ABSTRACT

A System for Query, Analysis and Visualization
of Multi-Dimension Relational Databases

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In this project, a 3-tier distributed system is developed. It contains a small data warehouse implemented by a standard relational database for a business of coffee shops, an application server for both handling Remote Method Invocation (RMI) operations and accessing the database, and a client application component (applet). The client applet provides a Graphical User Interface (GUI) environment for visualizing data in different views by one dimension at a time or multiple dimensions in form of bar chart, line chart, pie chart, ring chart or statistical chart. It is hoped that visualization would help users make decisions better and sooner. To achieve system integration, the technologies of Online Analysis Processing (OLAP), Java Remote Method Invocation (RMI), Swing, Graphics 2D, Drag & Drop, Jar, and Java Database Connectivity (JDBC) were needed and discussed. In addition, the design and the future extension to the project were presented.
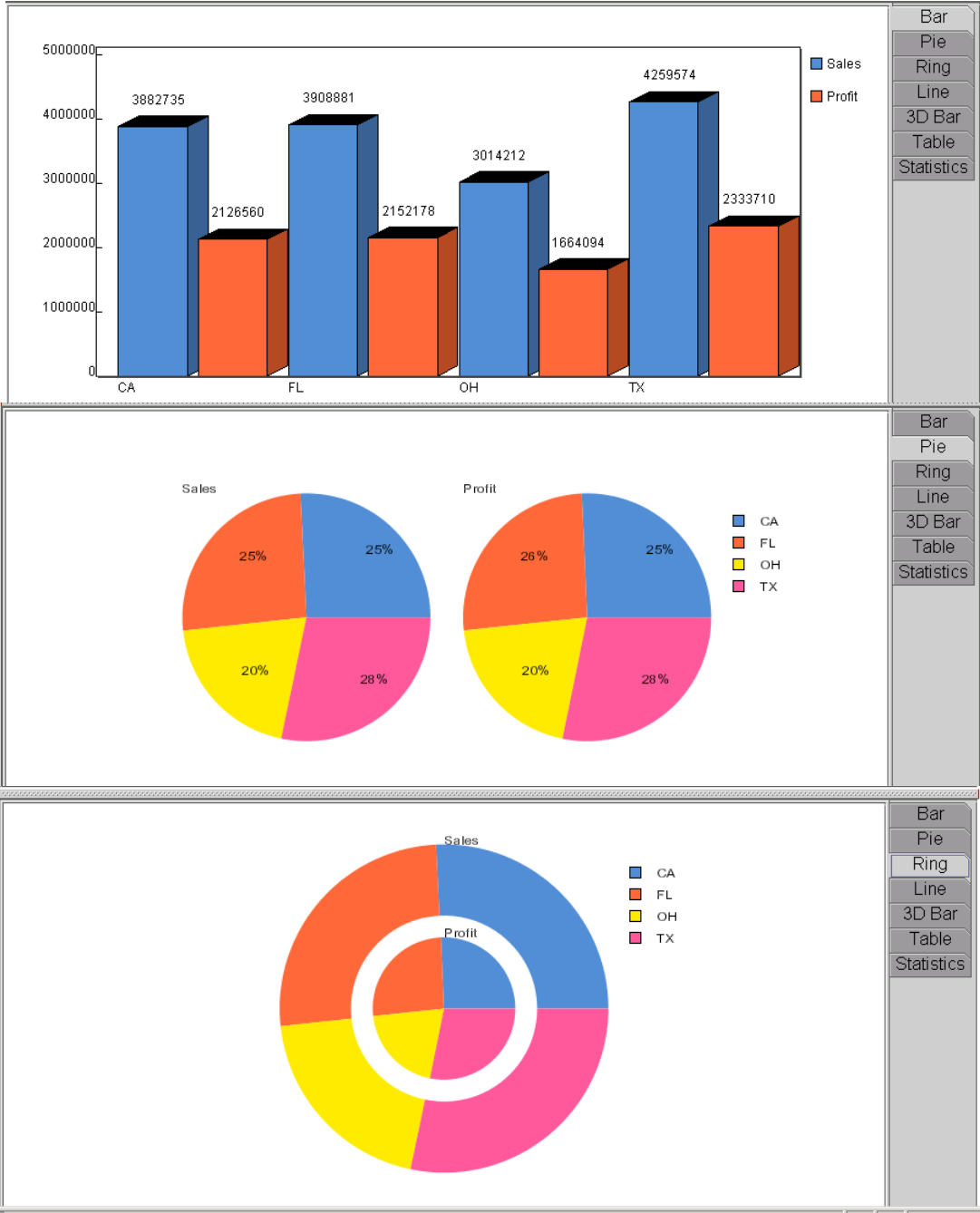
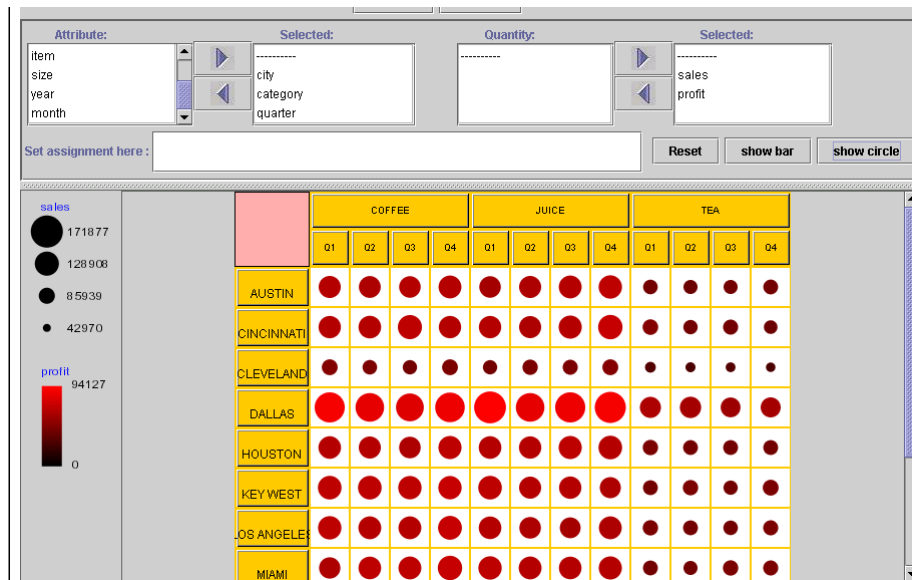Fig 4-6 Seven data graphical display

Fig 4-8 Bar display

Fig 4-9 Circle display