Man Pasand Database Project

Project Identification and Description

Grocery stores are the backbone of the retail economy. Almost everyone visits groceries very often and purchases items. For a grocery store to be successful it has to be competitive in every aspect of business including management of inventories, staff, customer care services and has to offer customers with competitive price of products and added value to its products.

The grocery store company has to purchase its supplies with profitable prices and deliver it to individual stores. To be competitive in the business enterprise has to deliver grocery items based on customers' demands of each store and has to consider seasonality of items too. Each store then has to provide quick checkout services and customer care services and should also have to communicate the status of the business to main office and also quickly stock inventories with high turnover.

Besides managing inventories, supplies, pricing and customer care services, the company also has employees working at different positions that make the business operational. Employees help the company manage inventories of items, supplies, pricing of the items, and support customers in the checkout process. Managers must be able to use their employees wisely and know their employee costs and benefits. Moreover, since inventories in the store run in real time some stores may need to have systems to automatically reorder items from their distribution warehouse. Managing all of these aspects of such a business enterprise seems simple but it is a complex issue. Many of the capabilities mentioned above are only possible through the use of efficient Relational Database Management System.

Client of the Database Project
The client of this database project is Man Pasand which is a Indian grocery store enterprise that owns 3 grocery stores in Austin, Texas. The company

has one distribution warehouse where items purchased from their suppliers are temporarily stored until they are distributed to each store. Each individual store also has their own small sized storage room in the grocery building where items other than on the sales floor are stored.

Scope of the Database Project
The scope of this database project is limited to the point of sale aspect of the grocery enterprise. Since the grocery enterprise has no online and self-checkout system for customers there is no user interface for customers. Customers buy items by picking items they need from the sales floor, put them in the cart and then sales associates scan each of the items and display the total cost to the customer and they have the option of paying using cash, debit/credit cards, gift cards or checks. Hence there is no log into system for customers. But, sales associates need to have the log into username and password.

Data collection and Requirement specification

Manpasand is a Indian grocery enterprise which was established in 2012 by opening only one store at south Austin at that time. It is a growing grocery enterprise which expands its business operation in so many aspects and opened one more store in 2015 and recently opened one more branch Pflugerville in the year of 2019 owning a total of three grocery stores in the same city employing 20 full time 20 part-time employees. As mentioned by the ManPasand director, Neetha Patel, even though the enterprise has expanded in size and number of employees it hires there is a continuous challenge facing the business in terms of paper works of information communication between stores and main office, between employees, inventory management, and reports. The director, who is the owner of the business, feels there is a need of solutions to the current problems of data management which is the cause of the bottleneck. So based on the current problems facing the business there is a need to design, implement and deployment of the database system that helps the grocery enterprise to run the business smoothly and successfully.

Interview Questions and Summary of Interviews
To properly analyze the current situation of the grocery enterprise and thereby design and implement efficient database the methods in this project

to generate information include but not limited to interview employees, review of current business forms used by the enterprise and reports that have been used by the enterprise. Open ended interview questions to the director, manager and salesperson is as follows.

Director of the business:
What is your role at the company?
What are your day to day activities?
What kind of data do you work with?
What kind of things do you need to track of?
What kind of general items do you sale to customers?

Store managers:
What is the description of your job?
What are your day to day activities?
What type of work do you do?

Sales Associate:
What is your job description?
What are your day to day activities?
What type of work do you do?

Based on the interview for the three employee types, job description, kind of tasks performed on a daily basis, and kind of data each group of employees work with is summarized.

The director responsibilities are:
1.He manages the entire business through store managers
2.Responsible for making sure all the stores are running
3.Approving supply requests by stores
4.Hiring or appointing store managers, and controlling the overall business.
The director works with almost every data. The reports that are required by the director are employee lists and their payments, daily sales of each store, inventory of items, customers' report. It is also stated by the director that the grocery store sells most of the grocery items of quality in competitive price to its customers.

The store managers responsibilities are:

1.Managing day-to-day aspects of store.
2.Employee hiring.
3.Requesting inventories from distribution warehouse,
4.Reporting daily sales to the business director,
5.Making sure the sales associates are performing the duties efficiently.

The sales associates responsibilities are:
1.Helping the customers in finding grocery items they need.
2.Making sure the items are stacked in sales floor.
3.Organizing Groceries in an appropriate location.
4.Reporting to the store manager whenever the items in sales floor are below some level.
5.Scanning grocery items for customers who are ready for checkout
6.Finally assisting them in the payment process.

Forms and Data Collected from Man Pasand, and ScreenShots
The following are the forms that have been used by the Man Pasand grocery enterprise to manage its business. The forms collected for this project include Employee Registration, Employee List, and Item Registration at Warehouse, Item Inventory list at Warehouse, Item Registration at Store, Item Inventory list at Store, Daily Sales Report, Weekly Sales Report, Monthly Sales Report, and Quarterly Sales Report.

Figure 1 Employee Registration Form

Man Pasand SUPERMARKET

EMPLOYEE REGISTRATION FORM

Employee Number :_____ First Name:_____

Last Name :_____ Sex:_____ DOB:_____

Telephone Number:_____ Position:_____

Salary:_____ Start Date:_____

Other Details:_____

Store Number:_____

Store Address:_____

_____

Telephone Number:_____

Manager Name:_____

Figure 2 Employee List

Man Pasand SUPERMARKET

EMPLOYEE LIST

Store Number:_____ Telephone Number:_____

Manager:_____ Store Address_____

Employee Number	Employee Name	Sex	DOB	Address	Position	Salary	Date Started
MP0021	Ajitha	F	----	-------	Sales Associate	----	------
MP0022	Pooja	F	-----	-----	Sales Associate	-----	-------
MP0025	Ramesh	M	-----	-----	Manager	------	-------

Figure 3 Item Registration Form

Item Number	Item Name	Unit	Quantity	Discription	Purchase Price	Selling Price
---	---	-----	----	---	-----	----
---	-----	----	---	-----	----	---
---	-----	----	---	-----	----	---
---	-----	----	---	-----	----	---
---	-----	----	---	-----	----	---
---	-----	----	---	-----	----	---

Reported by : Employee Number:_____ Employee Name:_____ Date:_____

Figure 4 Daily Sales Report

Man Pasand SUPERMARKET

DAILY SALES REPORT FORM

Store Number:_____ Telephone Number:_____ Date:_____

Manager:_____ Store Address_____

Item Number	Item Name	Quantity	Gross	Tax Amount	Net Sales
---	-----	----	---	-----	----
---	-----	----	---	-----	----
---	-----	----	---	-----	----
---	-----	----	---	-----	----
---	-----	----	---	-----	----
---	-----	----	---	-----	----
Total Sale					

The director of the business have an employee id and manages the entire business and responsible for making sure all stores are running, approving supply requests, hiring or appointing of store managers, and controlling the overall business. The enterprise has one warehouse that stores purchased items until it is distributed to stores which is located at the main branch. Each branch store has an appropriate number and employees including store manager, sales associates, and cashiers. Each employee has a unique id. The store manager is responsible for the day-to-day running of the store and supervising sales associates, requesting items delivery from warehouse, and registering items to the store inventory. Sales Associates are responsible for assisting customers in locating items they need, and running registers.

Customer information is critical to any successful business and the grocery business is no exception. Even though it is not possible to have all the required customer information from the nature business the grocery enterprise is engaged each customer will be encouraged by offering them discount coupons if they are willing to have basic information stored and this will be linked to their purchases. Managers can run reports viewing which store they shopped at, what they bought, how many total transactions and how much money they spent.

Customers have to be able to select product for checkout. For this project, there will be no customers' user interface as the customers only pick items they need from sales floor and it is the sales associates who help them checkout. Sales associates have login password and they have to use the credentials to login every time their shift opens. For this project simulation of item scanner is replaced by Sales associates entering the items to the checkout table. Once the checkout button is completed, the items will be deducted from inventory.

Employees work at a store. The employees will have a unique ID. Employees group contains Sales Associate and managers. Sales associates help checkout the customers. They work hourly and they each assigned one store. The associates log into the system with a password at the beginning of their shift. They have a unique ID, a hire date, and a password change date. In this project associates information will be shown in certain management reports. The user entering the items into the checkout form will be the associates. Managers are also employees and have a unique ID. Managers supervise other employees. They also work at specific stores. Managers have a higher security clearance that also them to run certain reports and adjust inventory.

Management reports needed for management will have to answer questions including the current status of inventory quantity per store, price per item, customer activity, and sales totals. Managers can query employee information like wage information, store worked, and manager. Inventory report(s) will include quantity in each store and the value of the current inventory. The report will have a 'restock' button that will be used to reset all inventory items to a present quantity and date so a user can simulate purchasing items multiple times. In the real world the store would order more inventory from their warehouse.

Networking and shared access requirements

All stores should be securely networked to a centralized database located at the Man Pasand Main office. The system should allow for concurrent access of the system from each store.

Performance, Security, Backup and Recovery

Single search of a record should not take more than a second search response time while multiple access search of record should take not more than 10-second response time search.

The database should be password protected. Each employee should be assigned database access privilege appropriate to a particular user view, namely Director, Manager and Sales Associate. An employee member should only be able to see only the data necessary to do his or her job in a form that suits what he or she is doing.

The database should be backed up daily at the end of the day at 12 mid-nights.

PART-C
Design of New Screen User Interface for input and Output