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Semester Project-BDAT 605

Cheese Company Database

Explanation of Database Components

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This database reflects part of what a real database could potentially look like for a cheese company. The main tables that have far-reaching effects are the Employees, Orders and Cheeses tables. These tables have relationships with many other tables. The employee information, shipping, order, plant, cheese, supplier, and distributor information stored in this database.

There are useful views, queries, a stored procedure, function, and ER diagram. The scripts for all are in both a text file and a .sql file. While this does not reflect a full database that a company would have, it does have enough components to demonstrate how a database could function.

**TABLES & VIEWS**

Table: Cheeses

View: CheeseList

This view is for employees that need to see the cheeses that the company can make, but do not need to see the sensitive business financial information-such as production costs and wholesale prices.

Table: Employees

View: EmployeeDeptPhone \*includes JOIN (Employees and Departments)

This view is for people to be able to know the company phone, plant and mailbox to be able to contact the employees. An employee of the company could use this view, but snapshots of it may appear in directories that are available for the outside too.

Table: Departments

View: DepartmentContactInfo

This view is for employees to easily access the phone and mailbox information for each department. Columns are more concisely named. Snapshots of this information may be available to the outside when a contact directory is needed.

Table: EmergencyContact

View: EmpEmergencyContacts \*includes JOIN (EmergencyContact and Employees)

This view has emergency contact information for each of the employees. It is joined with Employees, because it doesn’t make sense to have the emergency contact info available without knowing who the emergency contact is for.

Table: Plants

View: PlantAddresses

This view has the addresses for each plant. This could be used by employees, and snapshots may be available for the outside when addresses for the plants are needed. Truck drivers are one group that can make use of this information.

Table: FarmContact

View: FarmerContactInfo \*includes JOIN(FarmContact and DairySuppliers)

This view shows the contact info for the farmers (farm contact) and is grouped by the farm that they belong to, which requires a join.

Table: DairySuppliers

View: FarmAddresses

This view shows the addresses for the dairy suppliers (farms). It might be used by logistics or even by the employee that is responsible for sending out payments, contracts, holiday gifts, etc.

Table: CheeseDairySupplyLink

View: CheeseDairyInfo

This view is to see the information from the linking table, CheeseDairySupplyLink. An employee might need to see which farm’s milk is going into what cheeses, or which cheeses each farm is supplying for.

Table: OrderLineItem

View: CheeseQTYOrderlines \*includes JOIN(OrderLineItems and Cheeses)

This view shows the OrderLineItem information for quantities of cheeses, but excludes sensitive price information. This view could be used by sales or other departments to understand the quantities of the different cheeses that have been ordered. They can use the data to make decisions.

Table: Orders

View: TrackOrderShipDate

This view has information from the Orders table but excludes distributor information and Total ($) information. This view may be used by employees that do not need to know sensitive information, but might be answering questions about if an order has shipped, when it shipped-maybe someone would want to use this information to understand how long orders typically take to ship. The packaging/shipping department may use this info to see which orders are still needing to be shipped.

Table: Distributors

View: DistributorAddressPhoneInfo

This view shows all of the columns for this table and it utilizes SELECT \* to be able to see how that materializes. The sales department might use this view to get the addresses to mail promotional items, mail invoices, and call the distributors with questions.

Table: Buyers

View: BuyerContactInfo \*includes JOIN(Buyers and Distributors)

This view contains the simple contact info for each buyer-the phone and email. This view would be used by anyone that might need those direct and instantaneous modes of contact. It does not contain mailing addresses, as this will only be used for quick contact. There is a join because it makes sense to list the distributor company name by the contact name so that the user can understand what company each buyer that they are contacting works for.

Table: OrderTruckLink

View: OrdersOnTrucks \*includes JOIN(OrderTruckLink and Orders)

This view shows the linking table between Trucks and Orders. It is a many to many relationships-orders may be split up onto several trucks and trucks can take pieces from many orders. There is a join to include a ship date because it makes sense for an employee to be able to see which trucks each order is on, and what orders each truck takes, and what date that happened on-like being able to do some shipping tracking.

Table: Trucks

View: TruckInfo \*includes JOIN(Trucks and ShippingCompany)

This view shows the license plate and driver ID of each truck, along with the shipping company that they belong to. This helps to identify the correct truck and driver for trucks coming in and out.

Table: ShippingCompany

View: ShippingCoAddressPhone

This view has the address and phone for each shipping company. Employees might use this to contact the shipping company through phone and send documents through the mail.

**Stored Procedure**

There is one stored procedure, spLargestOrdersReport, which generates results to show the top dollar orders from the Orders table. It includes optional parameters (where the user can specify how many top orders to show, default is 5), and a join so that the user can see the company name that goes with the top orders. This is extremely useful information for sales teams and production teams.

**Function**

There is one scalar-valued function, fnFindCheeseRecipeID, that returns the recipe ID when the user passes in the cheese name. This would be helpful in the production or R&D sector so that the appropriate person can easily find the recipe ID of a cheese that they are going to make or study.

**Queries**

The first query provides the average order total for distributors with average orders below $200,000, and their names. This query is helpful to understand the size of orders that the smaller customers make so that the cheese company can make good business decisions.

The second query is showing the calculated profit for each cheese and ordering by Plant so that the user can see which cheeses at which plants are very profitable, or not so profitable, so that site leaders at each plant can allot resources accordingly to maximize profits.

The third query results have the distribution company names and their maximum order total that they have ever had. This can be useful to understand what tiers of distributors/buyers are being worked with and the company can make business decisions accordingly.