

Design Changes

Graph Tabular View

Summary: The app can support multiple independent graphs. Currently, when a graph is generated, it is added on to the bottom of the current page. This results in the page becoming rather long after more than 2 Micro:bits are added. This design change would create a tab view for the graphs. Each time a graph is created, it would appear in an additional tab which is added to the top of the page. This would limit the space needed on the page at one time.

Changes: Rather than adding a new graph at the end of the page. A new tab will be created which contains that graph. The tab name will correspond with the name of the graph. When the user disconnects the Micro:bit, it will remove the graph and tab corresponding to that graph. The user can switch between tabs by pressing on the tab. For a detailed description of the change, read the tab task description here:

<https://github.com/bsiever/microbit-usb-grapher/issues/13>

Here is a screenshot of what the tabs will look like:



Event Markers

Summary: Currently, the graph does not support anything that allows the user to mark the graph. This feature would be useful for our users. Within the app, there is a graphical data display. It would be helpful to be able to mark key events on the graph.

Changes: Pass props to the graphing API which will allow the user to mark the graph that has been generated. When a user clicks on a portion of the graph, it should mark the event at that point. If the user clicks on that point again, it should remove the marker.

Help Menu

Summary: There is nothing in our app which supports help documentation or help information. The addition of a help menu will provide instructions to new users to the app.

Changes: There should be an Icon which says “Help”. When the user clicks on this icon, there should be a series of instructions which could assist the user. These instructions should contain information on how to:

- a) Connect a Micro:bit to their computer
- b) Download a data simulation file (.hex) which they can use to program their Micro:bit by dragging the file into the Micro:bit
- c) Use the web application
 - i) Add a Micro:bit
 - ii) Graph data
 - iii) Play/Pause the data
 - iv) Use the graph
 - v) Save data as a CSV
 - vi) Disconnect the Micro:bit

For a detailed description of the change, read the help documentation task description here: <https://github.com/bsiever/microbit-usb-grapher/issues/11>

Here is an example of the icon which will be used:



Combining Similar Graphs

Summary: The web app currently generates a new graph every time a Micro:bit is connected. There is no way for the user to combine graphs so that multiple series are plotted on a single graph. This would be convenient to easily compare similar data.

Change: Implement an interface which allows the user to combine multiple graphs so that their series appears on a single plot. The user would select that they want to combine multiple graphs. After doing so, they will choose which graphs should be combined. This would then delete the two tabs/graphs and generate a new graph of the two series in a single plot.