**README:**

**Belly-Button-Challenge**

1. Title: Module 14 Challenge-Interactive Visualization
2. Description: The focus of the Module 14 Challenge is to build an interactive dashboard to explore the Belly Button Biodiversity dataset.
3. . The following are the key areas covered:

a. Create a Bar-Chart:

i. Use the D3 library to read in the samples.json from the URL <https://static.bc-edx.com/data/dl-1-2/m14/lms/starter/samples.json>.

ii. Create a horizontal bar chart with a dropdown menu to display the top 10 OTUs found in that individual.

iii. Use sample\_values as the values for the bar chart.

iv. Use otu\_ids as the labels for the bar chart.

v. Use otu\_labels as the hovertext for the chart

b. Create a Bubble Chart:

i. Use otu\_ids for the x values.

ii. Use sample\_values for the y values.

iii. Use sample\_values for the marker size.

iv. Use otu\_ids for the marker colors.

v. Use otu\_labels for the text values.

c. Display the sample’s metadata (individuals demographic information:

i. Loop through each key-value pair from the metadata JSON object and create a text string.

ii. Append an html tag with that text to the #sample-metadata panel.

d. Update the plots when a new sample is selected

1. Usage

a) The Module 14 Interactive Visualization-Challenge file will have a Static folder that contains the app.js, index, and README files.

b) In order to achieve the coding outputs described above, the script sequencing for the Interactive Visualization-Challenge requirements are as follows:

i. Import required file dependencies

ii. Implement basic JavaScript control flow List the databases in MongoDB

iii. Create functions in JavaScript.

iv. Create, update, and iterate JavaScript objects.

v. Create basic charts, including bar charts and line charts, by using Plotly.

vi. Use Plotly's layout object to customize the appearance of charts

vii. Annotate charts with labels, text, and hover text.

viii. Create charts by using data from API calls.

1. Dependencies

a. Importing the correct files

b. Use the D3 library to read in samples.json  
c. Create functions in JavaScript

d. Create, update, and iterate JavaScript objects

e. Create basic charts, including bar charts and line charts, by using Plotly.

f. Apply the map() method and filter to parse data.

g. Create charts by using data from API calls.

1. Known Issues: Issues with the script. a. There were no know issues with the script that I am aware of.
2. Author – Anthony Lipscomb
3. Resources:

a) The code source for this Challenge assignment is based on assistance and debugging from our TA-Javier, Peer-Michael Andies, and the use of Xpert Learning Assistent and ChatGPT.

1. Version History – Version 2