Milestone 2: Due by 11:59pm on Friday 9/27/19

This must be done as a TEAM.   THIS IS NOT AN INDIVIDUAL ASSIGNMENT!

As a team, submit a PDF document ONCE to Gradescope.   You must specify all of the members in your group when making your submission. **Those members of the group not specified will receive a grade of 0 for this assignment.**

Write up the following information and save it as a PDF document.

- The names and NetID's of all members of the team.
- A Working Title for your group's project.
- A paragraph (or more) describing your project idea (I.E. containing multiple sentences). This description must include:
  o Use the first sentence or two to describe the idea of the project.
  o Then, use another sentence (or multiple sentences) to describe how the project will use multiple Arduino (a general idea of what each different microprocessor will do).
  o Next, use another sentence (or multiple sentences) to describe what form of communication mechanism your project will use to communicate between the multiple Arduinos.
  o Next, use another sentence (or multiple sentences) to give ideas on the types of input/output devices might be used.
  o Finally, use another sentence (or multiple sentence) to justify how this project involves some original work.

Project Requirements
Must work in groups of at least 2 people, but no more than 4 people. Group project should utilize number people x requirements below (if group of 3 people, then need to use 3 arduino's and a total of 6 different external devices)

Make use of at least one arduino (or similar) microcontroller per person in the group.

Utilize at least two different external devices (16x2 display, LEDs, pushbuttons, touch sensors, etc) per person in the group.

Utilize some communication mechanism (ethernet, bluetooth, serial, etc)

Involve some original work - You can find lots of tutorials, how to's, step by step directions for lots of projects. I am fine with you starting with these but some original work MUST be included. If your idea involves original work, but none is implemented, the project will not receive a very good score.

For example, building a 4x4x4 LED cube http://www.instructables.com/id/The-4x4x4-LED-cube-Arduino/ is not a great project by itself. But incorporating a bluetooth to a computer/phone/tablet to allow control of the LED cube is better or using 4x4x4 led cube in a game is another idea.

Milestones to be Delivered (with tentative due dates – more details to follow):

1. Project Idea(s) - 1 paragraph per idea - done individually, posted as a follow-up to the Milestone 1 note on Piazza before 11:59pm on Friday 9/13/19

2. Project Title, Members and Idea post – done as a group (2-4 people), posted to Gradescope as a PDF document before 11:59pm on Friday 9/27/19

3. Project Contract and Initial Design Document - done in groups (2-4 people), posted in Gradescope as a PDF before 11:59 on 10/11/19. Include the following:
   a. All Names and NetId's of team members
   b. Name of your project
   c. 3 paragraphs of Project Idea (Overall Description of Idea, Initial Project Design including Expected Inputs/Outputs, Expected Plan for Use and Communication between the multiple Arduinos)
   d. Proposed Timeline of Development
   e. List of Materials Needed
   f. List of References
   g. Include any sketches that might help identify

4. Updated Design Document - done as a group (2-4 people), posted as a pdf to Gradescope before 11:59pm on 11/8/19. Update and EXPAND the document created for Milestone 3.

5. Design Presentation of Project at Lab on Monday 11/25/19 - done as a group (2-4 people), approximately 5 minute showcasing project design including what works and what was challenging. Slides of Presentation due 11:59pm on Sunday 11/24/19

6. Project Demonstration - done as a group (2-4 people), on campus, during Lab on Monday 12/2/19

7. Project Final Report - done as a group (2-4 people), no page requirement, but anticipate reports being 15 - 30 pages, want to see pictures, results, problems encounters, how problems were resolved, resources used, etc. Must include a build section that describes everything needed to rebuild your project. Posted as a pdf to Gradescope before 11:59 on Wednesday 12/4/19

8. Team Work Assessment - done individually, critique of group performance, submitted via web form before 12/6/19 at 11:59pm.