Sarah Ramsey

Project 1 Documentation

In the initial stages of designing my visualizations, I started by thinking about what information I wanted to present and what connections I would want to show between data. After brainstorming some connections, I was left with this list:

- Timeline and Map – show the deaths on those specific days
- Gender and Map – show the specific genders of each death
- Age and Map – show the specific age categories of each death

I knew that I would be starting with the map and the timeline graph, and I wanted to make sure that both were in view when hovering over the timeline. From my initial design (first attached scan) you can see how I originally planned to place these designs on top of each other. As my ideas progressed, I then moved to my second design (second scan). Here I planned to put these visualizations next to each-other, this allows users to see both of the visualizations at the same time. I also planned for the timeline graph to be a bar chart. The plan of the map was to have the streets plotted, the deaths marked by red dots, and the water pumps marked by black dots.

You can also see in the second attached scan that I planned to have the visualizations for the gender breakdown and the age breakdown on the same page. Similar to my original design of the timeline, I also planned for these graphs to be bar charts with the total number of deaths in each category labeled at the top of the bar. The colors were chosen to follow the normal gender stereotypes because they are recognizable and an assortment of colors for the age categories to easily distinguish the difference. In the sketches, I didn't account for color blindness but knew that I could check this later on in the process.

As my idea progressed, as seen in the second half of the second attached scan, I changed the timeline visualization to be a line graph and added additional detail to it and the map. For the timeline visualization, I decided to highlight each data point by making the points more noticeable on the line in addition to adding a hover feature so that the number will be displayed when hovered. This is where I also decided to alter the map when hovering over the timeline points. This was the first decision I made to connect two visualizations, accomplishing my first objected listed above. In addition to altering the map when hovering over the points on the timeline, I added a key for the pumps and deaths so that viewers knew which each point meant.

The third attached scan, drawn on a piece of paper towel shows the changes that I decided to make to the gender and age graphs. While I planned for the visualization to be changed to a pie graph, I decided to keep the colors the same.

Many additions were made during the development process that either added additional detail or helped clarify what was already presented. Some of these additions included:

- labeling when hovering over a death marker on the map to show the date, gender, and age

- the addition of brief directions on the timeline
- Additional labeling on the gender and age distribution graphs showing the total count for the category that is being hovered over, and
- View filter for the map and a corresponding key. This final addition included two selection options that change the color of each death to correspond with the filter selection. This also causes an addition to the key to be added to the visualization. Showing viewers what color is associated with what category.

Design Decisions:

One of the biggest design decisions that I had to make was the decision to put the gender and age graphs on a different page than the map and timeline. I decided to separate these visualizations onto different pages because I believed that the connection between the gender/age categories and the deaths are equally as important as the relationship between the deaths and the timeline. To put the pie graphs below these two larger visualizations would've made them seem less important. If I didn't include these additional graphs, I would be relying on the ability to select the view of the deaths which would've limited the user's ability to create connections and analyze the data. I also made the decision to switch to pie charts because I felt that this did a better job of comparing the percentages of each category for both gender and age.

When deciding the colors for my visualizations I chose colors that would stand out amongst each other and in the case of the gender category, represent what society associated with that category (male = blue, female = pink). While the colors that I chose overall had little meaning behind them, I was very careful to make sure that each visualization has the same color corresponding to the same classification. I also designed the elements that had a hover aspect to change when the hover was activated. This was to ensure that viewers could see that this was occurring and that they should be on the lookout for other changes in other visualizations. For example, when hovering over the timeline visualization the point that you hover turns red. This was to show the connection between the red death points on the map and the point that marks the number of deaths for that day.

When running my visualizations through a colorblindness simulator I noticed some inability to distinguish the colors for the age attribute. To combat this issue, I created the connection between the hover over the age pie chart and the map. This ensures that even if someone can't see the distinction when using the map filters, they can see different age categories when hovering over the sections on the pie chart.

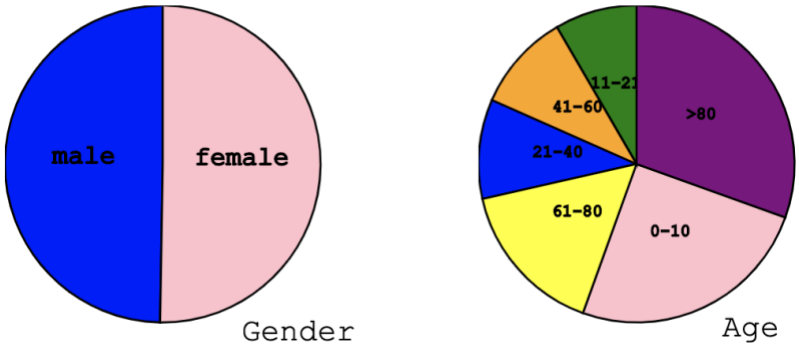
I believe that the map is the most important visualization of this project so I will go into detail about my design choices. Since all of the other graphs relate to the map I decided to keep it in the same place on both pages. This ensures that the viewer can connect that they are the same visualization and to help facilitate the visualization of the additional information. I chose the color red for the death points because I not only wanted it to stick out but also know that red has a cultural connection to death. The choice to keep the pumps markers black was made because they are static and don't change when other views are selected for the graph. Since the lines for the graph are black, I wanted viewers to associate the pumps with the static streets since both don't change. The last design decision was to create the text label at the top of the graph when a death marker is hovered over. This text

line, which tells you the date, gender, and age of this specific death, helps inform the user of additional information.

Insight:

The most useful visualizations to discover facts were the pie charts, for the gender and age distribution. From the gender pie chart we can see that there is an almost equal number of males and females that died from cholera. From the age pie chart, we can see that the age demographics most affected by this sickness were the individuals 80 years old or above and the 0-10 year old's. Both of these visualizations are seen in figure 1 below.

An additional trend that I learned from my visualizations was the spike in deaths on August 1st. In the time from July 30th through August 9th, the experienced the majority of the deaths from cholera.



Project Design

Project 1

By Sarah Ramsey

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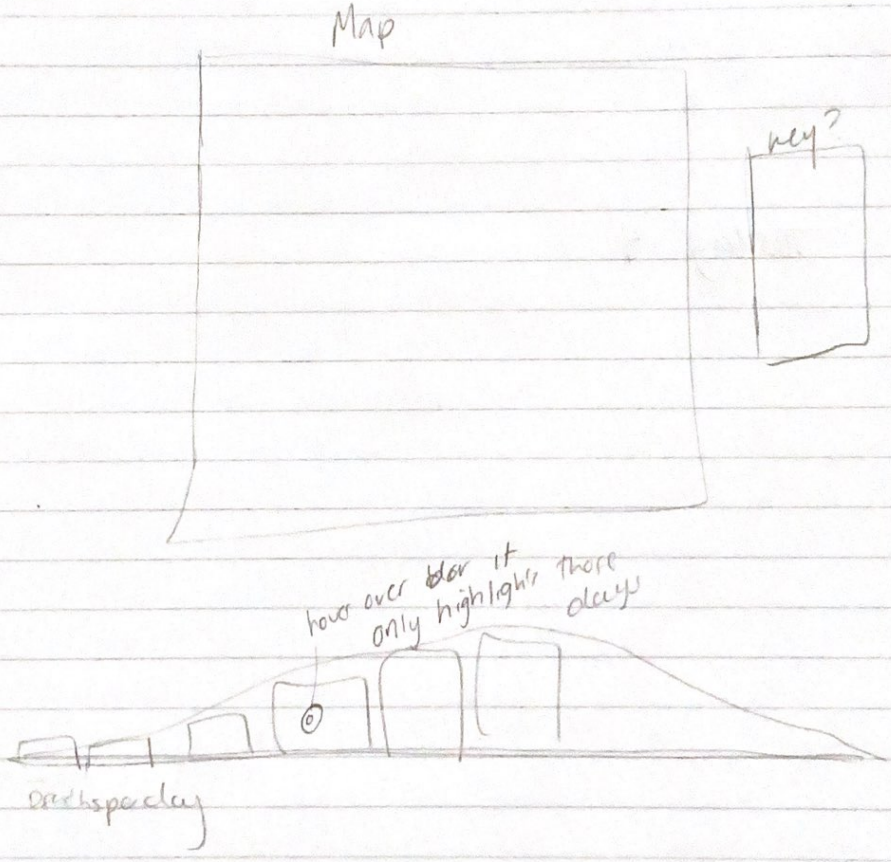
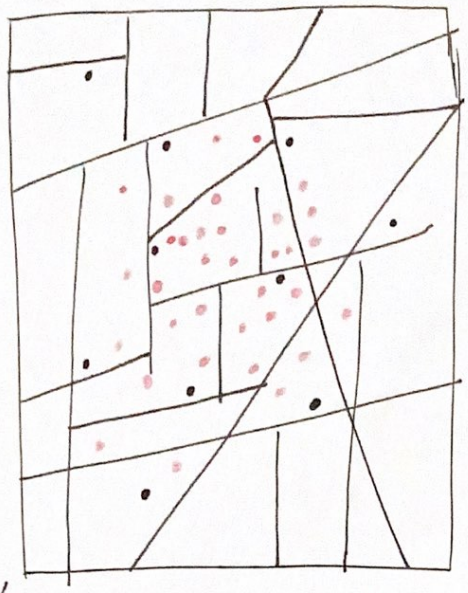
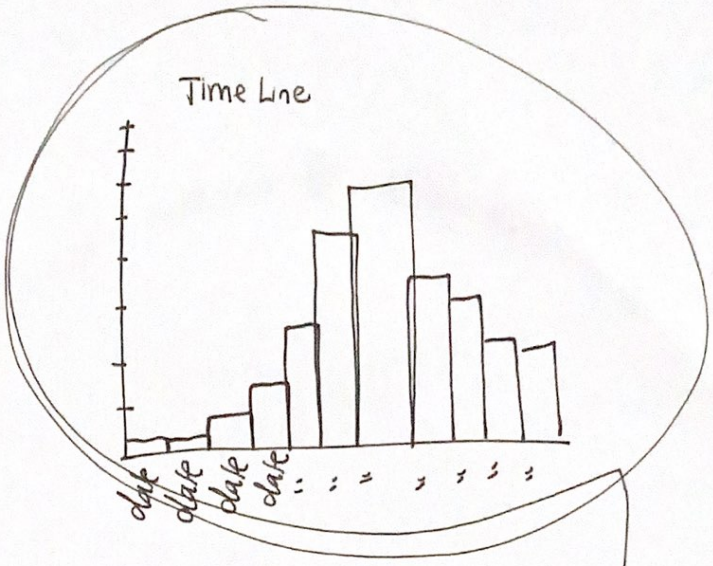
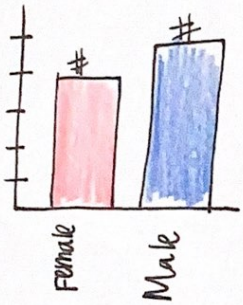


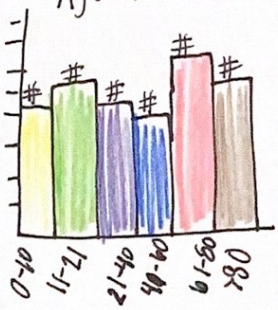




Gender Breakdown

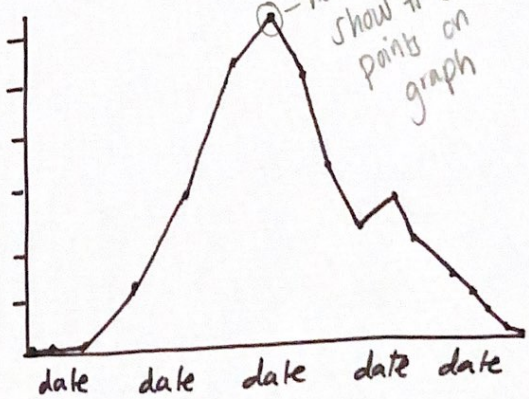


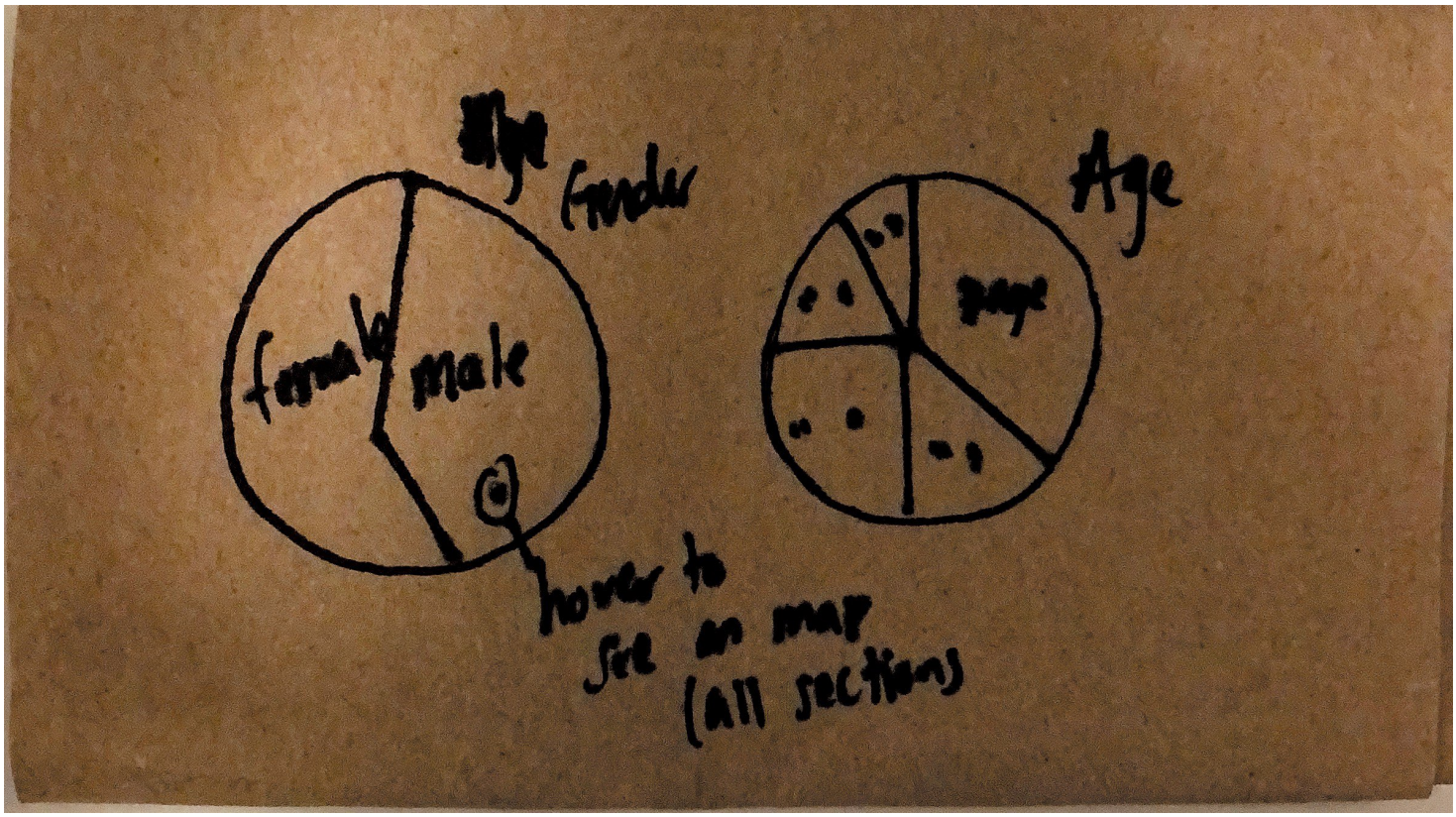
Age Breakdown



Need key

- deaths
- Pumps




Age
Gender
female
male
Age
page
hover to
see an map
(all sections)