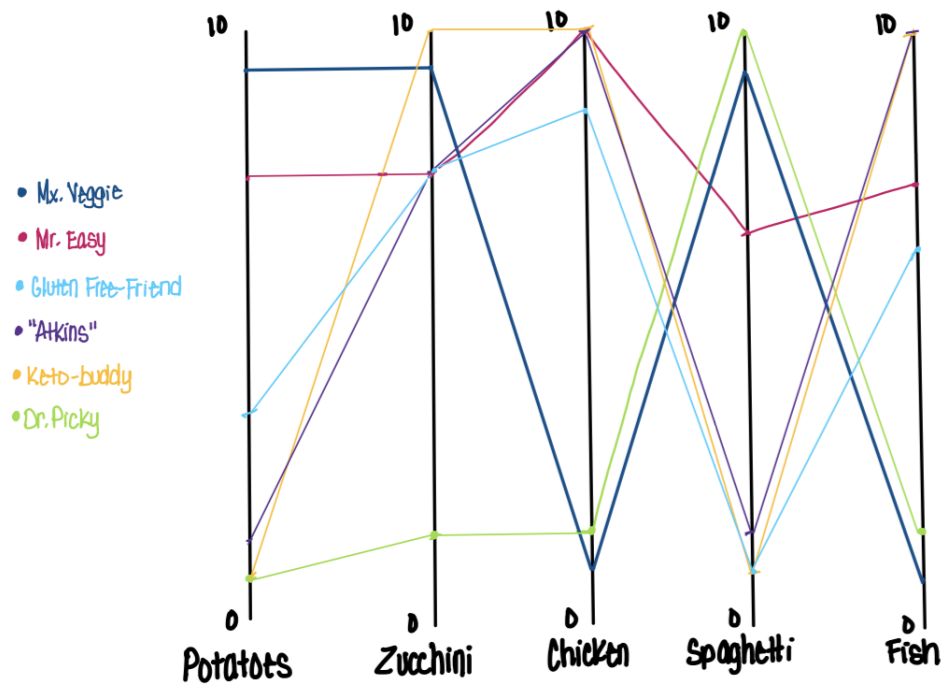


Homework 4

Working Solo – Questions

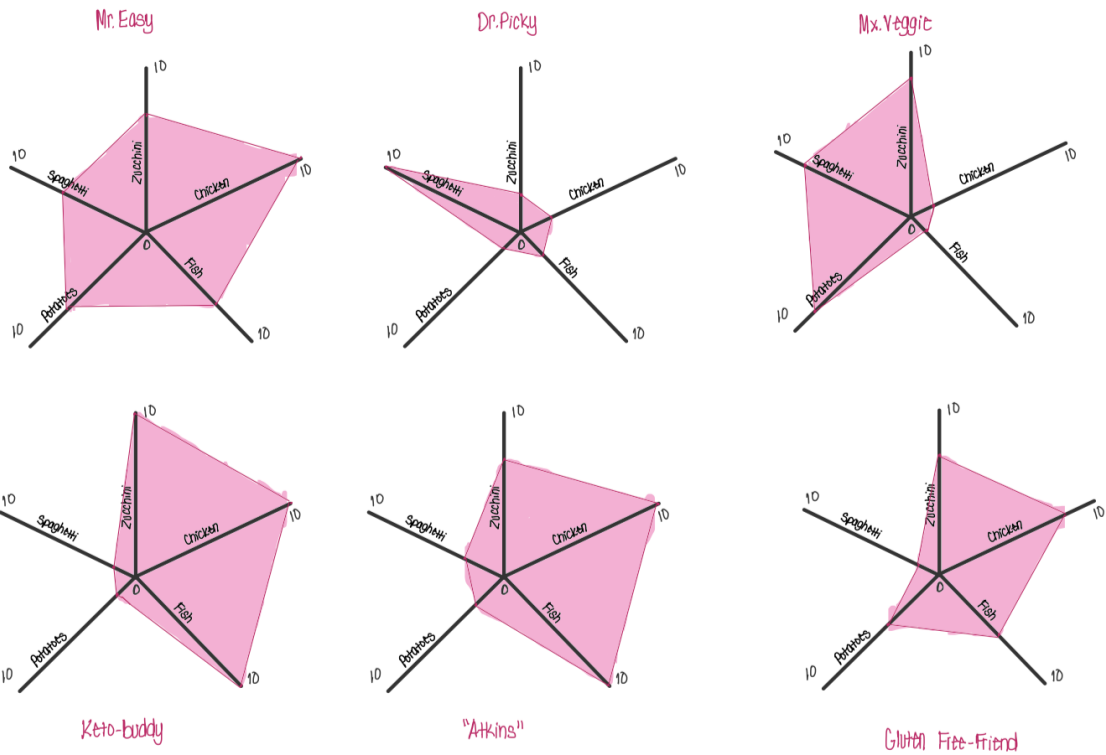
1. The radar plots represented the data set the best because it utilized area well to show the variance as well as any anomalies in the data. For example, with the radar plots you can see two major anomalies, Mr. Easy and Dr. Picky. Mr. Easy is the only one that likes everything, whereas Dr. Picky only likes spaghetti and nothing else. You can also see the variance easily because of the different shapes and areas formed. Having different shapes helps with our pre-attentive processing whereas lines, many different colors, and overlaps makes it overwhelming to see the trends as shown in the PCP and Chernoff faces. The worst plot is the Chernoff faces because there are too many different colors utilized in a small area, the data gets too clustered and makes it hard to interpret. In the example with the pizzas, only the red color sticks out as it is a vivid color and different shape from the rest of the other attributes. Other attributes do not stand out as well due to clutter, and it is hard to see the variance or any anomalies as a result.
2. There was no issue deciding on the minimum and maximum for each axis because all the different attributes have the same range of 1 to 10. There was really no need to normalize or adjust the axis in any way since the data range is consistent across all of the attributes. The only issue I can think of was deciding between starting the axes at 0 or 1, but I ultimately decided to use 0 in the situation that if you were to add another case and someone decided to not choose a preference at all for whatever reason, then you could just set that response to a 0.
3. The radar plot constructed uses small multiples rather than encoding onto one single plot. I chose to do it this way so that you can easily see the variance and anomalies from case to case. If you were to overlap them, it would be harder to narrow down on one case and look at that case's individual values for each different attribute.

Different Food Preferences (PCP)



Radar Plots

Different Food Preferences (Radar Plot- Small Multiples)



Chernoff Faces

Different Food Preferences (Chernoff Faces)

