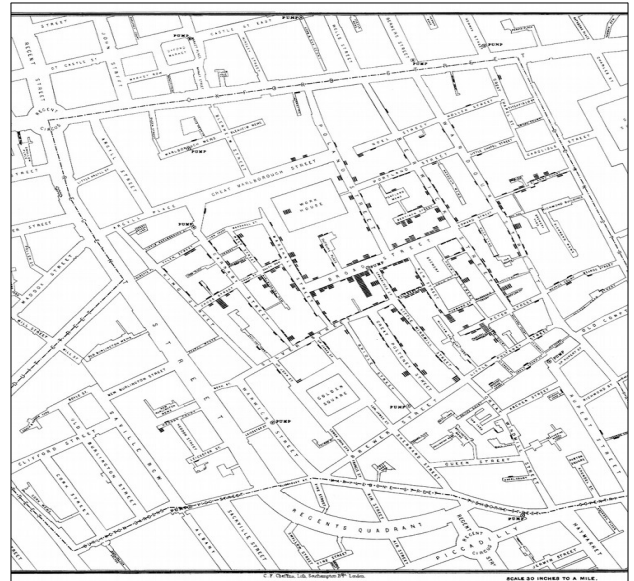


Design Document | London's Cholera Epidemic | Interactive Visualization Map

A little of history:

The Broad Street cholera outbreak (or Golden Square outbreak) was a severe outbreak of cholera that occurred in 1854 near Broad Street in London, England. This outbreak, which killed 616 people, is best known for the physician John Snow's study of its causes and his hypothesis that germ-contaminated water was the source of cholera, rather than particles in the air (referred to as "miasmata"). *

John Snow's map of the Cholera Outbreak established link between the contaminated water and cholera epidemic as shown in the figure.



The Design Process:

- The first two weeks of the project was dedicated to find out the right design of the webpage by including all the requirements to display in mind.
- Yet, slight modifications took place till the week four of the project while iterating and optimizing the design of the map.
- The initial design involved three graphs of such as a timeline graph, a bar graph and pie chart. Since that design did not seem to be interactive with the map, the following design was chosen to include two bar graphs along with a pie chart.

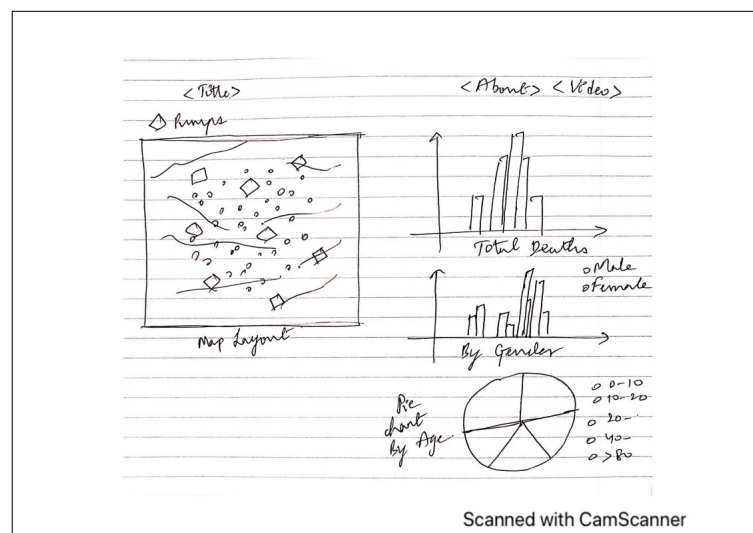


Fig: Rough sketch of the map during the design phase

Rationale of Design Choices:

- The idea was to implement colors as legends that corresponds to the map and the given graphs.
- The mouse hover would display the number of deaths till the current date and as the mouse scrolls across the x-axis the map would reflect the same number of deaths.
- Basic colors and hues of yellow, green and blue and pink were chosen dominantly to complete the entire design.
- Additionally, the focus was to keep up a minimalistic approach to drive the users attention right on the map once the page in launched.
- To support the color choices, Color Oracle – a color blindness simulator has been used to test the colors used on the map.

Findings & Insights:

- At the first look of the map one could notice the number of deaths on the 1st Sept, 1854 hit the highest with 143 deaths compared to the rest of the days. The reason behind this would be a topic of investigation.
- The children under the age 10 and senior citizens over the age 80 were highly affected due to this epidemic which took away a lot of innocent lives.
- Another interesting finding was that there were hardly any deaths noticable at the Workhouse and Brewery which indicates that people in these regions had their own supply of water resource due to which they did not consume water from the Broadway Pump.

References:

- (1) <https://bl.ocks.org/d3noob/8952219>
- (2) <https://www.d3-graph-gallery.com/pie>
- (3) <http://tutorials.jenkov.com/svg/index.html>

*“1854 Broad Street Cholera Outbreak.” *Wikipedia*, Wikimedia Foundation, 2 Sept. 2018, en.wikipedia.org/wiki/1854_Broad_Street_cholera_outbreak.