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Assignment

Module-2

Now that you have completed going through the second module of the course, it's time to test what you have learned, with an assignment.

Since this is the 2nd assignment you will have to go through, it will be a bit more difficult than the last assignment. As part of this assignment, you will have to do the following tasks. These tasks are designed in such a manner that carrying them out will help you better understand the graphing and control feature on the Bolt Cloud.

Task 1: Read the Docs

To understand the importance of being familiar with documentation, google the term RTFM ;) The first Wikipedia link might suffice. Go through the API docs for the graphs to familiarize yourself with where the content for which chart is. It is a very good habit to build to always familiarize yourself with the docs and example code of any programming project before starting development.

Task 2: Animations

Currently when the graph loads, the data is shown in a static fixed fashion. Your mission, should you choose to accept, is to change the code to provide animations instead. In the Line Graph plotted in the previous section, modify the code to animate the graph. Refresh the page to check if it works.

NOTE: These tasks are not based on things which have been explicitly covered in the previous sections however we have covered the fundamentals of data visualizations with the Bolt cloud.

Task 3: Hide Download Button

The graph which is currently plotted shows a "Download Data" button underneath. However, in some cases, while sharing the Bolt Product with other users, or showing a demo, you might want to hide the option to download the data from the graph. In this task, search the docs to find a way to hide the data download button in the graph you plotted in Task 2.

Task 4: Enable Cross-hair

Sometimes, you wish to isolate a single data point and view the values. In such cases, a "cross-hair" is very useful. Read the docs to enable a cross-hair when a user points the mouse on a certain value on the graph plotted in Task 2.

Task 5: Additional Chart types

Explore the docs to plot additional chart types other than the line, bar, and gauge graphs covered in the lessons. In this task, you have to plot:

1. Stepped graph: Understand and plot a stepped graph instead of the line graph plotted in Task 2.
2. Scatter graph: Understand and plot a scatter graph instead of a line graph which you plotted in Task 2.
3. Multiple graphs: Plot 2 graphs of your choice on the same page using the information in the Multiple Graph section of the docs.

Task 6: Control a buzzer

After watching the last video in the 'Controlling Devices over the Bolt' topic you get a basic idea how buzzer can be used in the warning system. Now you have to connect a buzzer (which is there in your starter kit) to Bolt and control that buzzer through Bolt Cloud i.e ON/OFF the buzzer.

NOTE: Do not use a resistor with the buzzer.

Task 7: Change the frequency of the buzzer.

Here is where you make the buzzer more interesting. Use the `analogWrite` function to change the sound that the buzzer produces. Remember, the buzzer produces different sounds at different voltages.

NOTE: Do not use a resistor with the buzzer.

Submitting The Assignment:

This assignment is meant to be a self-study exercise, and you do not have to submit this assignment.