**Abstract**

There are a lot of opinions on food. Some specific foods receive more attention than others, some are despised, some are venerated and some are ignored. With this poster we show that being narrow-minded regarding nourishment also narrows one’s possible nutrient intake and the healthy combinations or substitutes that are easily available to everyone.

**Goal**

The goal of the main chart the basic correlation between nutrient contents and energy content. With that as a reference some specific foods are shown in more detail to highlight outsiders, possible friendships but also competing foods from different categories.

**Main chart**

Ordered by amount of energy contained and colored according to the category they belong to, the foods in this selection show first and foremost the correlation between energy content and nutrient composition.   
The energy starts to increase with the decreasing amount of water. The energetical midfield is mainly made up of Cereals containing big portions of starch, followed by processed sweets containing mainly sugar and fat which proves to be just the right combination for our palate. And in the end - to maximize the energy content - all nutrients make way for fat.

**The data and the process**

The database[[1]](#footnote-1) that was used holds information about the composition of foods available in Switzerland. 961 generic and 9617 branded foods are stored with their nutrient contents like sugar, protein or vitamins. To produce more general information from our analysis we focused on the generic foods and disregarded the branded foods.

The problem at hand was comparing a lot of data points with more than three available dimension for which the parallel coordinates visualization was chosen and was of great use. Exploration was done with a freely available d3.js implementation of parallel coordinates[[2]](#footnote-2) which we adapted to allow simple categorical filtering and coloring.  
During the exploration a few interesting foods and connections between foods where found and chosen for the presented visualization.

Because parallel coordinates are not intuitive for the uninvolved reader the spider chart was chosen as the main visualization and realized in d3.js[[3]](#footnote-3). This creates a characteristic shape for every food that is representative of its character. Some are spiky extremists while others have more well-rounded personalities.

**Reflection**

In retrospect, the spider chart was not an optimal choice for the task of comparing the foods. Overlapping dots and lines make it sometimes hard to distinguish the individual items. Additionally, to understand the usefulness of a food in nutrition, it would be more sensible to look at a portion (who eats 100g of dried yeast?) in relation with the daily recommended intake which differs a lot between the different nutrients. Still, there are a lot of things to like and discover. The relationship between food categories and energy content for example of how a food type can oftentimes be identified by the shape of its chart.

1. [1] Federal Food Safety and Veterinary Office (2017). Swiss Food Composition Database. [Online]. Available: http://naehrwertdaten.ch. [Accessed: May 8, 2017] [↑](#footnote-ref-1)
2. [2] K. Chang. (2016, June). Parallel Coordinates. [Software] Available: https://syntagmatic.github.io/parallel-coordinates. [Accessed: May 8, 2017] [↑](#footnote-ref-2)
3. [3] M. Bostock. (2017). D3.js - Data Driven Documents [Software]. Available: https://d3js.org. [Accessed: May 8, 2017] [↑](#footnote-ref-3)