Final Specification

# Admin Functionality

The admin pages allow the user to;

* View current sales and stock levels.
* Update stock levels.
* View orders over a specified amount of time.
* View invoices for each order.

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| Future Improvements |
| * Implement a search facility to allow the user to find a specific product or order. * Allow the user to view all products with stock levels under a certain number, to allow them to see which products are running low. * Display more detailed information regarding product sales over time. |

# Application Programming Interface

The web application communicates with the database using an application programming interface. The API is intended to be implemented in a RESTful manner, supporting GET, POST, PUT and DELETE requests. The API has been organised in a way so that, in future, access to certain parts of the API could be restricted to users with specific privileges.

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| Future Improvements |
| * Adopt a more RESTful design, supporting other request types. * Limit certain parts of the API to users with specific privileges. * Utilise HTTP Headers and HTTP Status codes. * Improve error handling. |

# Content Management System (CMS) Functionality

The content management system allows users to;

* View, add, update and delete products in the database.
* View, add and remove categories.
* View, add and remove delivery methods.
* Change the colour scheme of the online store.

Overall, this provides the key functionality required for an online store with some customisation features.

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| Future Improvements |
| * Allow update of categories and delivery methods. * Allow further customisation of the online store interface. * Implement a search facility to enable the user to find a specific product. |

# Database Design

The database consists of four tables: product, categories, order and delivery table. Each table contains fields with appropriate datatypes. At present, the individual products of an order are stored in JSON format inside the ‘orderProducts’ field in the products table.

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| Future Improvements |
| * Implement a normalised relational database. * Store products of an order in a more suitable manner. * Store images in the database. |

# Error Handling

Errors are predominately prevented using validation rather than handled. Ideally, there should be a facility in place to provide the users with suitable error messages.

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| Future Improvements |
| * Output suitable feedback to the user. |

# Installation and Setup

The installation and setup processes are run through the browser. The installation process creates all of the required database tables and declares the file path and URL variables in PHP. The installation process is based on default login credentials.

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| Future Improvements |
| * Provide demo functionality to teach the user how to use the product. * Handle user login credentials instead of relying on default credentials. |

# Store Functionality

The online store allows customers to;

* Browse products with images using the category buttons and the search facility.
* View further information about an individual product including name, description, price and current stock levels.
* Add and remove products from their basket, subject to current stock levels.
* View a running total of their basket.
* Submit their order with their chosen delivery type.

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| Future Improvements |
| * Implement sub-categories. * Implement the ability to sort stock by certain features, e.g. price lowest to highest. * Add a more advanced search facility. * Restrict how many products are displayed per page. * Push history states and URL’s, so that the user can utilise the forward and back buttons on their browser. |

# Store Interface Design

The design for the online store is basic and minimalistic, it was designed in this way to make it easy for customers to navigate. The CSS rules attempt to ensure that the design is render the same across browsers, although Internet Explorer has some known issues with rendering images. The CSS rules also attempt to alter the layout based on the users screen size. The design colour scheme can be edited using the ‘Content Management System’.

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| Future Improvements |
| * Make the design more attractive without reducing the ease of use. * Optimise the design for different screens and devices. * Ensure the design is consistent across all browsers. |

# Validation

When the user submits any form, the form inputs are validated against their specified HTML pattern. This has been useful for restricting price inputs to two decimal places. This reduces the likelihood of input error. In places, both client-side and server-side validation takes place.