

Milestone 2: Data Visualization Project TogetherAgainstCancer

Project Goal:

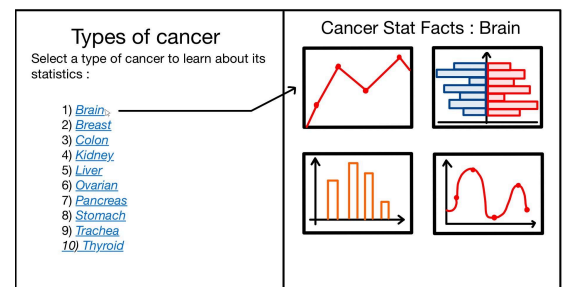
The aim of this project is to develop an interactive data visualization tool that presents comprehensive cancer statistics across Switzerland and the European Union. This tool will enable users to visualize the incidence, prevalence, and mortality rates associated with various cancer types, enhancing their understanding through dynamic graphs and geographical representations.

Visualization Sketches and Interfaces (Step-by-step):

For Milestone 2, our website's roadmap begins with Step 1, setting the foundational vision. Following that, we will progress through subsequent steps to continue developing our website's vision.

1. Step 1 : Cancer statistical facts visualization

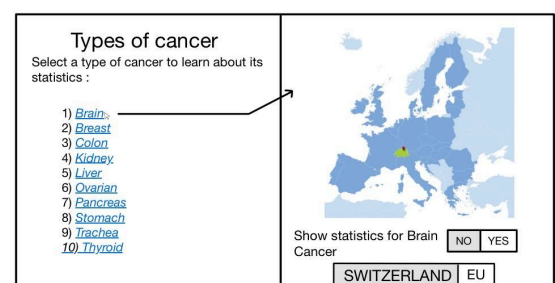
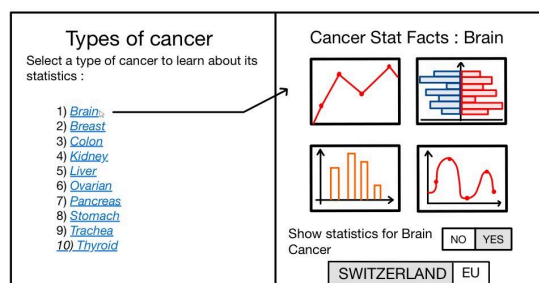
The core visualization comprises visual representations of the selected cancer dataset and primary information intended for user retrieval. Additional features will be designed and added to augment engagement and user experience. Upon accessing the website, users are presented with the option to select from various types of cancer.



This selection will navigate them to a dedicated page that showcases cancer statistics through an integrated display of time series and histograms, providing a detailed analysis of the chosen cancer type. In determining how to present our graphs, for step 1 we will use a collection of pre-rendered .png images.

2. Step 2 : Geographic data selection

For each organ, separate graphs will present information specific to Swiss data, EU data, and a comparative view of both datasets, simplifying analysis. Additionally, a user-friendly interface element, such as a button, will allow users to switch between Swiss and EU data for each organ. Geographic mapping will be incorporated using Leaflet.js to integrate interactive maps (Course 8-2: Practical_maps).



3. Step 3 : Interactive exploration

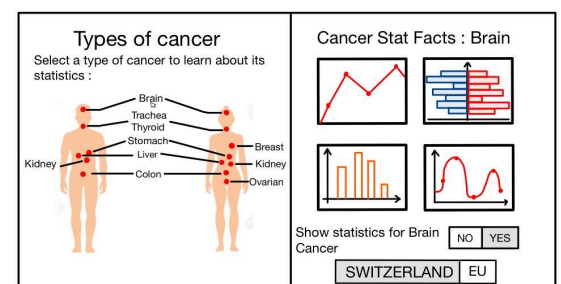
Building on our user-friendly framework, we will enhance our graphs with interactive features that include zooming and widget tools, alongside options to filter data by year, age, gender, and other relevant metrics.

Upon selecting an organ, a map of Europe will be presented, enabling users to hover over regions, triggering highlighting effects corresponding to either the EU or Switzerland. Additionally, upon interaction, basic information such as incidence rates will be displayed. Clicking on the highlighted area will either conceal the map or relegate it to the background, unveiling the aforementioned graphical representations.

Additionally, for more interactivity, we'll use a collection of pre-rendered .html images. This approach will ensure that we can provide information swiftly, as it reduces the need for on-the-spot data processing. Although the option for real-time, dynamically generated graphs based on user selections was considered, we ultimately chose against it. The potential for a more personalized user experience was weighed against the significant increase in required computing resources and time, leading us to prioritize efficiency and speed in our visualization process.

4. Step 4 : Human body interactive image

A labeled human body image will serve as the user's guide to selecting different cancer types. Simple interactive markers (points) will display specific statistics for each cancer type upon selection. Clicking on these markers will redirect users to a new page displaying the previously described map interface



5. Step 5 : Enhanced interactive human body

Enhanced interactive markers showing organs will display specific statistics for each cancer type upon selection. A detailed visualization of a specific organ layered over a less detailed image of the anatomy, using the Superimpose technique (Course 5.1: Interactions), will be implemented.

