CS-M14 Industrial Project Specification Document

Matthew James Lewis

523015@swansea.ac.uk

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1 Introduction

This document is formally specifies the behaviour of each function of the system. They are based upon the requirements set out in the *Methodology & Requirements Document* and describe how each of the requirements will be met. To ensure that each requirement is met each requirement is cross-referenced with one or more specifications to all required functionality is implemented accordingly.

2 Specification

2.1 General

ID	Requirement Description
GEN-SPEC1	PHP & MySQL will be used to develop the application.
GEN-SPEC2	The application will be developed using an architecture consisting of views and data access objects (DAO)
GEN-SPEC3	HTML & CSS styling will be used to produce a modern layout.
GEN-SPEC4	If no session exists, the application will require the user to login using their Swansea code and their password.
GEN-SPEC5	The application will remember the user until their session expires or they choose to logout.
GEN-SPEC6	The main menu will allow the user to - Edit Submitters, Submit Samples or Monitor Samples.
GEN-SPEC7	A separate log on page will be provided for the staff of the centre.
GEN-SPEC8	All code will be fully commented and documented using PHPdoc.

2.2 Submitters

ID	Requirement Description
SUB-SPEC1	The application will provide a list of submitters for each user account.
SUB-SPEC2	The user can will be able to create new submitters using a form and entering a unique submitter code, their name, email address and telephone number.
SUB-SPEC3	The submitters details will be able to be edited by clicking their name in the submitters list.
SUB-SPEC4	It will be possible to remove submitters by using a delete button next to their name on the submitter list.
SUB-SPEC5	When submitting a sample, the user will be able to select which submitter they are submitting under.

2.3   Sample Submission

ID	Requirement Description
SUBMIT-SPEC1	The customer will be required to enter their own unique sample reference.
SUBMIT-SPEC2	The application will allow the customer to provide various data about the sample such as chemical formula, molecular weight etc.
SUBMIT-SPEC3	The customer will select which services they require by selecting them using checkboxes.
SUBMIT-SPEC4	Customers will be able to provide details about the COSHH of the sample.
SUBMIT-SPEC5	The application will provide an option to upload a chemical structure file that they may have already generated using their own software.
SUBMIT-SPEC6	The uploaded chemical structure files will be stored in a folder hierarchy on the server.
SUBMIT-SPEC7	Customers will also be able to use a built-in drawing tool to draw the chemical structure if needed.
SUBMIT-SPEC8	The application will allow the customer to save the new sample and resume entering data to it at a later point in time.

2.4   Sample Lists

ID	Requirement Description
LIST-SPEC1	The application will organise all of the customers samples into five separate lists - Unsubmitted, Submitted, Received, In Progress and Completed.
LIST-SPEC2	Tab pages will be utilised to navigate to each separate sub-list.
LIST-SPEC3	The application will allow the user to click on any sample in-order to view the specific details about that sample. If the sample has not been submitted, the user will be allowed to edit the details.
LIST-SPEC4	Sample lists will be paginated so that the whole list isnt shown on one page.
LIST-SPEC5	The application will allow a time period to be chosen that filters the displayed sample. E.g. Last 3 months, Last 6 months.
LIST-SPEC6	The user will be able to search for a specific sample reference.
LIST-SPEC7	The application will allow the sample lists to be sorted by various columns.
LIST-SPEC8	After a sample has been completed, the user will be able to click an link next to the sample to download the results or use a built-in viewer.

2.5 Administration

ID	Requirement Description
ADMIN-SPEC1	A button will be provided to begin a new year code.
ADMIN-SPEC2	The user will be able to enter a specific user code to filter samples submitted by that user.
ADMIN-SPEC3	During the analysis of a sample the user will be able to enter data about what machines/techniques have been used on the sample using a form on the individual sample page.
ADMIN-SPEC4	To book in samples, the user will be required to enter a unique lab code for each sample which is used to link the online sample data to the physical vial received via the post.
ADMIN-SPEC5	When booking in a sample it will be classified under the currently active year code.
ADMIN-SPEC6	The user will use a button to unsubmit a sample if any changes need to be made by the customer.
ADMIN-SPEC7	The user will use a button the mark the sample as in progress.
ADMIN-SPEC8	The user will use a button the mark the sample as completed.
ADMIN-SPEC9	Results will be attached to a sample by selecting them from the archive where result files are stored.
ADMIN-SPEC10	Result files will be stored online in a hierarchy outside the web root to prevent direct access
ADMIN-SPEC11	The lab staff will be able to see statistics about how many samples they submit per year etc.
ADMIN-SPEC12	An option will be provided to filter samples by year code.
ADMIN-SPEC13	The user will be able to click a button next to the sample to delete it from the database

2.6 Sample Page

ID	Requirement Description
SAMPLE-SPEC1	A progress bar to indicate which stage the sample is currently at will be displayed on each samples unique page.
SAMPLE-SPEC2	The application will graphically display the chemical structure on the page.
SAMPLE-SPEC3	The application will show all the data entered about the sample.
SAMPLE-SPEC4	The sample page will display the data about what machines/techniques have been used on the sample if the sample is currently being analysed.

3 Specification Cross-Referencing

3.1 Functional Requirements

Requirement ID	Specification ID
REQ1	GEN-SPEC4, GEN-SPEC5
REQ2	SUB-SPEC1, SUB-SPEC2, SUB-SPEC3, SUB-SPEC4
REQ3	SUBMIT-SPEC1, SUBMIT-SPEC2, SUBMIT-SPEC3, SUBMIT-SPEC4, SUBMIT-SPEC5, SUBMIT-SPEC8
REQ4	SUB-SPEC5
REQ5	SUBMIT-SPEC1
REQ6	LIST-SPEC1, LIST-SPEC2, LIST-SPEC3, LIST-SPEC6, SAMPLE-SPEC1, SAMPLE-SPEC3, SAMPLE-SPEC4
REQ7	SUBMIT-SPEC1, SUBMIT-SPEC2, SUBMIT-SPEC8
REQ8	SUBMIT-SPEC7
REQ9	LIST-SPEC1, LIST-SPEC2, LIST-SPEC4, LIST-SPEC5, LIST-SPEC7
REQ10	LIST-SPEC5, LIST-SPEC7
REQ11	LIST-SPEC8
REQ12	GEN-SPEC7
REQ13	ADMIN-SPEC2, LIST-SPEC1, LIST-SPEC2
REQ14	LIST-SPEC5
REQ15	ADMIN-SPEC6
REQ16	SAMPLE-SPEC-1, SAMPLE-SPEC2, SAMPLE-SPEC3
REQ17	ADMIN-SPEC9, ADMIN-SPEC10
REQ18	ADMIN-SPEC4, ADMIN-SPEC5, ADMIN-SPEC7, ADMIN-SPEC8, ADMIN-SPEC6, ADMIN-SPEC3
REQ19	ADMIN-SPEC1
REQ20	ADMIN-SPEC12, LIST-SPEC1
REQ21	ADMIN-SPEC13
REQ22	ADMIN-SPEC4, ADMN-SPEC5

3.2 Non-Functional Requirements

Requirement ID	Specification ID
NFREQ1	GEN-SPEC1, GEN-SPEC2, GEN-SPEC3
NFREQ2	GEN-SPEC3
NFREQ3	GEN-SPEC8
NFREQ4	GEN-SPEC3
NFREQ5	GEN-SPEC2, GEN-SPEC8
NFREQ6	GEN-SPEC1, GEN-SPEC3