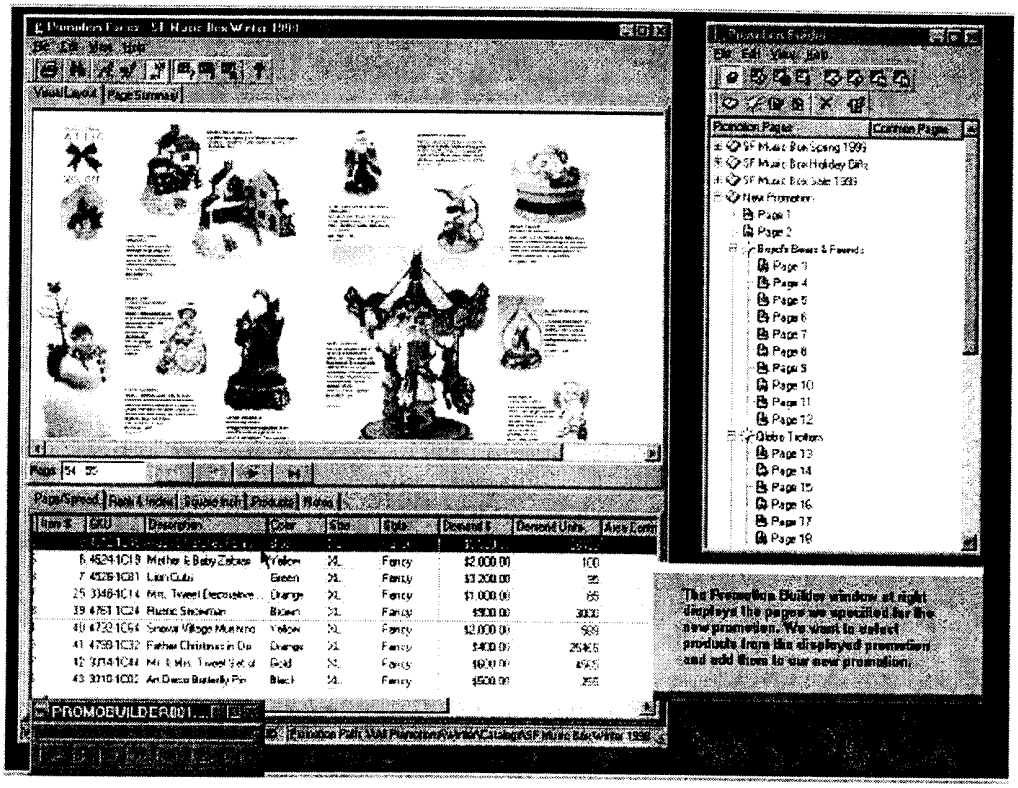

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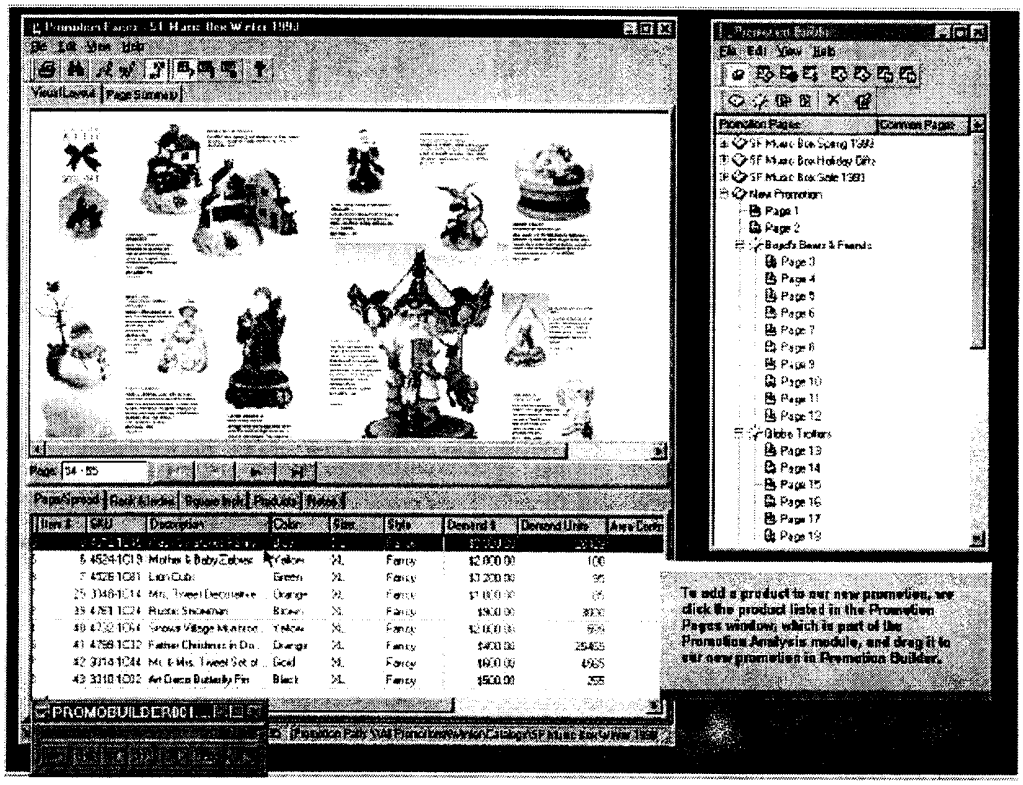

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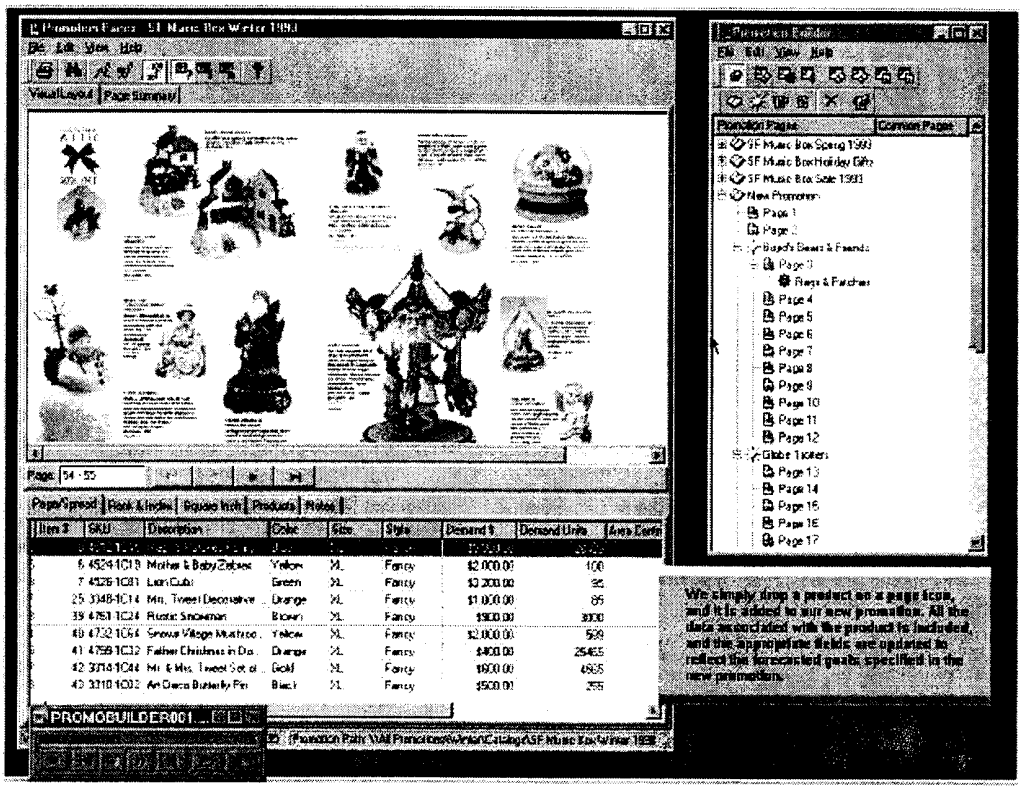

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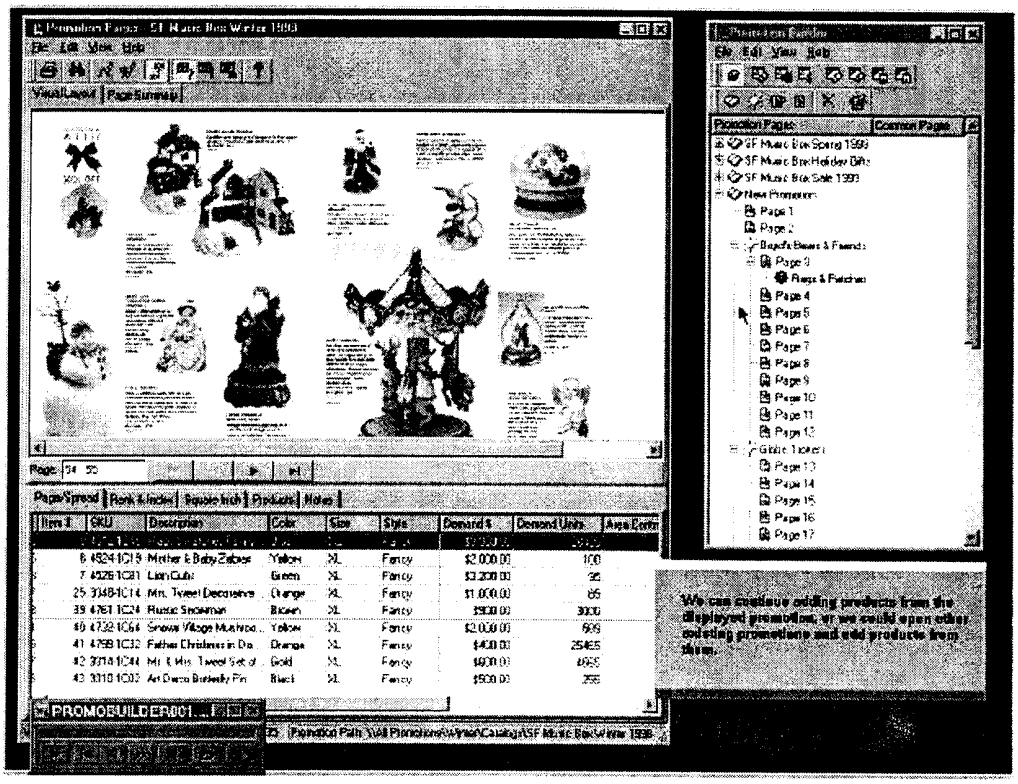

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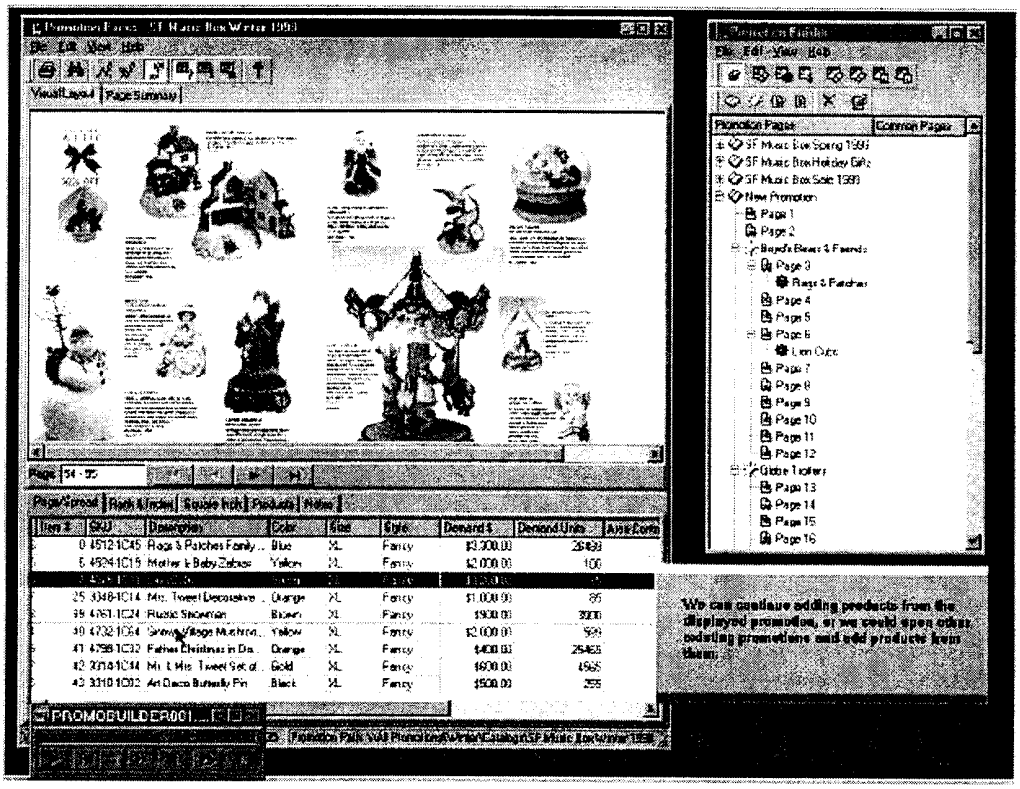
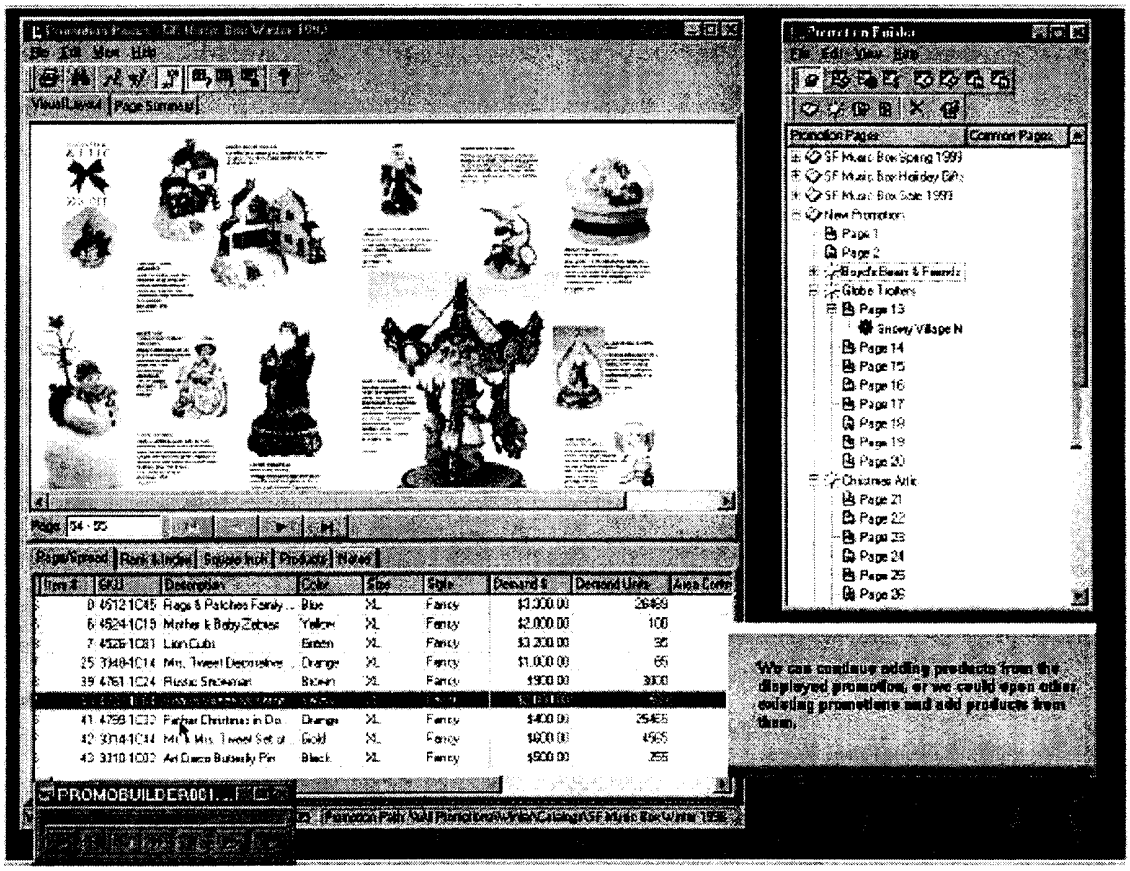


Figure 36

Figure 37



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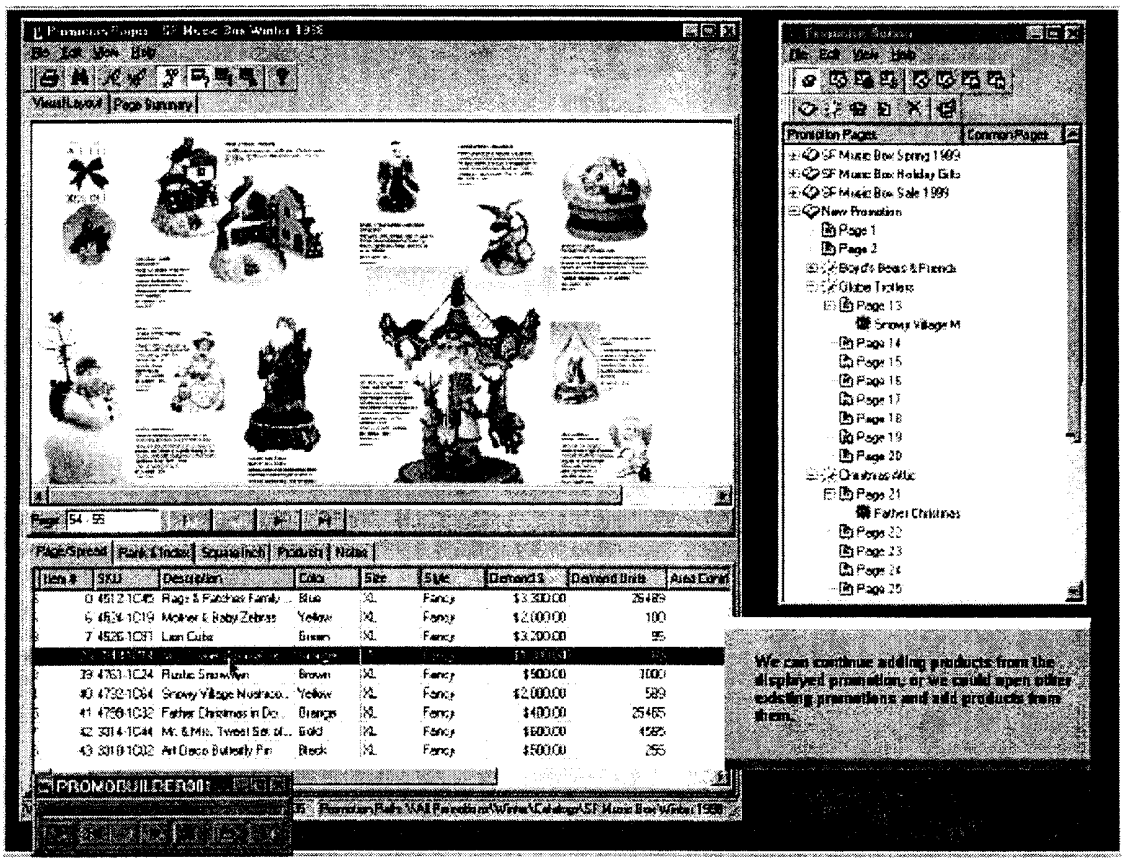

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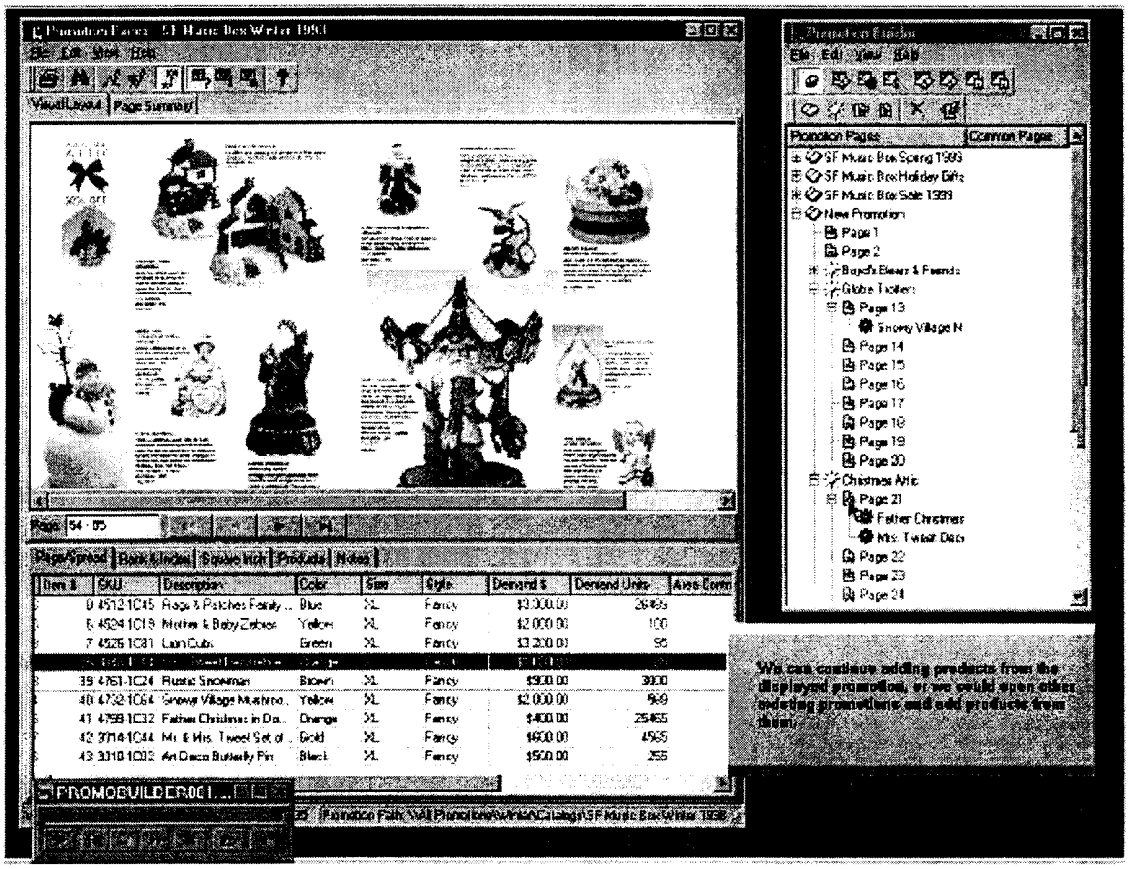

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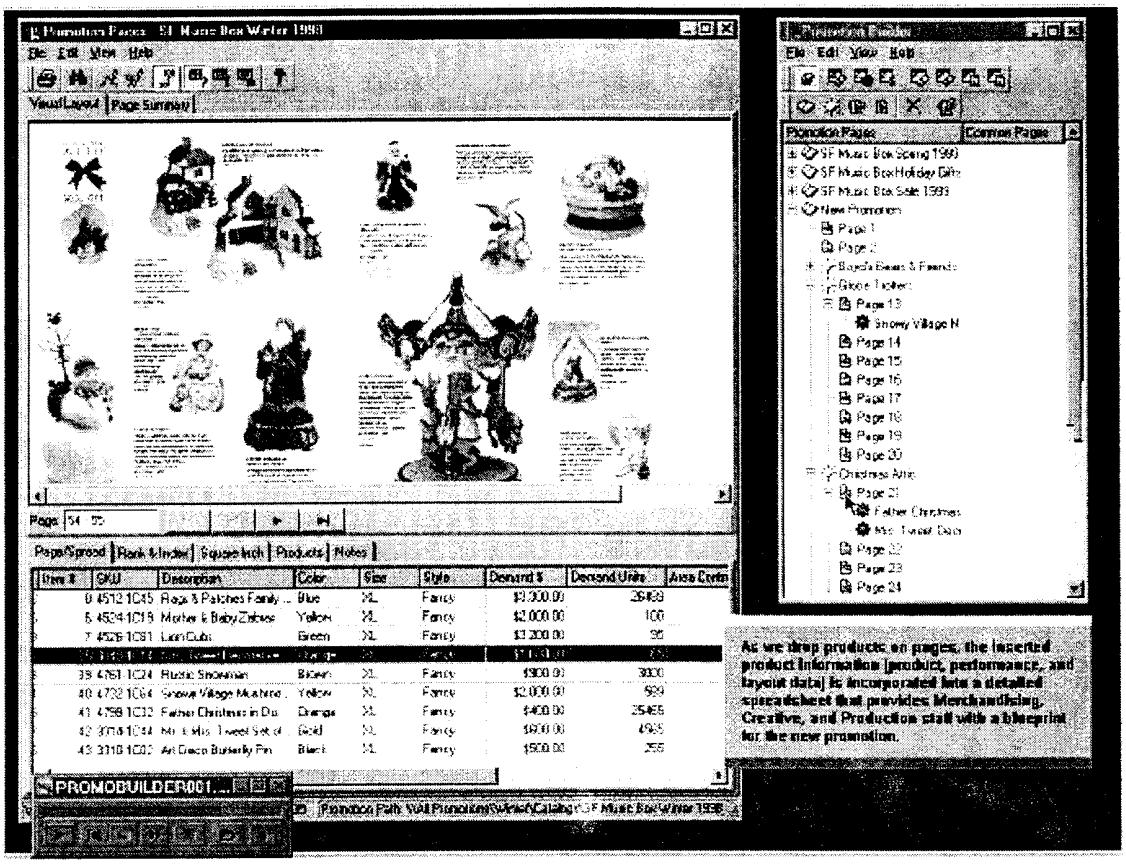

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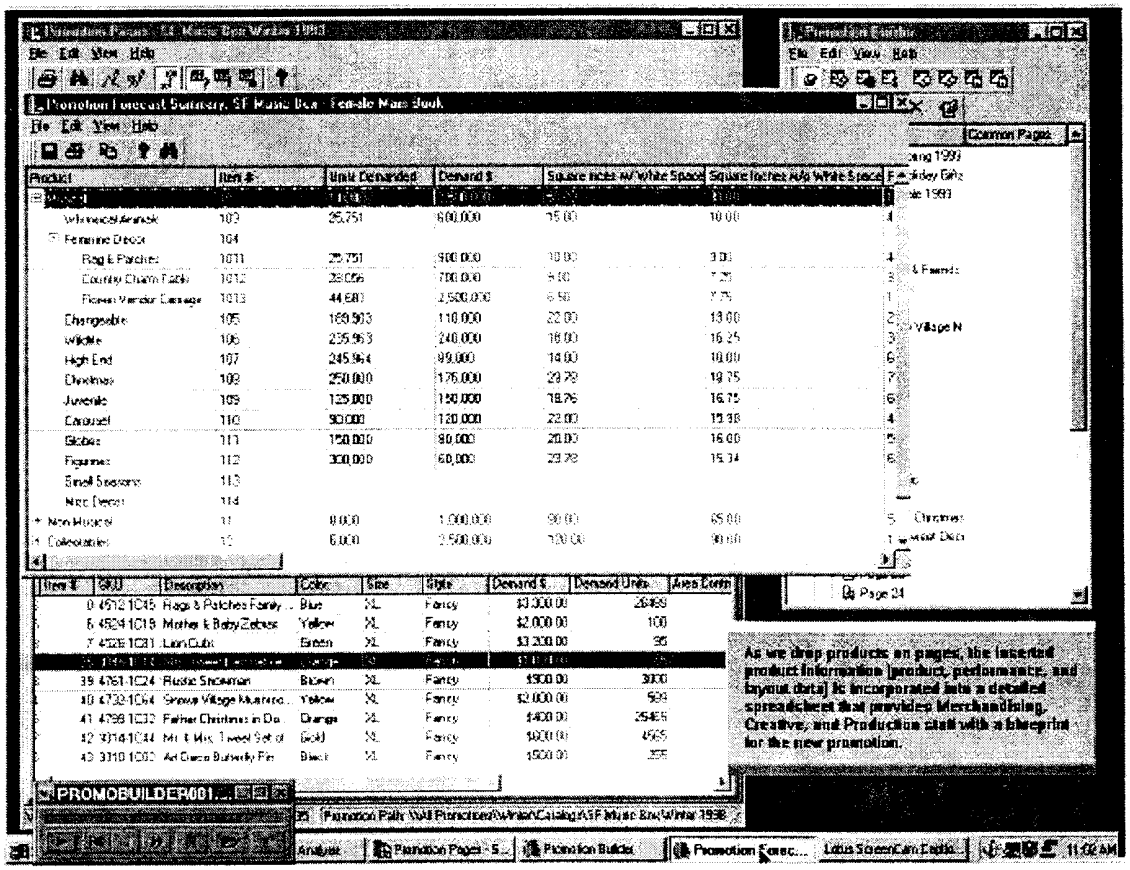

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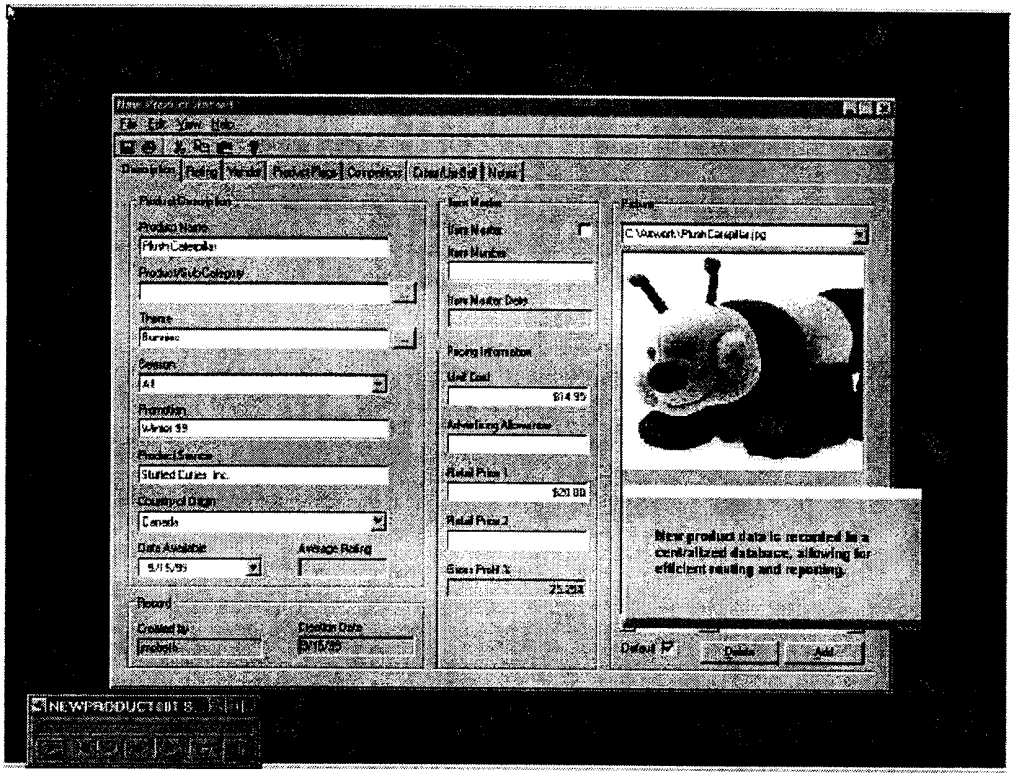

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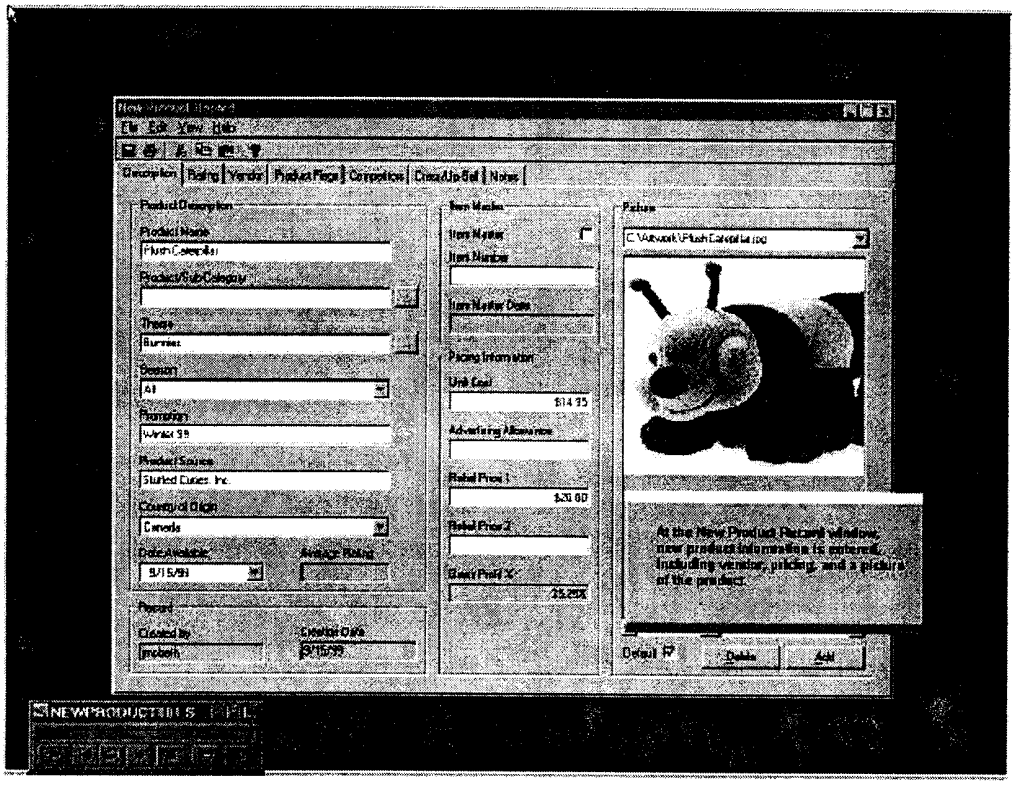

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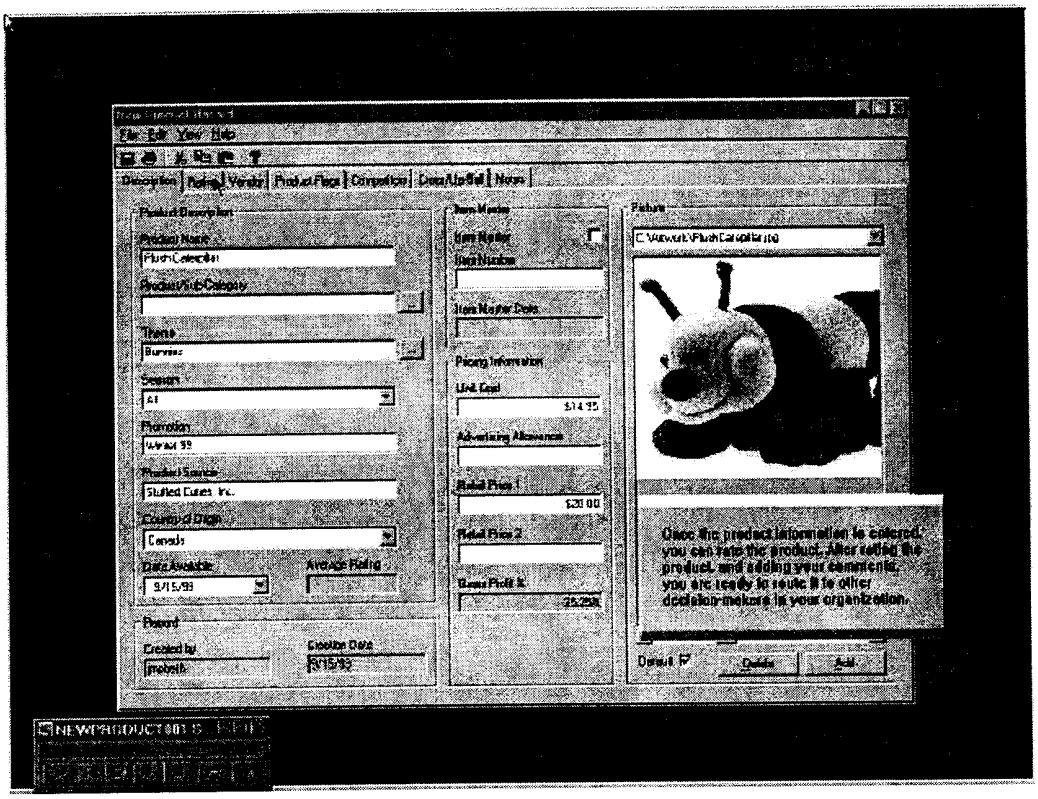

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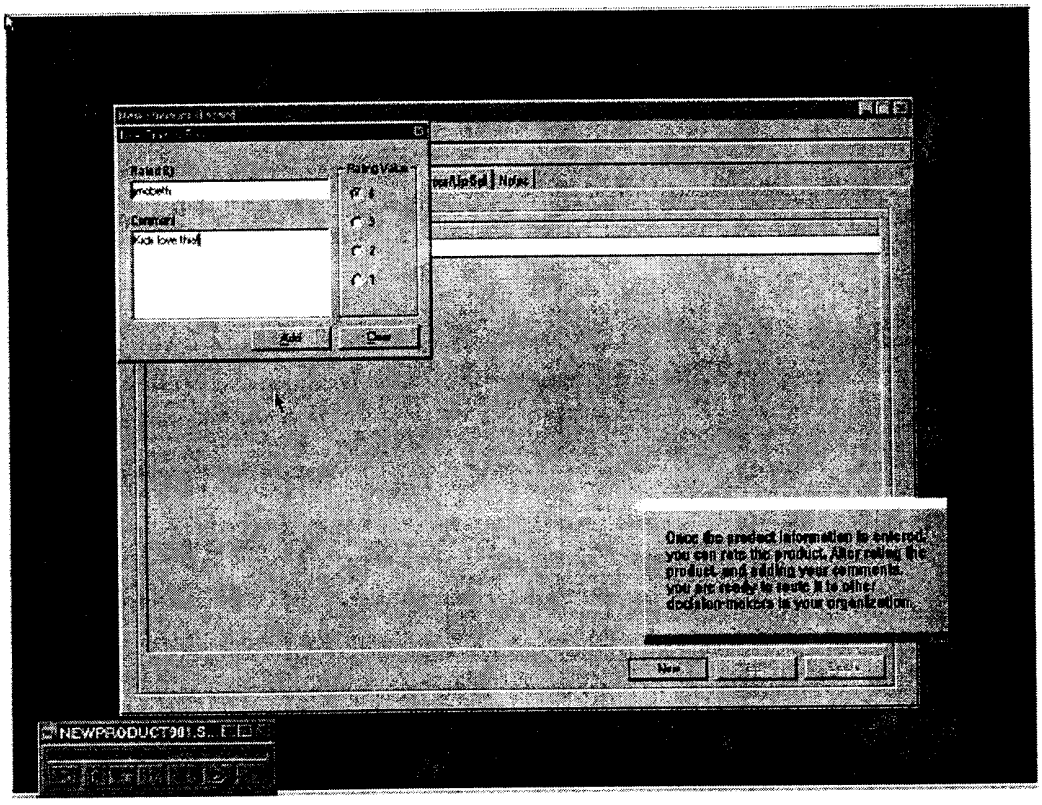

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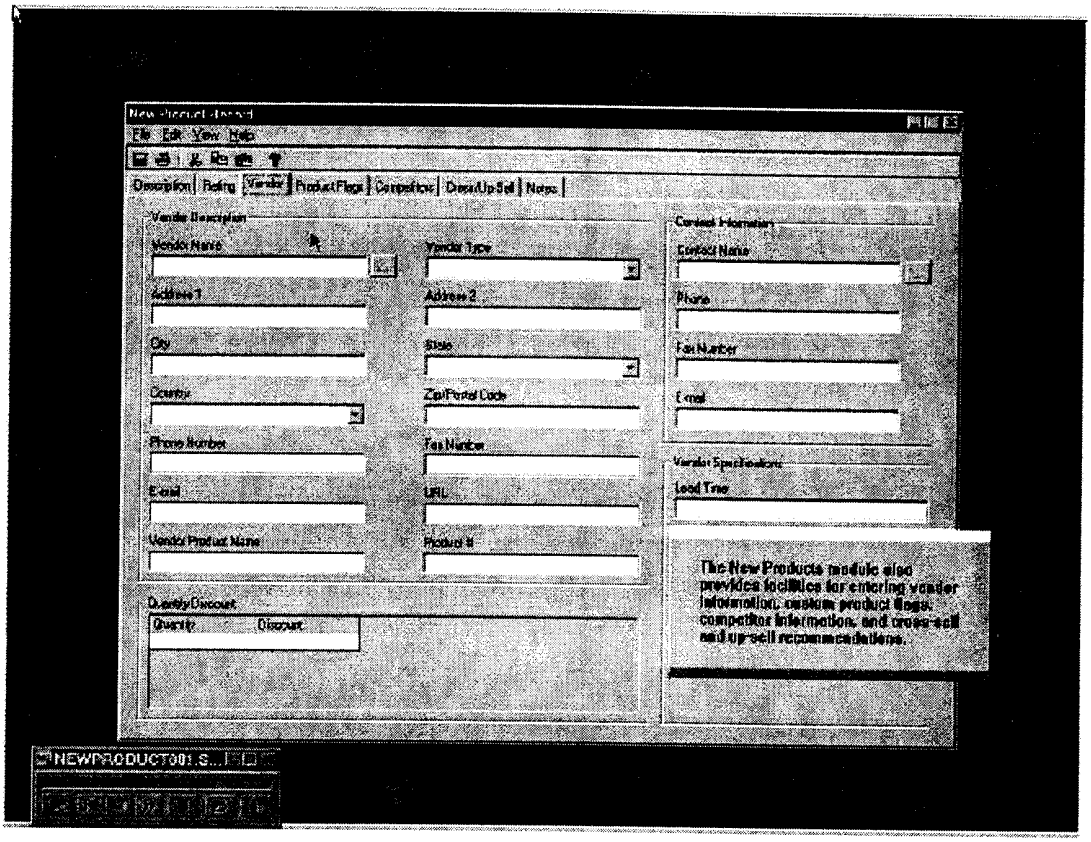

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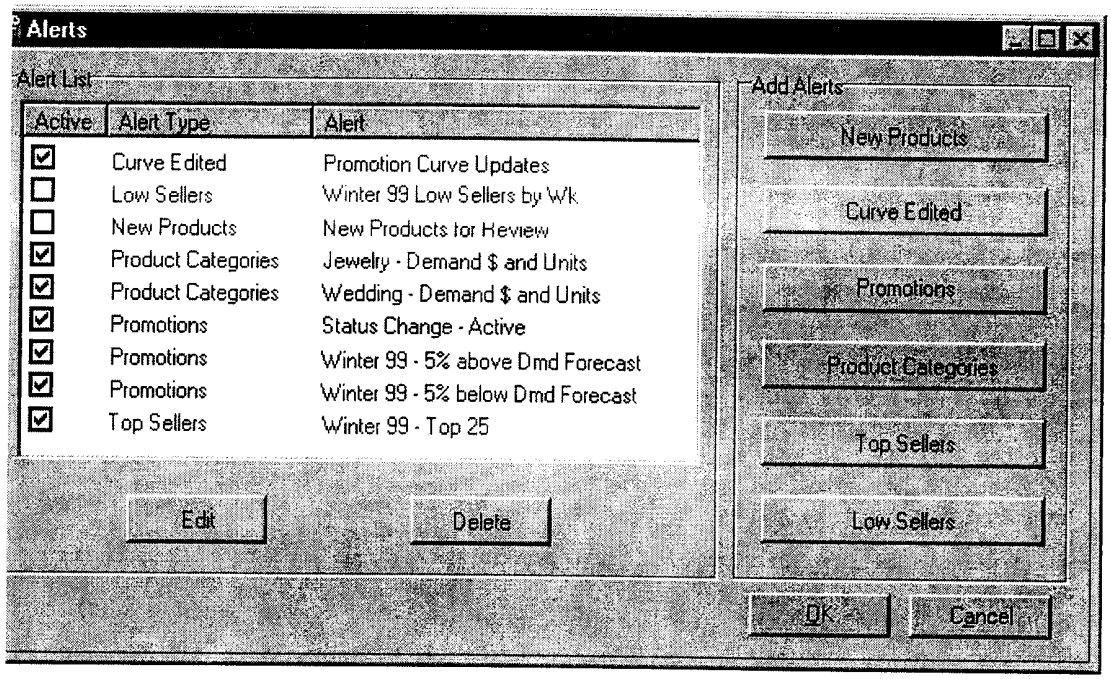

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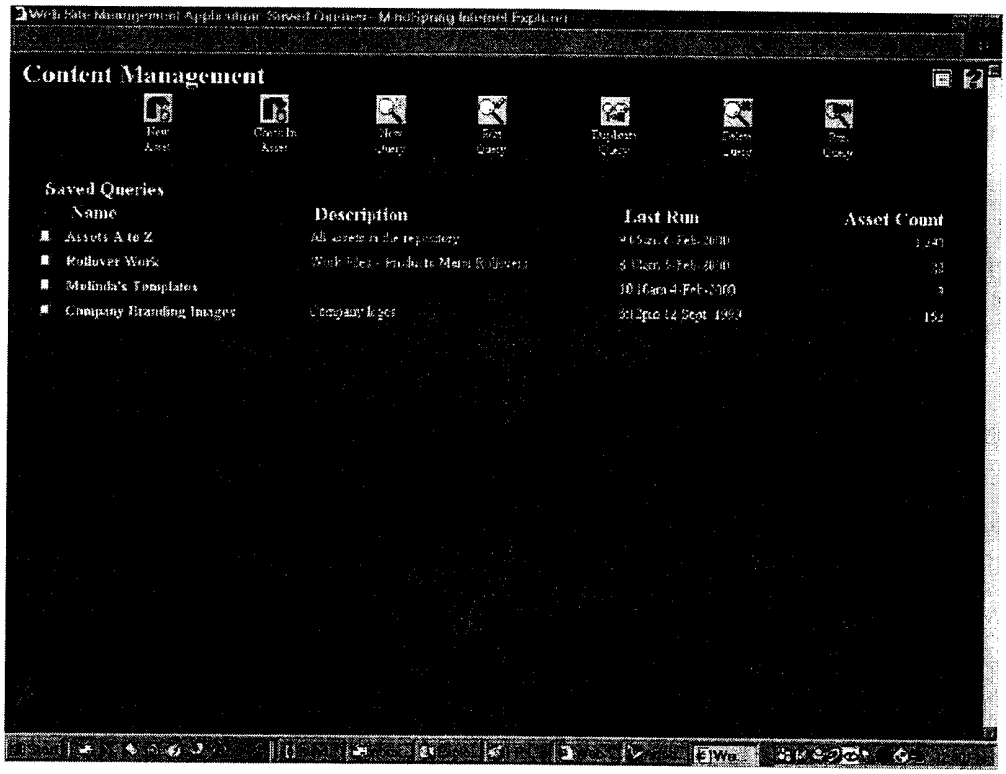


Figure 49

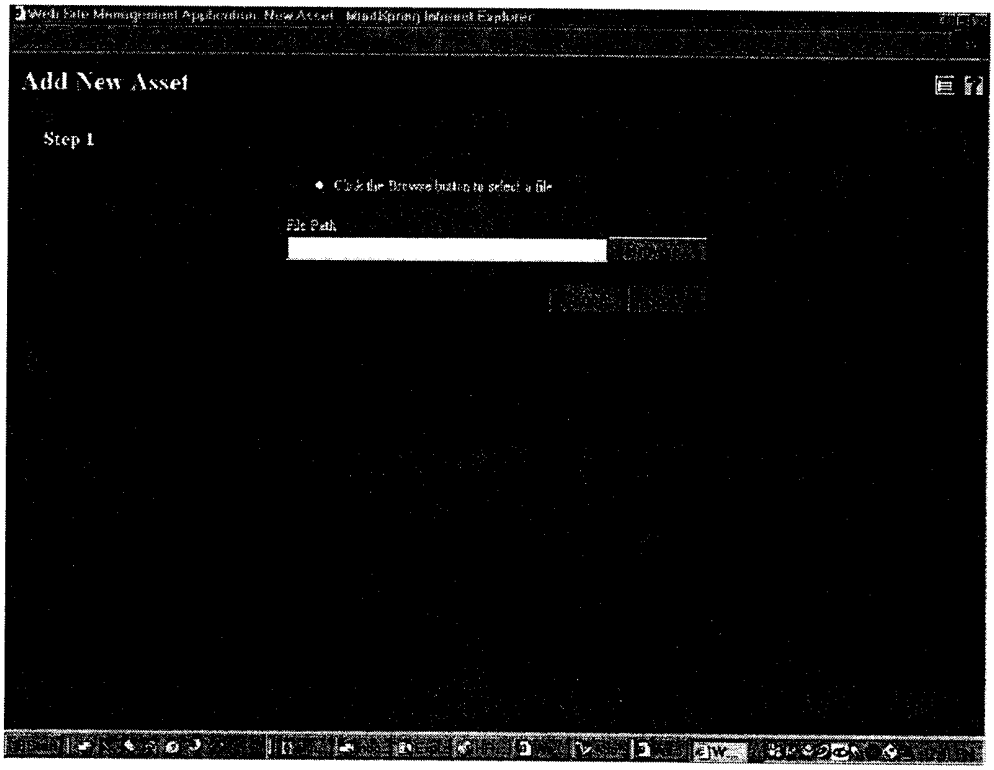


Figure 50

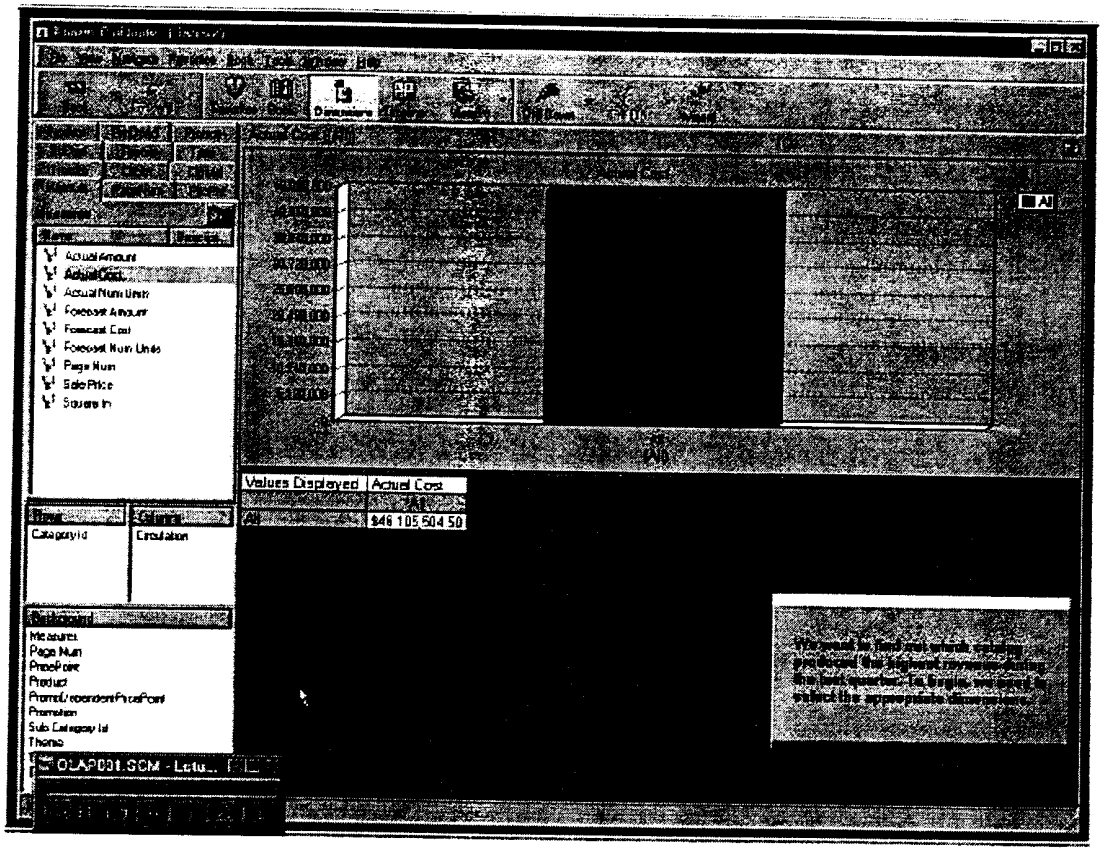


Figure 51

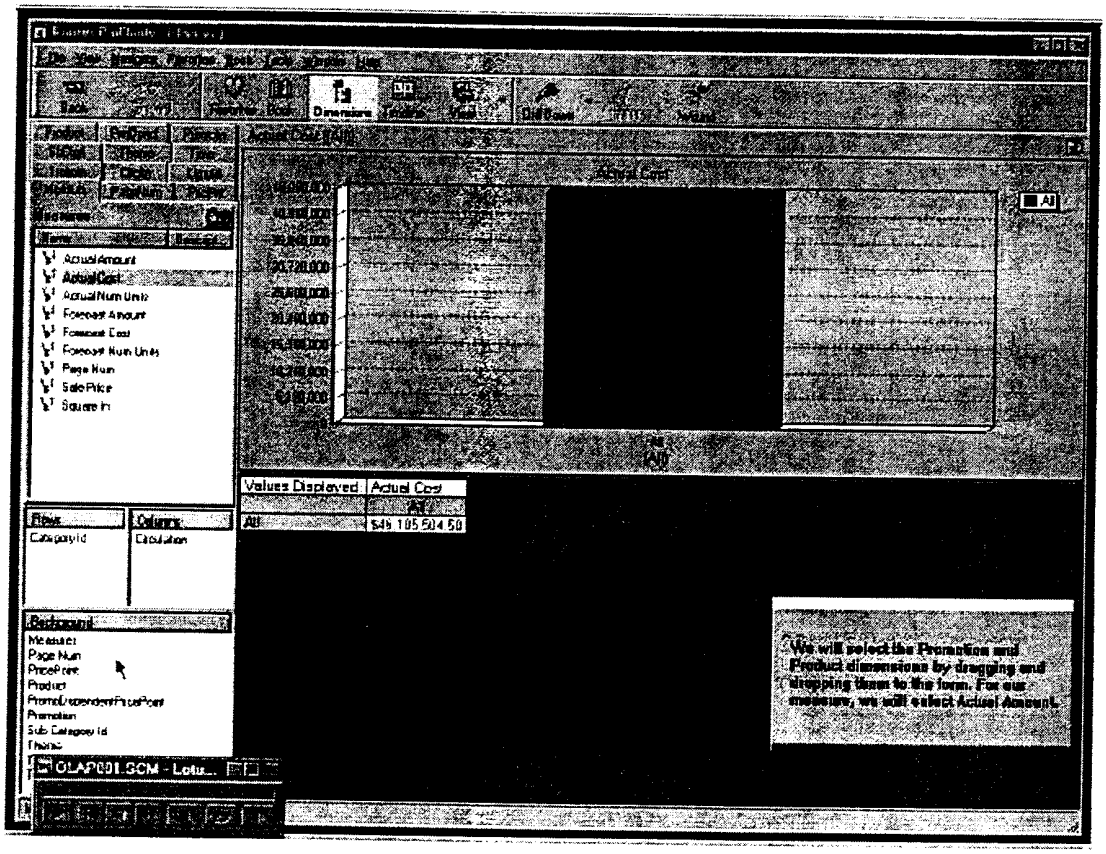
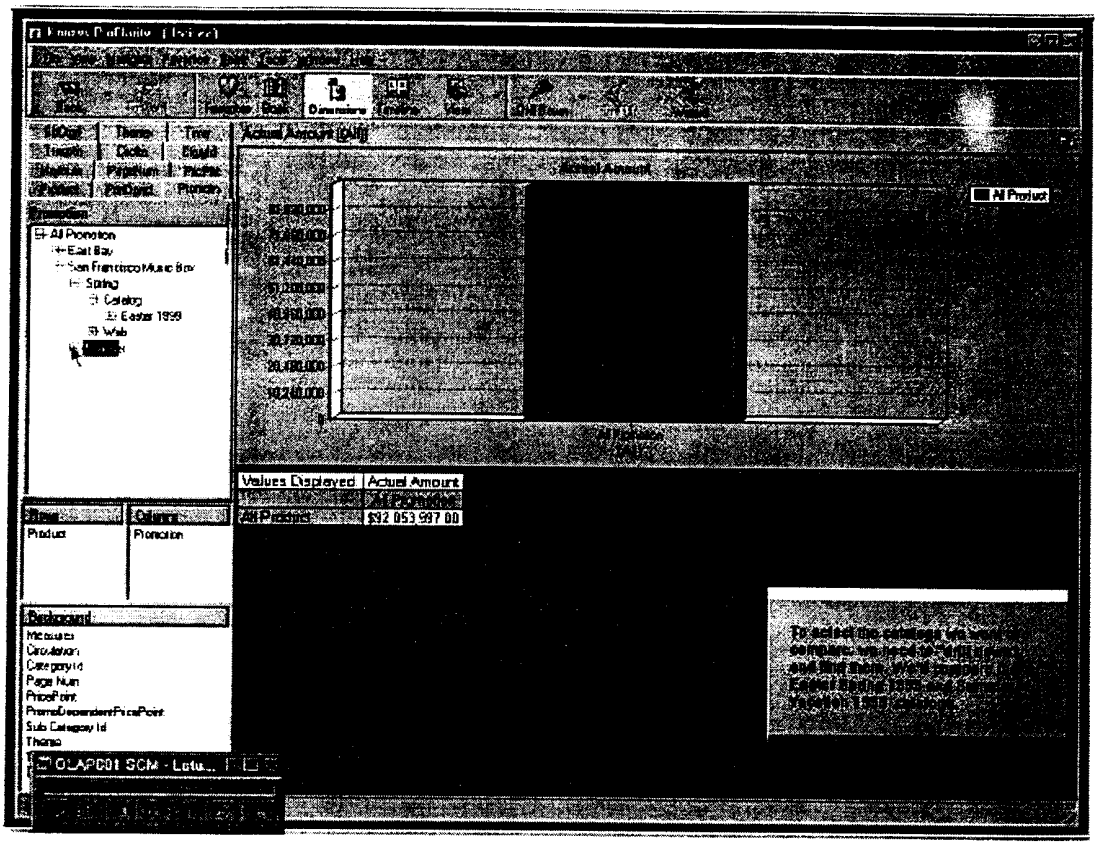


Figure 52



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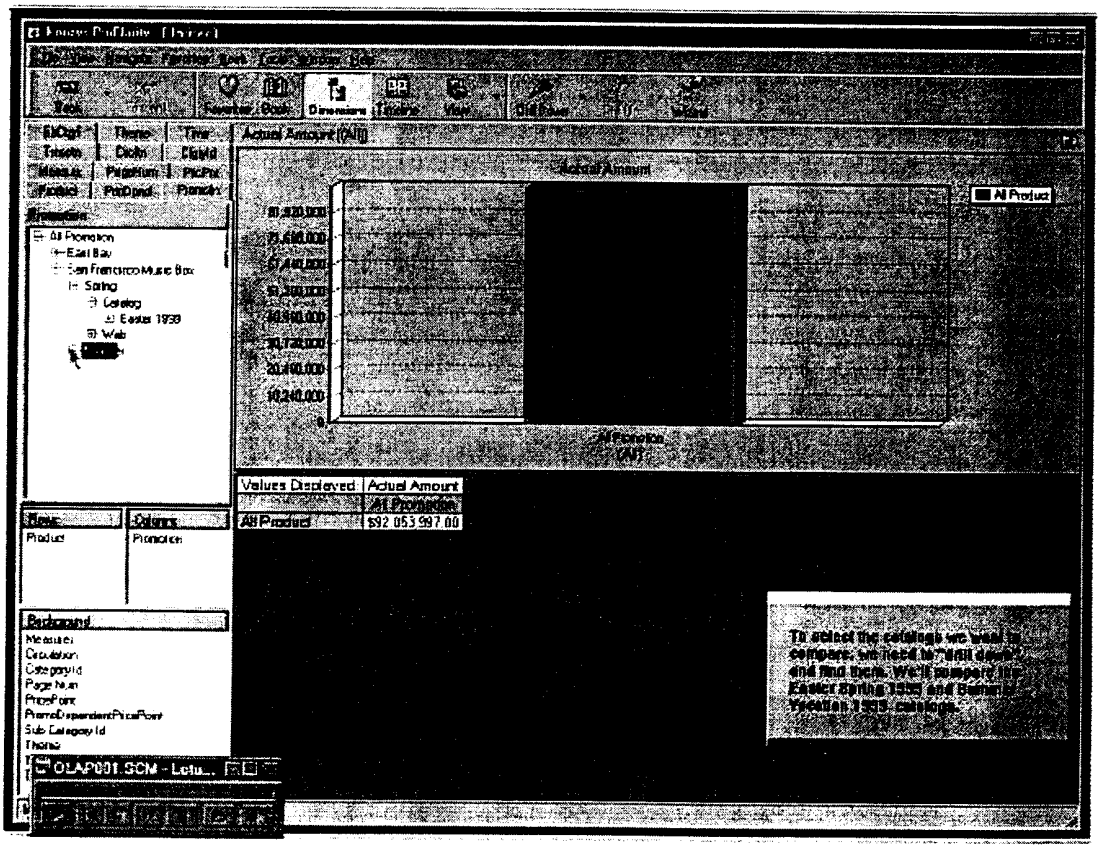

Figure 54

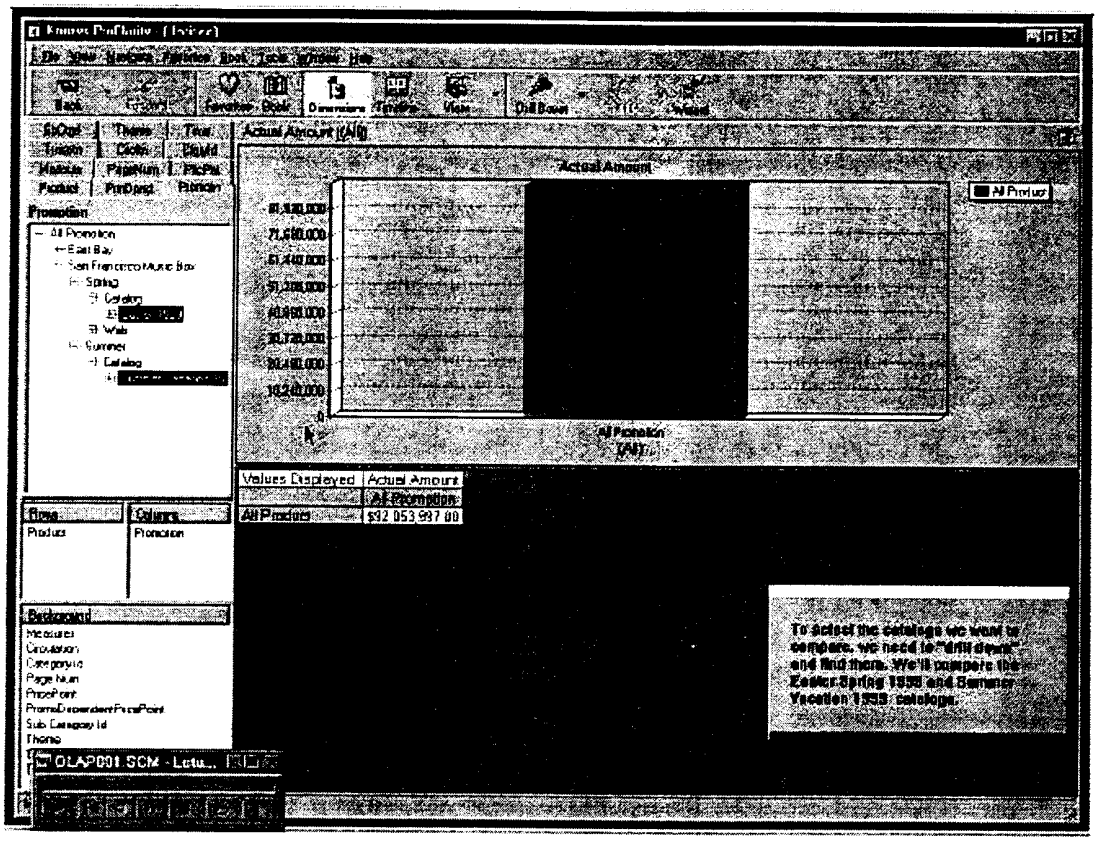

Figure 55

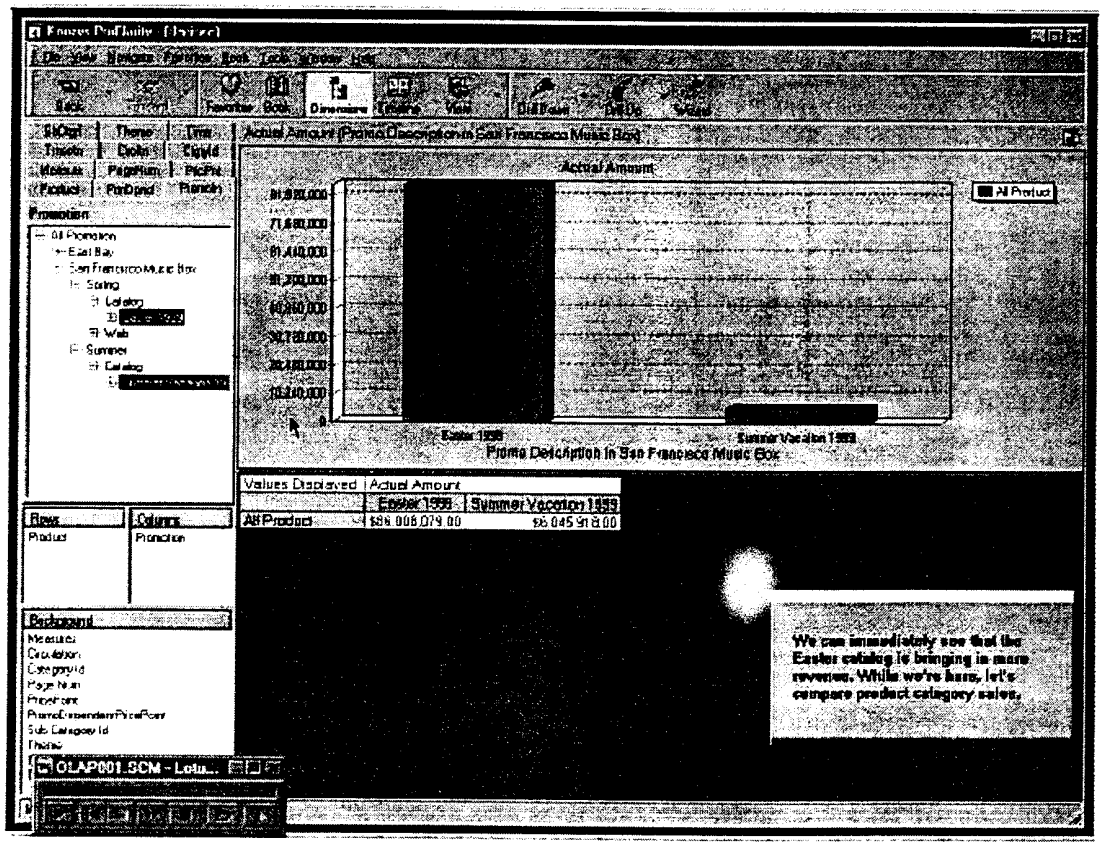

Figure 56

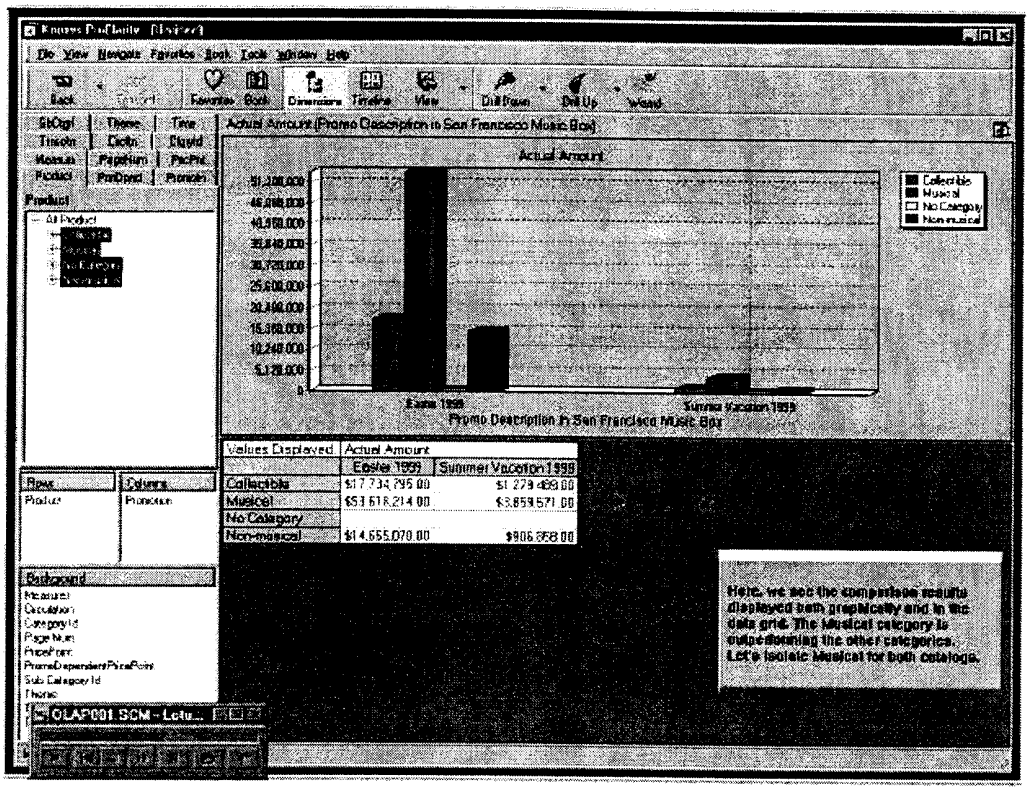

Figure 57

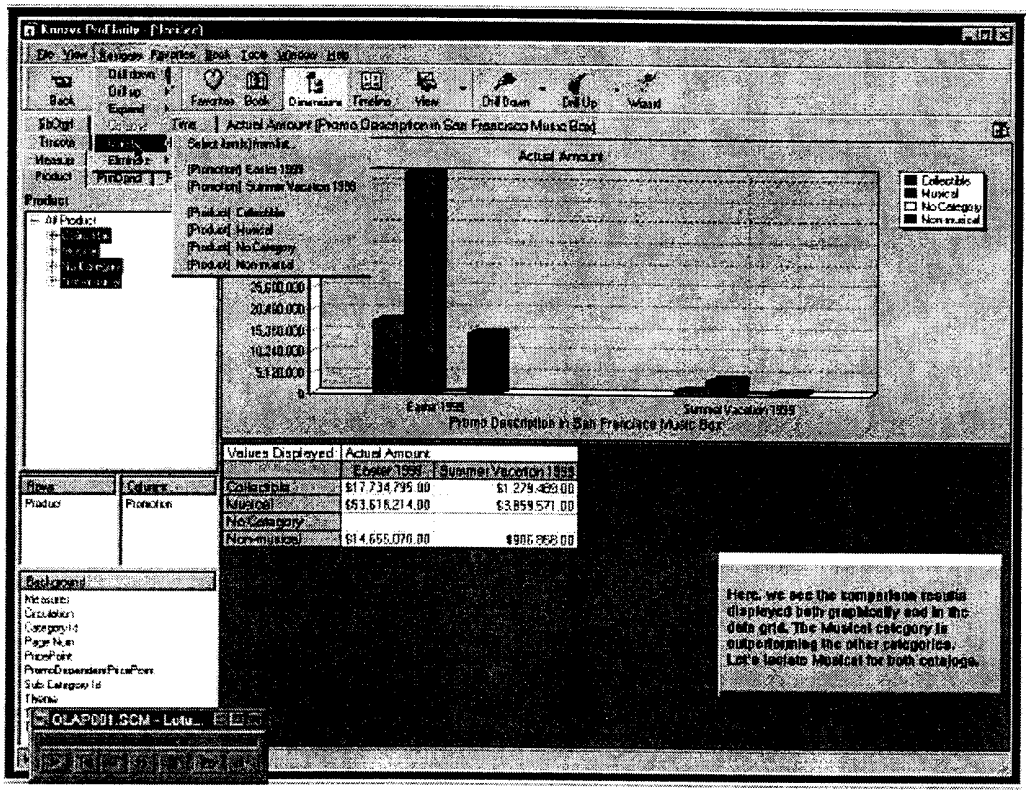

Figure 58

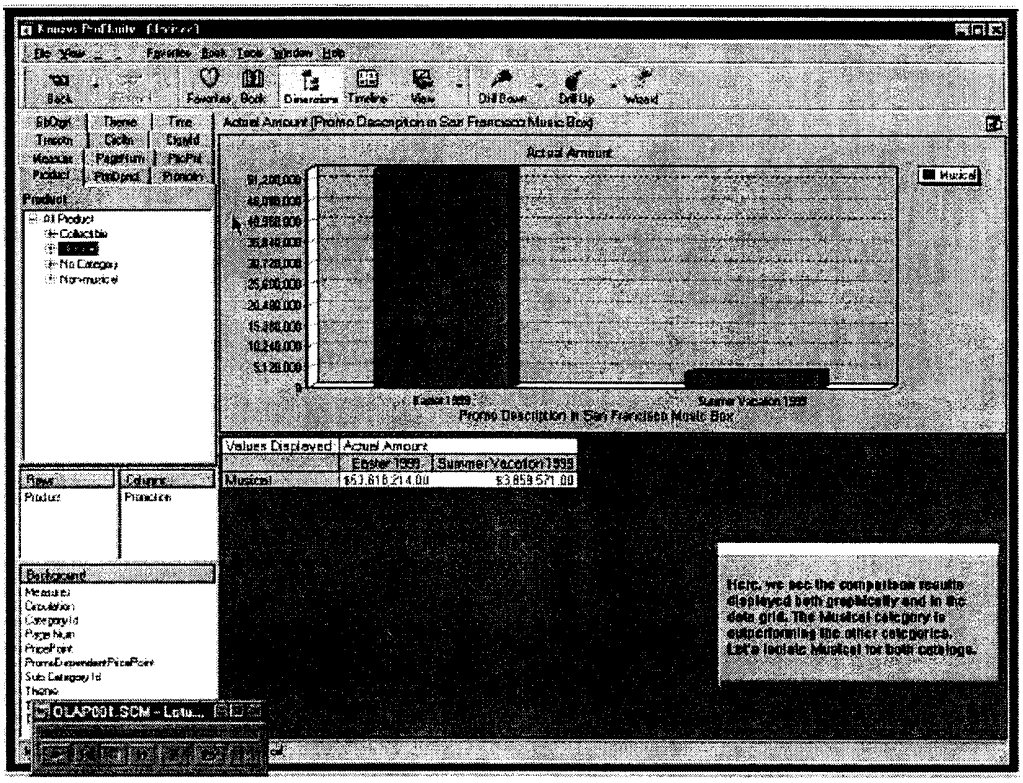

Figure 59

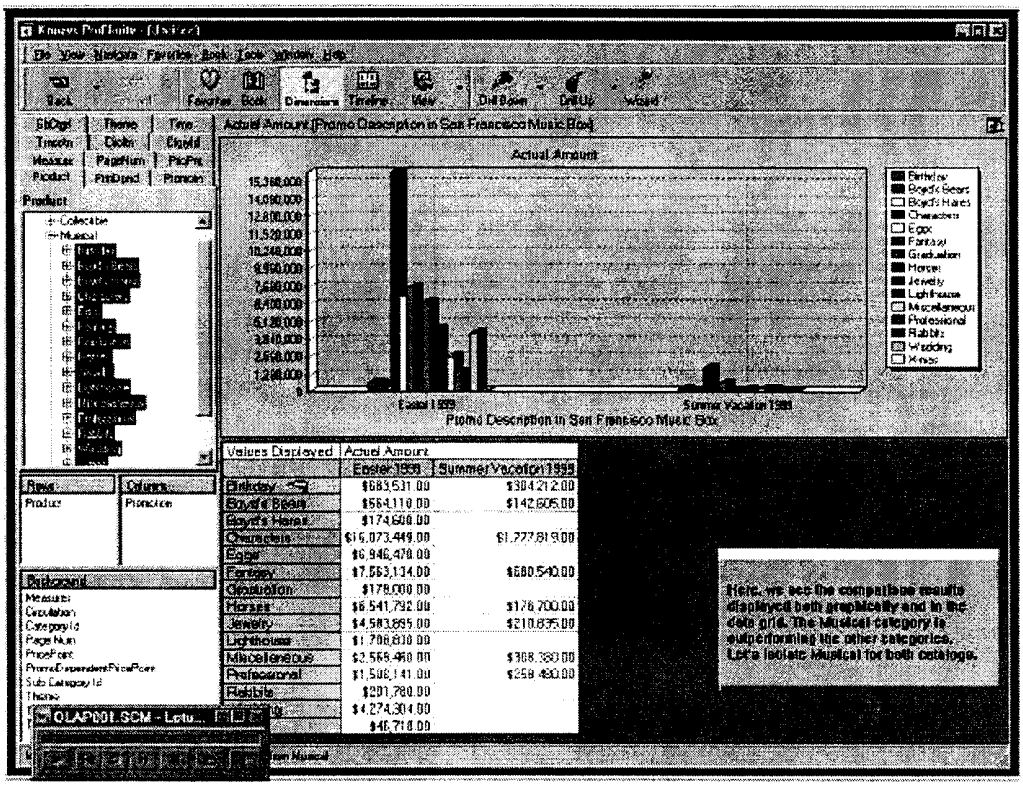

Figure 60

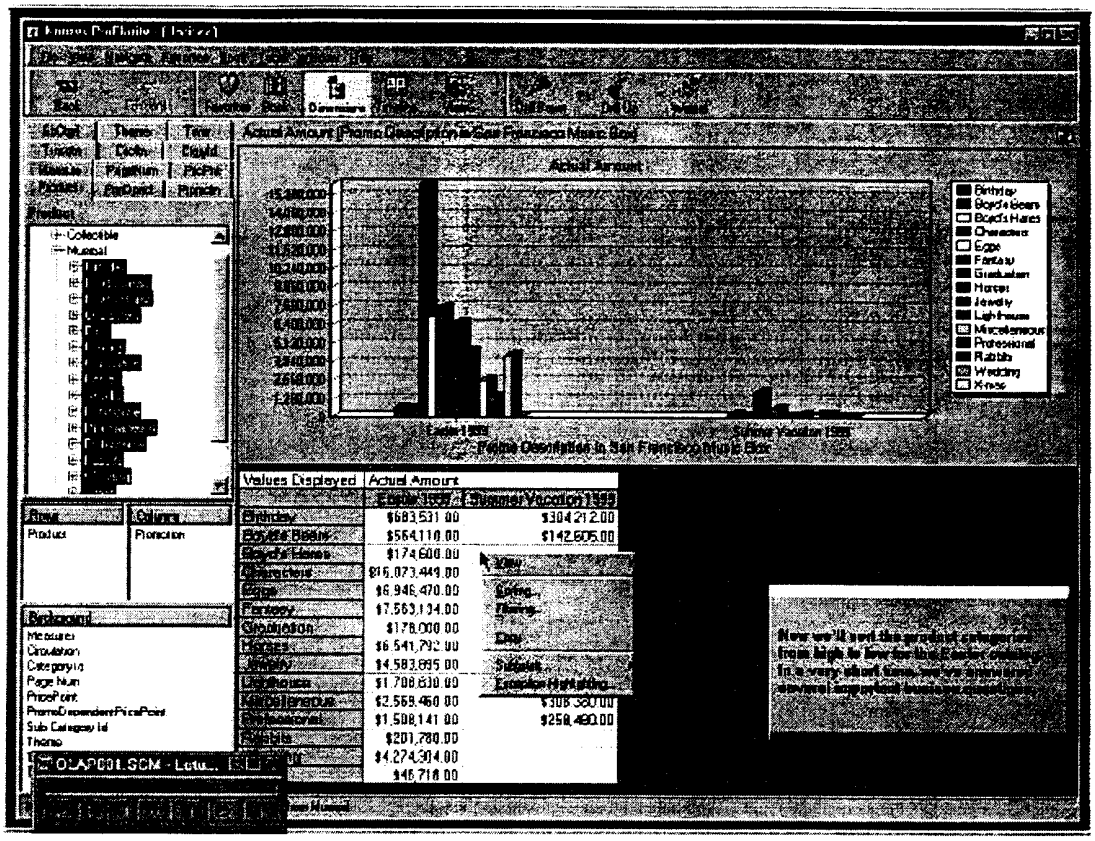

Figure 61

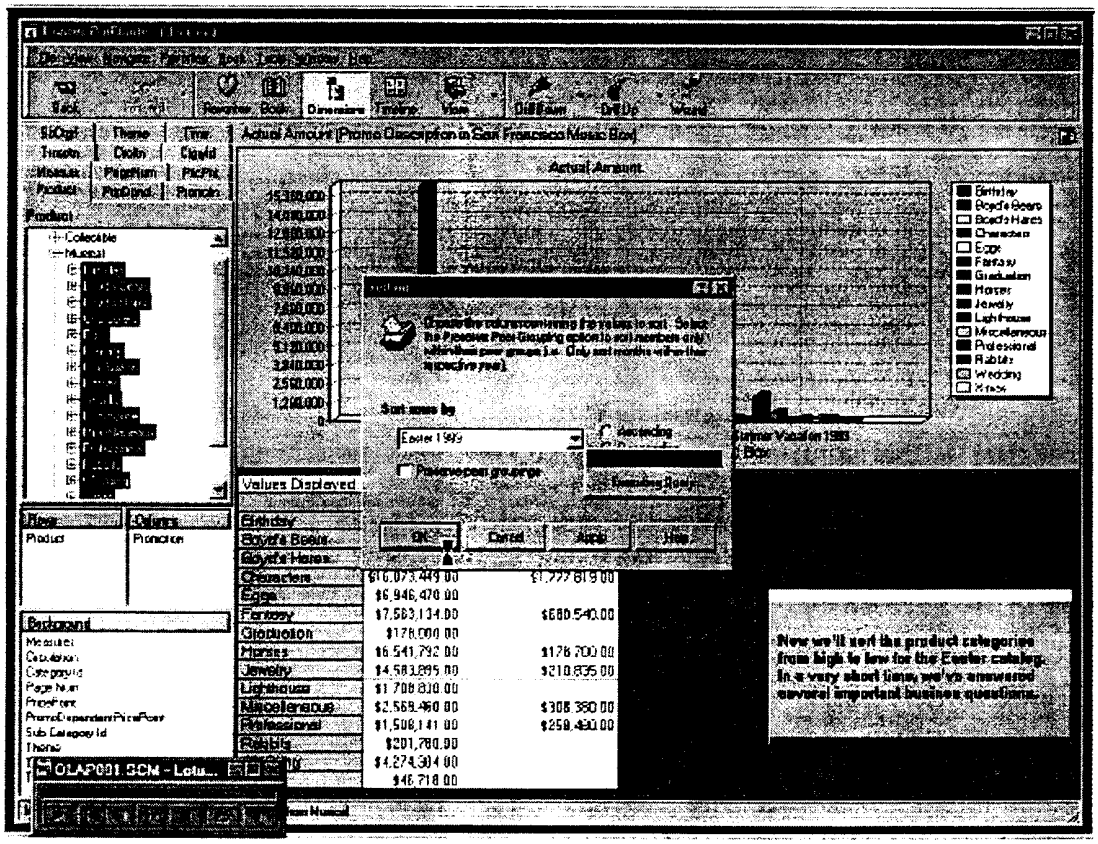

Figure 62

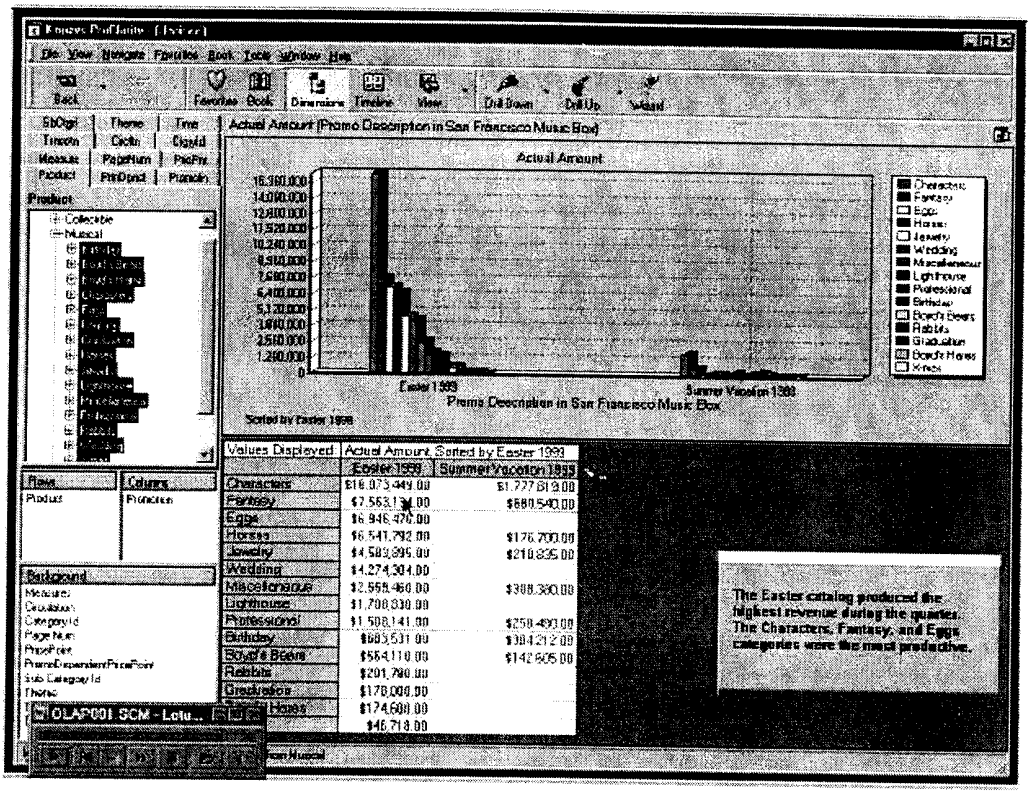

Figure 63

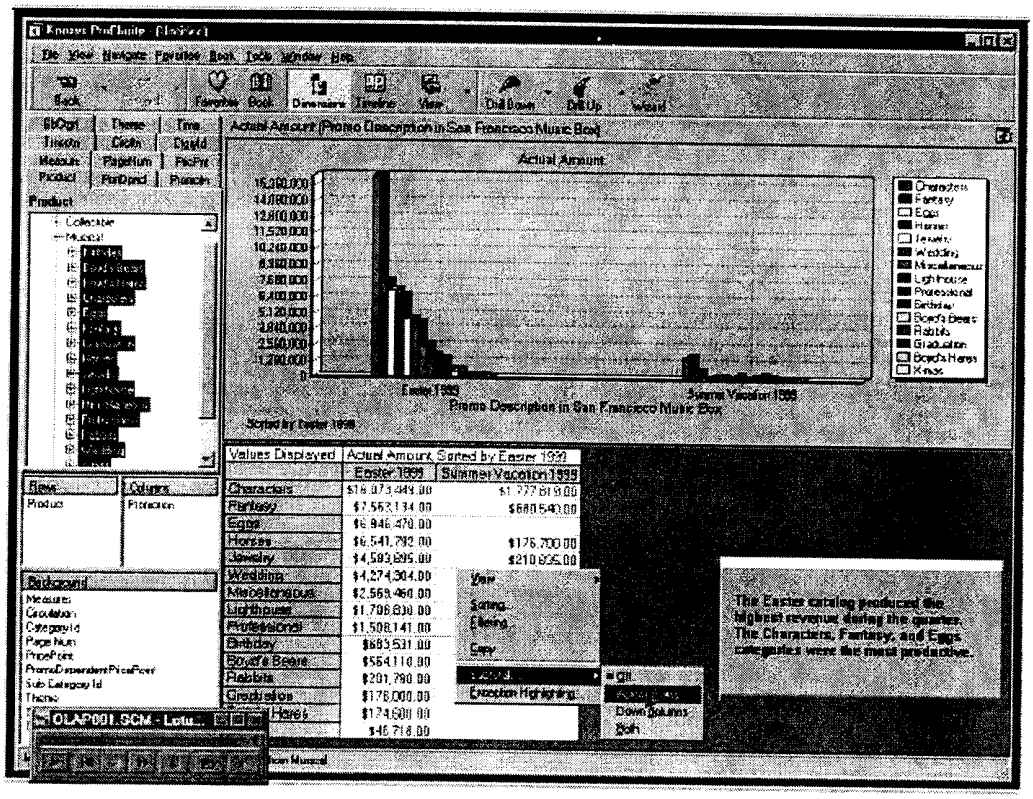

Figure 64

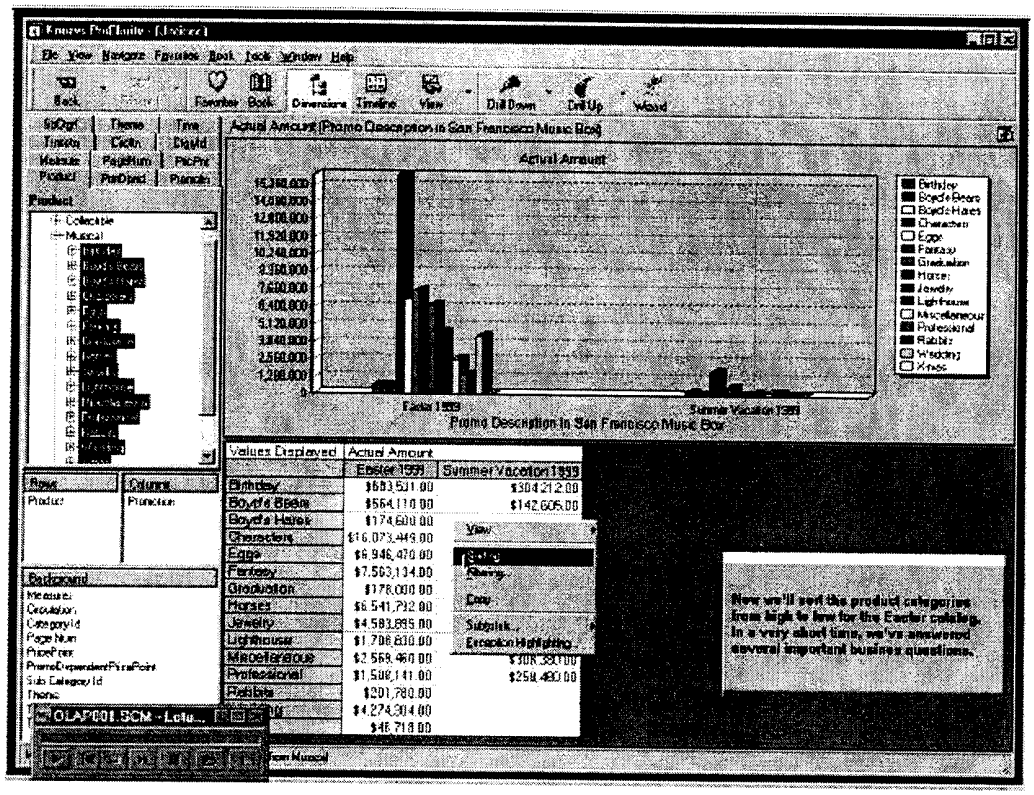

Figure 65

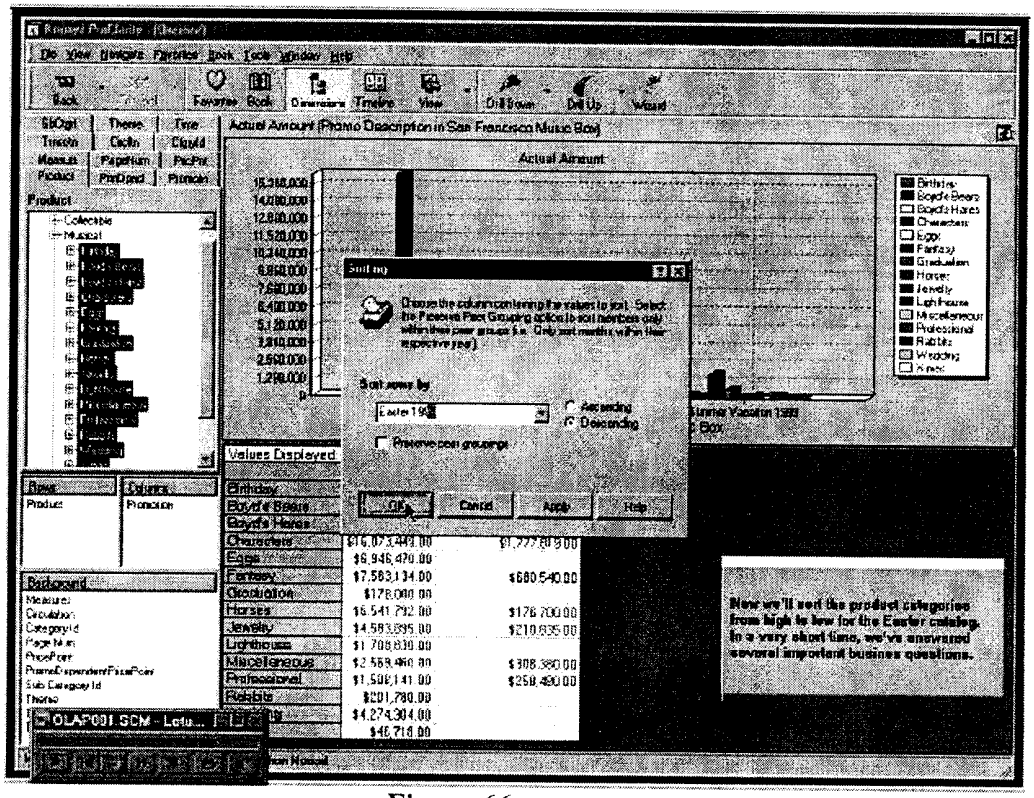

Figure 66

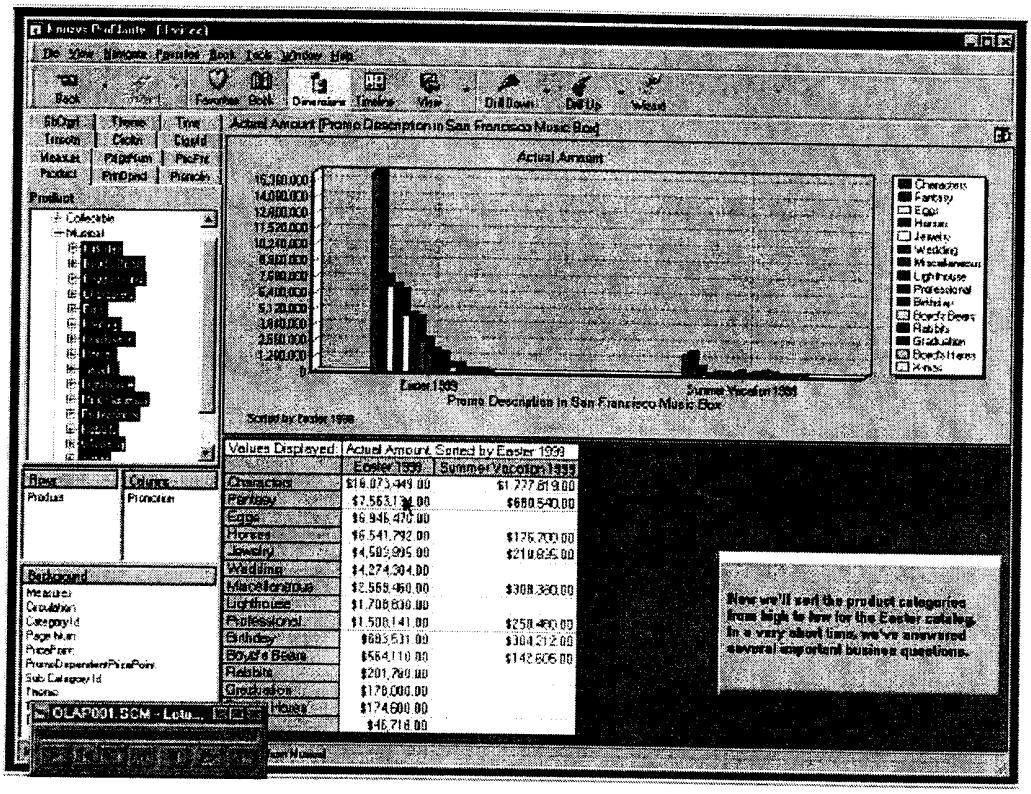

Figure 67

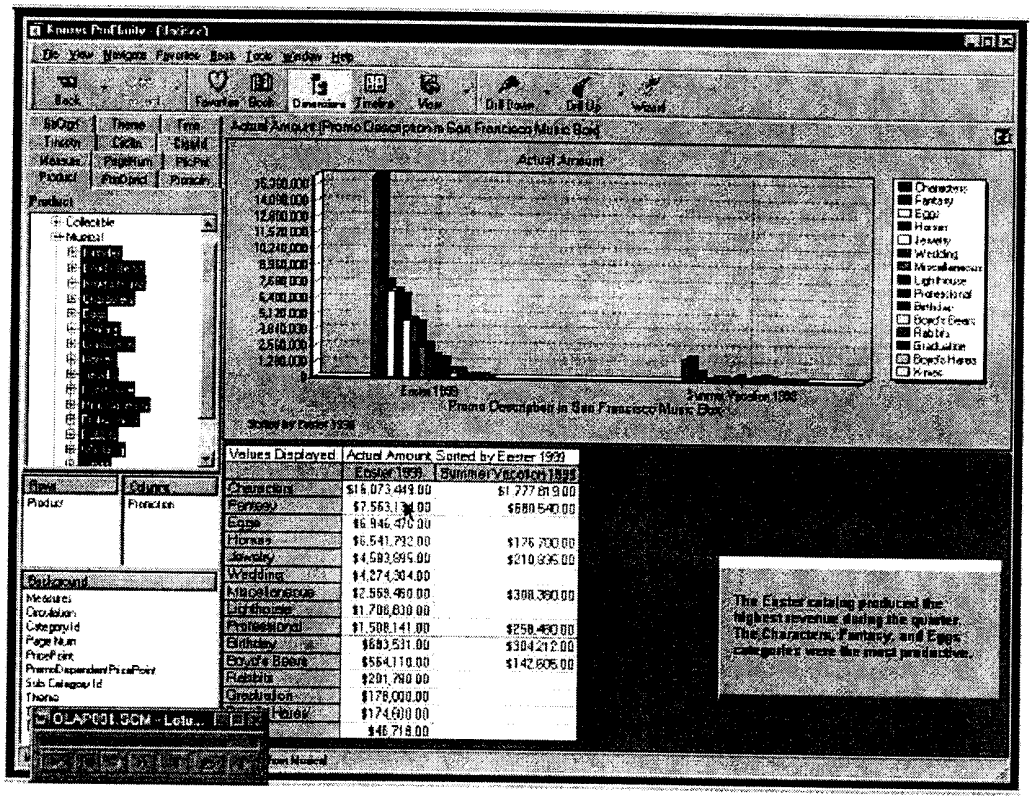

Figure 68

INTERNATIONAL SEARCH REPORT

national application No.
PCT/US01/04371

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/60
US CL : 705/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 705/7,10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST search terms: digital image, statistical information/data, metrics, product, calculate, associate

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,845,265 A (WOOLSTON) 1 December 1998 (01.12.1998), all.	1
X	US 5,353,356 A (WAUGH et al) 4 October 1994 (04.10.1994), all.	1

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
5 April 2001	27 APR 2001
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer Tariq Hafiz Telephone No. (703) 305-3900

Form PCT/ISA/210 (second sheet) (July 1998)