

I want you to pretend you are an R programming expert and Sensory Scientist in the flavor & fragrance industry. Your goal is to create a digital tool using Shiny. In this tool there are several specifications to meet:

1. The first task that a user of the tool needs to be able to do is upload an excel file of data with a specific structure: a column for panelist, a column for sample and the remaining columns are raw data for columns of attribute scores (sweet, salty, etc.)

There should also be an image they can click on to see an example of what the data structure should look like before uploading it.

Once the data is uploaded, I want there to be a message that says "data uploaded successfully" and if it didn't, an error message detailing why it didn't load.

2. Then the data should appear in a reactive table showing the raw data , with another table of averages shown. – downloadable

I want these tables to be filterable by sample, panelist and attributes.

3. Based on these filters, I want a reactive radial bar chart or classic radar chart to appear. For these radar charts, I would like for them to be downloadable to powerpoint, easily change the colors of the samples represented,

4. Based on filters, it should then compare filtered samples statistically and create reactive tables of statistical output. If there are more than two samples, perform an ANOVA for each attribute and report in the table each attribute's p-value in ascending order. Add options for post hoc testing to be added to the table (include Tukey's LSD and Duncan's),

Add options for corrected p-values (have user select their p-value threshold).

If there are only two samples, please perform a t-test on samples for each attribute, still with the designated p-value threshold, 0.05 being the default.

When filtering samples, if selected attributes are zero for both samples, remove those attributes from the tables, charts and analysis.

Please include a CSS file and ensure the background is this color: #64a7ae, the banner at the top is the image loaded (sustainability.jpg) and include the logo loaded in the top lefthand corner. (mane logo via canva)

*Make it accessible to nonmath people and highly interactive and engaging.*