Sales Analytics Tool – SAT

Minor Project

IBM Career Education

Disclaimer

This Software Requirements Specification document is a guideline. The document details all the high level requirements. The document also describes the broad scope of the project. While developing the solution if the developer has a valid point to add more details being within the scope specified then it can be accommodated after consultation with IBM designated Mentor.

INTRODUCTION

The purpose of this document is to define scope and requirements of a Sales Analytics Tool – SAT for a White Goods Manufacturing Company. The Sales Managers were keen in tracking their team's performance using a simple and effective reporting tool. Deliberations with IT team resulted in setting up of a prototype using live sales data in ERP to deliver:

1. A handy tool to quickly view Employee/Product wise sales during a month.
2. Cross tab with various parameters with a feature to sort the columns.

This document is the primary input to the development team to architect a solution for this project.

System Users

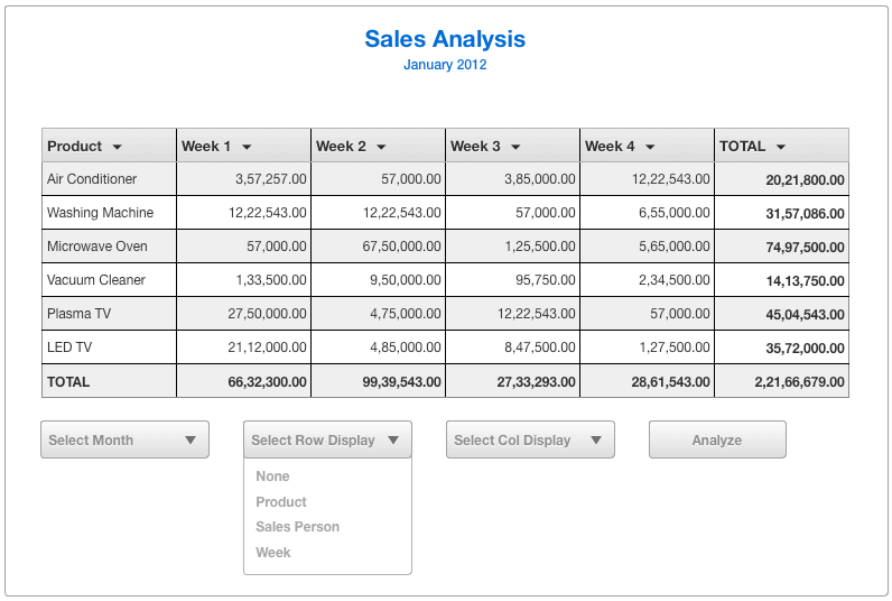
The Sales Managers shall use the tool to analyze sales performance in a month.

Assumptions

1. Typically the Sales Reports are part of the Legacy applications used in an organization. In real life, either a business analytics engine provides a multi-dimensional view or there is a huge dependency on Spreadsheet software. In our case, we have opted to build a simple and handy tool that is accessible over intranet for ease of use.
2. The data for masters like Sales Employees, Products, Sales data from ERP shall be uploaded as CSV from backend.
3. The data for Sales is uploaded only for the current year.

REQUIREMENTS

On accessing the Sales Analysis tool, the system will display a default sales report for the current month in a cross-tab format as below:



The default view shows a list of products as rows and their respective sales value in a week wise breakup. The last row displays the total weekly sales of all products and last column displays total sales for a product for all weeks. The report view can be changed by the selections available at the bottom of the report:

1. Select Month - a drop down of Jan to current month.
2. Select Row Display - a drop down (None, Product, Sales Person, Week)
3. Select Column - a drop down of (None, Product, Sales Person, Week). Please note that the option selected in the row drop down will not be shown in the column drop down and vice-versa with an exception to 'None'.

Analyze button will refresh the page and display the report based on the selections made by the user.

About Crosstab

Cross Tabulation is an effective mechanism to summarize the data available as multiple variables in a 2-dimension table. Such a report is available with a combination of two attributes that are being summarized to produce a resulting matrix. Let's see how the Cross Tabulation works to produce the Report layout shared in the earlier section. It starts from the raw data that will be stored in the following format from the uploaded CSV file:

Month	Week	EmpCode (SE)	EmpCode (SM)	ProdCode	Qty	Value
May	01	JE001	TS003	AC2T03	12	350000
May	01	JE001	TS003	WM5L01	10	150000
May	01	JE001	TS003	TV36I00	10	250000
May	01	RM001	TS003	AC2T03	10	300000
May	01	RM001	TS003	WM5L01	20	290000
…	…	…	…	…	…	…

The above sample data is for Sales Manager (employee code TS003) and her 2 sales executives (employee codes JE001 & RM001) for week 1 of May. The employee names and the product description are obtained from the respective masters viz. "employee master table" and "product master table". This data is uploaded from the back-end.

The row header displays list of products and the column header displays the Weeks. At the intersection of a product's row and a week's column, the cell contains the sum of all sales in that week for that product.

Similarly to view Employee wise product sales, the user will select Row as Employee and Column as Product. The resultant cross-tab will let you change the sort order (inverted triangle icon) in an ascending or descending manner.

Descending order sort will bring the achievers with their product sales in top rows. Note, only one column can be sorted a time.

By selecting a combination of rows and column variables, the sales manager will be able to analyze the data in 12 different ways.

Data Upload

Sales transactions will be uploaded via CSV file having the format described in the section on About Crosstab.

The product master table will contain the product code and the product description. Similarly, the employee master table will contain the employee code and the employee name. Note, the manager and his team information are embedded in the sales transactions.

The master data may be created in the DB2 backend directly as a one-time effort.

DEVELOPMENT ENVIRONMENT

SAT will be developed as a web application using Java/JSP and DB2 database. Eclipse will be used as the IDE for the same. You may consider using a JavaScript framework like jQuery/Prototype/ Scriptaculous.