

Data analysis and visualization of sales data

Data is being generated very rapidly due to increase in information in everyday life. Huge amount of data get accumulated from various organizations that is difficult to analyze and exploit. Data created by an expanding number of sensors in the environment such as traffic cameras and satellites, internet activities on social networking sites, healthcare database, government database, sales data etc., are example of huge data. Processing, analyzing and communicating this data are a challenge. Online shopping websites get flooded with voluminous amount of sales data every day. Analyzing and visualizing this data for information retrieval is a difficult task. Therefore a system is required which will effectively analyze and visualize data. This paper focuses on a system which will visualize sales data which will help users in applying intelligence in business, revenue generation, and decision making, managing business operation and tracking progress of tasks.

Literature Review

The term visualization is an evolving study area, where many researchers have contributed from the last few decades. Various authors have proposed different techniques and technologies to support data visualization. This section elaborates about how the flow of research has been carried out by the authors and researchers from reputed journals and conferences.

In [4] the author has proposed a Sensor:Network based approach for storing, sharing, visualizing and analyzing data from multiple devices and to interact with each other and with the end user through an open REST-based API. The author has visualized the geographical location of the data stream which when clicked pops up a tabbed window containing different associated information.

In [5] the author has proposed a virtual reality platform for scientific data visualization, a tool for multi-dimensional data visualization using which scientist can interact with the data and their colleagues in the same space. The author has mapped data parameters in different data points, shapes, size, colors, XYZ axis and many more. The author has used iViz a visualization tool which can be run as a standalone application or in a web browser.

The author has discussed about a framework of financial time series delivery and visualization which can be used in viewing the historical price movement of a stock [6]. Specialized binary tree (SB-tree) is used for representing the financial time series. Time series data server, SB-tree server and web service contains is the three major components which are distributed on different machines. The system can reduce data volume and can capture the critical points.

In [7] the author has proposed a dashboard for displaying data used for communicating and finding trends in laboratory operation. System is based on. NET scripts, SQL repository. The author depicts that data is collected from the multiple sources like admin, internet and user portal and are stored in database using XML layer, Adobe flash, Action Script, etc. Data is being visualized which is used for laboratory and staff management.

In [8] the author has used a concept of visual web mining for analyzing the web data. A tool named WET is been used for visualization which provides a set of visual metaphor that represents the structure of the websites. The websites exploration tool is used for exploring the websites and for giving the feedback to the website owner for the betterment of the website.

In [9] the author has used a concept for analyzing data for examining the trend and evaluating the eco-environment impact of three gorges project. VC. NET and ArcIMs is the development platform for information system. ArcSDE and oracle 10g are used for management and use of spatial data. The author introduces method and processing and storing the data generated from cross-region, cross-department. Visualization helps in enhancing the data analysis and data mining.

In [10] the author has discussed the problem in compliance management which becomes an obstacle for decision making for effective and efficient monitoring. The person should be provided with compliance software which will help in getting high level information about overall compliance status and low level problem regarding possible problems. The author has designed a dashboard for watching the compliance which avoids the obstacle and decision can be made effectively.

In [11] the author has introduced a tool named SECONDA which is used for analyzing both individual and grouped evolution of projects and develops belonging to a software ecosystem, Visualization is implemented in java using JFREECHART libraries. The author has used GNOME ecosystem for studying, under SECONDA. It offers a dashboard for fast visual analysis of local and global matrixes that can be extracted from information stored in the repositories.

In [12] the author has proposed a system for monitoring the user exercising progress and presenting exercise parameters in relation to prescribed targets. This system can be used for monitoring the intensity of the levels recommended by the patients care provider. It uses a miniature wireless 3-axis acceleration tied on the wrist of the patient that transmits acceleration data. The dashboard allows graphical visualization of exercise progress in real time.

The author introduces a system where the huge amount of data generated from the collaborative software development tool during the lifecycle of a project can be used to analyze the performance of the individual member, or a team or manager. [13] They can analyze from different perspectives across different dimensions and visualized in different ways.

In [14] the author has proposed a dashboard which is an integration, validation and visualizing tool for natural language processing. The system helps the system integration team to integrate and validate the system; developers to profile each module and researchers to evaluate and compare the module with the earlier versions. It also supports execution of modules on heterogeneous platform with an easy to use graphical interface developed using eclipse RCP.

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