DMIT2018 - Intermediate Application Devel...

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Purchase Order

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Purchasing

> **NOTE:** These specifications may be supplemented by your instructor with sequence and/or class diagrams for the use cases involving transactional processing. When provided, you must follow the guidance of those diagrams.

Create Purchase Order

Business Process Overview

> *Employees must log onto the system. Purchasing must only allow authenticated users within the Purchasing Role to access to the subsystem. A Parts Manager creates purchases. The Employee full name must appear on the form in te mode*

Imagine you're a Parts Manager working at a company that needs to buy inventory from various vendors. When you beg your day, you log into the system. Because your role as Parts Manager allows purchasing, the system grants you access purchasing tools. Your name appears on the screen, and you can navigate to the purchasing tools, confirming that the s recognizes you as an authorized person to perform these tasks. The goal here is to manage purchase orders (POs)— documents that detail which items your company wants to buy, in what quantities, and at what price.

To start, you select a vendor from a drop-down list. No vendor is initially selected, and all totals are zero. After choosing vendor, a button next to the vendor selection triggers one of two paths.

1. Suppose this vendor does not have an open purchase order (an order that has started but is not placed). In that case, the system genera "suggested purchase order list" for you. This suggestion isn't random: the system compares each item's reorder level to what's currently hand and what's already on order. If the inventory seems too low, **reorder level is greater than the total quantity on hand and quantity order**, then this item appears on your suggested list.

2. Suppose there is already an open order for this vendor (an order that has been started but not placed). In that case, the system retrieves existing order and shows it to you.

In both cases, you'll also see other parts that the vendor sells but have not yet been added to the order, just in case you to add more.

As you review the items, think of yourself as an editor refining a draft. The suggested purchase order is merely a starting You can remove items you don't need, change quantities to what you think makes sense, or add new items that the sys didn't suggest. You can also change the prices for parts on the order if you have negotiated a different price with the ve At this stage, you're working only on the screen and making adjustments, but you haven't committed anything to the database yet. Once satisfied with your changes, you can press the "Save" or "Update" button. If the purchasing system generated a new suggested order, you see the "Save" button. Once "Save" is selected, the system creates a brand-new in the database and assigns it a unique Purchase Order Number (PON) but does not assign the order an Order Date. You see the "Update" button if the system retrieved an already active order for the vendor. The "Update" button saves any changes you've made since the last time you pressed that button.

Your "current active order" is a work in progress. It's like having a shopping cart that you can revisit, modify, and refine multiple sessions, all without committing to the purchase. This flexibility lets you think through your needs and ensure everything is correct. The order is considered "active" throughout this stage but not "placed." In database terms, there Order Date. Once you're ready—maybe after discussing the needs with colleagues, confirming budgets, or negotiating press the "Place" button. The system then sets the Order Date to today's date, locks the order so you can't change it an and updates all the item quantities on order in your inventory records. In other words, you've made a firm commitmen your company will expect those items to be delivered.
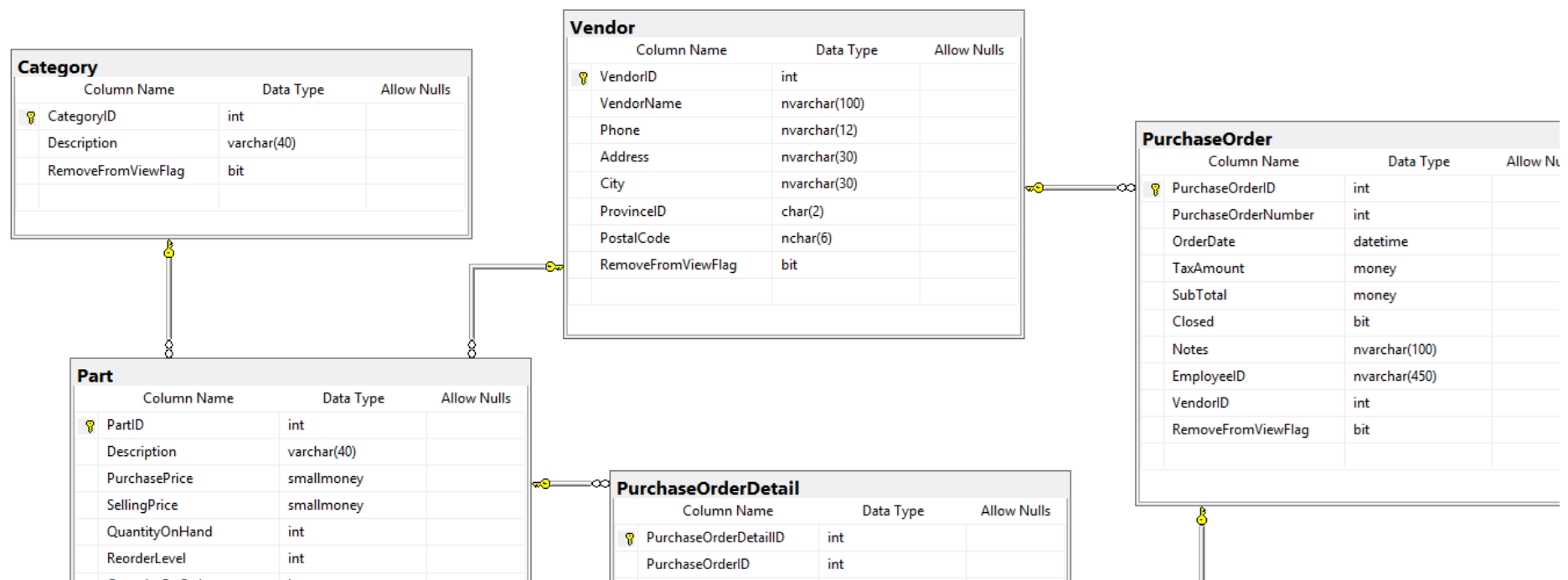
But what if something goes wrong or plans change before you place the order? No problem. You have a "Delete" button which removes the open order and its details from the database. Of course, the system will double-check that you mea because deleting data is a serious action. Once you place an order, you cannot undo this action. If you need to clear you

screen—maybe because you're done work for now or you chose the wrong vendor—there's a "Clear" button that resets page, removes the displayed order details from the screen, and returns the vendor list to its initial, empty state. Again, system will confirm this decision in case you accidentally hit the button and remind you that any unsaved changes will

In short, this purchasing subsystem allows you to move through the order stages:

1. No order for a Vendor.

2. Creating a suggested order for a Vendor.

3. Modifying a suggested order.

4. Placing an order.

Each step has clear rules, and each action (Update, Save, Place, Delete, Clear) has a specific outcome. As the Parts Man you have complete control—but must also operate within the boundaries set by the system's logic and your assigned r

Category

Column Name	Data Type	Allow Nulls
CategoryID	int	
Description	varchar(40)	
RemoveFromViewFlag	bit	

Vendor

Column Name	Data Type	Allow Nulls
VendorID	int	
VendorName	nvarchar(100)	
Phone	nvarchar(12)	
Address	nvarchar(30)	
City	nvarchar(30)	
ProvinceID	char(2)	
PostalCode	nchar(6)	
RemoveFromViewFlag	bit	

PurchaseOrder

Column Name	Data Type	Allow Nu
PurchaseOrderID	int	
PurchaseOrderNumber	int	
OrderDate	datetime	
TaxAmount	money	
SubTotal	money	
Closed	bit	
Notes	nvarchar(100)	
EmployeeID	nvarchar(450)	
VendorID	int	
RemoveFromViewFlag	bit	

Part

Column Name	Data Type	Allow Nulls
PartID	int	
Description	varchar(40)	
PurchasePrice	smallmoney	
SellingPrice	smallmoney	
QuantityOnHand	int	
ReorderLevel	int	

PurchaseOrderDetail

Column Name	Data Type	Allow Nulls
PurchaseOrderDetailID	int	
PurchaseOrderID	int	

QuantityOnOrder	int
CategoryID	int
Refundable	char(1)
Discontinued	bit
VendorID	int
RemoveFromViewFlag	bit

PartID	int
Quantity	int
PurchasePrice	money
VendorPartNumber	nvarchar(50)
RemoveFromViewFlag	bit

Purchasing ERD

Purchase Order

Search Screen (Screen 1 of 2)

Vendor

Company	Street Address	City	Province	Postal Code	Phone
HighRoad Cycle Clothing	1234 Colony Rd	Red Deer	AB	R5T6Y7	780.450.1345
MotorParts Ltd.	15678 118 Ave	Edmonton	AB	T5T6Y7	780.473.5664
Williams Tires	78 Flatston Land	Spruce Grove	AB	T3Y5Y7	780.696.2356
Cycle Glass	567 Goodie Ave	Edmonton	AB	T5T4R3	780.966.5896
Cycle WhareHouse	11 Bradely Road	Belleville	ON	K5T3Y7	613.968.1345

Actions:

[OK/Select]

Purchasing Screen (Screen 2 of 2)

Actions:

[UPDATE] [PLACE] [DELETE] [CLEAR]

Vendor Details

Vendor Details

Info	Value
Vendor Name	HighRoad Cycle Clothing
Phone	780.450.1345
Address	1234 Colony Rd
	Red Deer, AB
	R5T6Y7
PO#	132

Order Summary

Subtotal:	$1,125.00
GST:	$56.25
Total:	**$1,181.25**

Parts In Order

	ID	Description	QOH	ROL	QOO	QTO	Price	
✖	113	Street Cuff Lock	9	30	4	17	$25.00	🔄
✖	120	Inner glove	14	15	0	1	$25.00	🔄
✖	119	Outer glove	5	17	0	12	$25.00	🔄

Available Parts

ID	Description	QOH	ROL	QOO	Price	
117	Helmet	25	15	0	$45.00	➕ Add
118	Aviator goggle	15	10	0	$45.00	➕ Add
123	Suit	22	5	0	$325.00	➕ Add

124 Jacket   15   12   0 $200.00 ➕ Add

Review [Purchasing Breakdown](#)

Purchase Order - Story Continue

Imagine you are a Purchasing Manager arriving at your desk, ready to oversee inventory flow into the store. After loggin the system, your full name will appear on the screen, and you can navigate to the Purchase Order subsystem. This part application was designed to help you manage vendor relationships, track orders, and ensure that your inventory levels the store's needs without overstocking or running out of essential items.

Managing Vendors and Purchase Orders

The Purchasing System allows for the following actions:

- Select a Vendor to generate or load an order.
  - Each vendor in the table is listed with their name, complete address (Street Address, City, postal code), and contact number.
  - If an order exists for the selected vendor without an Order Date, it is considered an active order and should be loaded.
  - If no order existed for the selected vendor with a null Order Date, a new suggested order is generated.
    - The suggested order is not saved to the database until the User selects the "Save" action.

Suggested Orders

When you have no active order for a Vendor, you initiate the process by selecting that vendor and searching for any exist active orders. If no existing active order is found, the system intelligently calculates which parts need to be reordered b the formula `(Reorder Level - (Quantity on Hand + Quantity on Order)) > 0`. The system will ensure that it sugge only the necessary items for ordering, preventing overstocking. The suggested order list is generated based on these calculations, providing a starting point that you can review and modify. You can adjust quantities, add new items, or re unnecessary ones before saving the suggested order.

Modifying a Purchase Order

Once displayed, a newly created or loaded Purchase Order shows all relevant information, including the PO number (or Order if the PO have not been saved), vendor details, and a grid of all parts added to the order. Each item in the grid sh part ID, description, quantity on hand (QOH), reorder level (ROL), quantity on order (QOO), and quantity to order (QTO) Dynamic warnings ensure that you have correctly set quantities to order and that prices are valid.

- No negative values are allowed.

- You must order at least one if you added a part to the order.

You can delete parts from the purchase order or reset individual records. Resetting an individual part resets the price to vendor's suggested price from the Part record and the QTO amount to the recommended quantity. If you added a part system did not suggest, the QTO will not be changed.

Saving a new Purchase Order

Once the order meets your needs, you save the new Purchase Order. The system assigns the new order a unique Purch order Number (PON). When saving a new order, the system does not give the order an Order Date.

Placing the Order

After reviewing the purchase order details, you have several options to manage the order further. The "Update" button any changes you've made to the PO, ensuring the latest information is permanently stored. When you're ready to place order, the "Place" button finalizes it by setting the Order Date to today's date and updating the Quantity on Order (QOO all parts related to the order. This action locks the order, preventing further modifications and signals the vendor that order is now official.

If you need to remove an order, the "Delete" button handles both new and existing POs. It clears the page and vendor selection for new POs without a PON, as the order was never saved to the database. For existing POs, it flags them for

removal, ensuring the clean-up of outdated or incorrect orders without affecting the overall vendor list. Orders that any
has already placed cannot be removed.

Balancing Orders and Inventory

Throughout the process, the system ensures that each part can only appear once in the purchase order grid. Adding an
to the PO removes it from the Available Parts grid to prevent duplicate entries. Should you decide to remove an item fr
PO, the system updates the Available Parts grid accordingly, maintaining an accurate and up-to-date view of inventory
availability.

Summarizing the Order

At the top of the Purchase Order page, a summary section dynamically updates to reflect the subtotal, GST, and total
amounts. This real-time calculation lets you see your order's financial impact immediately, helping you make informed
decisions about adjustments before finalizing the purchase.

Navigating the Workflow

The interface is designed to be intuitive and user-friendly, with transparent sections for vendors, purchase orders, and
items. Each button serves a distinct purpose, from adding and removing items to finalizing and resetting parts. This str
ensures you can manage purchase orders efficiently without being bogged down by unnecessary complexity.

What This Means Day-to-Day

This Purchase Order functionality empowers you to maintain a balanced and well-stocked inventory. By automating th

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