

BigSense.io

Upcoming Talks and Classes

When	Speaker	Event	Location	City
Every Semester at University of Dayton	Dr. Andrew Rettig	Internet of Things class	Kettering Labs, University of Dayton	Dayton, Ohio
Spring Semester University of Dayton	Dr. Andrew Rettig	Advanced Internet of Things class	Kettering Labs, University of Dayton	Dayton, Ohio
Every Semester at University of Dayton	Dr. Andrew Rettig	Applied Internet of Things 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)