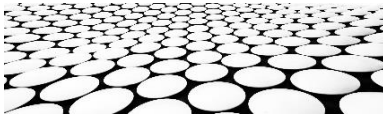SEG3125 User Interface Design and Analysis

MODULE 5/6 – TUTORIAL/LAB

Enhancement of a Health Service Site

GOALS

Design principles help us design sites that will make users productive. Knowing the characteristics of human cognition also helps us to design sites that respect users' strengths and limitations.

The purpose of this laboratory is to improve and expand the health business site developed in Laboratory 4.

You are free to modify the type of health service to a different kind of health service if you want (e.g. chiropractic clinic, optometrist, dentist, etc) as long as it is a health service.

During this laboratory, you will:

- Learn a JavaScript framework, jQuery, to create a responsive site.
- Think about the cognitive load requested by your site.
- Consider the use of icons (an important visual communication tool)
- Continue your design in line with the principles presented in the book *Design of Everyday Things* by Dr. Norman.

SUBMISSION DEADLINE

This laboratory is over Module 5 and Module 6. Your submission in Module 5 is optional, but I strongly suggest you submit a draft of your site to obtain feedback. The peer review process during Module 5 will not count toward your grade, your peers, as well as the TAs, will provide comments to help you.

- Submission/Review opens: Thursday June 10th, 12pm
- This submission will not be run as a typical assignment. This is run as a "live session" (what they call it in peergrade). This means, you can submit whenever you feel your draft is good enough and wish to obtain feedback to make it better. As soon as you submit, you will be able to provide feedback to others and obtain feedback from them.

SUBMISSION METHOD

- Do your submission in peergrade. Lab 5 is listed there.
- Submit either a link or text (containing a link) so that your colleagues and the TAs can see the rendering of your health service and navigate in it.
- Make sure your new link DOES NOT replace a previous lab.

INSTRUCTIONS / TUTORIALS

We are continuing our exploration of the very popular HTML/CSS/JavaScript technologies for website construction. This week we will be using a framework called jQuery.

You have observed that HTML/CSS/Bootstrap is used for the design of your web page and that JavaScript allows for actions to be performed (modification of the DOM according to events).

jQuery is primarily used to help write JavaScript and make it easier to write functions that "respond" to various events happening on the HTML page.

I suggest that you use the w3schools.com site once again to explore what is possible with jQuery. You can also use the code I provide you (see the *Starting point* section) which contains several small bits of code and links to the appropriate sections of the tutorial on jQuery.
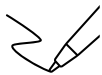
DESIGN

In this laboratory, you must continue to develop your health service website started last week. You are free to modify the type of health service to a different kind of health service if you want (e.g. chiropractic clinic, optometrist, dentist) as long as it is a health service.

To follow the new requirements requested in the CODING section, you may need to rethink part of your design.

STARTING POINT

Ryan (your TA) provides a folder with some JavaScript code that demonstrates the use of jQuery. You can see the rendering here. I suggest you browse this code containing several comments and links to appropriate sections of the tutorial offered by w3schools as well as other tutorials. Remember that this is only a starting point, and your site should be UNIQUE and reflect your ideas.

CODING

1. Two **new functional requirements** (all previous requirements still hold):

    a. Currently, your site asks a user to choose a service and a date. Now, your site should also allow the user to choose the expert/professional of their choice (e.g. the client wants an appointment for knee rehabilitation with physiotherapist Xu Tao).
    b. To guarantee a service reservation, the user must provide their credit card information. You must add a payment section to your site.

2. Requirements in relation to **human cognition**:

    a. <u>Attention</u>: To make sure that users "know where they are" when they return to the site (after being distracted for example), it is useful to add a menu, such as Navbar, at the top of the page. The tendency of users will often be to look at the top of the page (focus point), and check if there is a menu there. The Navbar that you will add will in fact only be a menu whose options bring the user to the right place on your page. Do not create new pages, your new menu will contain pointers to sections on your page. (*You can see an example in the base code I provide.*)
    b. <u>Memory</u>: In connection with the limits of a user's short-term memory, avoid having menus that are too long. If you offer 10 types of services, for example, organize these services into sub-groups.
    c. <u>Perception</u>: Review the laws of Gestalt as you look at your site. For example:
        i.   Law of *Similarity*: do you have similar elements (same colors, same icons, etc.) that help to see a group?
        ii. Law of *Figure and Ground*: do you have clearly visible icons on various background colors?
        iii. Law of *Focal Point*: do you have elements that will attract the user's attention (such as the navbar mentioned above)?

3. Requirements in relation to **visual communication tools (icons):**

    •   We discussed at length the icons and the difficulty of choosing good icons, especially for actions or abstract concepts for which it is more difficult to find good metaphors or representations. You will need to think critically about your choice of icons; you must add icons on your page for:

- o Services
- o Experts/Professionals
- o Payment
- o Two other elements of your choice

You will see in the base code that we have put some icons (not really appropriate ones!) which come from an icon bank (Icons 8). There are several other icon banks. You can also draw your own icons if you want. Note that one of the icons is visible on a white background, but not on a black background. You have to be careful to avoid that.

4. New requirements linked to the **design principles** presented in the book *Design of Everyday Things* by Dr. Norman. In the previous laboratory, your requirements included visibility and consistency. In this lab, we look more specifically at feedback and constraints, but also come back to other principles.

Visibility and Affordance: *I see what I can do and understand how to do it.*

- • Help the user understand the information to enter:
    - o Using tooltips, help the users to understand what they should provide as information and why. For example, asking for a credit card may seem strange to them, and therefore they should be told that it is in the event of a last-minute cancellation (or other reason you might choose).
- • Highlighting of entries:
    - o When users put their mouse on an entry box, change the color of the entry or emphasize this entry in another way.

Constraints: *I can only make acceptable choices, and enter appropriate information*

- • Validation of inputs: When users enter information into an input component of type "text", they can write anything. You will need to use regular expressions to validate the format of the following entries:
    - o Telephone with format (xxx) xxx-xxxx (or other, at your choice)
    - o Credit card number with format "xxxx xxxx xxxx xxxx"
- • Hiding of unavailable dates: When users choose a date for a service, they should be presented with a calendar. In this calendar, certain dates must be unavailable.
    - o Weekends (or Sunday/Monday, as you wish)
    - o Dates which do not correspond to the availability of the chosen professional. You will need to have a data table in your code, such as (Daniel, Tuesday-Wednesday-Thursday, Johanne, Tuesday-Wednesday) which establishes the working days of each professional. So, when the user chooses Daniel, for example, the only calendar days available should be Tuesday-Wednesday-Thursday.

Attention: Regular expressions can become very complex. I'm only asking for fairly simple number validations, and I'm putting an example in the base code. Also, for date validation, I suggest you use datepicker, a component of jQuery UI. I put an example in the starting code. Your challenge will be to hide certain days depending on the choice of the professional.

Feedback: *What just happened? Did I make a mistake?*

- Input errors: When users enter information into a component of type "text", they can write anything. In addition to validating these entries (see *constraint*s section) you must give error messages.
- Any other feedback you think is necessary to help the user understand what happened.

Consistency: *The elements that I see are consistent within the page, and consistent with the standards that I know.*

- Choice of jQuery UI theme related to the atmosphere of your site.
  - jQuery UI offers themes for your components (https://jqueryui.com/themeroller/), and you must choose a theme that works well for your site. You will see in the base code that I have chosen a theme and you can change it.
- Choice of icons related to the atmosphere of your site
  - You need to add icons to your site, be sure to choose icon styles that respect the style of your site.

☆☆☆   EVALUATION

- ATTENTION : This laboratory is worth 7%. It is over 2 weeks, and therefore counts as 2 labs. It is a heavier assignment with lots to do. This is the first time in SEG3125 that we expect your site to have a professional look. You are acquiring design skills and are putting them in practice now.

- A first peer review will be available to give you comments. Take advantage of it. Only students who provide reviews to others can see the reviews they obtain. Please take part in the process. The TAs will also participate in that first week to give additional feedback.

QUESTIONS

- You can ask your questions in the Module 5 discussion forum on Brightspace.
- You can also send your questions directly to the TA you are assigned to. If your last name starts with a letter between A and J - please send mail to Abdorrahim (abahr010@uottawa.ca), otherwise send an email to Xinyi (xhe068@uottawa.ca).