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FI



Bonus Assignment

Intro

Faculty of Informatics, Masaryk University

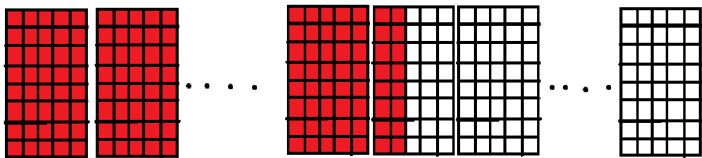
January 7, 2021

The task of this assignment is to create a firmware that runs on FRDM-K66 board. This firmware will have 2 tasks and set up parts. You will not be provided with any templates, but you can use any previous projects.

- Task 1 - Load data from both ADCs.
- Task 2 - display recorded data to display.(format is explained)
- Setup - setup display correctly to be able to print data.

Display Output

You will display data graphically. Instead of alphanumeric, you will use the bar to represent a value of ADC measured value. This bar must have 80 different states as 16 characters per line and 5 pixels width of one character. This representation must be continuous and must truthfully follow ADC value in reasonable rate. (at least 10Hz but no more than 50Hz)



ADC

ADC value must be sampled exactly 6 times in between every frame.
The sampling must be equally dispersed throughout this period.
When printing to the display use average of those 6 values.

Setup

Hardware is connected the same way as in week 10.

Display setup:- Characters needed to display data are not present in the driver by default.

Your task is to implement the functionality of saving new characters to display. This process is described in the display driver documentation. It is part of the assignment to look for this information.

Submission

To submit bonus project, please use new branch and use TAG:
HW_bonus_1 (in case of multiple submissions increment number)

When you submitted your solution. Write an e-mail to teachers(at least two people) to check your solution. Your solution will be corrected in a one-week period.

Deadline: end of the exam period. (If submitted too late there might be no time for resubmission)

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