LOG BOOK

Assignment 1: Pitch detection

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| DATE | VERSION | Progress |
| 15/03/2016 | 1.0 | * Creation of LOG BOOK file * Creation of the basic input/output project * Project tested with audio input(mic) and audio output(speaker) * Create C-File for LED control * Create C-File for FFT processing * Create H-File for LED control * Create H-File for FFT processing * Writing the implementation for the LED control * Fixing missing includes during compilation in LED control * Working implementation for ready state(LEDS) * Untested implementation for user LEDs * Workaround for debouncer issue with button S1 * Main starts program in state 0(READY) |
| 16/03/2016 | 1.1 | * Using CheckSwitch instead of accessing the buttons directly (testing purposes) * Implementation of error state * Test case for error state out of the main by pressing S2 when program is in state 1(RUN) * Program doesn’t leave state 2(Error) after escape buttons (S1+S2) are pressed * Accessing Switches directly again to circumvent long delay times * Working error state and reset implementation * Working implementation for displaying user selected LEDs * Starting familiarization with the FFT function |
| 17/03/2016 | 1.1 | * Creating header definitions and code implementation for detecting the pitch after the FFT * Code for visual display of found frequency added to main program * Switch failed to reset from error state after implementation of test parameters for visual display of frequency * Fixed switch problem by initialising main variable during ready state instead of program start * Implementation for capsuled transform from “audio in” to fractional datatype for the FFT |
| 18/03/2016 | 1.1-1.2-2.0 | * changed audio input to a fractional data type from integer * problem with detecting the correct pin after FFT * dealing with negative spectrum values * solved negative vales by using only the first half(real values) of the FFT results thereby deleting the mirrored values * -Pin detection only moves in the upper half of the array * Generating test signals with phone app for testing * Pitch detection working for parts of each range * Looks like the pitch detection problem results from accuracy and supplied array from FFT * Fixed the frame sizes to be equal in capturing and as used for the FFT * Generated and tested working implementation of the pitch detection * -testing of the pitch detection using a signal generator * Replacing fixed values for definitions |
| 23/03/2016 | 2.0 | * Creation of API file * Creation of report file * Creation of user guide file * Remove function convertInputForFFT due to wrong results( input was not copied to the return value), instead audio is saved into a fractional data type when read from the input port * Added comments in the FFT\_Processing.c source code file * Added comments in the FFT\_Processing.h header file * Removed function convertInputForFFT function from Audio\_Pitch\_Detection source code file |
| 24/03/2016 | 2.0 | * Added comments to the led control header file * Added comments to the led control source code file * Added comments to the audio pitch detection source code file |
| 25/03/2016 | 2.0 | * Start writing the application programming interface(API) documentation |
| 26/03/2016 | 2.0 | * Continue writing API documentation * Finished writing the API documentation * Start writing user guide document * Finished writing user guide document |
| 29/03/2016 | 2.0 | * Start writing project report |
| 30/03/2016 | 2.0 | * Continue writing project report |
| 31/03/2016 | 2.0 | * Finish writing project report |