

CE206 – Assignment 2

Autumn 2019

School of Computer Science and Electronic Engineering - University of Essex

Assignment Due at 11:59:59am on Thursday 12th Dec 2019.

Electronic Submission URL:

<https://www.essex.ac.uk/e-learning/tools/faser>

Please also see your student handbook for rules regarding the late submission of assignments

On Plagiarism

The work you submit must be your own. Any material you use, whether it is from textbooks, classmates, the web or any other source must be acknowledged in your work. Also, you are assumed to have read the booklet at http://www.essex.ac.uk/plagiarism/docs/Plagiarism_and_how_to_avoid_it.pdf

OBJECTIVE: To develop a complete website following HCI criteria and optimised for viewing on mobile phone.

SUBMISSION, ASSESSMENT AND RULES

- This assignment counts towards 30% of the overall mark for CE206.
- The assignment is to be done individually. **This is not a group assignment.**
- Be sure to put your registration number as a comment at the top of all code and other files.
- The assignment must be submitted in a single Word/PDF document and a zipped code archive containing the following subfolders:

CE206/assignment1/	All html files (.html .htm)
CE206/assignment1/images	All website image files (.gif .jpg)
CE206/assignment1/css	All css files (.css)

Note: please use the filenames as indicated in the task descriptions below otherwise your work may not be marked.

Note: you are free to use any software you like for this assignment, we cannot provide support for packages other than *Notepad++*, *Firefox* and *Web Development tools (Firefox add-on)* on a Windows PC.

DESIGN BRIEF

A complete website optimised for mobile phones.

Irene Au likes what you've done so far but she's got a number of changes. Firstly, she's decided she wants a full website, not just a single page. And not only that, she wants it optimised for mobile phone users and accessible to users with visual impairments.

[Review the design brief from Assignment 1 if you have not done so already.]

The objective of Assignment 2 is to create a complete website for Irene which can be visualized and navigated using *both* a desktop / laptop computer and an iPhone or similar device with a small screen. You can do this using liquid design, adaptive design, or responsive design.



Your website should focus on Irene's skills and experiences to enhance her chances of getting a job in a high-tech company, either directly from an employer, through an agency or through freelance work. For example, you could use the website to show off her familiarity with the history of the subject and any interesting or novel technologies she works with (imagine what the technology Irene is working with and what is of value to employers). You may use all or parts of the design you developed for Assignment 1 or develop something new. The content you use must look real must does not need to be factually accurate.

Minimum Requirements

The site you will design and implement will need to have at least the following:

- In Task 1, you will reconsider the user experience design and **TEST** a wireframe of the website you plan to build.
- In Task 2, you will **DESIGN** a website for Irene. You will design **the look and feel for at least 2 pages** (the homepage and at least 1 inner page) visible at least with two types of screen: a 960 pixel width screen, and a phone screen with a maximum width of 480 pixels.
- In Task 3, you should **IMPLEMENT in HTML and CSS** the liquid, adaptive or responsive design that you proposed in Task 2. Any images must credit the source. Navigation links should follow the site architecture and site text should be real. Your pages must have:
 - multicolour images on each page
 - at least 5 styled navigation links
 - at least 3 external links
 - suitable coding for accessibility
- In Task 4, you will automatically **EVALUATE** your website and list changes that will improve your website in order of priority. You will also self-evaluate what you have learnt in CE206.

TASK 1: User requirement review

Review the design brief from Assignment 1 and the requested changes made by Irene above. Based on this you need to specify how the information across the website will be structured. It is a good idea at this stage to produce a site map. In **CE206_assignment_2.doc**, define the sections of content, what they are used for and what name you will give them. Create several paragraphs of “real” text for each section of content. Lorem ipsum text **MUST NOT** be used. The content does not need to be factually accurate.

In addition you need to prioritise certain types of users who will access the website and why. You should create new user personas, user stories and user journeys to define their user experience. You should also create a wireframe for the website. You may simply copy in digital copies of the paper-based work you have done or you can write them up using Powerpoint into the assignment document.

TASK 2: A liquid, adaptive or responsive website design

You need to consider what the **design theme** will be and which areas of content you will focus on for the website. Search around the web for websites that will offer you inspiration or have a look at <http://designmodo.com/responsive-design-examples/>. You may also use some of the design ideas you had from Assignment 1 but you need to show you have researched some different ideas that focus on mobile presentation and Irene’s design brief. List these websites and your thoughts in **CE206_assignment_2.doc** under Task 2.

Based on this research you need to create a liquid, adaptive or responsive design for your website, including choice of fonts, layout, colours, imagery, etc, using **a storyboard**. This is a visual representation of the design choices you have made, either as a page mockup or written details of the design and layout. You must show a design for at least 2 pages. Your website must display well both on a standard 960 pixels desktop screen and on the original iPhone display of 480 pixels width at 163ppi without horizontally scrolling (i.e., the maximum width is 480 pixels). You can create these on paper and add images to the **CE206_assignment_2.doc** or this can be done in PowerPoint and saved as images and imported to **CE206_assignment_2.doc**. In this document you must also indicate why you have designed the page the way you have.

TASK 3: CSS-based website

For this task, you will implement your design for the homepage (save it as **index.html** in the "root" level folder, i.e., /CE206/assignment2/) and the inner pages using an external CSS file (called **assignment2.css** and saved in the CSS subfolder). Refer to Lab 6 HTML examples to get started. You may reuse elements of code from Assignment 1 or develop new code.

The crucial point is ensuring that your site fits both a desktop screen and a mobile phone screen. For this stage, use the Firefox Web Developer extension to resize your screen to 480 pixel width. Your design must not scroll horizontally and should be optimised for minimum data transfer.

The pages must take the following aspects into account from an HCI point of view:

- the correct type of graphics files for the images you want to show
- suitable font types and sizes
- appropriate use of colour (including suitable colour depth and issues related to colour-blindness) and contrast
- functional navigation based on a linked unordered list
- external links to other web resources
- avoid text in graphics
- add suitable text tags to hyperlinks and embedded images (for users with restricted vision)
- include copyright and updating information

You may use suitable imagery from the web but you **MUST** credit the source (do this by adding an HTML/CSS comment next to where you add the image). Navigation links should follow the site architecture and any site text must look real but need not be factually accurate. The site must be complete and not have any pages with missing content or "page under construction" messages.

In addition, your site should take into account the recommendations for mobile usability discussed in the lectures:

- avoid functionalities like moving animations
- limit content on each page
- plan your navigation carefully

You are encouraged to explore using interactivity by incorporating JavaScript libraries that will enhance the mobile user experience; however, you must document what you are using and why (in the HTML code comments) and you must ensure that the website is accessible to all i.e. there must be a non-interactive equivalent in place should the user not have JavaScript enabled.

Your HTML and CSS code **MUST** contain comments explaining what the major parts of your code do. The code should also be properly indented and not contain any "junk code" (this is commonly produced by Visual Studio for example). Your design should work for the latest version of **Firefox** however do check it in other browsers such as Internet Explorer or Safari.

TASK 4: Evaluate your website and propose changes.

Now the website is complete you should be able to test its functionality using a number of automatic tools. Choose a suitable metric to evaluate the website for at least two of the following evaluation areas (see Lab 7 for examples of how these can be tested):

- 1. Strategy**
- 2. Usability**
- 3. Style**
- 4. Content**
- 5. Search engine optimisation**

NB: Some of these tools mentioned in the lectures/labs require the site to be on a publically-accessible web domain which this assignment does not require you to do. Therefore focus on using tests that only require a file upload.

In a table, list your evaluation metric, the result your website achieved, and what you need to do to improve your evaluation score. Also, indicate on the table the order in which you would fix these issues and write a short paragraph explaining why you prioritised the list in the way you did.

NB: Consider Krug's advice when it comes to improving the usability of websites:

- Do the least you can do...
- Tweak don't redesign
- Take something away rather than create something new

You are not required to change your website, only to indicate what changes you would make.

Finally, perform the same online talent tree you completed in Lab 1:

<http://www.dungeonsanddevelopers.com/>

You do not need to add your name into the talent tree. You will not be assessed on what you submit, only that you do submit something. In the final section of Task 4 paste a screenshot of your current talent tree next to your original one.

MARKING BREAKDOWN (out of 100%)

Task 1. User requirement review (20%)

- Suitability of design for good HCI
 - Navigation

Task 2. Website design (20%)

- Suitability of design for good HCI
 - Navigation
 - Layout
 - Colour and contrast
 - Aesthetics and imagery
- Quality and detail of storyboard

Task 3. CSS-based website pages (40%)

- Functionality:
 - Site working and code quality
- HCI suitability of the desktop version:
 - Navigation
 - Use of fonts types, colour and contrast
- HCI suitability of the mobile version:
 - Navigation
 - Use of fonts types, colour and contrast
- Design aesthetic:
 - Layout
 - Imagery, etc

Task 4. Website evaluation and self-evaluation (20%)

- Evaluation areas tested
- Prioritisation of usability modifications
- Self-evaluation submitted