HW-SW Codesign Term Project Guidelines 2022

Your term project (40%) must be a design using both **hardware** and ***software***, in either one of the following two ways. (1) The ***software*** should be run on the 8051 *Instruction Set Simulator* (*ISS*) or using any other Micro-Controller Unit (MCU, like ARM or NIOS) ISS that you can find, and the **hardware** of your design must be able to do (at least) one specific and complete function, written in SystemC (or Verilog). or (2) You can use Gezel to implement and simulate the 8051 (ARM or NIOS) ***software*** and the designed **hardware** component. For example, you can implement a JPEG encoder (or decoder) or an MP3 player to be the **hardware** component, and a control panel, used to start and/or stop the JPEG/MP3 player, in ***software***.

You will team up with another one classmate (to form a 2-person team as a group) for this term project. When different groups implement a similar topic, the difficulty, function, and scale of the implementations from these groups will be compared for grading. Therefore, try to submit the names of your team members and the title of your term project with a brief abstract description on May 19th, 2022 soon.

(1) You must show up to submit (and present on-line using U) your project title and brief abstract on May 19th, 2022, which is one of the items for grading.
(2) A progress report will be handed in on May 26th, 2022.
(3) The presentation order will be announced on Ceiba by TA after you send the names of your team-members to TA.
(4) The presentation will be held on June 9th and 16th, (possibly on-line using U), 2022.
(5) Final report will be due on June 16th, 2022 (no delay). Please use Registration-number+Term-Project as the filename and mail it to our TA: 楊仁傑, r10921098@ntu.edu.tw

Grading criteria:

1. *Is the project completed and submitted on time?
2. *Scope of the Hardware and Software (e.g., difficulty, practicality, etc).
3. *Descriptions on System Architecture, HW and SW components, and final Operation/User Manual.
4. *Details of HW-SW Co-simulation.
5. Any HW-SW partitioning included?
6. Any HW-SW verification included?

Items 1-4 are required, and items 5 and 6 are optional.