<u>**COM S/SE 319: Construction of User Interfaces**</u>
<u>**Fall 2022**</u>

<u>**Homework 1: UI prototyping and design**</u>

[Total Points: 50]

<u>**Assignment Due:**</u> **Friday, Sep 16th, 2022, 11:59PM**

1. <u>**Review HTML**</u>

   Here's a good resource to tryout HTML https://www.w3schools.com/html/.

HTML Tutorial	Link
HTML Introduction	https://www.w3schools.com/html/html_intro.asp
HTML Editors	https://www.w3schools.com/html/html_editors.asp
HTML Basic	https://www.w3schools.com/html/html_basic.asp
HTML Elements	https://www.w3schools.com/html/html_elements.asp
HTML Attributes	https://www.w3schools.com/html/html_attributes.asp
HTML Headings	https://www.w3schools.com/html/html_headings.asp
HTML Paragraphs	https://www.w3schools.com/html/html_paragraphs.asp
HTML Styles	https://www.w3schools.com/html/html_styles.asp
HTML Formatting	https://www.w3schools.com/html/html_formatting.asp
HTML Quotations	https://www.w3schools.com/html/html_quotation_elements.asp
HTML Comments	https://www.w3schools.com/html/html_comments.asp
HTML Colors	https://www.w3schools.com/html/html_colors.asp
HTML CSS	https://www.w3schools.com/html/html_css.asp
HTML Links	https://www.w3schools.com/html/html_links.asp
HTML Images	https://www.w3schools.com/html/html_images.asp
HTML Tables	https://www.w3schools.com/html/html_tables.asp
HTML Lists	https://www.w3schools.com/html/html_lists.asp
HTML Blocks	https://www.w3schools.com/html/html_blocks.asp
HTML Classes	https://www.w3schools.com/html/html_classes.asp
HTML Head	https://www.w3schools.com/html/html_head.asp
HTML Layout	https://www.w3schools.com/html/html_layout.asp
HTML Forms	• https://www.w3schools.com/html/html_forms.asp
HTML Form Elements	https://www.w3schools.com/html/html_form_elements.asp
HTML Input Types	https://www.w3schools.com/html/html_form_input_types.asp
HTML Attributes	https://www.w3schools.com/html/html_form_attributes.asp

   For those new to HTML, we suggest you checkout these exercises. If you are familiar with HTML, you may skip this step.

2. **Go over Bootstrap documentation**

https://getbootstrap.com/

Just like we did in Lab02, you should use "bootstrap.css" to prettify your page.

Go over the Bootstrap documentation and experiment with the provided components if you   haven't already done so.

3. **Create a Figma UI wireframe for the homework** (10 points)

The objective of wireframing is to present a high-level sketch of your application's UI. In practice we start from wireframing before we proceed to UI designing. But since you've already been provided the UI, we'll work our way backwards in this exercise. So **first checkout the 3 html pages you are supposed to design below.** The first page contains a Header, NavBar, Carousal and Footer. Instead of trying to design everything from scratch, checkout the Figma Bootstrap UI Kit. It contains most of the Bootstrap components you need for your wireframe. All you need to do is:

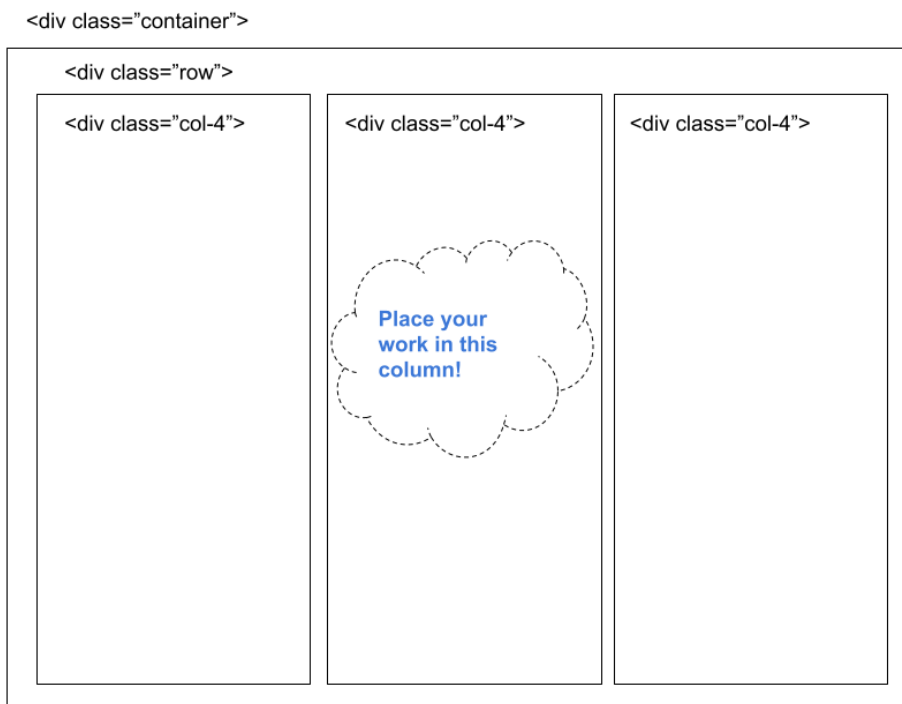- Go to Figma Bootstrap UI Kit.
    - Click on "Github" link and download the UI kit repository.
    - [OR optionally click on the "Free download" link and download the ".fig" file]
    - Once you download the code repository, add the "free-figma-bootstrap5-ui-kit.fig" file into your bootstrap projects page (figma.com).
    - If you open the free-figma-bootstrap5-ui-kit file in your Figma page, you should be able to open the UI kit.
- Create a new Figma project (Open this in a second browser tab)
- Add three "Desktop" frames to your project
- To add Bootstrap UI components to your frame
    - Go the Bootstrap UI Kit window
    - In the left side bar:
        - Click on "Layers" tab ---> "Components" link
        - You should see all the available Bootstrap UI components
    - Now you can zoom in on a particular component pane (eg. Buttons)
    - Copy a component (eg. Button)
    - Paste in one of the frames in your opened project
- You will notice that not all components you want exist in the UI kit. That's Ok.
    - To add missing components, you can improvise by screenshotting components from the actual Bootstrap docs page.
    - Eg. Take a screenshot of the carousal and add the picture into your frame.
- The components might not exactly match the UI.

- For instance, it's fine to have a 3 row table in your wireframe, but make sure to have a 10 row table in your actual UI (html file).
- Link the three frames using "click" interaction
  - From the instructions below, you see that there are three NavBar links
  - When clicked, the links should help transition the preview to the corresponding frame
- Remember to center the components in your wireframe.
  - Checkout the layout section in 4.1
  - Don't worry about the columns in Figma, it's enough to have a reasonably centered layout.
- Click the "Share" button to copy the figma link
  - Make sure "Anyone with this link" is chosen for the "can view" option
  - Click on "Copy link" and paste it into the "Add Comment" section when you submit your assignment on Canvas
  - [OR you can also download your wireframe as a ".fig" file and include it in your submission zip]

4. **Create an offline HTML website that has three pages** (10 points)
   1) **Layout**

Remember, Bootstrap uses a 12 column layout. This means the a page can be divided into as many as 12 "**div**" columns. This is mentioned in lab01, so checkout Lab01 to recall. We want you to divide all 3 pages into 3 columns of size 4 as shown below. Place all your work in the middle column. The adjacent columns shall be left empty. Such a layout helps to center your work, making it easy to resize your pages when accessed with smaller devices (eg. Tablets and phones).

2) Index page: index.html (10 points)

- Add a Header
- Add a NavBar
- Add a Carousal
    - Use images provided in the HW1 zip file
- Add a the Bootstrap footer then edit it as shown in the image
- When clicking "Form", redirect to "page1.html"
- When clicking "Table", redirect to "page2.html"

3) Page 1: page1.html (10 points)

- Add a Header
- Add a NavBar. Remember to update the active link
- Add a text field
- Add a password field
- Add a second text field
  - Note the addon on the left side. It reads "@iastate.edu"
- Add a dropdown
- Add a Range field
- Add two radio buttons
- Add a "Remember me" checkbox
- Add a "Submit" button. (Does nothing on click)

- Add a Footer

4) **Page 2: page2.html** (10 points)

- Add a Header
- Add a NavBar
- Add a Search field
    - Remember to add an addon with Bootstrap icon to the search field
    - Use the icon (**i)** class "bi-search"
- Add a table with 3 rows and 10 entries.
    - The entries themselves can be anything
- Add a pagination

- Add a footer

5. **What to Submit:**

- Create a folder which contains the three html files
  - Index.html
  - Page1.html
  - Page2.html
  - images
  - Either add your wireframe ".fig" file or share your link on canvas HW submission page by clicking "Add Comment" on the Canvas submission page. (If you choose to share the link, make sure your project is viewable)
- Compress the folder to a (.zip) and rename it to your "Last Name_First Name.zip".
- Submit via Canvas the **compressed file (.zip)**.