COMPSCI 345 / SOFTENG 350
Human-Computer Interaction

Assignment 3: Realizing a Design

- Worth 10% of your final grade
- This assignment is due Sunday 28 May 11:59pm
- This assignment must be done **individually**

Aims

The aim of this project is to give you experience in designing and implementing a prototype graphical user interface.

Background and Scope

This assignment builds on assignment 2. Now your task is to further develop the design of the interface as an HTML-based prototype for one of the types of problem-based learning you explored with your paper prototype.

1. Note that you are *not* bound to your Assignment 2 work as a specification; that is:
   a. You do *not* have to match the lo-fi designs your group did, but you may if you wish
   b. You do *not* have to implement any or all or the features in your Assignment 2 design, but you may implement some of them if you wish
2. Exclude from your prototype any steps involving system access and authentication. Assume the user has their browser open to the first screen of the problem-based learning environment that they would see after selecting this specific assignment.
3. Do not include a splash screen.
4. Out-of-scope links (if any) on your prototype should not cause errors if clicked, but do not need to be appropriately tool-tipped.

Details

Create and submit deliverables for the following tasks.

Task One: Design Documentation

(a) Walkthrough: Using three to five illustrative screen shots and surrounding narrative text (200-600 words [more isn't always better!]), step the reader through how the prototype works. At the start of this walkthrough make clear the sub-domain of knowledge and type of problem-based learning activity that is supported. All of the functions illustrated in your walkthrough should be implemented. Finish with a statement of 'Out of Scope' functionality where you list: (i) things that might be expected that were not implemented (don't be too exhaustive – just some items that might help the marker to set their expectations properly); and (ii) things where the UI is implemented but the functionality is not necessarily as per a full implementation (e.g. the user can enter and send peer feedback but the result isn't added to a list of peer feedback previously sent).

(b) Colour scheme: Describe the basic type of your site's colour scheme (e.g. monochromatic). List all the colours used in your prototype and their role, showing a block of colour and the RGB value. E.g.

	RGB: 53, 94, 145	Navigation pane background

Provide a brief rationale (50-200 words including words in the table) for your colour choices, including – in general terms – how the colours relate to each other.

(c) Borders scheme: Provide a description of your approach regarding choices of lines and borders, backgrounds (including images), use of white space and any other methods for grouping or segmenting content on your site. Provide a brief overall description and rationale (100-250 words) that includes three specific aspects of your strategy. You may wish to include illustrative images (e.g. of border lines or corners). Note text alignment will be assessed under this category, but you don't need to describe normal good alignment practices unless you've done something you especially want to highlight for its effect on grouping.

(d) Fonts scheme: As a table provide one row for each font used in the interface. Provide the font name (including important style aspects, like bold or italic), some example type and a description of its role in the interface. Provide a brief justification of the overall approach (100-250 words including words in the table).

(e) Resources used: List all external resources used for Task Two as a bulleted list or table including the source and a description of the role it plays in your design. This should include all JavaScript libraries you included and any images that you did not create yourself. You do not need to list JQuery, or any code from tutorials/labs or lecture slides of this course.

Include all this as a single document called Design.* with * equal to .doc, .docx, .rtf or .pdf as appropriate to the format of your document file.

Task Two: Implementation Tasks

Implement the design described in Task One using standardised Web browser technologies of HTML5, CSS and JavaScript only. You may use any of the following resources as a starting point or to implement useful features:

- Example code as developed in the labs/tutorials, as well as any code from the lecture slides
- JQuery (necessary for Bootstrap)
- Bootstrap components – see https://www.cs.auckland.ac.nz/courses/compsci345s1c/tutorials/Prototyping/#user-content-4-bootstrap (list each in part 1(e))
- This bootstrap template: https://blackrockdigital.github.io/startbootstrap-bare/ (no other Bootstrap template is allowed)
- Code snippets you find on the Web (list in part 1(e)), such as solutions from stackoverflow (you don't need to include cases where you got just the idea for a solutions as compared to the code for solution – basically, if you needed to use cut-and-paste then list it)
- Image files (for backgrounds, icons, etc.) from the Web where re-used within their terms of use (list in part 1(e))

You cannot include complete code files other than those listed above (i.e. no other CSS or JavaScript libraries). You cannot use an IDE that automatically generates code for you. Your solution cannot use a DBMS – where you wish to persist data use DOM and Web Storage methods as outlined in lecture.

Hints

Less may be more. Note the mark scheme at the end of this handout. Points are awarded for a complete and substantial prototype, but many more points are awarded for other aspects of the quality of your design. Concentrate on making good design choices rather than implementing maximum functionality.

Dummy data. Given the role of peer feedback in the problem-based learning methods, it's likely that you'll want to pre-populate your prototype with some peer feedback and/or peer work for feedback (which can use Lorem ipsum filler text liberally). You may also want to Wizard-of-Oz some UI feedback rather than implementing functionality to do DHTML manipulations with user input data (these short-cuts should be documented under 'Out of Scope' in part 1(a)).

Submission

Before you submit CHECK THAT ALL YOUR LINKS ARE RELATIVE so that the markers can unzip your folder and everything will work.

Submit a single zip file (and use ZIP format, not RAR, 7z or other) that contains the following via the online Dropbox by the deadline:

- Design document for Task One
- Your website prototype for Task Two, including home page and any other pages that the user navigates to depending on your design, with any supporting files that are needed for the site to be run by the marker. Include all HTML files, style sheet files (unless you did all styles internal or inline), Javascript files (again, unless internal to the HTML files) and image files.
- Please name your submission file using your UPI (e.g., bpli001.zip).

You can make as many submissions as you like, but only your last submission will be marked. **You should plan to spend no more than 20 hours on this assignment.**

Marking Guide

Markers will assess your deliverables out of **100 marks** as follows:

Design components	Aspects	Marks
Walkthrough	Understandable	5
	Complete to appropriate level of detail	5
	Matches to prototype	5
Colour scheme	Has a good explanation	3
	Supports attractive prototype	10
	Has functional contrast	3
Border scheme	Has a good explanation	3
	Supports clear visual grouping in the prototype	7
	Attractive and consistent styling	6
Font scheme	Has a good explanation	3
	Attractive, effective and consistent styling	5
Design document presentation	Overall document reads well, is easy to understand. This includes using correct grammar and spelling.	5
Prototype fitness for scenario *(beyond marks implicit in colour, border and font schemes)*	Intuitive and efficient for task	10
	Provides appropriate feedback (can be Wizard of Oz – i.e. 'canned feedback' – but must be documented in 1(a))	10
	Complete for scenario attempted	10
	Takes on a substantial interaction task (has depth)	10