

# Sensor Application Development Workshop 2016

Catania, Italy (Co-located with IEEE Sensors Applications Symposium 2016)

April 21, 8:30 am - 5:20 pm

<http://sensorapps.org/>



## Experiment with smartphones all around the world!

Build applications that read smartphone sensors and get to know professors and students at other universities. This workshop will guide you to use a collaborative sensing platform that makes it easy to build and deploy smartphone sensing applications under a day of effort. Get to know new collaborators and get a jump start on next year's SAS paper. Awards will be given to the top teams!

## Sensibility Testbed (<https://sensibilitytestbed.com/>) and Workshop Overview



Ever have an interesting idea you could explore using smartphone sensors, but you didn't have a good way to try it out? The Sensibility Testbed provides a platform for accessing smartphone sensor data in real time from dozens of real smartphone users spread around the world. Any smartphone user can install the Sensibility Testbed application and safely opt in to providing their sensor data for approved research purposes. This helps anyone to contribute to scientific discoveries, while letting researchers around the world get access to data they need to make the next generation of scientific breakthroughs.

Researchers get privacy-restricted access to smartphone sensors based upon technical and legal means to protect end user privacy. Therefore, while researchers can access sensors that are appropriate to their experiment, they are blocked from accessing data that is not relevant. Researchers can access a wide array of smartphone sensors including the cellular signal, GPS, WiFi, Bluetooth, camera, accelerometer, gyroscope, etc. These sensors provide deep insight into smartphone networks and the device owners that was previously inaccessible.

Writing a sensor application for the Sensibility Testbed is fast and easy. The testbed provides a unified programmable interface to sensors on smartphones. The Sensibility Testbed's sandbox interacts with the physical sensors on the device through a common, simplified API, which provides access to sensors in the same way on different devices. A researcher can write their sensing code once, and get highly accurate data across a diverse set of users.

## Workshop Overview

During this workshop, we will organize a **tutorial** for using Sensibility Testbed on smartphones and tablets, and a **group competition** for sensor app development. Students will be encouraged to work with professors from different institutions to come up with new and exciting research ideas. Participants can test their ideas on Android phones owned by real users around the world (provided by the Sensibility Testbed). We also encourage participants to bring their own Android phone or tablet. Participants will be grouped in teams of 3–4 on a collaborative project to build an app in an afternoon. (We will help with team formation and will help each team include an outside faculty member.) Finally, each team will give a *5 minute pitch* for their collaborative project. The organizing committee will decide the competition winners. The resulting applications will be tested on a local devices and remote smartphones to demonstrate the functionality. The selection criteria include:

- Impact of technology on society
- Utilization of Sensibility Testbed to build a novel application
- Completeness of implementation

Certificates will be given to the top three teams. Team members on the first place team will receive a new Android phone.

## Workshop Program

- Tutorial - 8:30am - 9:30 am (followed by a 30 min coffee break)
- Group Competition
  - App Development - 10:00 am - 12:40 pm, 2:00 pm - 3:30 pm
  - 5 min pitch by each participating group (4:00 pm - 5:20 pm)
  - Presentation to Award Winners 7:00 pm (during conference gala dinner)

## Workshop Organizing Committees

Committee chair: Justin Cappos

Committee members: Justin Cappos, Yanyan Zhuang, Deniz Gurkan, Alessandra Flammini, Salvatore Baglio, Gourab Sen Gupta, Vedran Bilas, and Bruno Andò

Please see Sensors Applications Symposium web site for details: <http://sensorapps.org>

