WMDD 4835—001 Summer 2017

Final Exam

[Total Marks: 26]
[Maximum Marks: 29]
- Open Book
- No electronic devices other than your desktop workstation or laptop are permitted.
- Communication with anyone other than the instructor is not permitted.
- Sharing the files included with this exam is not permitted.
- This exam has 3 pages.
- The time for the exam is 1 hour and 55 minutes. **There will be no extensions.**
- When you are finished, delete the demo videos and **create a zip file with all files necessary to view your webpage.**
- All files must be submitted by **10:24am**. **There will be no extensions.**

*Watch the demo videos closely to make sure you are implementing the correct functionality and layout.

Setup and hand in:

1) Download the starter files from D2L—these include a starter HTML file called **index.html** and a starter CSS file called **style-starter.css**.
2) **[2 marks]** Create a new stylesheet called **style.css** and put your styles into this file. Do not edit the file **index.html** except where instructed to do so.
3) **[1 mark]** Delete the demo videos from the folder before handing in.

Task 1: Header

[6 marks]
- The **header** should be **100vh** high and **100%** as wide as the window.
    o Implement the header layout shown in the **demo video** using any method. (Note that the **menu button** has been positioned already, so you don't have to worry about this.)
- Create a **video tag** (using **bird.mp4**) at the indicated spot in **index.html**. The video tag should have the follow properties:
    o It should **autoplay, loop**, and be **muted**.
    o It should fill the entire space of the header, be positioned in the background, and not be stretched or squished.
    o It should have **fixed position**, so that when the user scrolls, the video stays in place.
    o It should have a fallback image for browsers that do not support the **video** tag. (use the **bird-poster.png** image)

- It should have a fallback image for browsers that do not support the **mp4** video format.
- Set two backgrounds for the **header** element:
    - The image **swirl.png** (by [Peter Chon](#) from **transparenttextures.com**).
        - This image should have a size of **600px by 600px**.
    - A linear gradient that goes from **lightyellow** to **transparent** to **rosybrown**. The direction should be **to top right.**

Task 2: Responsive Images
[5 marks]
- At the specified places in **index.html**, place responsive images with the following properties:
    - The images should change between the **big (1200w)** and **small (1000w)** versions according to window size and screen resolution. **Remember that this is best observed using Firefox.**
        - Remember to take into account the widths of the image files, and also the sizes of the images with respect to the window width. Watch the demo video or read ahead to Task 3 for more info on this.
    - For the last three articles, The **cropped** versions of the images should be displayed when the window is narrower than **995px**.
    - The images have a set height of **200px**. Do not modify this, but do make sure the images are not squished or stretched. Also, make sure the animal subject of each image is not out of the frame or cut off.
- It turns out that the **object-fit** property isn't supported by Internet Explorer and a few other browsers. Use **Modernizr** to detect support for object-fit; for browsers that do not support it, set the height of the article images to **auto**.

Task 3: Main
[3 marks]
- Use **flexbox** to create the layout inside the **section** element:
    - The **Bees** article should be **100%** of the width of the **section**.
    - The next three articles should share one row, each taking approximately **1/3** of the row.

Task 4: Animated Footer
[2 marks]
- The footer of the page should have the background image **swirl.png**, and that image should be moving smoothly **from left to right** across the screen, with the following properties:
    - The animation should not have obvious points where it loops or starts over.
    - The animation should not slow down or speed up.

o   The animation should repeat forever.

Task 5: Advanced Selectors
[2 marks]
-   The bees article should have an **h3** heading that has a **font size** of **4rem.** The **h3** should also overlap the image a bit (do this however you like!)
-   The first line of the Bees article should be **bold** and have color **rosybrown.**

Task 6: jQuery Menu and Transitions
[5 marks]
-   The menu for this test has been fully styled; you just have to get it to show up when clicking on the menu button!
    o   Use **jQuery** to have the menu appear when the user clicks on the **menu button**. Do this by **toggling** the class **menu-visible**.
    o   Use jQuery to hide the menu when the use clicks on the **close-menu button**, or **any of the menu items** (also by toggling the class menu-visible).
    o   Animate the opening and closing of the menu:
        ▪   Use **CSS** and the class **menu-visible**.
            •   Two properties are being used to show and hide the menu: **visibility** and **opacity**. (see the file **style-starter.css**)
            •   You will have to create different transition animations for **menu open** and **menu close**; each will have to animate these two properties in a different order. **(hint: the duration of the visibility transition can be 0s.)**
    o   Animate the **border-bottom hover transition** on the menu items. This transition doesn't have to be anything fancy.

Bonus Task:
[3 marks]
-   Use jQuery to create a parallax scroll effect on the header background video, as in the **demo_bonus** video. A few hints:
    o   Use a scroll event handler to implement this.
    o   Use the **scrollTop()** function along with the **top** property of the **video** element. You will have to set the **top** property to be somehow proportional to the distance that the user has scrolled down the page.