Assignment 1 (12.5%) - Writing HTML and CSS code
T-213-VEFF, Web programming I, 2024-1
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Deadline: Tuesday, February 6th 2024, 23:59

This is the first assignment in Web Programming I, with the topic to create a web site using HTML and CSS. The assignment can be completed in groups between 1-3 people.

1. Building a website based on a sketch

In the supplementary material of this assignment, you find five screenshots of a responsive web site (**page_599px.jpg, page_600px.jpg, page_1000px.jpg, page_button_pressed.jpg, and page_dropdown.jpg**). As the file names suggest, the first three show the web site at a width of 599 pixels, 600 pixels, and 1000 pixels. The remaining two screenshots show how buttons look like when clicked (**page_button_pressed.jpg**) and the content of the dropdown menu (**page_dropdown.jpg**).

Your task will be to implement this website so that it resembles the screenshots as closely as possible. You will deliver the web site as a single HTML file and a single external CSS file. The used image files can be found in the supplementary material. To figure out the colours we used, you can use tools such as https://imagecolorpicker.com/.

Note that, for parts of the assignment, it might be required to investigate parts of HTML/CSS that have not (or not yet) been covered in the lectures.

Sites like developer.mozilla.org, w3schools.com and css-tricks.com can be really helpful.

2. The following requirements must be fulfilled in your solution

The following requirements must be fulfilled in your solution. Note that violating some of these requirements can lead to severe point deduction. Therefore, make sure to follow them closely and check the grading criterias in this file before your submission.

1. The HTML document shall validate as an HTML 5 document without errors in the W3C validator (https://validator.w3.org), using automatic detection for the document type.

2. The CSS document shall validate as an CSS document without errors in the W3C validator (https://validator.w3.org), using automatic detection for the document type.

3. All dimensions (font sizes, paddings, margins) shall be approximately correct. This means that they do not have to be exact, but they shall not cause wrong layouting. Specifically, the piano buttons need to be aligned so that they look like an actual piano, without gaps or vertical mis-alignment.

4. All images and text shall be as in the screenshots.

5. All piano keys shall be buttons. No images or image maps are allowed for the keys.

6. All buttons shall look like the E4 key in **page_button_pressed.jpg** when pressed.

7. All images shall have an alt attribute, containing a sensible description of the picture.

8. The dropdown menu shall contain the three items shown in **page_dropdown.jpg**.

9. The web site shall be responsive. That means that all boxes re-size automatically when the width of the screen (or browser window) changes. Re-sizing has to work even on devices with virtual viewports. The following sub-requirements apply:

   a. When the screen is larger than 599px and smaller than 1001px in width, the piano and the controls above it shall be visible and resize relative to the screen width.

   b. When the screen is 599px and smaller, the error screen as shown in **page_599px.jpg** shall be displayed. The piano and controls shall disappear.

10. All CSS code shall be placed in its own CSS file. No inline CSS is allowed.

11. No external CSS files (e.g., Bootstrap) are allowed. The only exception is for including fonts.

12. There shall be no use of JavaScript.

13. There is no requirement on how the website shall look over 1000 pixels.

14. The website will be assessed using Google Chrome and Mozilla Firefox, in responsive mode in both browsers.

3. Submission

The assignment is submitted via Gradescope. Submit a zip file containing one HTML file, one accompanying CSS file, and all the image files (so that the website works out of the box). No late hand-ins are accepted.

4. Grading and point deductions

Below you can see the criteria for grading, this list is not exhaustive but gives you an idea of how grading will be done for the project.

Criteria	Point deductions
HTML Validation: The HTML document shall validate as an HTML 5 document without errors in the W3C validator (https://validator.w3.org), using automatic detection for the document type.	The HTML document does not validate as correct HTML in the W3C HTML Validator: -1 point per validation error (max -3 points).
CSS Validation: The CSS document shall validate as an CSS document without errors in the W3C validator (https://validator.w3.org), using automatic detection for the document type.	The CSS document does not validate as correct CSS in the W3C CSS Validator: -1 point per validation error (max -3 points).
Dimensions: All dimensions (font-sizes, paddings, margins) shall be approximately correct. This means that they do not have to be exact, but they shall not cause wrong layouting. Specifically, the piano buttons need to be aligned so that they look like an actual piano, without gaps or vertical misalignment.	Dimensions (font sizes, paddings, margins) differ substantially from the screenshots: -1 point.
Images/Text/Dropdown content: Images or text or dropdown are as in the screenshots	Images, text, or dropdown menu content differ from the screenshots: -1 points.
Piano keys: All piano keys shall be buttons. No images or image maps are allowed for the keys.	The buttons are images or not valid HTML elements: -2 points.
Buttons pressed: All buttons shall look like the E4 key in **page_button_pressed.png** when pressed	Any button has a different style when pressed: -1 points
Alt attributes: All images shall have an alt attribute, containing a sensible description of the picture.	At least one image misses the alt attribute or has the wrong alt attribute: -1 points.
Disappearing controls and piano: The controls and piano disappear under 600px and are replaced by an error message with the corresponding image.	The controls or piano do not disappear under 600px, or the error page does not appear: -2 points.
The website shall be responsive: The web site shall be responsive. That means that all boxes resize automatically when the width of the screen (or browser window) changes. Re-sizing has to work even on devices with virtual viewports.	The piano does not scale correctly with the viewport: -1 point.
Piano look: The piano consists of HTML buttons only and looks like an actual piano in terms of layout and colours.	Different layout, elements, or colours: Up to -4 points, depending on severity.
Other: Other issues. For example, inline CSS, third-party CSS files, use of JavaScript.	Other issues. For example, inline CSS, third-party CSS files, use of JavaScript: Point deduction depending on severity.