

Overview

This is the assignment for unit I. It is worth 10 points, or 10% of your term grade. There are two parts: a written part (5 points) and a programming part (5 points). Both parts are due on FEBRUARY 22 by midnight, using the electronic submission system (instructions on class web page).

Part 1. Written component

1. Read the article entitled *Paper prototyping* by Carolyn Snyder. (Distributed in Lab on February 8.)
Draw a paper prototype of the web site you will build for part 2 of this assignment (see Programming component, below). You can scan a hand-drawn picture, or you can use a drawing program (like Photoshop, Illustrator, Omnigraffle, Powerpoint, etc.)—whatever method you choose, you must submit an electronic version of your “paper” prototype. (1 point)
2. Refer to the chapter by Donald Norman, *The Psychopathology of Everyday Things*.
Select one “everyday thing” from your home. Analyze the object you have chosen and describe its properties: (a) Conceptual Model, (b) Visibility, and (c) Affordances. (1 point)
3. Refer to the lecture notes from February 6.
Explain the difference between the *Gulf of Execution* and the *Gulf of Evaluation*. (1 point)
4. Refer to the chapter by Ben Shneiderman and Catherine Plaisant, *Guidelines, Principles and Theories*.
Compare and contrast the advantages and disadvantages of *direct manipulation* with *command language*. (1 point)
5. Refer to the same Shneiderman and Plaisant chapter.
Select any two “guidelines” from section 2.2 and explain how the web site you will build for part 2 of this assignment (see Programming component, below) adheres to these guidelines. (1 point)

Part 2. Programming component

The programming part of the assignment builds on **lab1.1**: Your job is to make a web page that will help high school students write their college application essays. You’ll need to create a page that is simple yet informative, easy to use, and looks good.

1. Use CSS with HTML to make your page look good (1 point)
 - (a) use multiple `<div>` tags to divide up your page into sections
 - (b) use the `position` property to place each `<div>` in a distinct location on your page
 - (c) set the `color` properties of each `<div>` (background and text color)
 - (d) set the `font` properties of each `<div>` (and make sure each `<div>` contains some text)
 - (e) set the `border` properties of each `<div>`
 - (f) set the `margin` and `padding` properties of each `<div>`
 - (g) create a `list` and use CSS to modify 2 or more default properties of the list
 - (h) create a `table` and use CSS to modify 2 or more default properties of the table

2. Use Javascript to process form elements and generate parts of the college application essay (*1 point*)
Each of the Javascript elements, below, can be used to get input from the user and then processed to initialize the contents of the `<textarea>` element (listed last, below). This last element is where your user will write their college essay. The idea is that the other form elements can be used to get input that will seed the essay, to help the student author get started.
 - (a) use a `<button>` to change the text in one of the `<div>`s that you defined above
 - (b) use a `<button>` to change the background color of one of the `<div>`s that you defined above
 - (c) create a set of checkboxes to allow the user to select colors for the background of one of the `<div>`s that you defined above
 - (d) create two password elements and ask the user to enter the same password twice; use a JavaScript function to verify that the user typed the same password in both fields
 - (e) use `<select>` and `<option>` to create a drop-down list from which the user can pick one item
 - (f) use `<select multiple>` and `<option>` to create a drop-down list from which the user can select more than one item
 - (g) use `<input type="text">` to create a single-line text field; use a JavaScript function to convert the text that the user enters to all upper-case
 - (h) use `<textarea>` to create a multiple-line text field; use a JavaScript function to count how many words the user entered
3. Improve the input capabilities with HTML5 forms (*1 point*)
 - (a) use a `<input type="date">` tag to request and read the user's birthday
 - (b) use a `<input type="email">` tag to request and read the user's email address
 - (c) use a `<input type="tel">` tag to request and read the user's telephone number
 - (d) use a `<input type="number">` tag to request and read a numeric value from the user
 - (e) use a `<input type="range">` tag to request and read a range of numeric values from the user
4. Add geolocation capabilities (*1 point*)
Use the HTML5 Geolocation feature to get the user's latitude and longitude, and somehow include these in your application essay. (*Be creative!*)
5. Add visual choices (*1 point*)
Use the HTML5 Drag and Drop feature to let the user select one from a set of images. Somehow include their choice in your application essay. (*Be creative again!*)

Submission

- The WRITTEN COMPONENT should be contained in a PDF file.
- The PROGRAMMING COMPONENT should be contained in an HTML5 file, along with a CSS file (unless you embed CSS inside your HTML file). You may also include image files.
- Zip together the files from both parts of the assignment.
- Submit your assignment electronically, using the submission page linked on the class web page.