



isenseproject.org

Motivation:

Science education often includes hands-on work with sensors and data collection, but experiments are typically done in the classroom (“table-top experiments”) and data are siloed on individual PCs.

We have developed a hand-held data gatherer (the “PINPoint”) and a companion web site that for users to upload and share data. We want to improve science education by giving students and teachers the tools they need to ask real-world science questions, collaboratively carry out investigations, and take action on the results they discover---empowering them as citizen scientists..

Technical Approach:

iSENSE was inspired by cloud-computing and mash-ups. It leverages Google Maps and the Google Visualization API. User data are stored on our own server, and are dynamically combined by users and displayed in any of 5 visualizations.

To complement the web system, we created the PINPoint data gatherer. It is a hand-held, battery-powered device, and it includes a GPS, accelerometer, temperature, light, and sound sensors, and a port for an external sensor. It can store 100,000 samples of the sensor array.

Results:

- We've tested in 2 teacher workshops, and with 2 undergrad social science courses and 2 HS science classes
- People are excited by seeing their data and telling a story that explains it---this is the essence of scientific work
- We are encouraged by ideas that students have generated

Future Directions:

We just completed a full redesign of the web site, and PINPoint is newly available, and we are looking forward to richer and more sophisticated student work in the upcoming academic year. And we are looking for user-partners!

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