

OSD Product Management System Project Requirement

Team 5

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Problem

Problem statement

OSD is an online office retailer with 2 warehouses in San Jose. The warehouse doesn't have a showroom as all the items for sale are listed online. It has a pickup area for customer to pick up their prepaid orders made online. It offers free delivery services for any orders over \$100.00. For any orders that are less than 15lbs, the delivery will be done by a drone on the same day during business hours. Otherwise the orders will be delivered by delivery truck within 2 business days. For any order that are under \$100, customer can request deliveries (drone or truck) by paying a surcharge of \$20. For same day truck delivery of orders over \$100, customer can pay a surcharge of \$25.

You are responsible to develop the IT infrastructure and website for customers and store administrators. Customer will be able to buy various office supply items by first placing them into a shopping cart before they check-out. The store manager should be able to update the inventory using an administrator panel when new stock are being delivered to the warehouse from the suppliers. Each truck will need to be able to optimize their delivery routing based on customer locations.

Clearly Defined Problem Statement

The problem requires that a web-based database application be developed that manages product inventory, facilitates purchases, and manages delivery options. We need to develop a database web application that:

Conducts inventory management

- System keeps track of which warehouse among the 2 warehouses an item is stored in
- All the items are stored in a database and displayed online for administrators and customers
 - Administrators should be able to add, remove, update, and search items
 - Customers should be able to view items for sale, add items to cart, and purchase items

Facilitates the purchase of items

- Displays items for customers to browse and purchase
- Keeps track of intended purchase items in a virtual cart
- Calculates delivery options as well as cost of delivery
- System accepts pre-paid orders

Manages the delivery of items

- Keeps track of delivery location for order over \$100
 - Keeps track of the pickup location for orders under \$100
- Keeps track of same day drone delivery of orders less than 15 lb. during business hours
 - Otherwise delivered within 2 business days
- Customers can pay a \$20 surcharge for same day delivery for any orders under \$100 (by drone or truck)
 - For same day truck delivery of orders over \$100, customer can pay a surcharge of \$25
- Truck deliver routes are optimized based on customer locations

Proposed solution

The proposed solution is a web-based database application that can perform inventory management, facilitate purchases, and manage delivery options.

This product management system is broken down into the following components:

Guest View

Home Page

- Visitors can see company information
- Visitors can browse products without an account

Sign In

- Customers can create an account
- Customers with accounts can sign in
- Administrators can log in

Administrator View

Inventory Managements

Purpose: Manage inventory of items in warehouses

- Store item information: ID, name, warehouse number, weight, original price, sale price, for sale, category, number of items in stock, etc.
- Add items
- Remove items
- Search for items
- Update items
- Create item categories
- Remove item categories

Administrator Account Management

Purpose: Allows administrators to manage system accounts and client accounts

- Manage administrator accounts
- Manage customer accounts

Customer View

Online shopping system

Purpose: Allows users to browse products and view product information

- Displays updated inventory to users with item information and price
- Users can filter products based on category
- Users can select a product to view product information and description

Shopping cart

Purpose: Allows users to save items to a virtual shopping cart while browsing products

- Users can save items to cart
- Users can view saved items in cart
- Users can modify the multiplicity of an item in cart: x2, x3, etc.
- Users can remove items from cart
- Calculates cart total

Checkout

Purpose: Allows users to checkout items

- Users can checkout items
- Displays order total
- Calculates delivery weight
- Allows users to select valid shipping options
- Asks user for payment information: delivery address, credit card, etc.
- Stores order information

Customer Account Management

Purpose: Allows users to modify or delete their accounts

- Users can modify account information and contact information
- Users can delete their accounts

Delivery Management

Purpose: Determines delivery method and window and calculates shortest route

- Calculates shortest delivery route
- Determines delivery window based on user selected options option such as same-day shipping
- Determines delivery method based on price and weight: pickup, drone, or truck

Order Management

Purpose: Allow users to track packages and manage orders

- Allows users to manage orders
- Users can update delivery address

PROJECT REQUIREMENT

- Users can cancel order
- Users can view delivery window
- Users can track packages
- Displays previous orders and receipts

Usage Scenarios

Visitors

- View company information: business hours, locations, etc.
- Browse products with/without an account
- Search products with/without an account
- Create account
- Sign into account: depending on account type, visitor becomes administrator or customer

Administrators

- Log into system
- Logout:
- Add items
- Search for items
- Update items
- Remove items
- Create item categories
- Remove item categories
- Manage administrator accounts
- Manage customer accounts

Customers

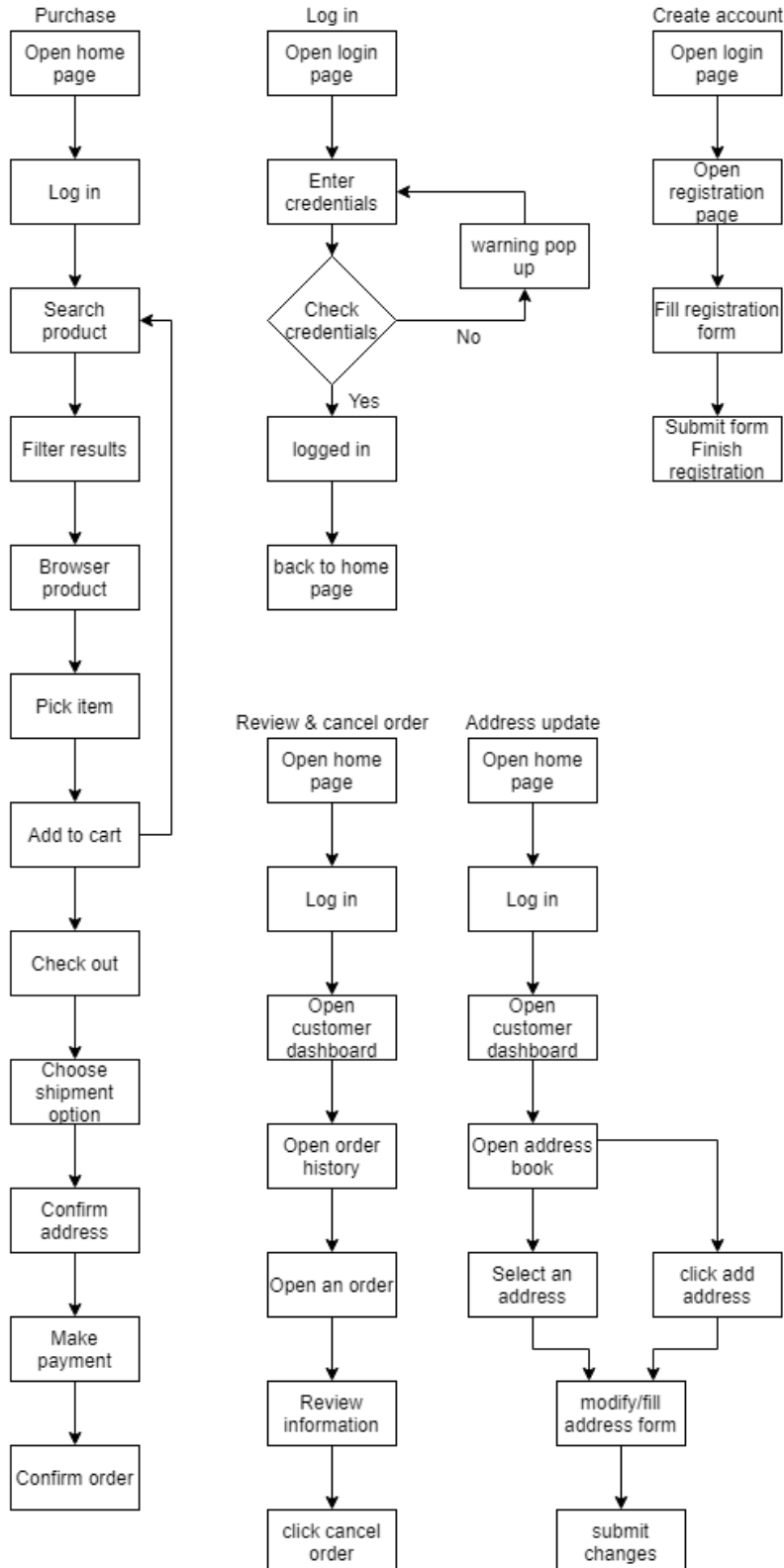
- Log into system
- Logout
- Browse Products
- Search for product by name
- Filter products based on category
- View product information and description
- Save items to cart
- View saved items in cart

PROJECT REQUIREMENT

- Modify the multiplicity of an item in cart: x2, x3, etc.
- Remove items from cart
- View cart total
- Select valid shipping options
- Checkout items
- View order total
- View delivery weight
- Enter payment information
- Account Management
- View previous order and receipt
- Track order
- View delivery window
- Update delivery address
- Cancel Order

Flow Diagrams

Customer



Administrator

