**ISCG7420**

**Web Application Development**

**Assignment 1: ASP.NET**

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# 1. Business Specification

## 1. Original Requirements

There must be a home page.

There must be a Quality Caps logo (image), which links back to the home page.

There must be a login section, allowing a user to login with a provided name and password.

An Administrator can reach the Administration section through the login.

A Customer can also login through the login section.

A Customer may register themselves, and afterward, login to the login section.

After successful registration, the Customer receives an email with their registration details.

After login, a customer will see their details, a list of orders, and the status of each order.

The Administration section must have a Caps Categories subsection.

An Administrator can add Caps Categories through the Caps Categories subsection.

The Administration section must have a Cap Item subsection.

An Administrator can add Cap Items, including selecting a Cap Category and Supplier and providing all required details of the Cap Item.

The Administration section must have an Order subsection.

The Administration section must have a Supplier subsection.

The Administration section must have a Customer subsection.

The Administrator can modify customer details in the Customer subsection.

The Administrator can modify supplier details in the Supplier subsection.

The Administrator can change an Order Status from waiting to shipped in the Order subsection.

The Administrator can disable a customer account.

Upon logging in with a disabled account, the Customer receives a notice that the account is disabled.

A Shopping cart is shown on the site, to Customers.

When a Cap Item is added to the shopping cart, all details of the Cap Item are shown in the cart, along with the colour, quantity and total price.

Adding the same Cap Item repeatedly will update the existing item in the Shopping Cart.

The Shopping Cart has a Checkout link.

If a Customer is not logged in, then when clicking Checkout, they receive a notice that login is required, or they can register then login.

If a Customer is logged in, then when completing Checkout, their Order is recorded to the database. A notice is given that the order has been completed.

The Shopping Cart and Checkout must show the GST and total cost.

A Category has a name.

An Administrator has a login name and password.

A Customer has a Name, Address, Home contact number and/or work number and/or mobile number, an email address, login name and password.

An Order has a customer, Order Items and a status.

An Order Item associates an order with a Cap, a Colour and a Quantity.

A Cap has a Name, Price, Description, Image to show, a Category, a Supplier, and has one or more colours.

A Colour has a name.

A Supplier has an Email Address, Name, Home Number, Work Number, and Mobile Number.

## 2. Expanded Requirements

After registration, the Customer will still need to log in.

When not logged in, a customer cannot click Checkout from the shopping Cart.

Whether or not they are logged in, the Customer may select a category to view cap items.

Whether or not they are logged in, the Customer may select a shown cap item to view the cap item details.

A customer can add a Cap Item to the Shopping cart while viewing the Cap Item details.

A customer can remove a Cap Item from the Shopping cart while viewing cap items or a cap item details.

A customer can select the desired colour of a Cap Item while viewing the Item Details, before adding it to the cart.

A customer can select the desired amount of a Cap Item while viewing the Item Details, before adding it to the cart.

A customer can remove items from the shopping cart.

At Checkout, a customer has the opportunity to modify the quantity of any and all Cap Items.

At Checkout, a customer has the opportunity to modify the Colour of any and all Cap Items.

At Checkout, a customer has the opportunity to remove any Cap Item in the cart.

A Contact page can be visited from the home page.

The Administrator can add new Suppliers.

The Administrator can add new Colours.

The Administrator can modify existing Colours.

The Administrator can add new or modify existing Categories.

Orders cannot be deleted.

Products cannot be deleted.

Customers cannot be deleted, only disabled.

Suppliers cannot be deleted.

Colours cannot be deleted.

Categories cannot be deleted.

Products can only be added or changed if there is at least one supplier and at least one category.­

## 3. Site URL

The Site is to be located at the following URL:

http://dochyper.unitec.ac.nz/AskewR04/asp\_assignment

# 2. User Interface Design

## 1. Site Map



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## 2. Wire-Frames

Note that all Wireframes are approximate prototypes – The final web forms may have minor differences in appearance.

### 1. Home Page



The black and white theme (except for colours in pictures) was decided for readability for users of all ages and to avoid colour-blind issues. It also fits in with the Art Deco style of the logo and section headings.

The header and footer technique (Logo and top menu as header, Copyright bar as footer) will be a template common to all public pages.

The login menu is part of the header menu, and thus is visible at all times. So a user can login at any time. When logged in the menu is replaced with the user’s name and a log out option.

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### 2. Product Detail



When a product is viewed, the customer has the opportunity to choose a colour, and a quantity. Note that the customer can also change the colour of a cap present in the basket.

### 3. Registration



### 4. Contact page



### 5. Checkout



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### 6. Post Checkout / Profile Page

This page shows a profile of the customer information, and a list of orders (Paginated) on record for this customer.

When a new order is made, the customer is redirected back to the Profile page, with a notice that the order has been placed and will be visible in the list of orders.

A wireframe is not available due to a lack of time.

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### 7. Customer Login



If the login is rejected, or the account is disabled, a notice appears at the bottom of the middle section.

### 8. Customer Post-Login

After logging in, The customer is redirected to their profile page.

### 8. Administrator Administration



### 9. Category Administration

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All administration forms consist of a menu of entities at the top (category, caps, suppliers etc.), a sidebar of current items for that entity, and a main area where details of one item can be viewed, and changes made.

Most items support adding new entries. Adding customers is not supported, as normally a customer adds themselves by registration. Orders are not added as the customer normally completes new orders.

Most items support modification.

### 9. Supplier Administration



### 10. Customer Administration



### 11. Caps Administration



### 12. Orders Administration



### 13. Colours Administration



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### 3. Database Design

## 1. ERD



# 4. System Design Rationale

## 1. Client Side Techniques

HTML / CSS / JavaScript will be used. Where possible, templates will be created using these technologies for content which is static, or event-driven but without database or server interaction. This will have faster performance and web-form response.

JavaScript will be used for some data validation too.

## 2. Server Side Techniques

Some parts of web-form responses will require information from the database. For this, ASP.NET sections and server controls will be used within web-forms.

As Server-side updates can be slow, AJAX will be used to only update parts of web-forms, instead of entire web-forms. This will be done using UpdatePanels, with Triggers and ContentTemplates.

Validation controls will be used in Administration forms to validate data entry. This will be slower, but valid data entry is more important than Response time for the Administration section.

Some information which is commonly to all pages (such as the percent cost of GST) will be refactored into common access Resources (e.g. shared static classes).

# 5. Test Plan with Results

|  |  |  |  |
| --- | --- | --- | --- |
| Test | Actions | Expected outcome | Actual Outcome |
| Initial Site Visit. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Home Page, Top Menu, Visitor. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  | Examine the Top Menu. | Top Menu shows the logo at left, the links Contact Us and Register, a grey Login link, and “Greetings Visitor!” | Top Menu shows what is described in expected outcome. |
|  | Click “Contact Us” | Contact Us page is shown. | Contact Us page is shown. |
|  | Click “Register” | Register page is shown. | Register page is shown. |
|  | Click “Login” | Login page is shown. | Login page is shown. |
|  |  |  |  |
| Home page, Categories Section. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Home Page, Products Section. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Home Page, Shopping Cart. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Home Page, Logo. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Visitor Restrictions. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Contact Us Page. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Registration. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Login, Customer. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Customer, Edit Profile. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Customer, Checkout. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Customer, Place Order. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Login as Administrator. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Add new Category. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Modify Existing Category. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Add new supplier. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Modify existing supplier. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Add new product. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Modify existing product. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Modify existing customer. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Disable existing customer. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Change Order Status from waiting to Shipped. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Add new colour. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Modify existing colour. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Administrator logout. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Disabled Account login. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
|  |  |  |  |
| Session Timeout. | Enter the site URL into the browser address bar and press enter. | The home page appears. | The home page appears. |
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