CS765 Design Challenge 3
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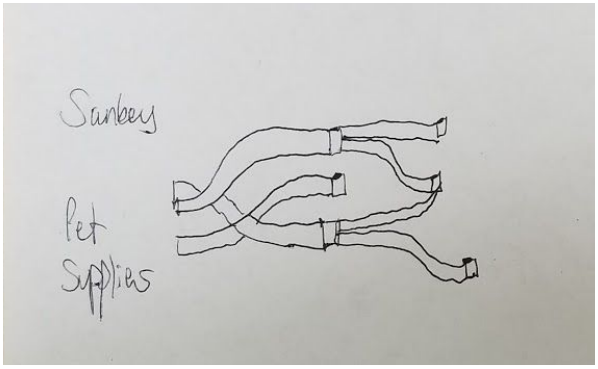
Tasks:

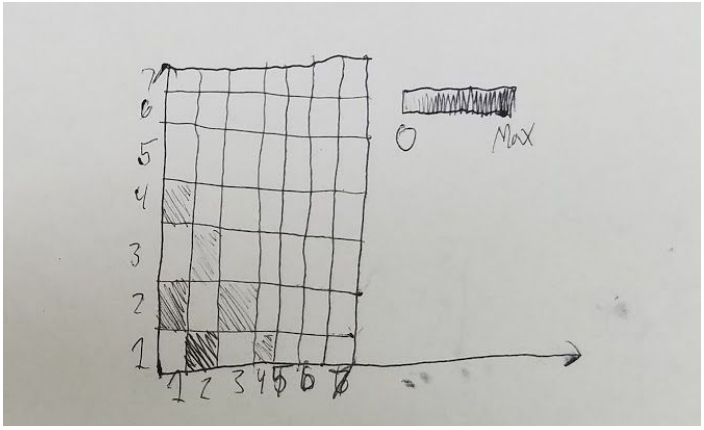
- Try to determine a more optimal tree layout. For example, maybe there is a node at depth 2 that shares many products with nodes that are at depth 6. Would it make more sense to move the depth 2 node down to depth 6?
    - Minimize “vertical strain” between nodes of different depths
- At each depth, what are the largest categories? Distribution of categories?
    - Alternatively, we could examine distribution of depth among all the products
- For a given node, is it more similar to some of its children/parents/siblings than others?

Designs:

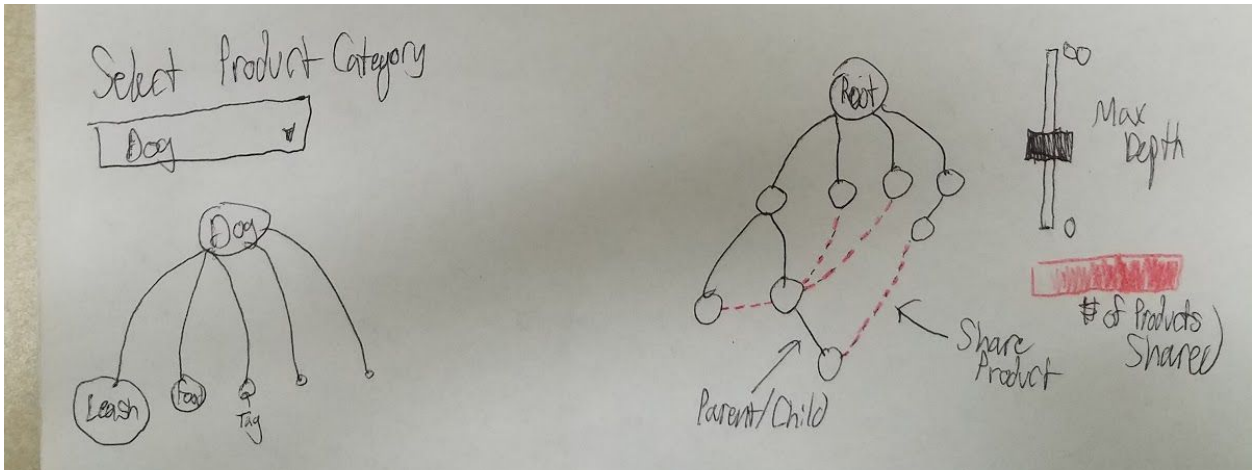
- Sankey Diagram(with interaction for choosing a category



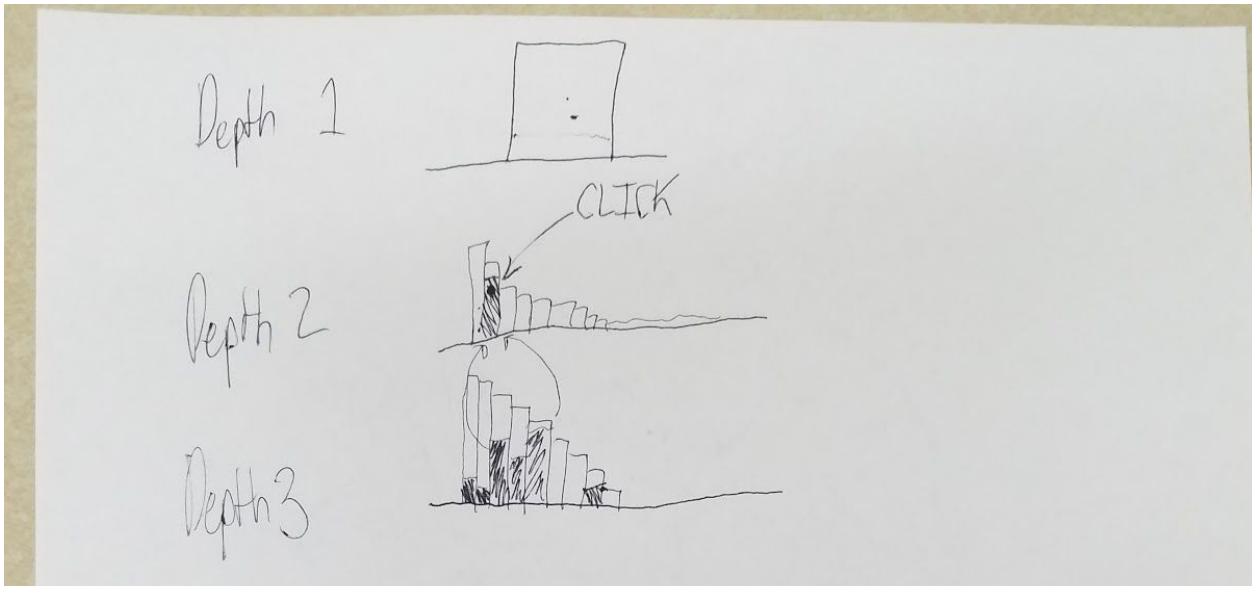
- A matrix plot with categories(possibly only leaf categories) on both axis and color coding each cell with the number of items they share.



- For any category, a tree showing category that are its children with hover showing number of products.



- Some type of treemap https://experience.sap.com/fiori-design-web/treemap-chart/
- Series of bar charts at each depth ordered by the subtreeProductCount variable. If we click a bar, then we highlight the number in the bars below that make up that node
    - Show at most 3 depths at a time, use arrow keys to go up/down in tree
    - We could have interaction for max depth of tree. If a node is lower than the max depth, then it is grouped with its parent at the max depth



Libraries/Packages:

- https://cran.r-project.org/web/packages/data.tree/vignettes/data.tree.html
- http://etetoolkit.org/
- https://plot.ly/python/tree-plots/#set-up-tree-with-igraph
- https://networkx.github.io/documentation/stable/index.html#
- https://graph-tool.skewed.de/