The built environment is the environment which we have built around ourselves to accommodate our human activity. What are the types of activities that are going on? How can we monitor these activities and use the data to improve our performance and enrich our experience?

In this project you will design a device to capture data from sensors inside a building or space with the intention of detecting ‘activity’. You will design and implement a dashboard visualization of real-time sensor data stream(s) as well as longitudinal stored data that a user can interact with through a web client.

You are encouraged to use the Raspberry Pi 2 Model B with sensors attached to the GPIO (general purpose input-output) pins to collect data. Remember that the GPIO pins on the Raspberry Pi are 3.3V and are NOT 5V tolerant. Double Check before using 5V sensors without voltage dividers or you may damage the sensor or your Pi!

You are encouraged to use Node.js as a server to collect sensor data (on/off), process data, store data to a file or database (mongoose,mongoDB), and host a web page(express) with client-side javascript for the dashboard interface (chart.js, vis.js, d3.js).

Tutorials and links are provided on the class website: http://www.dcom.gatech.edu/doie2015/projects/space-monitor/space-monitor-instructions/

Deliverables:
- 1 SPACE MONITOR device with multiple sensors for detecting building ‘activity’
- 1 SPACE MONITOR web interface with real-time and longitudinal interactive visualizations
- 1 Presentation and Demonstration of said SPACE MONITOR
- 1 Class blog post of the SPACE MONITOR project including:
  - 1 Photo of the SPACE MONITOR device embedded in the environment
  - 1 Graphic of the SPACE MONITOR interface as designed
  - 1 Screenshot or Photo of the SPACE MONITOR interface as implemented
  - 1 Diagram of the SPACE MONITOR hardware/software architecture
  - 1 Paragraph description of your project (can be longer, this is minimum)

The in-class team presentations are scheduled for Thursday, August 10th, 2015. Peer evaluations through TEAMMATES are due by Sunday, August 30th, 2015. Blog Posts are Due by Sunday, August 30th, 2015. Remember to use the category for your team, the category for ‘projects’ and the category for ‘space-monitor’.