University of California, Davis

Project 2: Food Recall History

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ECS 163

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February 26, 2018

Description

The project uses the [Food Recall Summaries from the Food Safety and inspection Service](#) for the years 2012, 2013, and 2014. The purpose of the project is to observe the relationship of ingredients and certain root causes of food recalls.
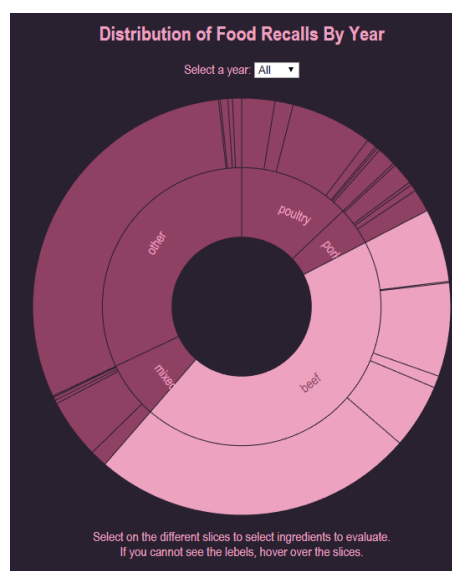
Overview Visualization

The overview visualization is the number of pounds recalled by ingredient and allergen for a certain year or all years. All other visualizations are affected by changes made to this one. Since the time range of selectable years is limited, a dropdown menu above the partition chart selects the year or years to display. Upon selecting an option, the chart will change to fit the query. The user can select the various ingredients in the chart to filter the results in the other visualizations. Multiple ingredients can be selected bright pink or deselected dark pink. If the user tries to deselect all the ingredients, the chart will default to all ingredients selected.
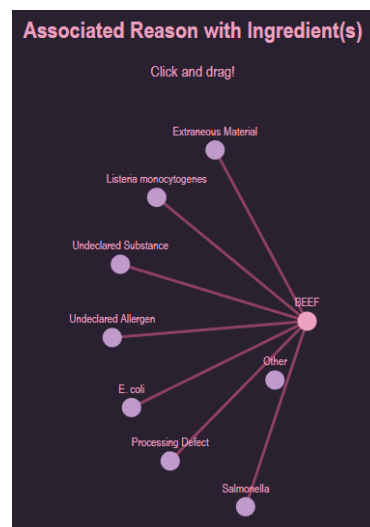
Detailed View

This visualization is an undirected graph to show how certain ingredients are associated with certain allergens, since the overview visualization can't display the allergen name so easily. If multiple ingredients are selected, then the user can see which allergens are shared between ingredients in the recalls of the selected year. The user can click and drag the nodes to see the links better without worrying that unconnected nodes will fly off the screen.
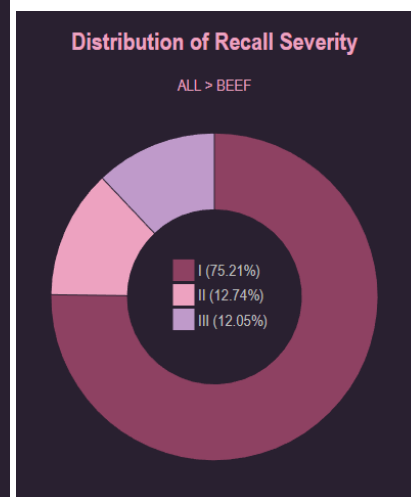
Third Visualization

The third visualization is a donut chart of the distribution of types of the recalls that fit the query. The query that is being observed is listed above the chart. The type indicates the severity of the recall as issued by the U.S. Federal and Drug Administration. Class I is most urgent, Class II is intermediate, and Class III is not as serious. Percentages are listed in the legend along with the color associated with each level of severity.

Overview   Detailed View   Third Visualization

Student Evaluation by Xiuping Tan

Every chart has a title to describe it and instructions on how to use. Clearly multi-selection on the sunburst chart so that we can choose multiple food and have detail view on them. The pie chart is nicely labeled. The layout of the visualization looks very nice. The use of color is clean and consistent with dark color background and light color text and areas. Instructions are very clear on how users can interact with visualizations. One thing I noticed is that with smaller window size, the pie chart might be cutoff a little.

The use of visual techniques is good, especially for the sunburst chart with food as parent and ingredients as children. I would suggest having labels on the sunburst chart for those slices that large enough to fit the words. The outer circle looks a bit plain at first glance and the counts are very large numbers. I thought the dark purples are the ones selected but I scrolled down and realized light purples are the selected ones. Lastly, it would be best if all the visualizations are in one screen so no need to scroll down to see the changes. Overall, I think your application is very nice and well-organized.

Analysis of Evaluation

The first issue of note was the fact that the student couldn't tell which ingredients were selected at first on the sunburst partition chart and that the second level was in fact reasons for food recalls, not ingredients. Perhaps if given more time, this chart can be enhanced to show the labels outside but connected to the slices such that the words do not get cut off or omitted due to space restrictions. Moving the label of the query from the pie chart to the sunburst chart instead would help the user understand which queries have been highlighted better. For now, the user can only hover over certain slices to see which allergens are associated with which ingredient and the undirected graph can be used to see the associated allergens instead.

The second issue was the pie chart getting cut off for some browsers, and that the visualizations do not easily fit a single screen. The pie chart's cutoff has been fixed such that the chart will no longer be cut off as of this writing, but the ability to be responsive to the size of the screen has been traded off in favor of consistent visibility. This visualization may not be as easily compatible with smaller window sizes, unfortunately, but not forcing the user to scroll up and down the screen to see their results would be the most ideal situation.