# Scope of Work for [www.dogodesign.com](http://www.dogodesign.com):

* To improve performance, switch from Access database to a server-based database.
* For performance and future maintainability, convert from ASP to ASP.NET, and switch to a MVC model using HTML5/CSS.
* Update database fields and tables to support the required website changes.
  + Notably, addition of DOGO Dollar management tables.
  + Combo items table.
  + Addition of precedence field for product, size, color, category tables. (higher precedence value means that the item will be displayed higher up the list)
  + Fields to support sync’ing local database with volusion database.
  + Field to support enabling/disabling entries.
  + Updated Order ID format (Order ID generation method is attached as appendix A)
* Import and sync database from current website + volusion website.
* Update web user interface to match [www.dogopet.com](http://www.dogopet.com)
  + In addition to updating UI, additional features include:
    - User account management page
      * DOGO dollar history
      * Order history and status (including shipment tracking code / link)
    - For each store location entry: Google maps with pin.
    - Checkout
      * Ability to enter credit card (verified with LUHN only; card charging will be performed manually by admin)
      * Multiple ship to address (user can add more, or pick from one of the available ones)
      * Drop ship option (user can ship to their customer’s address, instead of user’s location)
      * Ability for user to select shipping method (shipping cost is added manually by admin when confirming order)
    - Updated store listing page
      * Show Google Maps with pin for each store entry.
      * Search by zip code option.
    - Updatable size chart
      * Currently, sizes are hardcoded with graphics; change that to HTML.
* Administrative Console (Details of console design are provided in the following pages)
  + Redesigned console to improve worker efficiency.
  + Additional DOGO Dollar configuration menu.
  + Additional mailing list management console.
  + Additional “Server” settings page.
    - Modify admin password.
    - Set volusion API key (needs to be updated every 90 days)
    - Set Minimum order price.
  + Add date, color and item pickers.
  + Expanded discount options.
  + Expanded customer details page.
    - Show order history.
    - Show DOGO dollar history.
    - Show/manage shipping addresses.
  + Consolidated order management. (Current order system requires manual entries in multiple locations.)
  + Updated where-to-buy list.
    - Allow import using Excel CSV format. (import overwrites all records.)
    - Allow export in the same CSV format.
    - Add GPS coordinates; allow admin to pick GPS coordinate using Google Maps pin drop/address search.
  + Remove “Guest Book” page.

# Admin Console

Below is a list of control panel pages:

* Login
* Orders (and Order Details)
* Customers (and Customer Details)
* Products
  + Sizes
  + Colors
  + Categories
  + Items (and Item Details)
* Promotions
* Settings
  + News & Notice
  + Home Page
  + Store List (and Store Details)
  + Mailing List
  + Server

Please see Appendix B for page layout samples.

## Admin Console Notes

### O. Order Tab

* Orders are managed from here.
* The first tab, because it should be the one that employees will work on every day.

#### OM. Order List

* The order list view consists of the following elements:
  + Status filter: Select one of [Not shipped], [New Orders], [Shipped Orders], [Cancelled Orders] or [All Orders].
  + Order ID search box: If value is entered, server will perform a partial search for the value in the order ID field (Search is combined with status filter).
  + Order table: Displays orders match the selected filter and/or order ID.
    - Fields: [Order ID], [Customer E-mail], [Order Time], [Order Status].
    - Clicking on field header will sort by that field.
    - Default sort: Order Time, Descending
    - Item action buttons:
      * View Order Detail – Opens [OD] view for item.
      * Print Order – Shows a print view for the selected item. (Page will be in the format based on the status of the order)
      * Cancel Item – Cancels the selected order. (With user confirmation box)

#### OD. Order Detail

* Order detail view is shown when user clicks an order in the order list view.
* Shows the order details.
* Fields:
  + ID: Generated when user submits an order
  + Customer’s name, telephone, fax, email, billing address, billing method
    - Billing address is copied from the customer’s account details during checkout (so user can verify and change during checkout.)
    - Billing method is set by customer during checkout.
      * For credit card information, the credit card number field needs to be cleared once the order is cancelled or charged. The other option is to mail the billing info along with the order number to the admin’s email account during checkout, and not save in the database at all.
  + Order’s shipping name and address and selected shipping carrier.
    - Shipping address can be selected from customer’s saved address list; it can also be manually entered during checkout if the customer wants to ship to his/her customer (this will be called a “Drop Ship”)
    - Shipping method is selected by user from the list of shipping methods set in Basic Settings View [SM].
  + Notes: Multiline text message that the customer can enter during checkout.
  + Ordered Items:
    - Fields: [Item Name], [Item Style], [Unit Price], [Quantity], [Total].
    - Each style + color combination is considered a separate item.
    - Discounts from the discount settings tab that are applied will be listed as separate items in the item list.
    - The user can choose to user his/her DOGO $ during checkout; that will be listed under the discounts. The admin needs to be able to override this value if necessary.
    - DOGO $ earned – Calculated during checkout; but allow the admin to change its value.
    - Taxes – Manually entered by the admin when confirming order.
    - Shipping – Manually entered by the admin when confirming order.
    - Total – Automatically calculated by adding/subtracting all of the above values (Aside from DOGO $ earned!).
  + Admin Remark: Multiline text the admin can enter; it will be displayed with the order.
  + Status: Drop-down combo with following options: [New Order] (default), [Processing], [Awaiting Shipment], [Shipped], and [Cancelled].
  + Shipment tracking: Text box to allow admin to enter multiple shipment tracking numbers. Each shipment number is separated by a comma.
  + Print button – Prints the current order based on the status setting.
    - For [Processing], print order as a quote.
    - For [Awaiting shipment], print order as an order confirmation.
    - For [Shipped], print order as a shipment confirmation, with tracking #.
  + Email button – Emails the order to the customer’s email address. Use the same format as the print button.

### C. Customer Tab

#### CM. Customers List

* The Customers List consists of the following elements:
  + Status Filter: Choose between [Active], [Disabled], [All]
  + Search Box: Performs partial search for ID, Name or E-mail.
  + List:
    - Clicking on header sorts by that field.
    - Checkboxes on left allows selection of multiple customers.
    - Fields: [ID], [Name], [E-mail], [Status]
    - Actions:
      * [View details] – view customer details
      * [E-mail] – send email to customer
      * [Delete] – marks customer as disabled
  + [Deleted Selected] button – marks customers who are selected
  + [Unselect All] button – clears all checkboxes
  + [Add Customer] button – manually add a new customer.

#### CD. Customer Details

* View is shown when user clicks a customer in [CM] view.
* Fields:
  + ID – Customer ID, generated automatically.
  + Business Name – Company name
  + Business Type – Company type
  + Last name, First name, Title, Telephone, Fax, E-mail, Website, Billing Address, Tax ID, Memo
  + Active – Whether the user is active and can log in.
  + Receive mailing? – Checked if user should receive newsletter.
* Shipping list:
  + List of shipping addresses set by the user, with street, city, state, zip code and country.
  + [Edit] button – Allows address to be edited
  + [Delete] button – Deletes the address entry
  + [Add shipping] button – Creates a new shipping address entry
* Dogo Dollar list:
  + Available – Sum of all the available DOGO $ for the user
  + DOGO $ List:
    - Click header to change sort
    - Fields: Date (when the DOGO $ was created), Order # (Order associated with the DOGO $), Amount (Amount of DOGO $), Expires (When the DOGO $ expires)
    - Edit button – Allows the amount and expire date to be changed
    - Delete button – Deletes the DOGO $.
    - Add button – Add a new DOGO $ entry. The Order # will say “Manually added”
* Reset Password button – Resets the password by sending user an email with link to updating the password.
* Save – Save the changes made to the customer details.
* Revert – Reloads the customer details.

### P. Products Tab

#### PC. Product Categories

* Shows a list of available product categories.
* Each category has a sub-category.
* Each category can be re-ordered; each sub-category can be re-ordered within that product category.
* Each sub-category has an auto-generated ID and a user-defined title.
* Each category or sub-category can be deleted, and new ones can be added.
* Save button – Saves changes made to the categories.
* Revert button – Reloads the page.

#### PS. Product Sizes

* Shows a list of available product sizes.
* Each size has an auto-generated ID, and a user-defined title.
* Each size can be re-ordered or deleted.
* New sizes can be added.
* Save button – saves changes made to the sizes.
* Revert button – reloads the page.

#### PL. Product Colors

* Shows a list of product colors.
* Each color has an auto-generated ID and a user-defined color name and user-defined color code.
* The color can be picked by a pop-up color picker.
* The colors can be re-ordered or deleted.
* New colors can be added.
* Save button – saves changes made to the colors.
* Revert button – reloads the page.

#### PI. Product Item List

* Shows a list of product items.
* Status – Allows user to pick from one of [Active], [Disabled], [New], [On-Sale], [Pre-order] or [ALL].
* Search text box – Allows user to perform partial text search on ID or product name.
* List:
  + Clicking header allows sorting by the selected field.
  + ID – ID of the product
  + Name – Name of the product
  + Categories – List of categories associated with the product, separated by commas.
  + Status – Shows one or more of [New], [On-Sale], [Pre-order], [Disabled].
  + Actions:
    - Edit button
    - Delete button – disables the product
* Add item button – creates a new item
* Import – imports product item list from a CSV file
* Export – exports product item list to a CSV file
* Sync to Volusion – copies product items to the volusion server, using the prices set in the retail field.
* Import inventories – updates product item list from a CSV or XML file

#### PX. Product Combinations List

* Shows a list of product combinations.
* Status combo – Allows user to pick one of [Active], [Disabled] or [All]
* Search text box – Allows partial text search for ID or product combo name.
* List:
  + Clicking header allows sorting by the selected field.
  + Fields:
    - ID – ID of the combo
    - Name – Name of the combo
    - Items – Comma separated list of products associated with the combo.
    - Status – Active or disabled
    - Discount – Dollar value that will be deducted from the sale price of the items.
    - Actions:
      * Edit button – edits the combo details
      * Delete – disables the combo
* Add Combo button – Manually add a new combo

#### PXD. Product Combination Details

* Fields: ID (Autogenerated), Combo Name, Active check-box, Discount text box
* Item list:
  + ID, name, current wholesale price
  + Action: [Delete] – removes selected item from combo
* Add button – allows adding of a new item to the combo using a product picker.
* Save button – saves changes
* Revert button – reloads the page

#### PID. Product Item Details

* Fields:
  + ID (autogenerated)
  + Product Name
  + Retail price
  + Wholesale price
  + Active? (Whether item is enabled and visible)
  + New? (Whether to display a new icon on the product)
  + Pre-order? (Whether to show pre-order icon on the product)
  + Available on volusion? (Whether to sync product to volusion site)
  + Volusion ID (ID of the product on volusion)
  + On Sale? (Whether the item is marked “on-sale”)
  + On sale price (Temporary price of the item when on sale)
  + Description – Rich-edit text describing product
  + Categories – List of checkable product categories to associate with this product.
* Color & Sizes
  + Each product has one or more colors, and each color has one or more sizes. Each color and size combination is considered a separate product, with its own product sub-ID.
  + Add color button – Click to add a new color group for the product (by picking from a product color list picker)
  + List:
    - Each color group has a color picker to change the associated color.
    - Each color group has a delete button to delete the whole color group.
    - Each color group has a list of sizes; each color-size item has:
      * User-defined product sub-ID
      * Size (with picker to select a new size)
      * Retail value – leave blank to use product default
      * Wholesale value – leave blank to use product default
      * On Sale $ - leave blank to use product default
      * Inventory - # of items available; if set to 0, item will say “Out of stock” and cannot be placed in shopping cart.
      * Delete button – allows size to be removed from list.
  + Pictures:
    - Add button – allows adding of one or more pictures from the local hard drive. (Or user can drag and drop multiple pictures).
    - Each picture has:
      * View of picture
      * Color associated with picture (color is picked from color list picker; it should be filtered to only those available for this product)
      * Color can be set to none; if the picture is always shown regardless of selected color.
      * Picture can be re-ordered.
      * Picture can be deleted.

### D. Discount Tab

#### DM. Discount List

* List of discounts; discounts are pre-set conditions that will apply a discount on orders when conditions are met.
* Status: One of [Active], [Disabled], [Expired] or [All]
* Add discount button – allows user to manually enter a new discount
* List:
  + Clicking header will sort by the selected field
  + ID – Auto-generated ID for the discount
  + Description – Description for the discount (entered by the user)
  + Status – One of [Active to {date}] (if still active), [Expired {date}] (if expired) or [Disabled].
  + Actions:
    - Edit button – allows user to edit the discount details
    - Delete button – disables the current discount.

#### DD. Discount Details

* ID – auto-generated ID for the discount
* Description – user-defined description of the discount
* Code – code that the customer can enter to use the discount (if the conditions of the discount is met) If no code is set, then discount is auto-applied if conditions are met.
* Active? – whether discount is active
* Start date – Starting availability of the discount
* End date – Ending availability of the discount
* Conditions – selectable conditions which must be met for discount to be applied.
  + Stackable – whether discount can be combined with another discount.
  + Minimum purchase – The sub-total price of items the customer must meet.
  + Specific category – Selectable from list of categories for which the discount will be applied to.
  + Minimum ordered items - # of items the user must buy
* Action – the action to apply when conditions are met
  + % off purchase – applies a percent discount
  + $ off purchase – applies a specific dollar discount
* Save button - saves changes
* Revert button – reloads page

### S. Settings Tab

#### SN. Settings – News & Welcome Messages

* Welcome message – Multiline text that is displayed at the top of the page when the customer is logged in.
* News – List of news items to be shown in the news page.
  + Sorted by newest first
  + ID – auto-generated ID of the news item
  + Title – title of the news item
  + Date – date of the news item
  + Actions:
    - Edit – edit the news item
    - Delete – deletes the news item
  + Add news button – Manually add a new item

#### SND. Settings – News Details

* Fields:
  + ID – auto-generated ID field
  + Title – title for the news article
  + Date – pickable date for the news article
  + Body – rich-text for the news article
  + Image banner – a fixed-size image for the news article.
    - Drag-and-drop to set
    - Delete button – allows image banner to be removed.
  + Active? – whether news item is visible.
* Save button – saves changes
* Revert button – reloads page

#### SH. Settings – Home Page

* Configuration settings for the home page of the dogodesign website.
* There are a total of 7 configurable tiles.
  + 4 main tiles, with following fields:
    - Drag-drop picture for tile
    - URL for tile, when clicked
  + 3 bottom tiles, with following fields:
    - Drag-drop picture for tile
    - URL for tile, when clicked
* Save Button – Saves changes
* Revert button – Reloads page

#### SM. Settings – Basic (Server)

* Configurations for some basic properties
* DOGO $ Settings
  + Default # of days before earned DOGO $ expires
  + Minimum Order required to earn DOGO $
  + Amount of DOGO $ earned when minimum order is met (in percent of subtotal)
* Misc. Settings
  + Minimum order in dollars
  + Shipping method list with following field
    - ID – auto-generated
    - Name – user-defined title for the shipping method
    - URL for the tracking number – URL with a tag {1} that will be replaced with the tracking number.
    - Actions:
      * Delete button – removes the shipping method
  + Add button – allows a new shipping method to be added
  + Clicking on item allows item’s name and URL to be edited.

#### SS. Settings – Store List

* List of stores to display in the store list page.
* Stores can be in the US or in another country.
* List:
  + Clicking header allows sorting by the selected field.
  + Fields:
    - ID – Auto-generated ID for the store
    - Store – User-defined store name
    - Address – User-defined store address
    - Country – User-defined country
  + Actions:
    - Edit button – allows store to be edited
    - Delete button – disables store from being shown in the store list
* Add store button – Adds a new store entry
* Import – imports list from a CSV file
* Export – saves list to a CSV file

#### SSD. Settings – Store Details

* Shown when user edits or creates a new store entry.
* Fields:
  + ID – auto-generated
  + Active? – Whether store is shown in store list
  + Name, Address (Address, City, State, Country, Zip Code)
  + GPS Coordinates – can be picked via an embedded Google Map. The Coordinates are also marked on the Google Map.
* Save button – saves changes
* Revert button – reloads page

#### SM. Settings – Mass Mailing

* Allows generation and mailing of newsletter to customers who wants to receive the newsletter.
* Title – Title for the newsletter
* Body – rich-text for the news letter
* Promotion items – List of items from the product list that the user can pick to include in the newsletter.
* Add item button – Adds more promotion items
* Reset form button – Start over
* Preview / Copy HTML – Renders a preview page for the newsletter, as well as provide a copy button to copy the HTML code to the clipboard so that it can be pasted into the volusion site’s newsletter form.
* Send mailing – Mails out the generated newsletter to the customers who want to receive mailing. (be sure to confirm first before it is sent)

# Appendix A. Order ID Generation

N = 0x255fdbf7

e = 0x3db505

d = 0x66de6b5

1. c = 30-bit counter starts at 0x20000000 and increments by 1 for each new order.

2. h = c^e % N

3. For each 5-bits idx in h, starting with least-significant bits:

a. look up character at idx from “ABCDEFGHJKLMNOPQRSTUVWXYZ23456789”.

b. append character to string OID

4. Final OID is the order #. The Order # will be a six character alpha-numeric string (all uppercase, but input is case-insensitive)

## Pseudocode

**// initial condition (c is saved across all sessions!)**

c = 0x20000000

**// constants**

Const N = 0x255fdbf7

Const e = 0x3db505

Const tbl = “ABCDEFGHJKLMNPQRSTUVWXYZ23456789”

**// modular exponentiation (base, result are 64-bits, but return value is 32-bits!)**

function modpow(base, exp, mod)

result = 1

base = base % mod

while( exp > 0 )

if (exp % 2 == 1)

result = (result \* base) % mod

exp = exp >> 1

base = (base \* base) % mod

return result

end function

**// get next order ID**

function getNextOID

Result = “”

h = modpow( c, e, N )

for( i =0; i < 6; i++ )

idx = h & 0x1F

h = h >> 5

Result += tbl[idx]

end for

end function