

Homework (B0B17MTB)

Problem Set 3B

November 29, 2021

1 Assignment

Create a recorder of a slider position as a simple application with a graphical user interface (GUI). To do so, implement a function called `problem3.m` which creates GUI according to the following requirements:

- Create a figure containing following graphic components: a checkbox, a slider, an axes, and a button. Place them so that the GUI will approximately correspond to the Figure 1.
- Create appropriate callback functions to achieve that:
 - moving the slider adds the corresponding values to the line placed in axes,
 - new values are added to the line during the movement of the slider,
 - rotating the mouse wheel increase or decrease the slider's value and adds corresponding values to the line,
 - limit the recorded values within limits of slider even when using mouse wheel,
 - checking/unchecking of the checkbox enables/disables the recording of the slider value,
 - reset button clears all so-far recorded values,
 - x- and y-axes of a graph are limited to a specific range regardless of the values and number of values recorded,
 - when the size of the figure is changed, adapt the height of slider and axes and with of axes,
 - prevent using `global` variables.
- Try to run the file `problem3b.p` to check the complete functionality of the application on your platform.
- Your application does not necessarily look exactly like our solution (colors, markers, fonts, sizes,...), but the functionality should be the same.

(5 points)

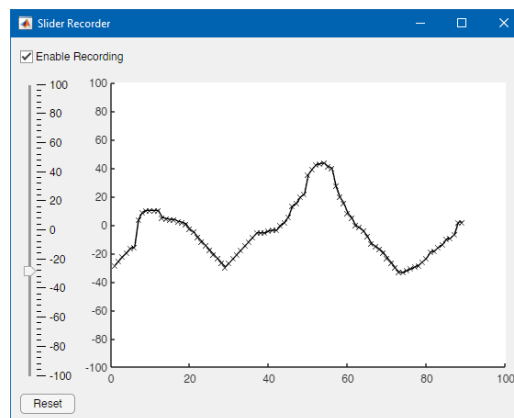


Figure 1: Resulting GUI of a the slider recorder.

2 Instructions

Complete all the assignments till December 13, 7:59 a.m. Created m-file upload to the [BRUTE](#) system. The problem shall be solved by the students individually (notice the BRUTE system has a duplicity checker). Do not use MATLAB App Designer and functions from MATLAB Toolboxes. Contact matlab@fel.cvut.cz with any questions.