Concrete scales for nutrition labels

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2 Problem statement

Given two nutrition labels, (commonly present on the back of packaged food) create an interactive visualization so as to facilitate comparison of the two. This should take into account that the consumer has no notion of how much of a nutrient is 'good' or 'bad' moreover, help in identifying misleading labels which change serving size to increase the appeal of their product.

3 Input Format

JSON array file with two entries, each with a name, serving size and nutrient content. (Number of serving in a packet unavailable, however is important and should be taken into account for the next version.)

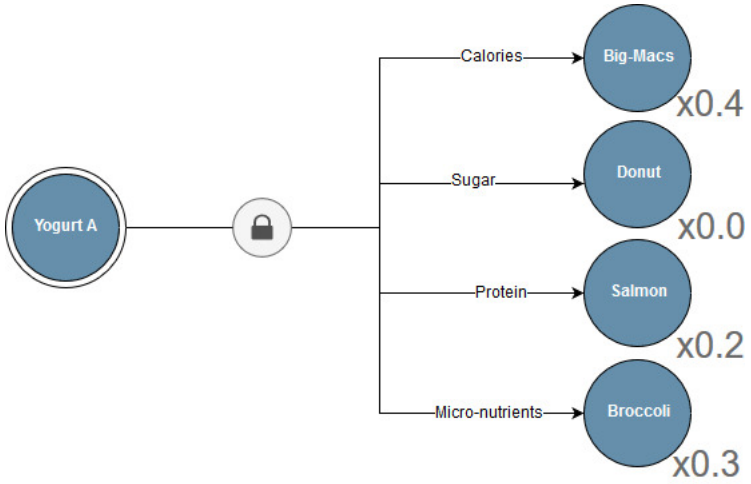
4 Proposed Method

To make sure that the interface satisfies the requirements, we have to first make sure that the end user understands the motive behind the representation and that it influences his or her decision.

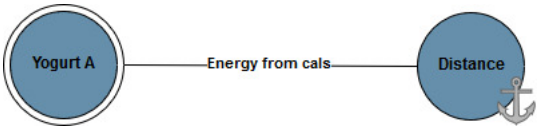
For this we need to make sure that the units are understandable. This has to be done with the help of unitizing the item in terms of known elements. for this we use Neiman's work [2] and find the most palatable real life examples to plot our nutrients. I achieved this by looking for keywords like "healthy", "food", "unhealthy","sugary-food",etc. It was found that people are accustomed to

Donuts as being sugary and fast food as being unhealthy, moreover Broccoli and salmon is considered to be "good" food.

I chose the above for unitization while locking the object to be compared [3]. Moreover, Dimension of unitizations were different of all of these. For the given input, I did get decimal answers but that is because yogurt data sets provided are "healthy" otherwise the magnitude of the objects are comparable to the base object.



Next, My target was to create an anchor, a way for the user to know what amount of energy they are consuming, since calorific values are not decipherable to a layman, For this I created IO for them to enter their personal details and calculate what amount of distance can they walk with the consumption, I then anchored the same to a map just in case the notion of distance was not easy to grasp.



I also included long term effects of consuming the item three times a day [1], I included this by collecting information from various reliable internet sources. Creating causality as well as adding a sympathetic subject(The user themselves!) adds to the impact makes sure their decision is affected by the UI.

Lastly, For comparison of the two items, I placed them side by side (juxtaposition) as was mentioned in the work by Gleicher [4], we keep it simple and easy to understand. *Keep it simple, stupid.*

The final verdict given according to the needs of the user w.r.t. BMI, i.e. at the higher end of the BMI spectrum, I suggested the item with lower calorific value. This is a bit erroneous, but i need more data and personal history to be able to comment as health is a very personal notion.

My attempt at collecting data about what questions are useful for a group of people

References

[1] https://www.fda.gov/Food/ResourcesForYou/Consumers/ucm267499.htm

[2] A. Nieman. *Concrete vs abstract visualisation: the real world as a canvas for data visualisation. In Proceedings of ADS-VIS2011: Making visible the invisible: Art, design and science in data visualisation,* pages 49–56, 2012.

[3] Chevalier, F., Vuillemot R. and Gali G *Concrete Scales: A Practical Framework for the Visual Depiction of Complex Measures.* In IEEE Transactions on Visualization and Computer Graphics (Proc. Infovis'13). 19(12):2426-2435. 2013.

[4] M. Gleicher, D. Albers, R. Walker, I. Jusufi, C. D. Hansen, and J. C. Roberts. *Visual comparison for information visualization. Information Visualization,* 10(4):289–309, oct 2011.