

# TOWARDS MICRO-VOLUNTEERISM FROM CITIZEN SENSOR TO CITIZEN PARTICIPANT

This research aims to refocus our everyday world as living laboratories where citizens play a new and active role in facilitating scientific research aimed at exposing the dynamic interactions between people and the natural ecosystems and improving overall human health and well being.

The focus of our proposal departs from typical sampling and collection techniques, and hypothesizes that while traditional scientific methods and models play a vital role in understanding the complex dynamics of our world, an important new actor, everyday non-expert citizens with **sensor equipped mobile phones, publicly placed sensors, fixed indoor sensors, and sensors embedded into everyday objects** have the potential to radically expand the model of how scientific research is perceived and conducted.

## TYPICAL MODEL FOR CITIZEN SCIENCE



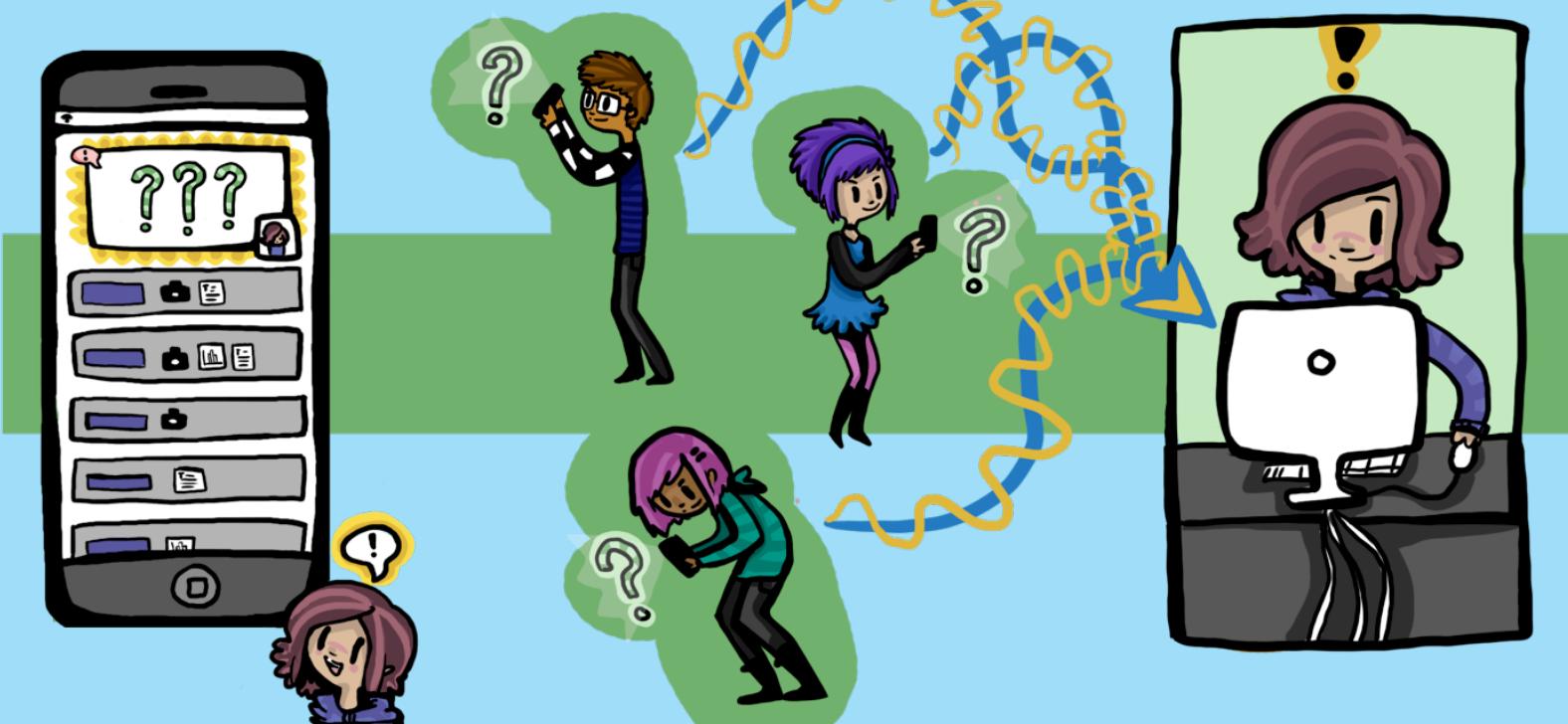
## NEW CONCEPTS

### REMOVE BARRIERS TO CAMPAIGN CREATION



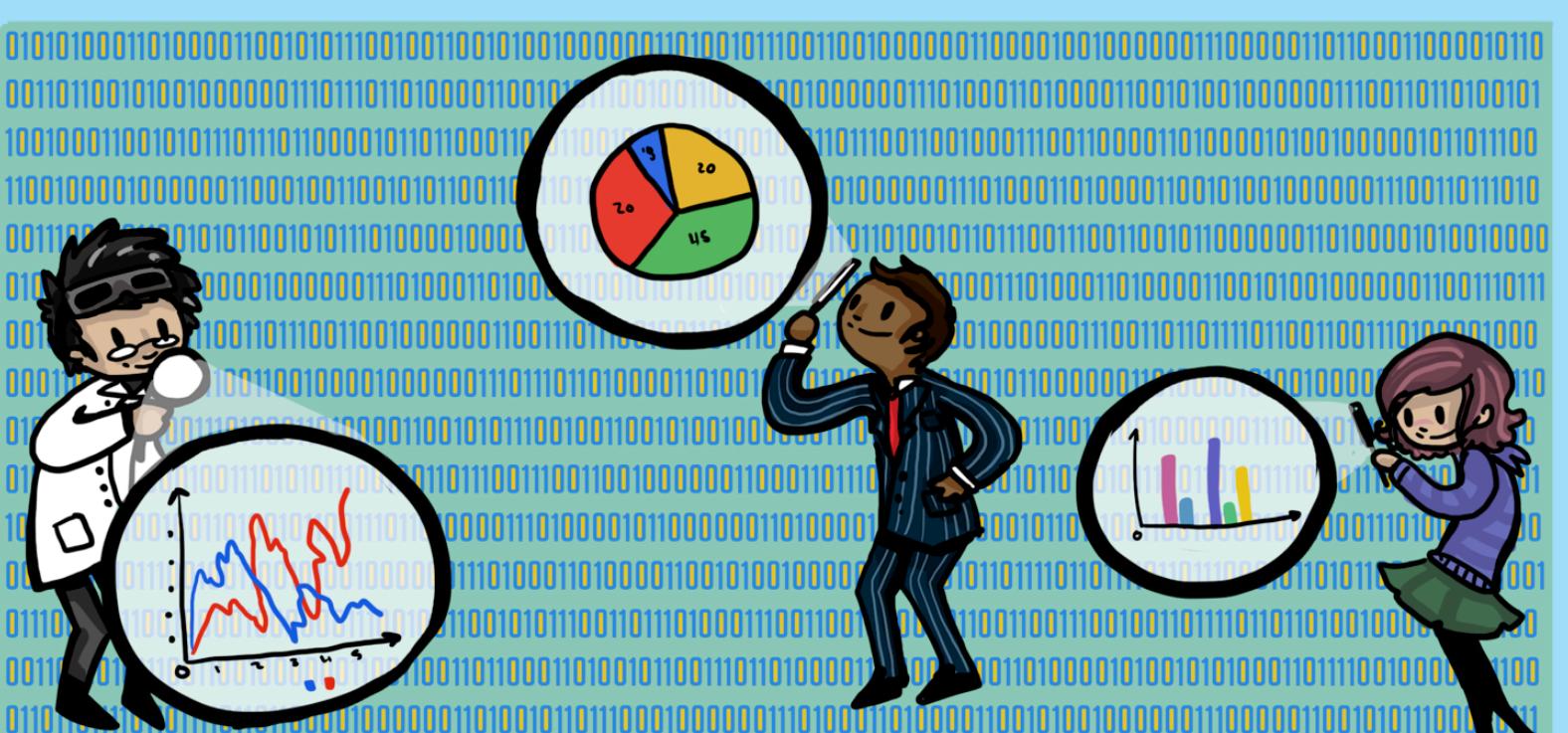
- no programming skills
- no cost
- no server infrastructure
- simplified app distribution

### FLEXIBLE SUBSCRIPTION AND LOCATION DRIVEN MODEL



- location based campaigns
- local campaign discovery
- data requests by location
- check-in and badging model
- integration with social apps

### ENABLE CITIZEN SENSING AND CITIZEN ANALYSIS



- data collectors (measure)
- data explorers (analyze)
- multiple stakeholder
- mechanism for debate

## IMPROVING PARTICIPATION



### FOREGROUNDING CONTRIBUTION



### NARRATIVE, GAMES, AND PLAY



### SPONSORSHIP AND SUPPORT



Eric Paulos • UC Berkeley (PI)

Stacey Kuznetsov • CMU

Sunyoung Kim • CMU

Chris Myers • UC Berkeley

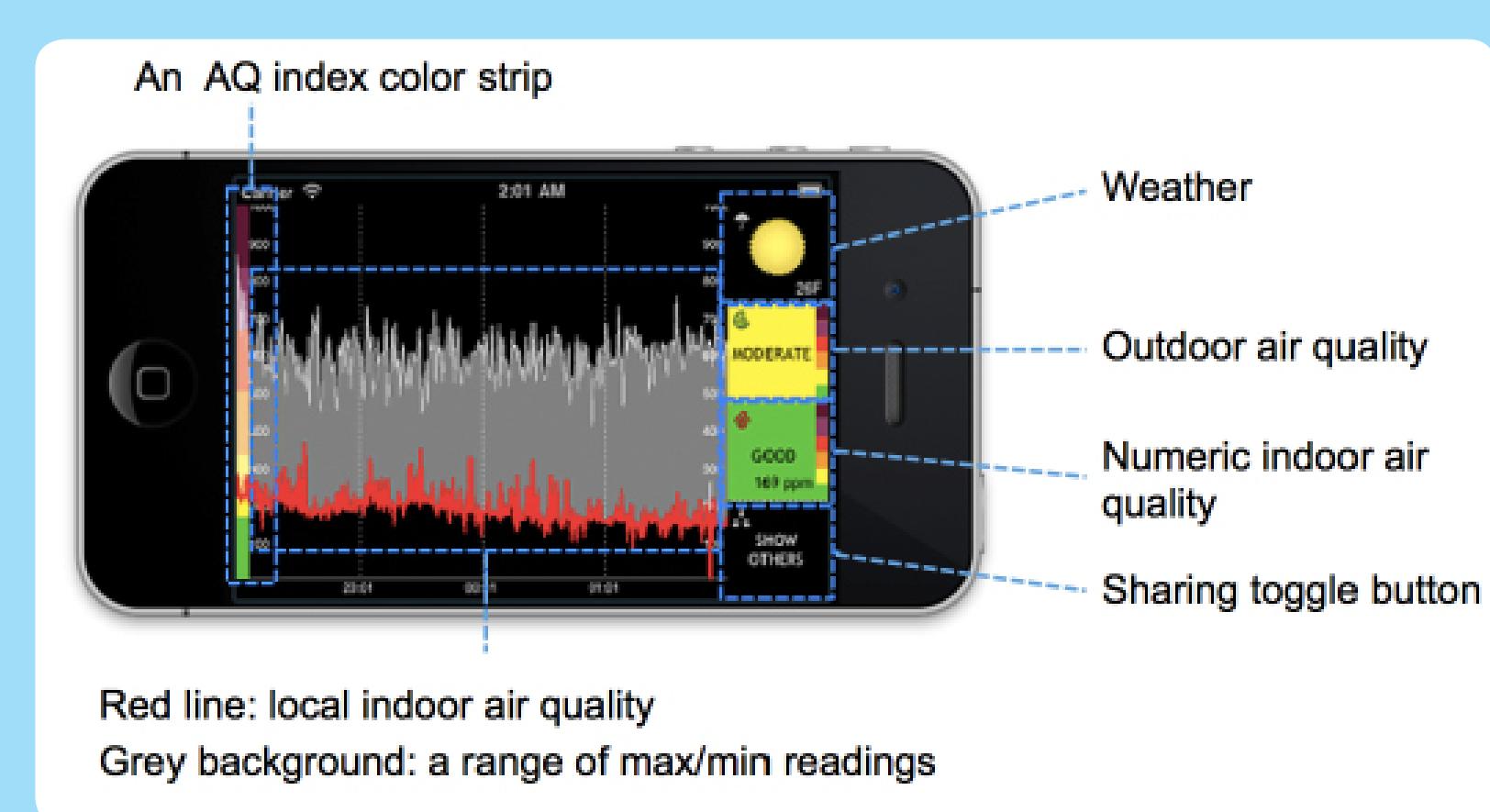
Rundong Tian • UC Berkeley

Andrew Kim • UC Berkeley

## SELECTED RESULTS

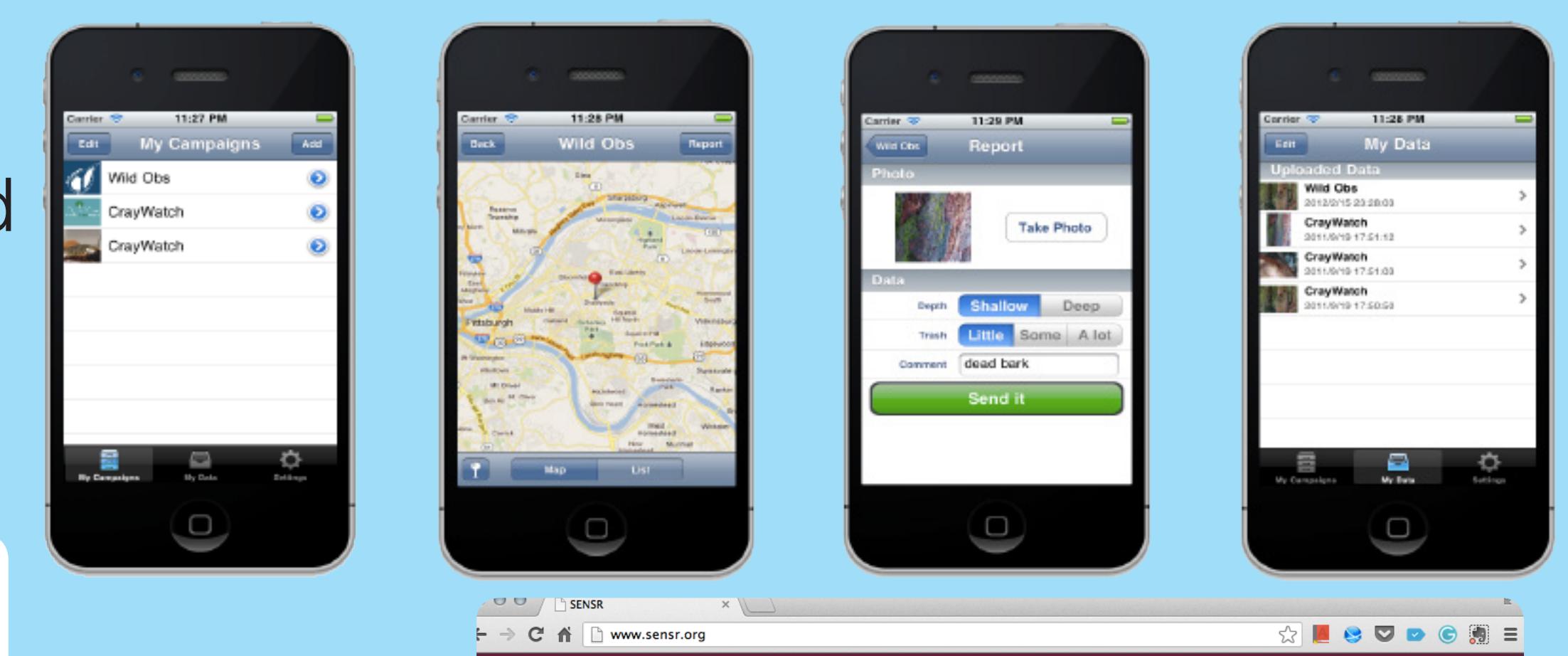
### inAir (CHI 2013)

Improvement in indoor air quality over long term study using PM2.5 particle sensor with integrated visualization

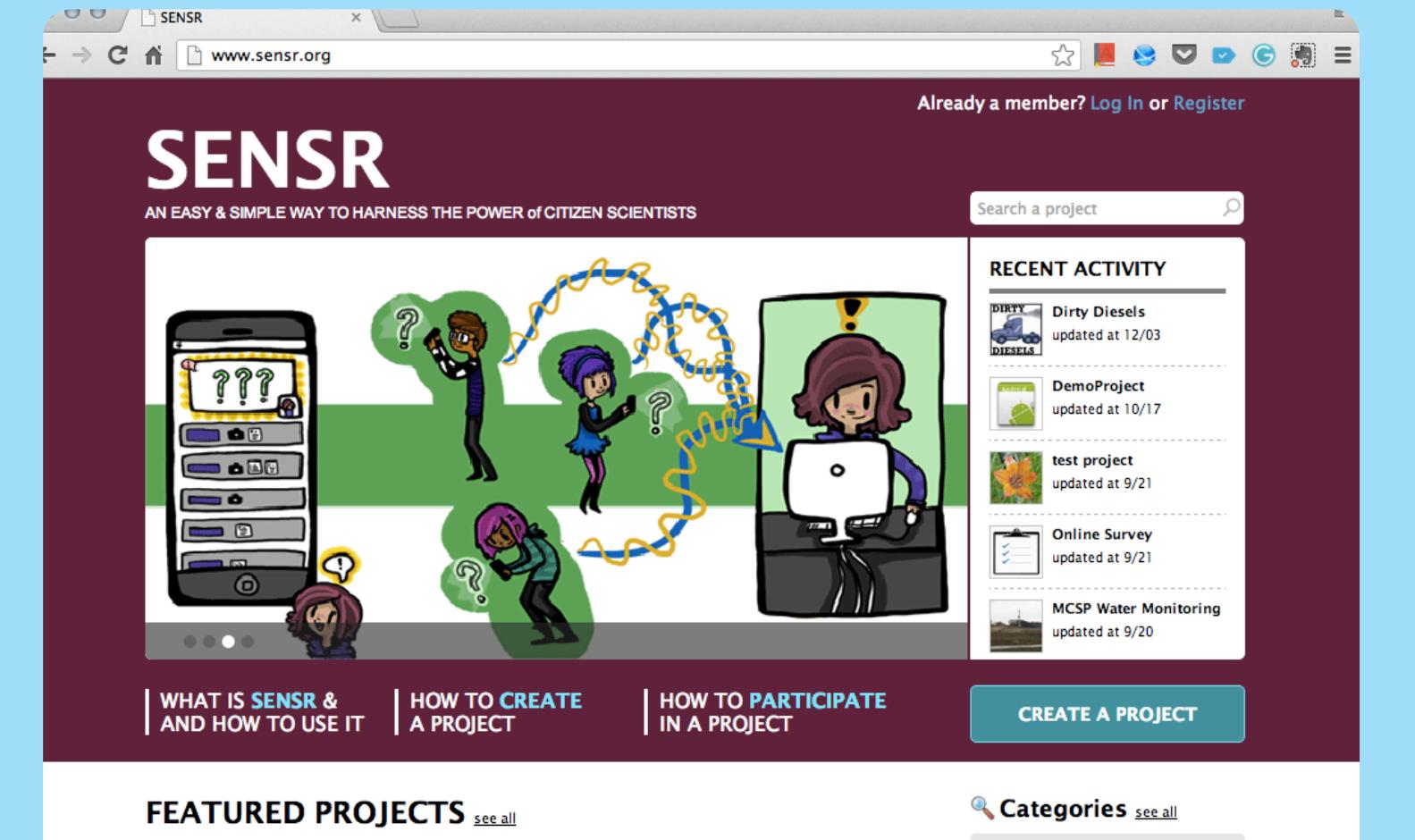


### Sensr (CSCW 2013)

iPhone App developed and under trial with selected communities

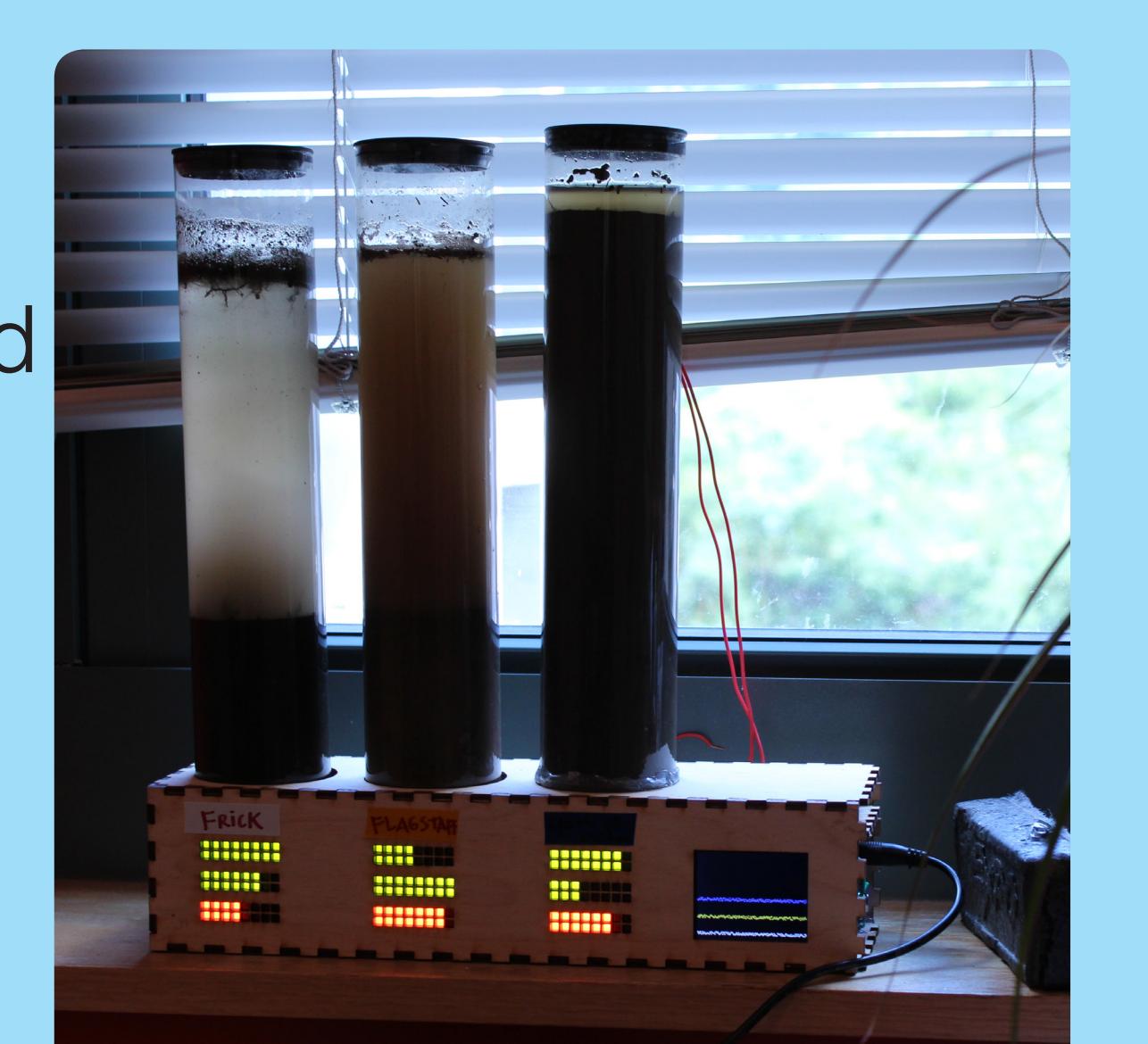


Website support for drag and drop campaign creation and distribution



### Bio-Electric Hybrids (Creativity & Cognition 2013)

Study prolonged nurturing and community engagement with slow sensing systems using living biological materials integrated with electronics



Seamful and critical design to study boundaries at which different materials, practices, and categories, intersect and lend themselves to new ways of seeing

## SELECTED ONGOING RESEARCH

- expanding development and deployment of SENSR
- study of 23andMe community
- integration of DNA testing for GMO using PCR machine
- water and soil sensor deployment in rural landscape
- sensing platforms for school children to explore environment
- novel sensing embedded into everyday objects and toys



Berkeley Center for New Media