**IoT Security and Privacy**

**Assignment 2 – Raspberry Pi**

**10 points**

### Instructions:

1. Note: Blue text points to a web link. Ctrl + Click to follow link.
2. This is a team assignment. However, each member of the team has to submit the finished assignment. Those who do not submit will get zero for this assignment.
3. Answers to all questions must be put into **ONE** document. That is, every time, each student can only submit one report document, answering all questions of this assignment.
4. Students must put answers following each question in this assignment. The instructor will not grade a report with only answers in it and the student gets zero for such an assignment. An assignment report must include original questions.
5. Students MUST submit the finished assignment in either Microsoft Word or pdf format to Blackboard. The doc must be submitted as ONE standalone file and cannot be tarred or zipped into a container.
6. Refer to [Print screen](http://en.wikipedia.org/wiki/Print_screen) on how to take a screenshot. Pressing the Alt key in combination with PrtSc will capture the currently selected window.

**Questions:**

**Question 1 (8 points)**

In this assignment, students are required to use sensors on raspberry pi. If a group has n members, the group needs to try n different sensors. Ideally, each member works on one sensor and documents according to the requirements below.

Please refer to [1] for use of raspberry pi and [2] for various sensor manuals. Search “manual” in the page for manuals of the sensors.

**Requirements:**

For each sensor,

1. Introduce what the sensor does.
2. Include a photo of raspberry pi with the connected sensor. Explain how the sensor is connected to GPIO pins or the board of raspberry pi. Any accessories such as cameras are considered as sensors.
3. Include the results of your experiments controlling or communicating the sensor.
4. Include the code for controlling or communicating the sensor.

**Question 2 (2 points)**

1. Students will work in a team for the term project. Each team can have at most 4 students. Please identify all team members below.
2. Please introduce the term project in mind right now.

**References**

1. Chao Gao, [Use of Raspberry Pi](http://www.cs.uml.edu/~xinwenfu/IoT/UseRaspberryPi-ChaoGao.pdf), 2016

1. [SainSmart 37 in 1 Sensor Module Kit for Arduino UNO R3 Mega2560 Mega328 Nano Raspberry Pi](http://www.amazon.com/SainSmart-Arduino-Mega2560-Mega328-Raspberry/dp/B013UL6LFS), 2016.