3: Individual Tasks & ECE Concepts

ECE 403: Homework #3

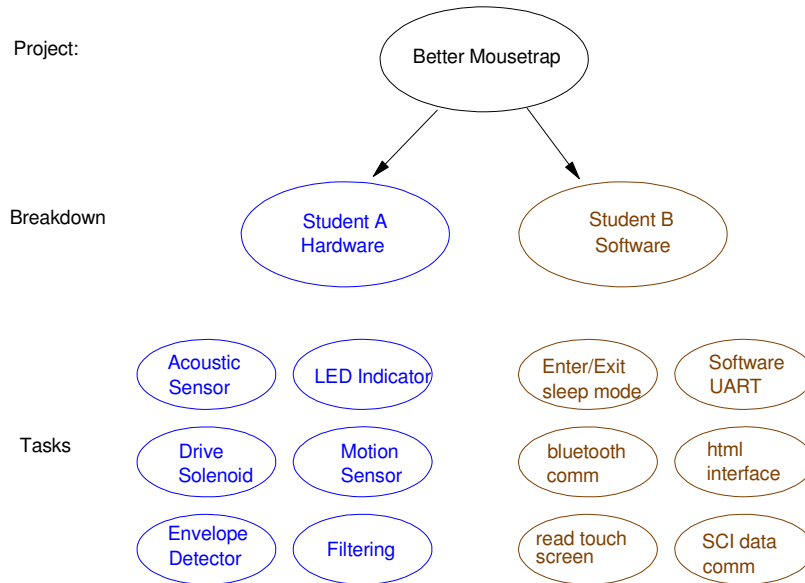*include in OneNote as a page under each student's section*

Project Breakdown

Split your project into N sections: one section per student (done in homwork #2: may need revision)

Define the role of each student on your project (done in homework #2: may need revision)

For each student, (each student's section on OneNote - see next page),

- Identify the technical challanges you need to solve in ECE 403
- Identify and list the tasks that need to be completed in ECE 403
- Specify when each task is to be completed in ECE 403 (Gantt chart)

Project: **Better Mousetrap**

Breakdown: **Student A Hardware**   **Student B Software**

Tasks:

Acoustic Sensor, LED Indicator, Drive Solenoid, Motion Sensor, Envelope Detector, Filtering

Enter/Exit sleep mode, Software UART, bluetooth comm, html interface, read touch screen, SCI data comm

Task Student A	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Project Selection (HW1)	■															
Project Breakdown (HW2)		■														
Build microphone circuit (HW4)			■	■	■											
Add a low-pass filter (HW5)						■	■	■								
Add an envelope detector (HW6)									■	■	■					
Solenoid Driver Circuit (HW7)												■	■	■		
ECE Tools (HW8)															■	
Sr Design Expo (HW10)																■

OneNote

In each student's section, provide

- What your role is in the project,
- A Gantt chart which includes

  The tasks you need to complete in ECE for, and
  When you plan on doing each task
- Four advanced ECE concepts you'll use in ECE 403

  Specify the ECE concept
  Explain how it will be applied to your section
- Two ECE tools you'll use in ECE 403

  Oscilloscopes, multimeters, programmers, debuggers, spectrum analyzers, etc.

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Sections	**Pages Within Section**	**Page Content**
Contact List	Group Contact Info	*Student A: phone, email* *Student B: phone, email* *Sponsor: email*
HW2: Requirements	Overall System Description & Requirements	*Project Description* *How you'll split into N sections* *Role of each student on project*
Student A *hardware*	HW3: Tasks & Concepts	*Your role in the project* *List of tasks you need to complete in ECE 403* *Gantt chart showing when tasks are to be done*
	HW4: Acoustic Sensor *Instrumentation Amplifiers*	*ECE Concept #1*
	HW5: Analog Filters *Butterworth Active Filter*	*ECE Concept #2*
	HW6: Envelope Detector *Op-Amp Circuits*	*ECE Concept #3*
	HW7: Driving Solenoids *MOSFET switch*	*ECE Concept #4*
	HW8: ECE Tools	*Two tools used in design*
	HW10: Sr Design Expo	
Student B *software*	HW3: Tasks & Concepts	*Your role in the project* *List of tasks you need to complete in ECE 403* *Gantt chart showing when tasks are to be done*
	HW4: Enter-Exit Sleep Mode *Top-Down C Programming*	*ECE Concept #1*
	HW5: Software UART *Interrupts for Timing*	*ECE Concept #2*
	HW6: Bluetooth Comm *SCI data communications*	*ECE Concept #3*
	HW7: Reading Touch Screens *SPI data communications*	*ECE Concept #4*
	HW8: ECE Tools	*Two tools used in design*
	HW10: Sr Design Expo	