📔 Process Book

PROCESS BOOK

Initial Meeting with TA regarding Project Proposal

On 9/19, we met with our TA regarding our proposal and her insights on improvements we can make toward the project. The largest recommendation she gave was to move away from using an anatomical visualization to one that is more focused on getting users to easily learn about different cancer rates. Her main fear was that using human anatomy would take away from the mission of our webpage and users may get lost exploring the anatomy rather than exploring cancers right away.

Because of this, we have decided to have our webpage start with specific cancers, which can immediately lead to data visuals of any changes in cancer incidence rates. This will take out the possible complication of the user having to explore human anatomy before finding cancers they may be interested in learning about more.

Regarding the specific data visualizations, she recommended we include nice interactions: showing growth in line charts, bar charts, or color matrixes. She also recommended adding in animation of dots showing any increase or decrease in the dots.

[entry by mmoneymike, 9/23]

John and I have drafted up some of the above recommendations, found in below sections:

Starting Cancers: **Design Evolution**

Data Visualization: **Exploratory Data Analysis**

[updated by mmoneymike, 10/12]

GIT Repository

Through GitHub Classroom, I have created our GIT repository, found here.

[entry by JCpennyChen, 9/13]

Data

> ***10/12*** *Today, John and I met to go over the first steps of the website. After creating our initial foundation for the main page, styling, js code, etc. we delegated two tasks: I am in charge of finding our main datasets, and John is in charge of creating our initial designs.*
>
> **[entry by mmoneymike, 10/12]d**

Data Sourcing

Ultimately, we have chosen the **CDC Cancer Incidence 1999 - 2021** and **Cancer Mortality 1999 - 2021** datasets. These data have simple attributes and have already been cleaned up by the CDC. We also used the CDC filters for specific race, sex, and age subsets.

Data sources are found here:

> **Incidence:** https://wonder.cdc.gov/cancer-v2021.HTML
>
> **Mortality** https://wonder.cdc.gov/cancermort-v2021.HTML

[update by mmoneymike, 10/12]

Data Conversion and Cleaning

File Conversion: Due to the CDC data sources download being .txt files, we have converted the files into more structured .csv files.

Data Cleaning: This data from the CDC is incredibly concise and clean and already has all available counts for each leading cancer type. A few redundancies were removed, but other than that I believe we have our core datasets. Fortunately, this is a huge step for our graphical visualizations of cancer trends.

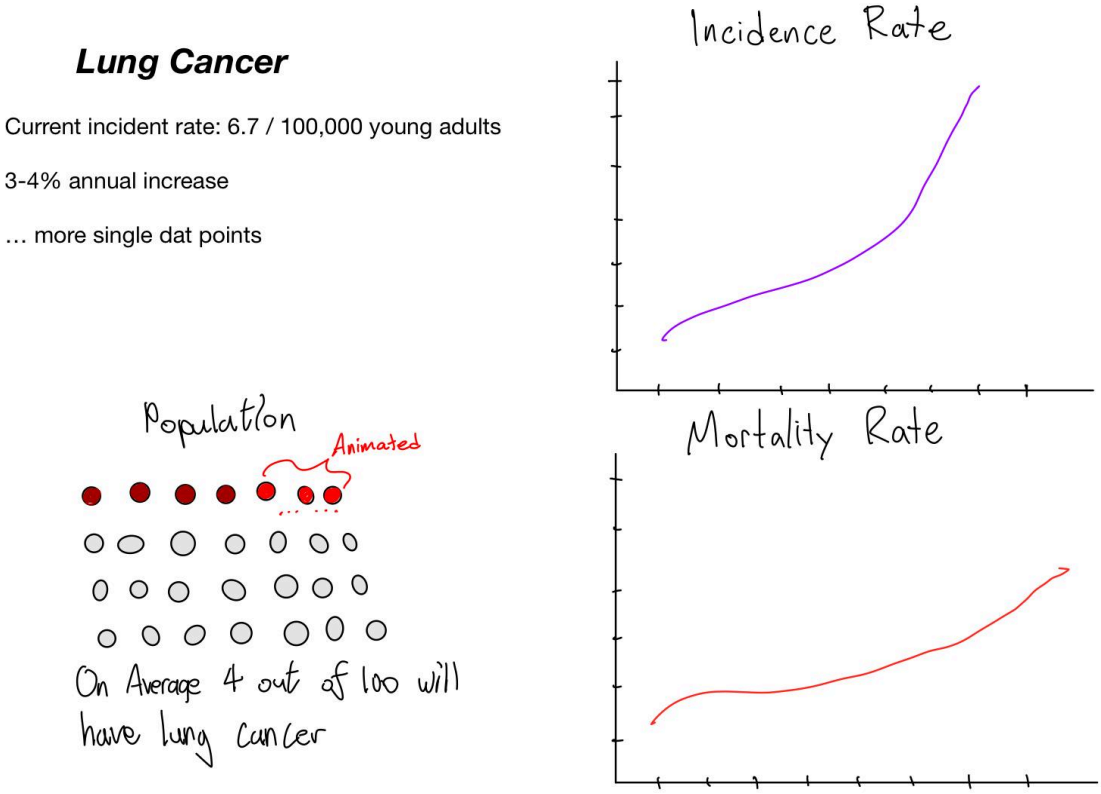
[entry by mmoneymike, 10/12]

I have added the Mortality datasets. Our final total is 10 cleaned datasets, which can be used to filter sex, race, and age groups within the young adult population.

[update by mmoneymike, 10/24]

Exploratory Data Analysis

> ***10/24*** *Due to the specific data points we want to show, I believe we should show single data points and include graphs for further analysis. My idea of this is shown below of how we initially present the data after the user clicks to explore a specific cancer.*
>
> **[entry by mmoneymike, 10/24]**



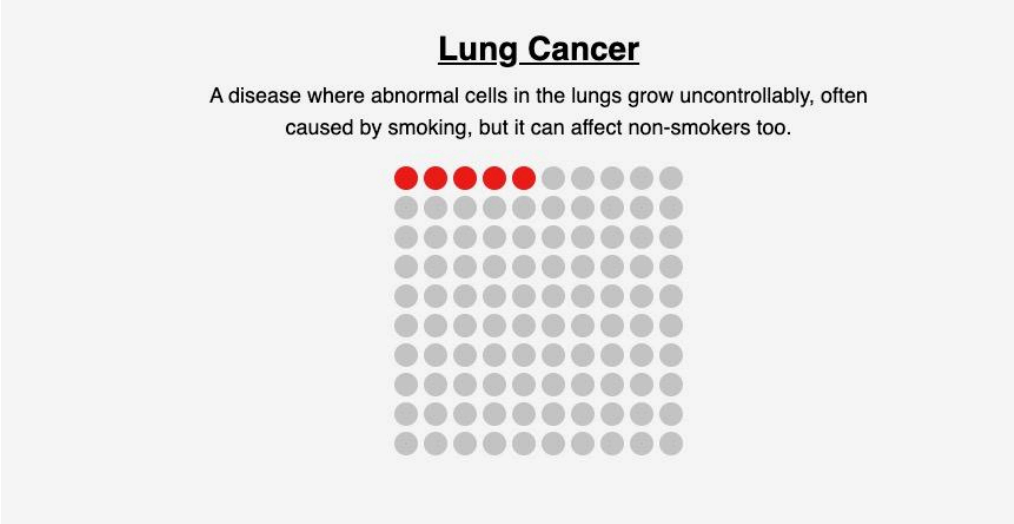
This chart implements the main core of our data visualizations, and recommendations from our TA during our Initial Meeting.

Using the Leading Cancer Incidence and Mortality CSV files, we hope to create two interactive charts. Here, we can also add in interactions such as filters and hover abilities.

[update by mmoneymike, 10/24]

Data Visualization Implementation

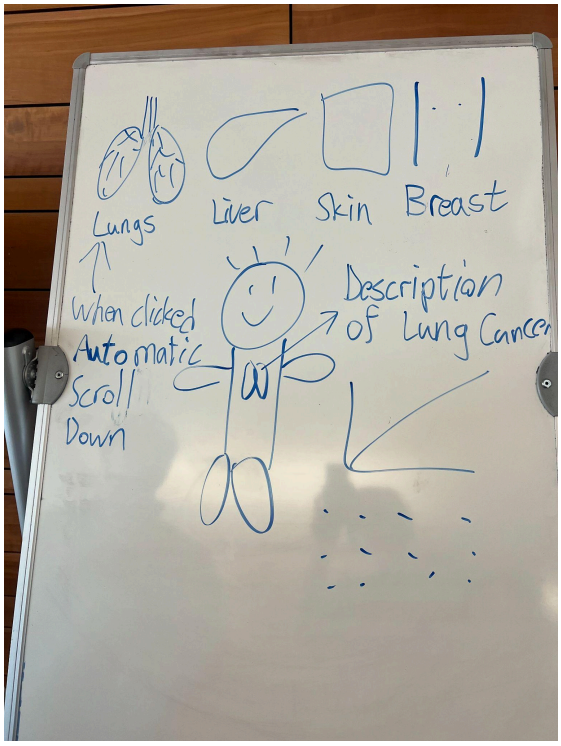
Here is the implemented look of a few of the features above. These features, specifically the text and dot chart, don't necessarily require any mapping to our data files, and thus are easier to implement right now. Below is the current implementation look:

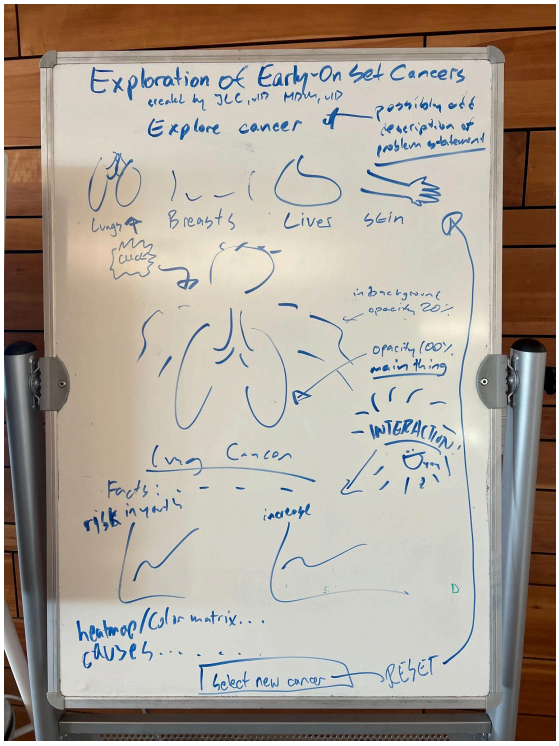


[entry by JCpennyChen, 10/25]

Design Evolution

> ***10/12*** *As described in the notes above, I am in charge of the initial design implementation, that being how the user selects different types of cancer. During our meeting on 10/12, we made two, rough outlines for the beginning pieces of the website. This is be the start of the webpage.*





[entry by JCpennyChen, 10/12]

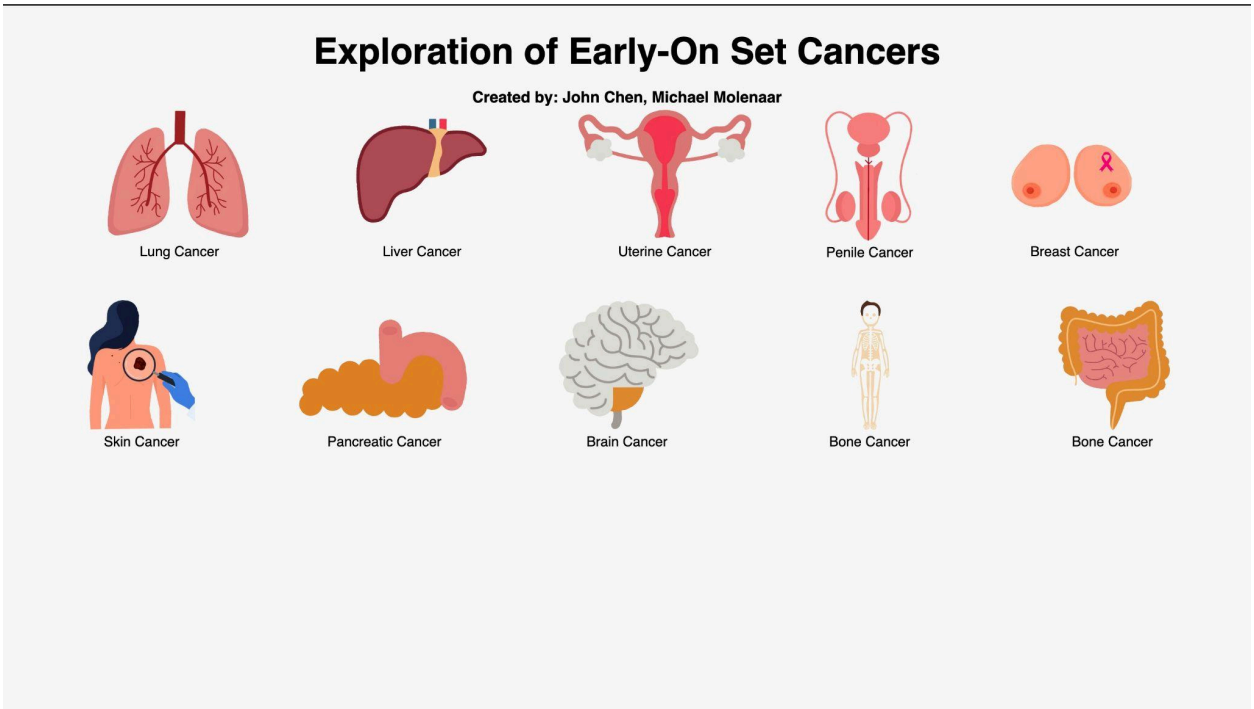
First Screen User Sees/of Webpage

The key idea in both of these designs is how the user begins interacting on our webpage. Without showing too much at once, we have decided to use buttons with images (as seen in both sketches) where users can then get an expanded analysis and visualization of the selected cancer type (as seen on the right sketch). We believe this helps mitigate showing way too much information and allows for fun, interaction where a user can stay on the webpage for a while exploring each cancer separately in its entirety.

[update by JCpennyChen, 10/12]

Below is the “first draft” version of the first screen, as explained above. I also decided to

make images the buttons for users to go to. We initially planned to use a frame around the images to function as clickable buttons. However, we realized that this design didn't align well with the overall style of our webpage. So thus, we opted for a subtle zoom-in effect on hover to signal that the images are interactive, creating a smoother, more cohesive experience.



[updated by JCpennyChen, 10/13]

General Implementation

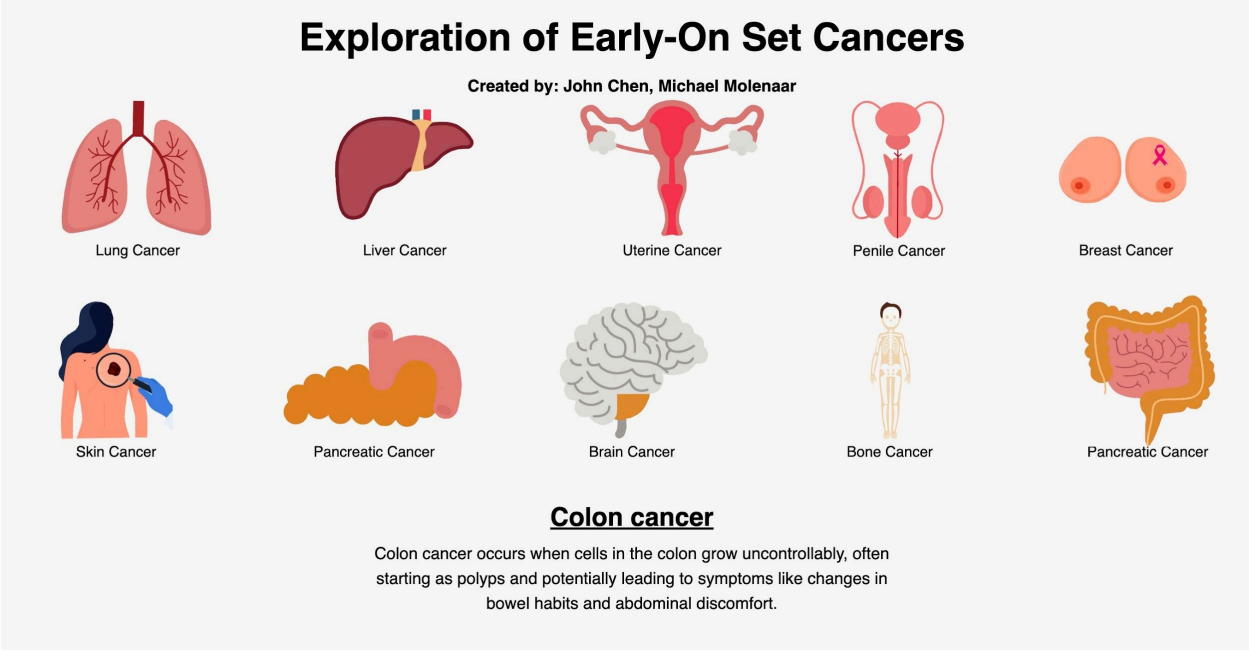
Individual Cancer Pages

> ***10/24*** *Michael and I met again today, going over what the next steps are for the webpage after someone clicks on a specific cancer they want to explore. Michael made some sketches that I then updated, and have now begun the beginning of the individual cancer pages.*
>
> **[entry by JCpennyChen, 10/24]**

Upon clicking on a specific cancer button, I have added the following:

> Title - ex: **Lung Cancer**
>
> Description of Cancer - ex: Lung cancer is marked by uncontrolled cell growth..

This is small introductory details for the individual cancer pages. With the conjunction of our graphs and other visuals, this can be the core of our visualization and where the user spends most of their time. We should start to think expanding our drafts and creating a fuller cancer page. However, I am prioritizing the introduction right now.



[update by JCpennyChen, 10/24]

Evaluation

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General Code Updates

> ***10/24*** *With finally adding all of our necessary data today, I hope to make the main data structures that will load in our data. With this, there will no doubt be a need for some organization, which may allow us to do some more helper functions for calling the data.*
>
> **[entry by mmoneymike, 10/24]**

I have created our data loading functionality, and have created many helper methods to create specific charts for our visualizations. All csv files have keys with file mapping, and can now be used to begin our visualization.

Next steps should now focus on how can implement the proposed first visualizations, specifically the interactive line charts of cancer incidence and mortality rates. I think we should focus on one specific page (i.e. Lung Cancer) and really incorporate as much readable, interesting and useful visuals. We currently have the three proposed, but we can do more research on different visualizations and techniques.

[update by mmoneymike, 10/25]