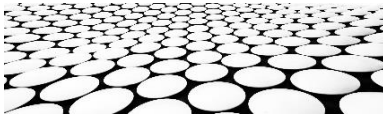


SEG3125 User Interface
Design and Analysis



MODULE 5 – TUTORIAL/LAB

Enhancement of a Service Business 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 service business site developed in Laboratory 4. 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.

PLEASE NOTE: I offer 2 levels of requirements. Level 2 requirements are always optional but can stimulate you to learn more.



SUBMISSION DEADLINE

- Tuesday, June 23rd, 11:30pm



SUBMISSION METHOD

- In Brightspace, the Module 5 checklist contains a link for your submission.
- Do not submit files. Submit a link to your web page for the TA to evaluate your site according to the requirements. **ATTENTION: The link for lab 5 should not be the same as the link for Lab 4. Keep the two versions of your site separate.** If you are submitting before the deadline, be sure to enter FINAL SUBMISSION when you are ready to have your submission evaluated.

ATTENTION: Any code or even "small piece of code" that you take from a website such as stack overflow or other should be accompanied by a comment that recognizes the source. In your submission text, you must indicate "Code for X inspired by (html link) ".



INSTRUCTIONS / TUTORIALS

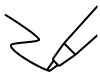
We are continuing our exploration of the very popular HTML/CSS/JavaScript technologies for website construction. This week we will be using a framework called jQuery.

You have observed that HTML/CSS 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 service business website started last week. Either a hairdressing salon or a bicycle maintenance and repair company. To follow the new requirements requested in the CODING section, you may need to rethink part of your design.



STARTING POINT

I provided a [folder](#) with some JavaScript code that demonstrates the use of jQuery. You can see the rendering [here](#). I suggest you browse this code in which I have written several comments and put 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 reflect your ideas.



CODING

Level 1 requirements (Mandatory)1. Two new **functional requirements**:

- a. Currently, your site asks a user to choose a service (e.g. long cut, brake repair) and a date. Now, your site should also allow the user to choose the professional (hairstylist, mechanic) of their choice.
- 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. **Attention**: 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. **Memory**: 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. **Perception**: 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:
 - Services
 - Professionals
 - Payment
 - Two other elements of your choice

You will see in the base code that I 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 my 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, affordance, mapping 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:
 - 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:
 - 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:
 - Telephone with format (xxx) xxx-xxxx (or other, at your choice)
 - 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.
 - Weekends (or Sunday/Monday, as you wish)
 - 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 *constraints* 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.

Level 2 Requirements (Optional)

You already know jQuery? Did you do the 2 sites, hairdressing, and bike repair last week? You can complete the lab with both of them. Several components will still be reusable.



EVALUATION

- This laboratory is worth 3.5%.
 - Any student who has met the requirements will be granted 10/10. Each missing requirement will be penalized by one point.
 - Failure to provide sources of code inspired online will result in a score of zero.
 - Any delay beyond the deadline will have a penalty of 10% per day.
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QUESTIONS

- You can ask your questions in the Module 5 discussion forum on Brightspace.
 - There is a consultation schedule for the laboratories in the organization section of the course on Brightspace. That will tell you when a teaching assistant is available on the forum or by zoom.
 - You can also send your questions directly to the TA you are assigned to. Refer to the lab consultation schedule to see which TA you are assigned to.
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