

# **Rapid Prototyping of Urban Sensors**

## **Final Project Description**

Due July 23, 2015

### **Project Description:**

Working individually or in groups, students will identify an urban issue and devise a method of collecting data to gain insight on that issue. The means by which data is collected can vary from continuous real-time collection to discrete sampling and will be left to the students to decide how best to approach the issue. Similarly, the type of sensor and method of collecting data will vary depending on each project.

The final project should contain this workflow:

1. Clearly identify an urban problem and determine what data could help you better understand that problem.
2. Design a data collection system
  - students should be able to clearly identify the desired data, how the data will help understand/evaluate the problem and the necessary considerations for deploying the device.
3. Build and deploy prototype sensor
  - this should be considered an 'experiment' - a way to test and see if your sensor and system for collecting data actually works and helps clarify the proposed problem

Students will be required to give a final in class presentation about their project explaining the above steps as well as submit a final report which includes a literature review. Students should describe their methods, explain how they came to their conclusions and propose their (potential) next steps for the project.

### **Grading:**

#### **Sensor Development and Deployment (30%)**

- Did students clearly identify what data they want to capture?
- Do students show a clear understanding of how the sensor works, how the sensor is communicating, calibrated etc..
- Did student collect real-world data?
- What 'environmental' considerations were taken to deploy and collect data?

#### **Paper and Presentation (30%)**

- Did the students conduct a literature review?
- Is their report complete? (spelling, grammar etc..)

#### **Methodology (30%)**

- Did student clearly identify their goals and expected outcomes?
- Was their approach the most sensible one?

#### **Thoroughness (10%)**

- Was there sufficient research done in preparation, development and execution?
- How successful was the original plan?

### **For Groups:**

Are group responsibilities shared equally? Does each member contribute to the discussion and project?