

ISIT307/MTS9307 assignment 7 stage I and II version 1.0

The major assignment will integrate many of the previous minor assignments into a single cohesive web application.

The major assignment is broken into two parts each with their own deadline. Stage I is due by Tuesday of week 10 while stage II is due by Tuesday of week 11 or week 12. There are two levels of the stage II submission, standard and advanced. The standard submission is due on the Tuesday of week 12, while the advanced submission is due on the Tuesday of week 11. Stage I is worth 10 marks. A standard stage II is worth 50 marks, while an advanced stage II is worth 65 marks.

Note there is only one level of stage I i.e. no advanced. Stage I requires a mock-up of the stage II web application (standard level). A mock-up means a collections of web pages that show exactly how the web application looks. Only HTML and CSS is required for stage I i.e. no PHP. The functional requirement for the standard stage II follow.

Standard stage II functional requirements

This assignment assumes you have a web application based on some kind of collection i.e. a music collection, a blog (collection of text), a shop (a collection of items) etc. This assignment requires that each item in your collection at least 3 attributes (facets) that can be used for filtering. For an online “sock” shop an example record is:

ProdID	Brand	Colour	Size	Price	Sold
T01A	Reef	Black	8.5	12.50	47

The web application will support via a web form: creation, updating and deleting of collection item records. The application will support storage of the collection records in a MySQL DB. The application will maintain a text log of all creation, update and delete operations done to the collection.

The web application will support browsing and filtering of the collection. The user will be able to view the entire collection. The user will be able to see for each attribute category (such as colour – ‘red’) what the item counts are.

The user can make category selections in one or more attributes, then select filter. The user interface will then be updated to show what has been ticked and update category counts. The list of items shown will also be updated, to only include items that match. The user will then be able to tick further categories if they wish then select filter again. This process can be repeated an arbitrary number of times by the user.

Additional advanced stage II functional requirements

The web application will support analytics. An administrator user will be able to see a summary of all operations (creation, update and delete), whether they were successful or not for each attribute over the last seven days.

The web application will also support advanced filtering. The user will be able to select one or more categories in each attribute. The user will be able to change the order of the presented categories (and counts) between text order and count order.

The web application will support at least one additional attribute that is numeric, where the user can choose a numeric range when filtering from a list of pre-defined ranges. The application will support at least one attribute that has two category levels for example: date by quarter and date by month.

The web application will support server-side keyword search auto-completion that integrates with the faceted search and acts as an additional filter. You will need to use AJAX or similar for this.

Stage I

The purpose of stage I is to establish a specification for your web application, one based on non-functional web forms. The key pages are:

1. A faceted search page that supports user filtering of the collections via filters. These filters may use check boxes.
2. An Admin page for adding, updating and deleting a new item.

You will complete stage 1 by creating web pages for the above using HTML and CSS. For the faceted search page three sample forms and their screenshots are required:

1. No filter has been applied
2. A single category in one attribute has been applied
3. A single category in two attributes has been applied

Your screen shots will show at least 3 categorical / interval facet filters, their categories and counts, and the corresponding filtered collection. For stage I only use a collection of 15 items, so correctness is easy to check.

For the admin page multiple forms and their screenshots are required:

1. an empty add item form
2. an update item form with sample data entered
3. a delete item form with sample data entered

Your stage I report (a PDF) will include all the above screenshots plus text descriptions.

Stage I Deliverables

Two files:

1. A report that includes all the stage I screenshots with text descriptions.
2. A zip file containing your HTML, CSS and any other files needed to run your stage 1 mock-up in a web browser.

Stage II Deliverables

Three files:

1. A demonstration video that shows your application completing all of the functional requirements (limit of 10 minutes and 50MB). Include narration. For the admin page this will include showing the modification of the log file.
2. A report version (i.e. PDF) of all your code; that is correctly indented and uses fixed width fonts to be readable. Include a cover page that includes: a brief description of your collection, your setup and your DB design i.e. DB schema.
3. A zip file containing all your code and supporting files, sufficient to run your application.

The performance of your application will be judged from your demo video plus any other demonstration requested by your tutor in the lab. So if the demo video is incomplete, even if your code works, you may receive less marks.

The marking scheme for stage I and II follow on the next page.

Marking Scheme for Stage I (10 marks)

- (a) search page meets requirements (4 marks)
- (b) admin page meets requirements (4 marks)
- (c) appropriate CSS used (2 marks)

Marking Scheme for Stage II Standard Features (40 marks)

- (a) faceted search interface includes three reasonable filters whose intersection controls the observed collection. If no filter is set then either all items in the collection are shown or no items are shown. If no items are shown then the user has an easy way (one click) to see all items. (10 marks)
- (b) faceted search counts are correctly presented for each facet after a single filter query step. (10 marks)
- (c) progressive query works as evidenced by the narrowing of count values when a multi-step query is done. A progressive query preserves a user's prior choices in the interface. (10 marks)
- (d) the add/update/delete an item record works (with a sticky form being supported for the update). (6 marks)
- (e) the add/update/delete an item record log is correctly maintained. (4 mark).

The marks for (a), (b) and (c) are conditional on their implementation. That is, the faceted search filter with counts must be implemented via SQL calls to the DB.

Marking Scheme for Stage II Advanced Features (15 marks)

- (a) integrates keyword search with auto-complete (3 marks)
- (b) supports a numeric interval facet. (3 mark)
- (c) supports a two-level category tree for at least one facet. (3 mark)
- (d) supports analytics over item add/update/delete forms. (3 mark)
- (e) supports change of facet category order between the default ordering (such as text order or some initial order) and a count-based ordering. (3 mark)

Marking Scheme for the remainder of Stage II (10 marks)

- (a) the look and feel of your application (4 marks)
- (b) the cleanness of your DB design (2 marks)
- (c) the quality of your code (its readability and its lack of repetition i.e. maintainability) (4 marks)

Other Requirements

The minimum number of items in your faceted collection is 100 items.

You will have a scheduled 15-minute slot during the week 11 (advanced) or week 12 (standard) lab where you may be asked to demonstrate your web application and where you will be asked several questions about your code. The questions about your code will determine a knowledge factor 'k' between 0 and 1. Your stage I and II dropbox submission marks will be multiplied by 'k' to determine your final mark. If there is not sufficient time in the lab to complete these question sessions, you will be allocated an additional later question time with the subject coordinator.

There are Moodle dropboxes for your stage I and stage II submissions for you to upload to.