UML Class Diagram,
Data Flow Diagram
& Back-Up Plan

By:

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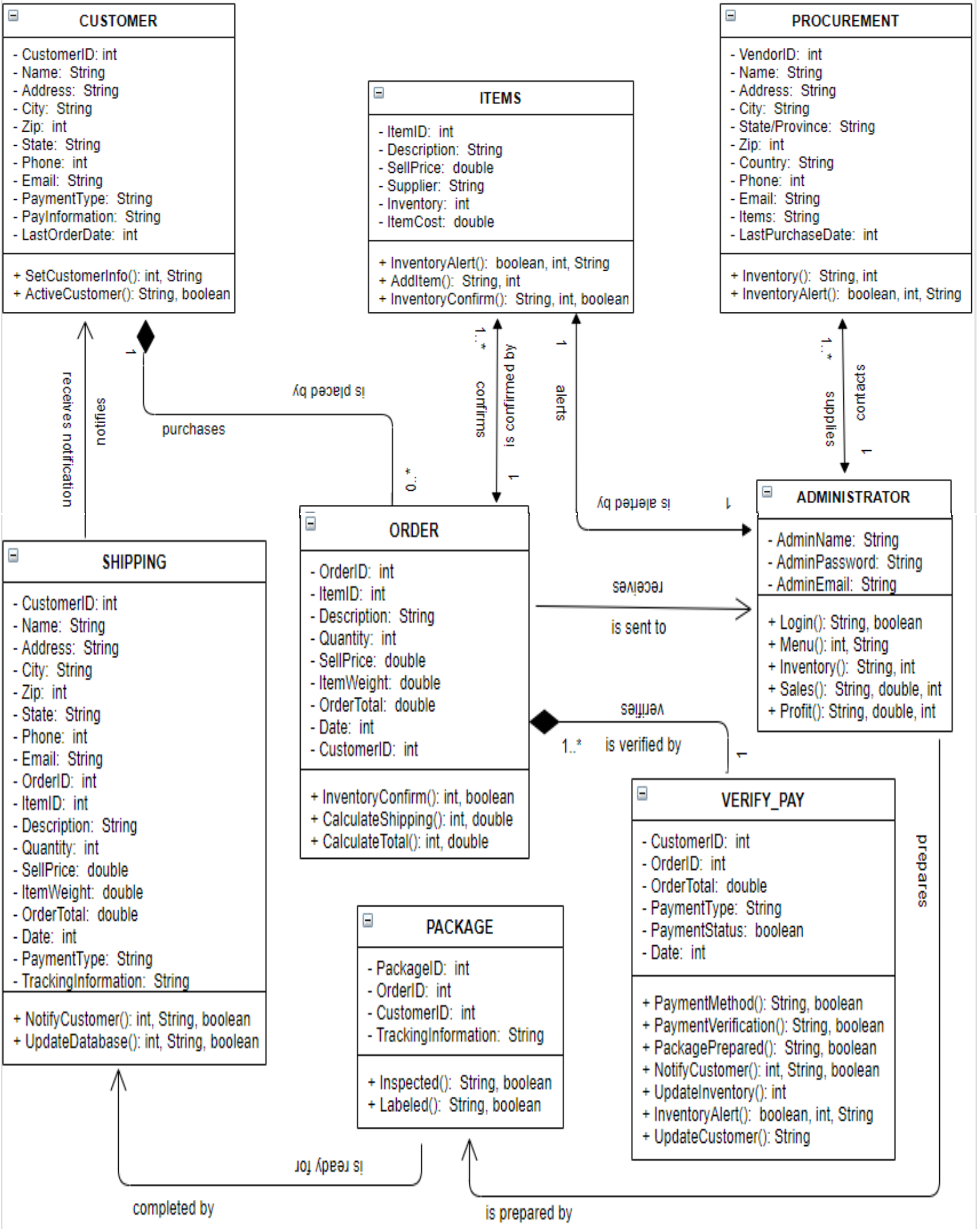
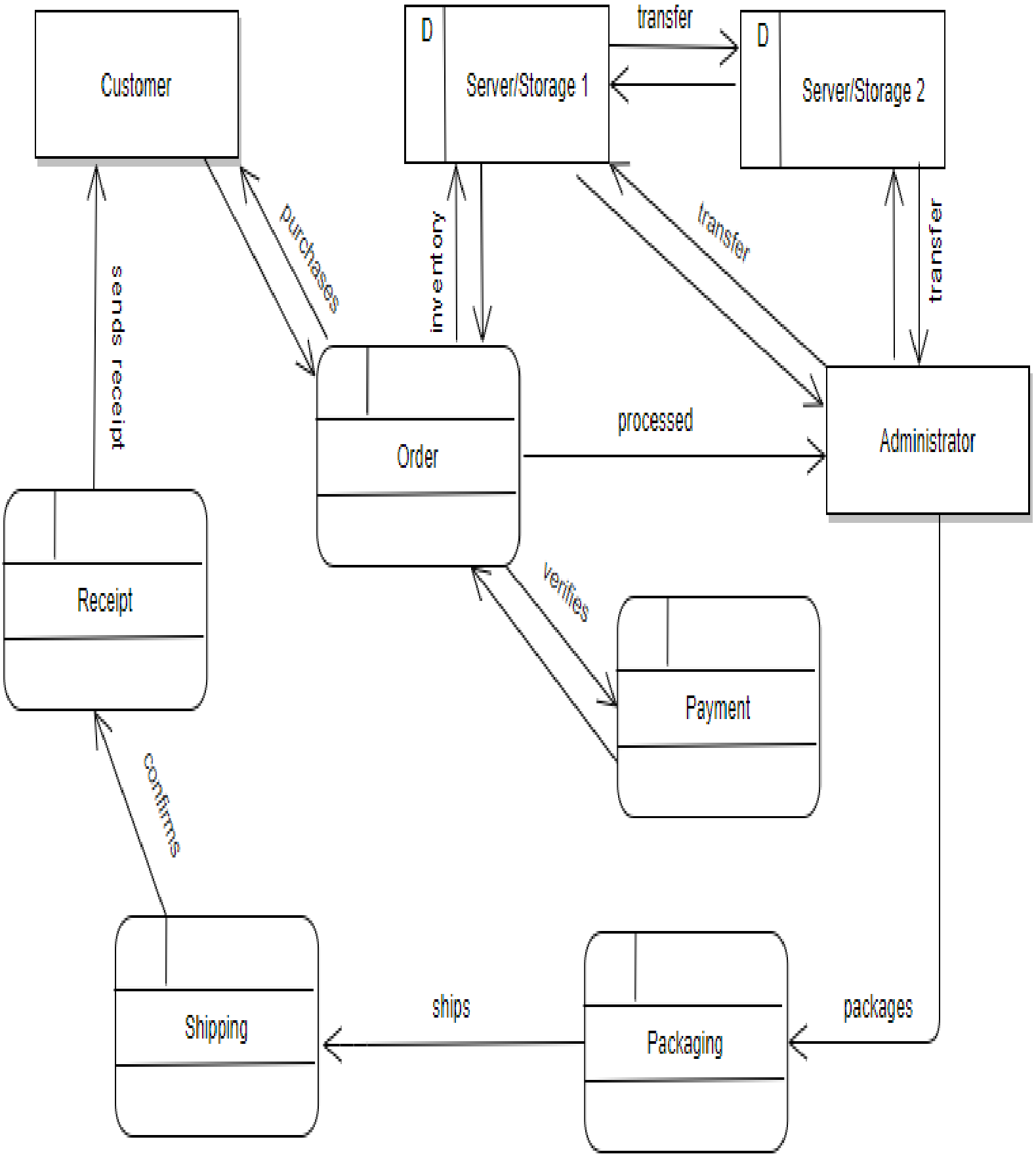

CUSTOMER
- CustomerID: int
- Name: String
- Address: String
- City: String
- Zip: int
- State: String
- Phone: int
- Email: String
- PaymentType: String
- PayInformation: String
- LastOrderDate: int
+ SetCustomerInfo(): int, String
+ ActiveCustomer(): String, boolean
ITEMS
- ItemID: int
- Description: String
- SellPrice: double
- Supplier: String
- Inventory: int
- ItemCost: double
+ InventoryAlert(): boolean, int, String
+ AddItem(): String, int
+ InventoryConfirm(): String, int, boolean
PROCUREMENT
- VendorID: int
- Name: String
- Address: String
- City: String
- State/Province: String
- Zip: int
- Country: String
- Phone: int
- Email: String
- Items: String
- LastPurchaseDate: int
+ Inventory(): String, int
+ InventoryAlert(): boolean, int, String
receives notification
notifies
1
purchases
is placed by
0..*
1..*
confirms
is confirmed by
1
1
alerts
is alerted by
1
1..*
supplies
contacts
1
SHIPPING
- CustomerID: int
- Name: String
- Address: String
- City: String
- Zip: int
- State: String
- Phone: int
- Email: String
- OrderID: int
- ItemID: int
- Description: String
- Quantity: int
- SellPrice: double
- ItemWeight: double
- OrderTotal: double
- Date: int
- PaymentType: String
- TrackingInformation: String
+ NotifyCustomer(): int, String, boolean
+ UpdateDatabase(): int, String, boolean
ORDER
- OrderID: int
- ItemID: int
- Description: String
- Quantity: int
- SellPrice: double
- ItemWeight: double
- OrderTotal: double
- Date: int
- CustomerID: int
+ InventoryConfirm(): int, boolean
+ CalculateShipping(): int, double
+ CalculateTotal(): int, double
receives
is sent to
ADMINISTRATOR
- AdminName: String
- AdminPassword: String
- AdminEmail: String
+ Login(): String, boolean
+ Menu(): int, String
+ Inventory(): String, int
+ Sales(): String, double, int
+ Profit(): String, double, int
verifies
1..*
is verified by
1
VERIFY_PAY
- CustomerID: int
- OrderID: int
- OrderTotal: double
- PaymentType: String
- PaymentStatus: boolean
- Date: int
+ PaymentMethod(): String, boolean
+ PaymentVerification(): String, boolean
+ PackagePrepared(): String, boolean
+ NotifyCustomer(): int, String, boolean
+ UpdateInventory(): int
+ InventoryAlert(): boolean, int, String
+ UpdateCustomer(): String
prepares
PACKAGE
- PackageID: int
- OrderID: int
- CustomerID: int
- TrackingInformation: String
+ Inspected(): String, boolean
+ Labeled(): String, boolean
is ready for
completed by
is prepared by

Data Flow Diagram



Back - Up Plan

The system will consist of two dedicated computers that are stationed at separate physical locations. The devices that will comprise the network can be accessed via the on-site workstations and the ethernet / wi-fi (routers) on the Local Area Networks (LAN) as well as the internet. One device is the designated primary machine (the other device will continually be prepared to run the server software; In case of a system malfunction) which will host the website and allow access to the database – attached external storage. The design will be a unique variation of a Redundant Array of Independent / Inexpensive Disks (RAID) level configuration, which will ensure that the data will always be available and safe. The servers will be communicating constantly to update the customer, inventory and transaction data securely. All data will have several layers of security to protect it as well as encryption. The Administrator's workstation (laptop) will be programmed to synchronize with the server / database (all recent data changes), every log in.

There will be three devices storing identical data simultaneously to prevent the complete loss of data and to protect the integrity of the data. The data will be validated at multiple points (input and update) with hash and checksum algorithms as well as a transaction registry. There will be hardware failure processes and alerts to switch the servers in case of a malfunction as well as a strict protocol for any attempted data breaches; If an incorrect password is entered five times the devices will be programmed to lock out all network access (servers and storage) for 24 hours, unless it is from one of the physical on-site workstations.

The back-up plan is to replace any hardware if / when a device fails and always be prepared to reconfigure the system