

# BigSense.io

## Upcoming Talks and Classes

When	Speaker	Event	Location	City
Every Semester at University of Dayton	Dr. Andrew Rettig	<a href="#">Internet of Things</a> class	Kettering Labs, University of Dayton	Dayton, Ohio
Spring Semester University of Dayton	Dr. Andrew Rettig	<a href="#">Advanced Internet of Things</a> class	Kettering Labs, University of Dayton	Dayton, Ohio
Every Semester at University of Dayton	Dr. Andrew Rettig	<a href="#">Applied Internet of Things</a> class	Kettering Labs, University of Dayton	Dayton, Ohio

## About Big Sense

[BigSense](#) is an open source web service, [licensed under the GNU GPL3](#), that is designed to record and present data from sensor networks. It works with [LtSense](#) (pronounced *Little Sense*), an application that can be installed on embedded devices. LtSense retrieves data from sensors can then transmit that data to web services such as BigSense. The entire program is still a work in progress with the first implementation used at the [Green Learning Station](#) for measuring pavement temperatures and storm water runoff.

## BigSense Specifications

- Written in Scala
- Runs on Tomcat
- RESTful API
- Full regression tests (BigSenseTester written for Python 3.x)
- Supports queries based on date ranges and timestamp ranges
- Aggregation support for sums and averages over time intervals within date and timestamp ranges
- Presents data in multiple formats (XML, Comma Separated Vales, Tab Delimited, HTML tables)
- RSA signature verification for incoming sensor data
- Supports multiple relational databases
  - Microsoft SQL Server 2008 / 2012
  - PostgreSQL 9.x (with postgis extention)
  - MySQL (*in progress*)

## LtSense Specifications

- Written for Python 2.x
- Polls for new data at configurable sample interval
- Queues sensor data in SQLite database
- RSA signatures for sensor data (using pypi-RSA)
- Support for transmitting images from USB web cameras
- Limited support for 1-Wire sensors (using OneWireFileSystem)