CSE 433 Final Project Contest
Due Date 15/06/2021 Tuesday

In this project, you will use STM32 Nucleo board and implement the following functionalities:

1. GPIO pins for general input and output.
2. Timer Module, timer, input capture, output compare, pwm.
3. Interrupts
4. Serial Communication: UART, SPI or I2C, ...
5. ADC
6. etc.

The grading of the project will be based on the number of functionalities you use and the project topic you choose. You can control DC, step or servo motors, use different sensors like accelerometer, pressure, temperature, camera, utilize different modules like GSM, GPS, and etc, different types of I/O like led matrices, keyboard, 7-segments, touch screens etc., different wireless protocols like Bluetooth, Wifi, IR etc.

The better and creative your project topic is the better grade you get. Use as many diferent properties as you can. Remember this is not a project solely but this is a contest. The grade of your final project will affect the final grade much more than other projects.

The use of a FPGA in combination with your STM32 brings additional bonus grades up to 30pts depending on the implementation on FPGA.

You will prepare a project report and a Youtube video for your project.

The report will include:

1. Introduction: Explain your project topic, the reason to choose that topic, all components you used in your project.
2. Implementation: Explain what functions above you have implemented on STM32 (FPGA), how did you implement the whole project, the difficulties you faced with.
3. Result: Explain what parts worked and what parts did nott work and why. Put your youtube link and necessary images of your final project.

The report will be in two column format. The templates for LATEX and Word will be published in Teams page. Using LATEX for the report brings additional 10pts.

Roughly the grading:

The project topic: 20%
Functionalities you implemented: 70%
Report: 20%
Using LATEX: 10%
Using FPGA in combination with STM32: 30% (at most)

You will decide your project and select the required components, then write the introduction part of your report until May 27. You will submit that Introduction part, which must be at most one page before May 27.

You can ask any questions on Teams at the new channel called Final Project Chat.