Signature Project

May 28, 2023

1 Introduction

In this signature project, you will collaborate with your peers both at Guttman and from PAU to build a web site. The content of the website will focus on gender-related inequalities, which fits into the theme of the broad GSACS project that we participate.

Your group will include typically 2 Guttman peers and 3-4 PAU peers. Your group will collectively determine what to research on, what content to present on your website, how your website should look like, and how to implement the design. You will collectively decide on how you communicate with each other and how to split the work among group members.

To make it possible to evaluate every member in a group, we ask you to specify a single owner for every single piece of the group work, meaning that individual has contributed to and has been responsible for the piece of work. Each student's performance will be based on the overall quality of all the pieces that the student owns. If a piece of work is shared by multiple co-owners, the contribution of each co-owner needs to be specified as a percentage, such as:

> Member A: 30%, Member B: 30%, and Member C: 40%.

The project will include multiple steps, each with specific requirements and a deadline, which are described in details later on.

2 Requirements

2.1 Content and organization

The content and organization of your web site should meet the requirements listed below.

- Your web site should include **at least 5 web pages with one page being the landing page** (`index.html`). The landing page or the front page should have content that is appropriate for the front page of a web site while other pages should each focus on a particular aspect of the topic.

- The multiple web pages of your web site should have **a common header and footer** and present a consistent look. **A navigation bar or menu** should be available to easily browse your web site.

- Your web site should be **media-rich**. Graphics, video, audio, or/and interactive components should be extensively used, such as a video clip showing students being interviewed on education opportunities, or a map showing countries shaded in different colors for different levels of salary gaps between men and women.[1]

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[1] These are just examples. What you need to include on your website depends upon the topic/domain you choose.

- Each page of your web site to have **two versions**, **one in English and the other in Arabic**. A hyperlink should be provided on each page to switch from one language to the other. The two language versions of a page should have identical content, identical style, and similar layout.[2]

- The source code of your web site should be **syntax error free** and properly formatted using NetBeans.

Your group will collectively decide any other aspects of the organization and layout of your web site, but whatever you choose to implement should be reasonable and allows easy navigation for visitors.

2.2 Web hosting

Your web site should be hosted on the Surge.sh platform and can be accessed to the public. We will share details on how to create such a web site on the platform in due course.

2.3 Tentative timeline

Step 1 - Material collection
       due on **Monday, April 3, 2023**. See Section 3.1 for detailed requirements.

Step 2 - Design and layout
       due on **Wednesday, April 12, 2023**. See Section 3.2 for detailed requirements.

Step 3 - Initial implementation with HTML only
       due on **Thursday, April 20, 2023**. See Section 3.3 for detailed requirements.

Step 4 - Stylized implementation with CSS
       due on **Friday, May 5, 2023**. See Section 3.4 for detailed requirements.

Step 5 - Video recording of presentation
       due on **Sunday, May 7, 2023**. See Section 3.5 for detailed requirements.

Step 6 - Stylized implementation with Bootstrap
       due on **Wednesday, June 7, 2023**. See Section 3.6 for detailed requirements.

Note that the exact due time for a submission to Teams is **11:59pm on the specified date**.

3 Steps

3.1 Step 1: Material collection

The first step of the project, as introduced during the online session, is to conduct research and collect materials to present on the website. In the real world, if you are working for a client to build an actual web site, your client would very likely provide you raw materials you can use. But for this project, you play the roles of both the client and the web developer.

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[2]As the content of the Arabic pages are expected to be created by PAU students, the English version will be mainly used to evaluate the performance of Guttman students.

Your work for this step should focus on answering the following inquiry questions and comparing your findings for New York City and for Palestine respectively:

- Are there any gender-related inequalities in New York and Palestine in *[topic/domain]*?

- What are the causes and impacts of these inequalities if they exist in NY or Palestine, or what evidences do you find showing no gender-related inequalities exist in NYC or Palestine?

The *[topic/domain]* above is a particular topic or domain your group needs to choose to work on. It could be, for example, employment opportunities, education opportunities in STEM, social status, economic status, or anything that connects with gender-related inequalities.

This first step can be further split into *three sub-steps*, allowing your group to choose a topic/domain first, then conducting research individually, and finally combining individual work to produce an integrated piece of collective work. Due to time limitations, we have a very tight timeline as follows:

- **Determining a topic/domain**

  By midnight on Friday, March 24, 2023 (NY local time) (roughly 2 days), each joint group should have chosen a topic/domain. Each group (or a co-leader literally) should inform their choice in Slack by replying to the following post:

  ```
  https://gsacs2023-gp.slack.com/archives/C04TPMVERCG/p1679521353856009
  ```

  With this tight timeline, we hope everyone in a joint group would join and actively participate the discussion and make a collective decision. Note that each one of us may have a different background and a different view on what's happening around us and in the world. We hope everyone to respect each other during this process.

  Some topic/domains may be sensitive. Please note that we don't take any particular position in the political spectrum for granted. You are doing research work. You might find that a certain kind of inequality doesn't actually exist in NYC or Palestine. It's totally fine even though UN suggests the its existence in their SDGs, but either way, when you collect materials, you need to provide evidences and arguments to support your points. We hope that you all enjoy the process, learn from each other, and gain a global perspective.

- **Individual research and material collection**

  By midnight on Monday, March 27, 2023 (roughly 3 days), everyone of you should have conducted research and collect materials to answer the inquiry questions on the chosen topic/domain. Guttman students need to put their work in *Invision Boards* and submit the shareable link as well as a screenshot of the board to Microsoft Teams by the due time. Group members could discuss with each other during the process, but the submitted work should be your own and need to be different from others'.

  Invision Boards is a popular cloud-based tool among web developers to collect and organize materials for websites. Brief introductions to the use of Invision Boards can be found at the web page below:

```
https://www.invisionapp.com/inside-design/boards-share-design-inspiration-assets/
```

You can use any email address to register a free account, with which you can create up to 3 boards. That should be sufficient for the project. You just need to create one board to present your own findings for this sub-step of individual research (and later on your entire group need to create and work on another board to combine individual findings into one piece).

The individual findings you put in the board should be well structured. There should be an opening statement specifying the inquiry questions you try to answer, and describe the sections that follow. Each section should focus on one aspect of the topic/domain, such as current status, causes, impacts, potential solutions, political measures to take, economic measures to take, the situation in the country, the situation in the city, and the situation in your neighborhood if it's valid. You will determine what's the best way to organize your materials.

In each section of the board, you can upload image files, create text notes, and add color and fonts. When you finish, click '**Share**' to generate a shareable link so that others with the link can have access to your Board. You need to submit this shareable link as well as a screenshot of the entire board to Microsoft Teams by the due time of this sub-step. Note that copying the link from your browser's address field WON'T WORK!

Here are a short video and a thorough documentation page showing how to create a Board and generate a link to share.

```
https://youtu.be/CBCAAvKtpCI

https://support.invisionapp.com/hc/en-us/articles/360027579552-Work-with-Boards-
in-InVision-V7
```

And to take screenshot of an entire web page, follow the tips below:

? How to take screenshot of an entire webpage?

To take the screenshot of the entire board, refer to the article below

```
https://www.softwarehow.com/take-full-webpage-screenshot/
```

If you are using Firefox, Method 2 in the article seems to be the best option; if you are using Chrome or Safari, try Method 4 in the article instead.

To help you with the research on gender-related inequalities, we have compiled a collection of resources, which you can find on the course website:

```
https://jzniu.github.io/tweb/2023s1/inft221.html#resources-on-gender-related-
inequalities
```

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Note that we don't expect you to write a lot of text by yourself. This is a web design course, not a social studies course. Feel free to include existing text, graphics, and data in your findings. Just remember to use them in a reasonable way, and acknowledge the sources and list them in a reference section on your website eventually.

- **Comparing and integrating individual research results**

  By <u>midnight on Monday, April 3, 2023</u> (roughly 7 days), each joint group should then share and compare their individual findings, and combine these findings into one final piece. The final findings should be an integrated whole, combining and comparing pieces from individual work in a well-organized, reasonable way. Each group needs to create a board to put this final findings, which would be the content of your website eventually. So when you produce this final findings collectively, take into consider how you would present its different parts on the multiple pages of your website.

  To create the board for your group's final findings, one of two group co-leaders should create a board under her/his own account, and share with all other group members for collaborative editing. Again, the following documentation page has detailed instructions towards the end of the page:

  ```
  https://support.invisionapp.com/hc/en-us/articles/360027579552-Work-with-Boards-
  in-InVision-V7
  ```

  Similar to the organization of individual findings in the previous sub-step, this collaborative board should have multiple sections. Each section should be assigned to one or two members to work on (ideally two, one member from Guttman on English version and the other from PAU on Arabic version). The assignment of sections to individual members should continue in Step 2 such that the members responsible for a particular section will design the web pages presenting the materials in the section. Generally speaking, each member should work on at least one section and at least one web page.

  To support this collaborative work, all members of the group should post the shareable link of the Invision board for individual findings so that your peers can have access to everybody's work and figure out how to combine them.

  You may take whatever approach your group see fit in combining individual findings, but here are a few guiding questions to help you complete this work:

    - *Are there materials collected for both NYC (could be the U.S. in general) and Palestine on particular aspects of the chosen topic/domain?* If not, the person who is responsible to combine materials on certain aspect/section should try to find more materials to add missing pieces.

    - *When you compare the issues, evidences, causes, impacts, or solutions (or whatever applies here), can you identify any similarities and differences between materials for NYC and those for Palestine?* This would mean that you need to copy text and graphics from individual findings, put them on the board for group findings, and reorganize them in a reasonable way. Shareable links that we ask you to post in your channel will make

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this possible.

- Avoid changing anything on the board that you are not assigned to work on. However, everyone should try to take a look at others' work time to time and provide comments/insights to help your peers.

Each Guttman member should submit by the due time the shareable link of the final findings in Invision Boards as well as a screenshot of the sections of the board that the member is responsible for.

3.2   Step 2: Design and layout

In this step, each joint group need to come up with a design of the web site — what pages your web site will have and how the content is laid out on each page. This should be based on your work in Step 1, i.e., the materials you collected in the previous step and the logical structure of those materials. You should get familiar with the content requirements as described in Section 2.1 if you haven't done so and relate the requirements to the materials you have collected.

If your group decides to transform the multi-section structure of your group findings in Step 1 into the multiple pages of your web site directly with one page presenting one section, you may want to have the same member who worked on the section in Step 1 to design the corresponding page in this step. For each page, ideally there are two members of the group working together, one from Guttman responsible for the design of the English version and the other from PAU responsible for the design of the Arabic version. The two members should collaborate closely, making sure that the two versions have the same content and the same style (though in different languages) and have similar layouts.[3]

Your web site needs to have a header and a footer that appear on every page and have a button (link) for a visitor to switch between English and Arabic. Each group should assign some members to design these common components as well as other common features such as the color scheme and the font scheme.

Below are some sample web sites or web pages that I collected to show you typical design and layout ideas in web development. Feel free to adopt any part of these layouts in your design.

- http://www.w3schools.com/bootstrap/trybs_theme_company_full.htm
- http://www.w3schools.com/bootstrap/trybs_theme_band_full.htm
- https://speckyboy.com/2014/05/27/free-bootstrap-3-templates/
- https://www.freshdesignweb.com/free-bootstrap-templates/
- http://templated.co/
- http://themes.kadencethemes.com/pinnacle/
- http://startbootstrap.com/template-categories/all/
- http://bootswatch.com/
- http://cunystartups.com/

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[3]Feel free to use tools like Google Translate to generate Arabic text from original materials in English only or vice versa.

You will use a technique called *wireframing* to complete the design of your web site. The video tutorial below explains this concept (and other related ones).

```
https://youtu.be/KnZrypOaVCg
```

There are many software tools or web sites supporting web page wireframing. We use a tool called **Balsamiq** to do our work. Balsamiq offers a 30-day free trial to the general public, which should be long enough for you to complete your work of this step. I requested and they were kind enough to offer an extension of trial for the desktop version until July 31, 2023 if you use the license key below:

```
INFT2212023|O32teJxzCncxiQ+p8fRzC1EwMjJUMDIwMq4xNLOwMDIxNDMAAQCa8Qge
```
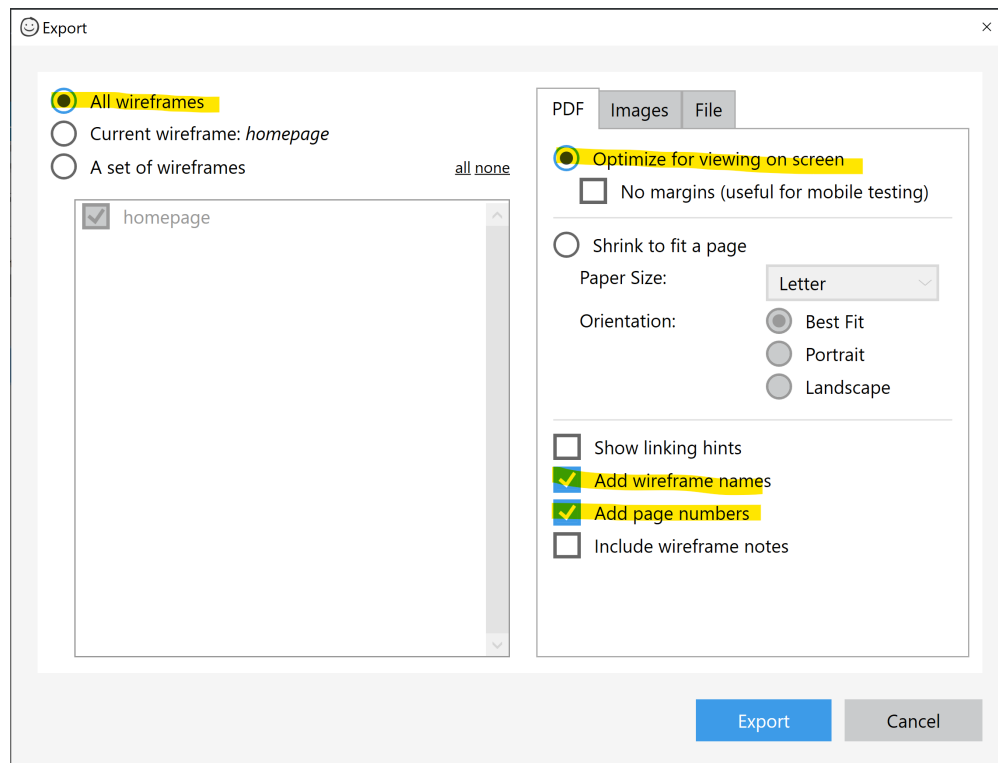
You can download the Balsamiq application for Windows or Mac OS from the link below or use their web/cloud version directly:

```
https://balsamiq.com/wireframes/
```

You may need to provide an email address to register if you use the web version.

To work on the design assigned to you, you should create a project in Balsamiq, say, named as `gsacs-proj-j.doe`, and then create multiple wireframes under that project, with each wireframe for a page of the web site. If you are responsible for the design of one web page, you would just need to create a single wireframe.

After you finish all the work, go to menu **File -> Export** to generate a PDF file for your work and submit this PDF file to Microsoft Teams by the due time specified in Section 2.3. Make sure that you choose the same options highlighted below when you export the PDF file:

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> **ℹ Demo: Using Balsamiq for design of a web page**
>
> The video clip below demonstrates how you can complete this part of the project step by step:
>
> https://youtu.be/iQtzV0ai9pQ?t=488
>
> *Note that this video is an old video recording for the course that I taught in Spring 2020 for a slightly different project using an earlier version of Balsamiq, but the concept of designing a web site using Balsamiq remains the same. Please refer to this document for the correct deadlines and other relevant information.*

3.3   Step 3: Initial implementation with HTML only

With the design of your web site completed in Step 2, your group will create web pages using HTML (and HTML only), using the actual materials your group compiled for the final findings in Step 1.
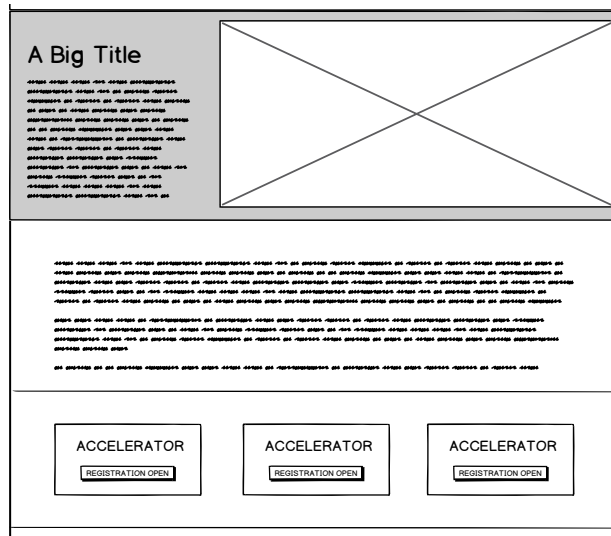
More specifically, your group need to create a HTML5 project in NetBeans. In the project, there should be an `index.html` file that serves as the home page of your web site and multiple additional HTML files.[4] You should already have the design in Step 2 for each of all these HTML files. You will use all kinds of HTML elements (`h1-h6`, `p`, `div`, `span`, `ul`, `ol`, `li`, `a`, `img`, and various

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[4]You may name these files as you see fit, but as we once mentioned in class, use all lower-case letters and avoid spaces.

semantic elements in particular) to organize the materials mentioned above so that the structure and organization of the elements in each HTML file reflects the logical/semantic structure of the content of the corresponding web page that you have designed. Note that in this step, the focus is the content and the logical structure of its different parts, not the style and appearance. You should NOT have any CSS code in any the HTML files.

To better illustrate this idea, assume that your group has a design like the following for part of a web page:

This design suggests that you want to have three sections in this part of the web page, with a title and a paragraph on the left and an image on the right in the first section, a few paragraphs in the second section, and three similar blocks in the third section. To reflect the logical structure of the elements, you could have the following code in the corresponding HTML file:

```
...
<section>
  <div>
    <h3>A Big Title</h3>
    <p>...</p>
  </div>
  <img src="..." alt="..."/>
</section>
<section>
  <p>...</p>
  <p>...</p>
  <p>...</p>
</section>
<section>
  <div>
    <div>Accelerator</div>
    <a href="...">Registration open</a>
  </div>
  <div>
```

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```
      <div>Accelerator</div>
      <a href="...">Registration open</a>
    </div>
    <div>
      <div>Accelerator</div>
      <a href="...">Registration open</a>
    </div>
  </section>
  ...
```

Note that this is just for illustration purpose. There could be multiple reasonable implementations for the same design. Also note that the implementation using HTML only in this step concerns about the content and its logical structure only. We leave the implementation of layout and appearance to Step 4 using CSS.

Similar to the previous steps, the work for Step 3 should be collaborative among group members. Ideally, a member who designed a particular page or part of the web site in Step 2 should be assigned by the group to implement that page or part in this Step 3 and the next Step 4 as well. Every member in a group could create her/his own NetBeans project separately and finish the implementation the member is responsible for, but at some point, the group should collect all the individual pieces of work, combine them into one NetBeans project, and share the resulted work with all the members in the group.

By the due time specified in Section 2.3 for Step 3, every Guttman student should submit to Microsoft Teams the compressed .zip file of the resulted NetBeans project folder and screenshots of the web pages or parts s/he is responsible for and has completed.

3.4   *Step 4: Stylized implementation with* CSS

This step is the most significant step of the project, in which you will implement the exact design and layout you completed in Step 2 by applying style sheets to those HTML web pages you have created in Step 3.

3.4.1   File organization

You are recommended to adopt the following structure to organize your source files:

```
□ (Root directory of source files)/
├─□ index.index ................................The homepage of your website
├─□ css/ .................................................. Folder for css files
│ └─□ styles.css ..........................................Main css file
├─□ resources/ .......................... Folder for images and other media files
│ ├─□ example.jpg ............................................. An image
│ └─□ ...   ...............................................Other media files
└─□ ...   ..........................................Other .html web pages
```

In this structure, which is very common in professional web development projects, supporting files

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are grouped and put into separate sub-directories, each for one purpose, such as `css/` for CSS files and `resources/` for images and other media files. Also as always, make sure that all file names are lowercase and do not contain space or any special symbol. Use dash (`-`) or underscore (`_`) if a file name contains multiple words.

As we have mentioned in class, use external style sheets only. You could use inline or internal style sheets for a quick test but do not include any of these in the work you submit.

Although in theory, one can use multiple (local) CSS files for a web site. We ask each group to use only one (local) CSS file in your project, like the `styles.css` file shown in the structure above.[5]

3.4.2 Collaboration

Collaboration in a project with multiple people working on the same collection of source files is always challenging.[6] Communicating often and effectively among group members and being cautious when you change any part of the source code would help mitigate the challenges.

Here are a few suggestions for your better collaboration:

1. Before every member starts to work on her/his parts, all members in the group should meet in-person or online synchronously to discuss the styles of common elements across multiple web pages, such as foreground and background colors for various elements and styles for paragraphs, headings, images, etc. Of course you need to know what properties you could specify for each of these elements. If these styles are not obvious from your design in Step 2 and you have to clearly define them explicitly in this step. Once your group reach a consensus, you should work together to add the CSS rules in the `styles.css` file and then everyone starts from there to work on individual pieces.

   When you Write CSS selectors, think about whether the CSS rules should be applied to one element, a selected group of elements, or particular types of elements. The goal is always to apply the same style to a group of elements that are logically similar. For instance, all sections have the same margins, all headings use the same font, etc. You may need to tweak the HTML code a bit in doing so, adding classes and IDs or even changing the structure to some extent, so that you can write appropriate selectors in CSS.
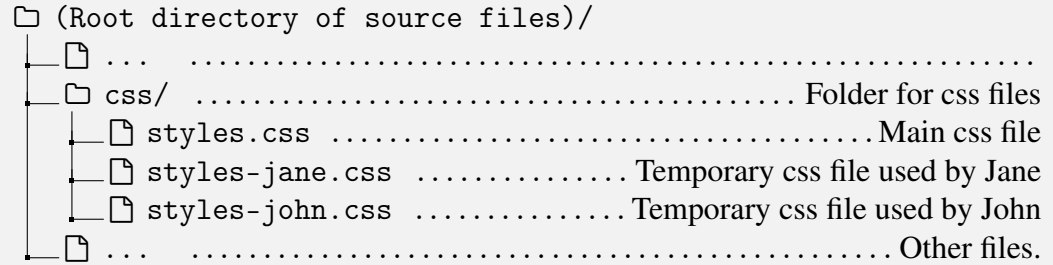
2. When one member works on an individual page, an additional CSS file could be added in the file structure shown above to contain additional style sheets that are needed for the particular page (although the style sheets should be merged into the main `styles.css` file eventually in your submission). To prevent potential conflicts between style sheets from these additional CSS files from different members, one trick is to add an `id` for the `body` element of the page so that you could use a CSS combinator using the `id` and other selectors to select only elements appearing on that page. These ideas are illustrated below:

---

[5]We use the *local* modifier here because you are very likely to download and use other CSS files from elsewhere to support certain features, such as Font Awesome, which we will cover in class during the week of April 24, 2023.

[6]Typically a team would use some source code version control system, such as Git, to record changes a member makes and synchronize these changes with others' work via network connections. We do not plan to cover such mechanisms as it goes beyond the scope of this course. Feel free to explore by yourself if you are interested.

- File structure with additional CSS files during development

```
📁 (Root directory of source files)/
├─📄 ...    ...................................................................
├─📁 css/  ....................................... Folder for css files
│  ├─📄 styles.css ....................................Main css file
│  ├─📄 styles-jane.css ............... Temporary css file used by Jane
│  ├─📄 styles-john.css ............... Temporary css file used by John
│  └─📄 ...    ..............................................Other files.
```

- HTML code example using multiple CSS files

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Homepage</title>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
    initial-scale=1.0">
    <link rel="stylesheet" href="css/styles.css"/>
    <link rel="stylesheet" href="css/styles-john.css"/>
  </head>
  <body id="causepage">
    <div>...</div>
  </body>
</html>
```

- CSS code example in `styles-john.css` to specify styles for the web page above

```css
#causepage div {
  ...
}
```

3. If multiple members need to work on the same file at different times, it's recommended to use HTML comments like the following to mark who is responsible for which parts so that no unintended changes will be made.

```html
...
<!-- start of work by Jane Doe -->
...
<!-- end of work by Jane Doe -->
...
```

4. When every member finishes their own parts, the group needs to combine all the parts together into one NetBeans project. It's better for all members to work together so as to resolve

any conflict between the CSS files used by individual members. As mentioned earlier, the style sheets in these additional CSS files should be all merged into the only `styles.css` file.

3.4.3   Popular components and layout control

For common layouts, features, and components on a web site, such as navigation bars and image galleries, the W3Schools Tutorial on CSS provides detailed instructions on how to implement them. Here are the links to related sections of the tutorial:

- Navigation Bar
  https://www.w3schools.com/css/css_navbar.asp
- Dropdown Menu
  https://www.w3schools.com/css/css_dropdowns.asp
- Image Gallery
  https://www.w3schools.com/css/css_image_gallery.asp
- Button
  https://www.w3schools.com/css/css3_buttons.asp
- Styling Images
  https://www.w3schools.com/css/css3_images.asp
- Horizontal and Vertical Align
  https://www.w3schools.com/css/css_align.asp
- Website Layout
  https://www.w3schools.com/css/css_website_layout.asp
- Layout with `position`
  https://www.w3schools.com/css/css_positioning.asp
- Layout with `float`
  https://www.w3schools.com/css/css_float_examples.asp
- Layout using `flexbox`
  https://www.w3schools.com/css/css3_flexbox.asp
  https://css-tricks.com/snippets/css/a-guide-to-flexbox/

To implement a particular layout, there are basically multiple approaches:

- Use common properties in CSS like `float`, `position`, `margin`, `padding`, etc. but without any framework or advanced mechanism.

- Use `flexbox`-related properties

- *Use the Bootstrap framework. We won't be able to cover Bootstrap by the due time of this step. So this option is not actually available. However you could transform your implementation into a Bootstrap-based one later on.*

Whichever you choose, you and your group should stay with one choice consistently. Here you are strongly recommended to use `flexbox` in implementing the layouts because using it is much easier than using the low-level traditional layout properties like `float` and `position` on top of the box model.

Besides the links above on `flexbox`, we'll demonstrate in our next class how to use it in imple-

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menting part of your design. The video clip below also demonstrates how to implement a header part of a web page using three different approaches: using properties of box model, using `float`, and using `flexbox`:

```
https://youtu.be/vlssg4XGtug
```

3.4.4   Hosting on Surge.sh

Your complete web site should be hosted on **Surge.sh**, a platform for static web hosting. Follow the steps demonstrated in the following video clip about how to download and install **Node.js**, how to install Surge.sh module using `npm` in Node.js, and how to upload your web site to the platform. Try this by yourself. If you have any difficulty, we can address in our next class.

```
https://youtu.be/9V6iX0UCDd4
```

Note that the software installation needs to be performed only once. As you build your website in NetBeans gradually, you may want to upload your website to Surge.sh multiple times to try it out. Sometimes your website works well when you run and test it on your local computer but it doesn't work exactly the same on the Surge.sh platform. This is a sign that your website is not actually implemented correctly. You may check if you have used relative path rather than absolute path for links to images and other files and if you have used CSS correctly to have a responsive website.

3.4.5   Submission

At the end of this step, you should have a complete implementation of your web site. This means that all the intended content should be ready on the web site.

During the step, we encourage you to proactively seek inputs from the instructor and your classmates.

Eventually for this step, you should submit the URL of your web site in Microsoft Teams by the due time specified in Section 2.3, such as `http://inft221-group1.surge.sh/` and the `.zip` file exported from your final NetBeans project, as well as screenshots of pages or parts you contribute to the group work.

To help with evaluation, please include in every web page's title how much individual members have contributed to stylizing the page in a format similar to the following:

```
Title    |    Member A: 30%, Member B: 30%, and Member C: 40%
```

3.5   *Step 5: Video recording of presentation*

In Step 5 of the project, you and your peers in the joint group will record a video presentation for the GSACS Student Conference. Selected presentations will be uploaded to the Conference
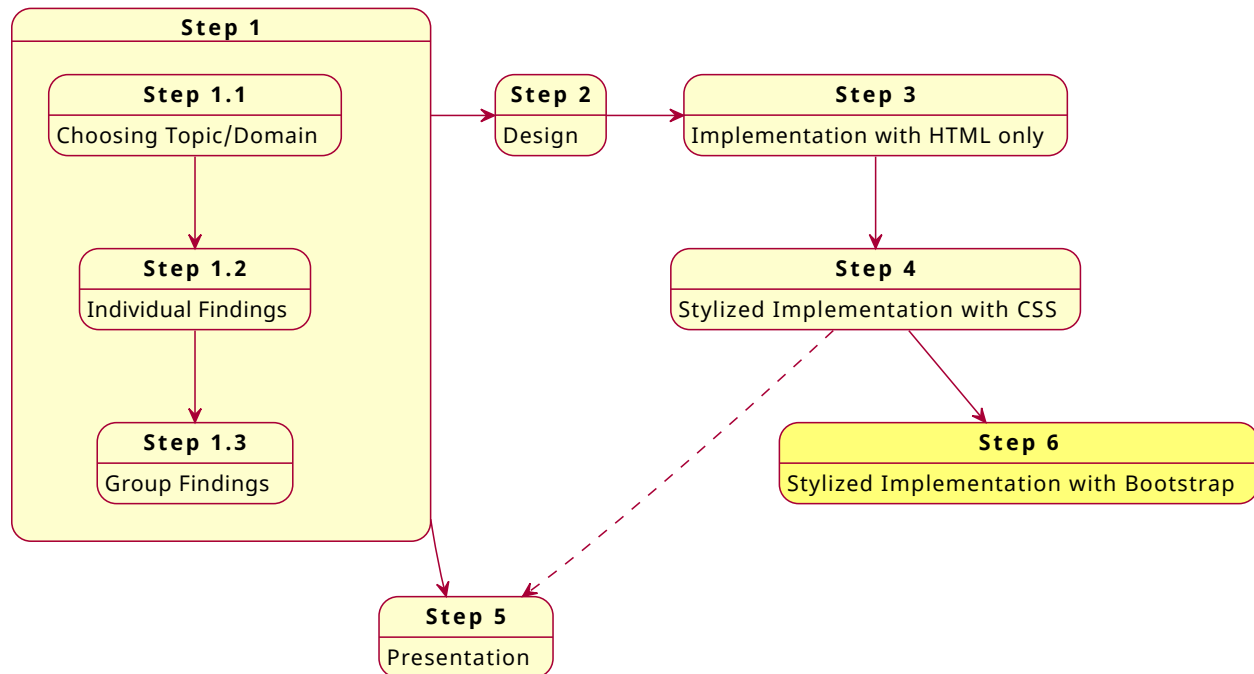
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Figure 1: Steps of the project.

web site for all GSACS participants to view. Note that our class and our PAU partner class decided to prepare asynchronous, recorded video presentations. However you all are required to attend the conference online on May 15 when students from some other classes will present in real-time synchronously.

Each joint group will prepare ONE presentation, presenting your group findings on your chosen topic/domain, i.e., the result of your Step 1 work. In other words, Step 5 does NOT depend upon the completion of design and implementation of your web site and you can work on Step 4 and Step 5 in parallel. But if your web site is in good shape by the due time of Step 5, you should include in your presentation slides the screenshots of those pages of your web site. That is why the dependencies between the steps of the project as illustrated in Figure 1 include a *solid* connection from Step 1 to Step 5 while a *dashed* connection from Step 4 to Step 5. Note that Figure 1 also includes a new step, Step 6, which allows you to further refine your project work using Bootstrap once the collaborative GSACS project ends after the GSACS Student Conference. More details on Step 6 will be provided in Section 3.6.

If you somehow was not able to collaborate with PAU peers in your group on Steps 2, 3, or 4, Step 5 is another chance to work with them, combining and putting work from both sides in the presentation. The presentation may last about 5-8 minutes and should include both Guttman students and PAU students. We recommend each joint group to complete the slides by Thursday, May 4 so that your joint group can have about three days to schedule a time to record the presentation via Zoom. The recorded video should be uploaded to some cloud storage online and each Guttman student should submit the shareable link of the recorded video to Microsoft Teams by the due time of Step 5 specified in Section 2.3.

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To help you get started quickly, your group can use the Google slides template linked below:

```
https://docs.google.com/presentation/d/1-2v2iVpEf5BYlTVbldQdmi-k2zpxn4vo/edit?usp=
sharing&ouid=106766147163661268689&rtpof=true&sd=true
```

Placeholders like **[text]** in the template indicate places where you should add your own work.

If you are not familiar with video recording in Zoom, refer to the PDF file linked below for details:

```
https://www.dropbox.com/s/v8jokc6o5oy0n8r/Using.Zoom.to.Record.Presentations.pdf
```

3.6   *Step 6: Stylized implementation with Bootstrap*

In Step 6 of the project, you will work by yourself to use Bootstrap extensively to improve the website that your group have built in the previous steps.[7]

You should adopt Bootstrap grid, artifacts, and components as much as you can (including, but not limited to, navigation bar, jumbotron, cards, carousel, media objects, and various Bootstrap predefined color and text styles). By the due time of this step as specified in Section 2.3, you should submit the following to Microsoft Teams:

- a Word or PDF document describing your use of Bootstrap, such as what you have used in which parts of the web site, what goal you try to achieve by doing so (such as a two-column layout with a 5:7 ratio for an image on the left and text on the right),
- the URL of your web site, such as `https://inft221-doe.surge.sh/`,
- the `.zip` file exported from your NetBeans project, and
- screenshots of all the pages of your web site.

Besides, as we mentioned before, you should be prepared to introduce and describe your work in class orally in our last class on Thursday, June 8, 2023. You may be asked to make changes to your code to achieve specific goals to demonstrate your familiarity with the work.

Due to the addition of this extra step, Section 4 has been updated to include more weights for the project.

4   Assessment and grading

The evaluation of your work in this project is based upon the requirements described above in this document, the quality of your work both individually and collectively, and how you collaborate with your peers in your group.

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[7]If you don't have a copy of the source code of the web site, you should contact your peers in the group to get one. If you cannot get one, you can always build a web site from scratch using materials that you have collected back in Step 1.

Table 1: Grading scheme.

Step 1: Collection of materials	**6%**
Individual findings	(40%)
Contribution to group findings	(40%)
Collaboration and communication	(20%)
Step 2: Design	**6%**
Contribution to group work	(80%)
Collaboration and communication	(20%)
Step 3: Initial implementation with HTML	**6%**
Contribution to group work	(80%)
Collaboration and communication	(20%)
Step 4: Stylized implementation with CSS	**8%**
Contribution to group work	(80%)
Collaboration and communication	(20%)
Step 5: GSACS Presentation	**8%**
Contribution to group work	(80%)
Collaboration and communication	(20%)
Step 6: Stylized implementation with Bootstrap	**12%**
Total	**46%**

Note: This scheme is tentative and may be adjusted as needed.

As stated in the grading scheme of the syllabus, the project work counts for 45% of your final grade, including 6% for each of the first 3 steps, 8% for either of the subsequent two steps, and 12% for the last step. The evaluation of your work at each step is further broken down as shown in Table 1.

Collaboration and communication is an important aspect in each step of the group project requiring team work and is worth 20% of the weight for each step except for the last one. The following factors will be considered in evaluating your performance on this aspect:

- whether and how you have initiated and led conversations

- whether and how you have participated in conversations and responded to others' questions and comments

- whether and how you have made yourself available to work with your peers and get the work done together

If a group has used another venue other than Slack to communicate and collaborate with each other, I'll talk to the group if needed for more information on how things are done. As I don't have first-hand information, the grades on collaboration and communication will be greatly affected by the quality of work delivered, meaning that if your group is able to deliver good work, I assume the communication and collaboration have gone well. It would also be true the other way around unless I have more information to draw a different conclusion.

For each piece of group work, a grade (out of 10) will be given based on the amount and quality of the overall work. If the work was completed with equal contributions (roughly same amount and same quality) from all the members, each member will basically receive the same grade. If the contributions are not equal, the grade to each member would be proportional to the amount of work contributed by the member and would be adjusted further based on the quality of the work contributed by the member. In another word, the more work, the higher quality, the better grade a member will receive.