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SensorBase.org: A Centralized Repository to Slog Sensor Network Data (KNO 2)

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SensorBase.org - A Centralized Repository to Slog Sensor Network Data

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Introduction: Sharing Sensor Network Data

Sensor Data Logging

- *Slog* is a portmanteau of "sensor" and "log" and was coined to reflect the spirit of sharing of information represented by blogs.
- **Blog user interfaces** (e.g. Blogger, Wordpress) are very user-friendly; users can publish, delete, and set permissions on entries with little effort. We wish to create a similar interface and backend for slogging.
- Blogs have **RSS** generated on the fly for easy notification and syndication.

Sensor Data Retrieval

- Once published, data or subsets of the data can be retrieved.
  - Ability to search for data characteristics is vital.
- Similar to blogs, users should be able to subscribe to RSS data feeds on per project or per sensor basis to receive notification or summary statistics of data recently published.
  - Users should be notified when something out of the ordinary happens.

Problem Description: Making many complex data types publishable and retrievable

Different data formats such as numeric, text, images, video, and audio all stored and easily retrieved from one central repository

Currently, much data exists as flat text files or floating in hundreds of folders on individual hard drives that is easily forgotten and cumbersome to share. Hence, the data is useless, and there is no point in collecting it; however if we can **slog** data to a centralized repository, and make it easily retrievable, data once again becomes useful.
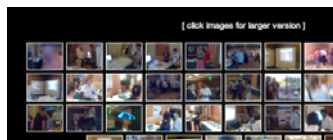
Proposed Solution: Slog data to one place and make it easy to retreive and use

How Data is Slogged

- To publish data, a user first creates a sensor network project, which is a bit like categories in blogs.
- Data can be uploaded as XML or as comma-delimited text. Binary data can also be uploaded file-by-file.
- Published data can be searched and retrieved via the user interface or via SOAP web services.

Application Building on Top of SensorBase.org

- Applications can easily be developed on top of SensorBase.org using SensorBase.org SOAP web services.
- Data from different projects can easily be merged using simple database functionality.

Future Work

- Rule-based RSS notifications
- Data visualization e.g. R, GIS, sparklines
- More powerful data searching tools e.g. trends, thresholds, events