

# A few ideas for using smart phones as data collection devices

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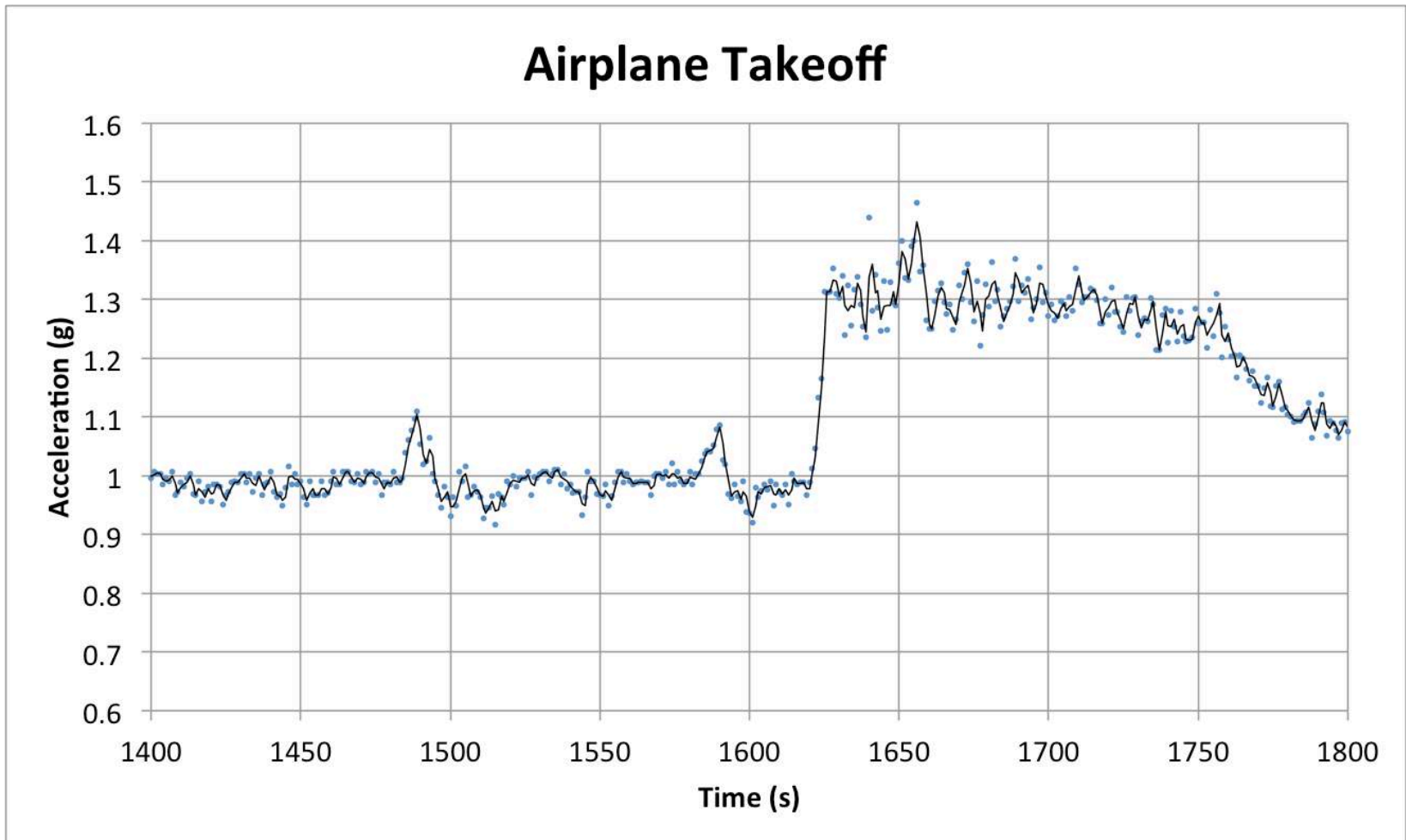
# Smart Phones and Tablets: Real Data (not simulations)!

- Standard Internal Sensors:
  - Light,
  - proximity,
  - cameras,
  - microphones,
  - location (GPS, WiFi, cell tower, Bluetooth),
  - accelerometer,
  - magnetometer.
- Common: gyroscope, pressure, temperature, humidity.

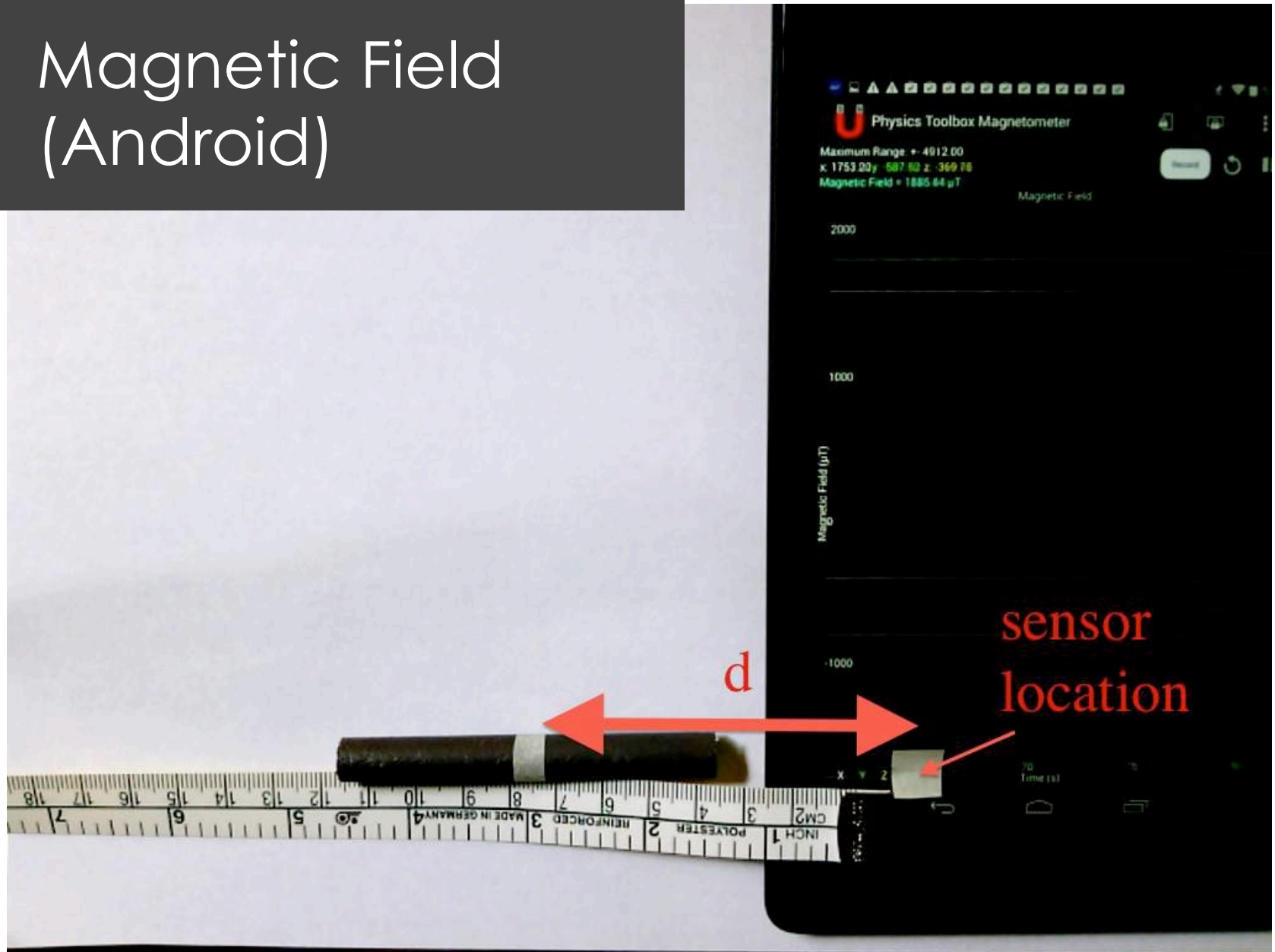
# Enough Computing Power?



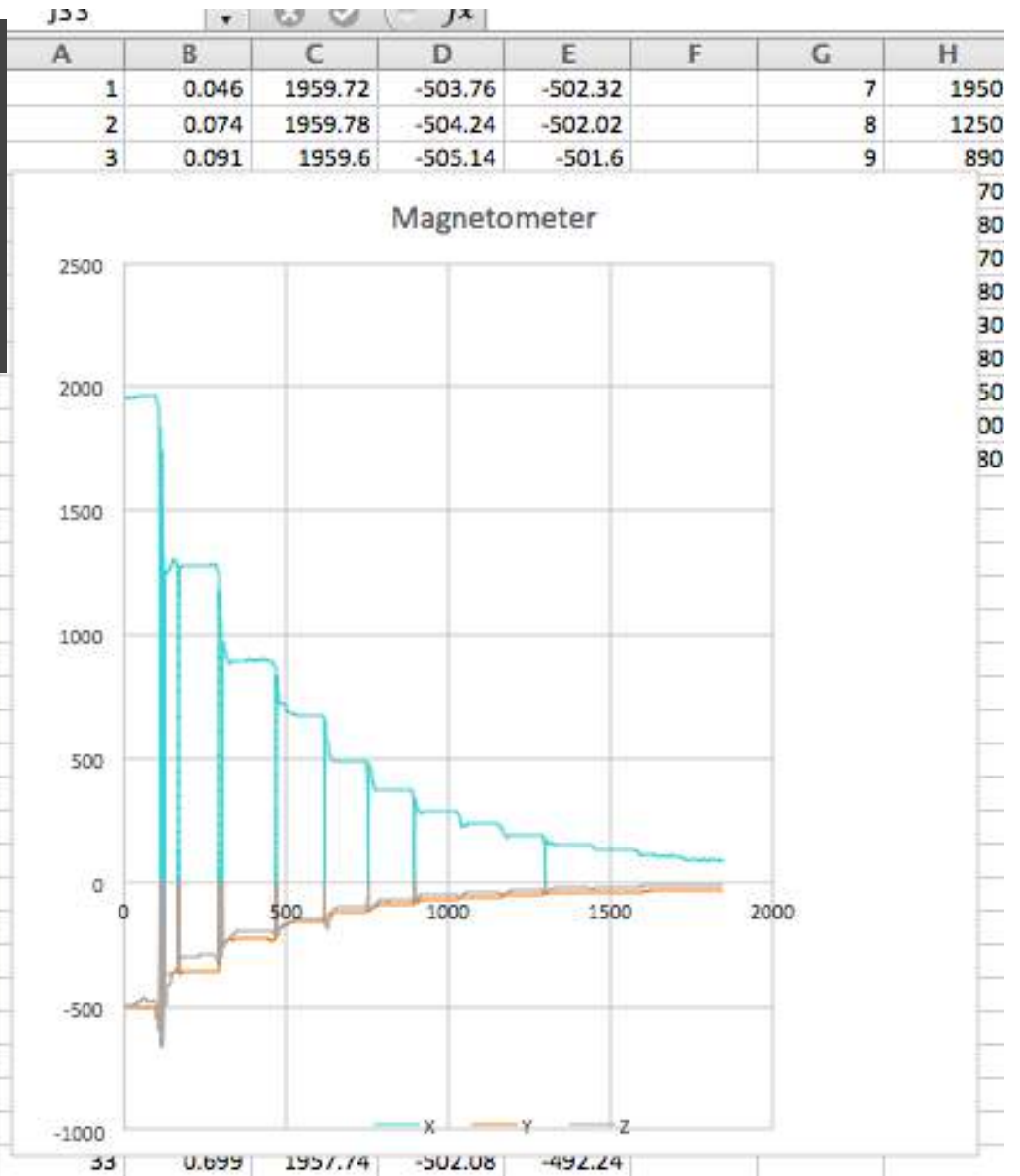
# Our Accelerometer App (iOS)



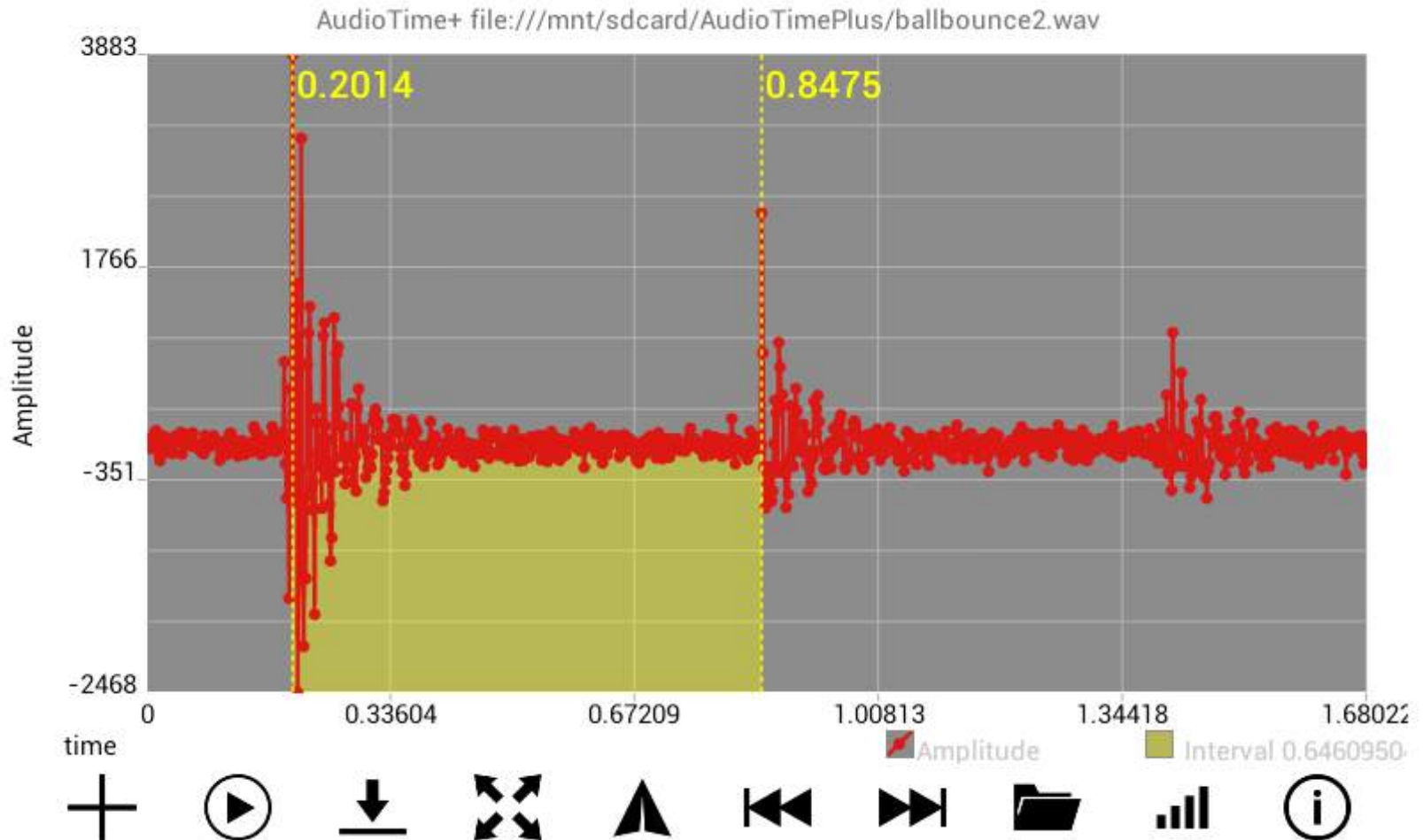
# Magnetic Field (Android)



# With Spread- sheets



# Measurements Using Sound (Android)

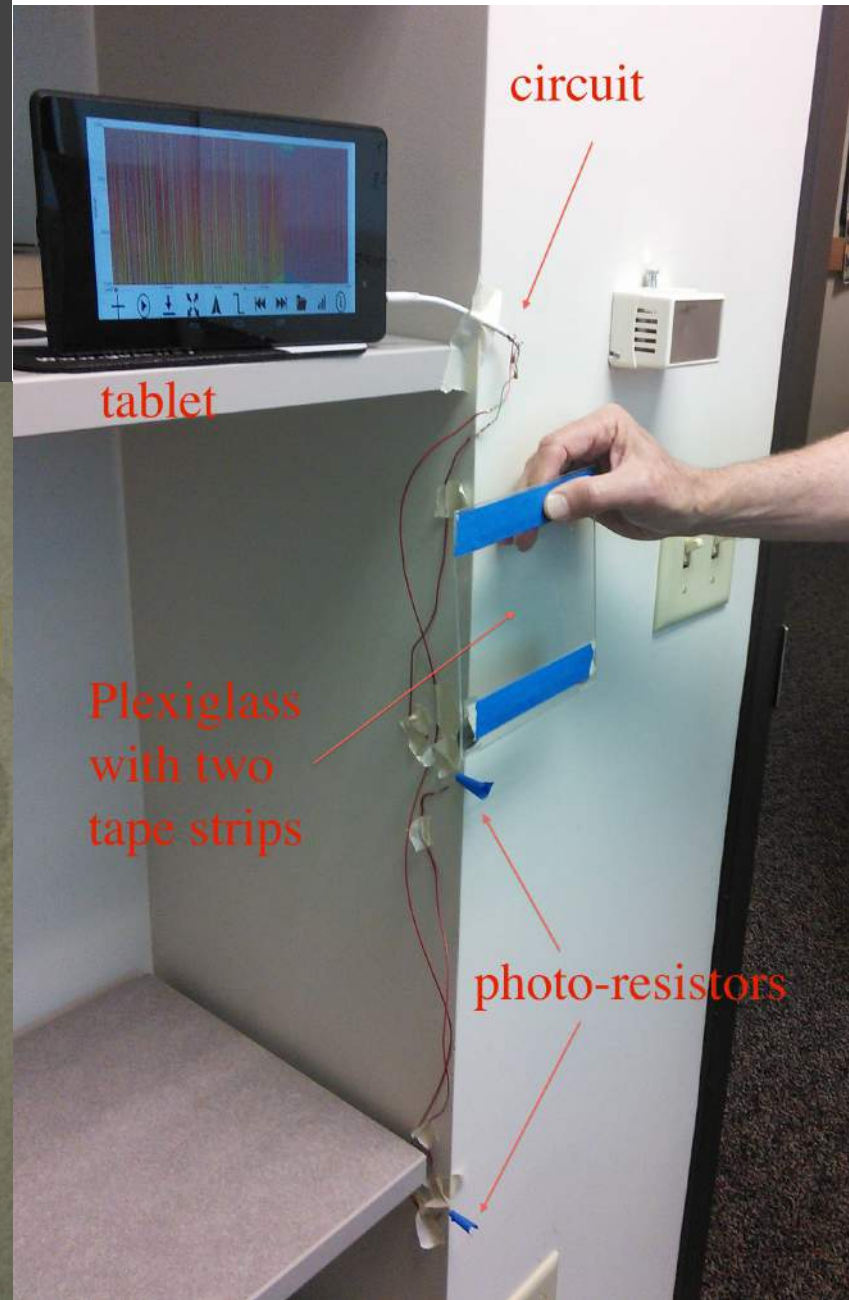
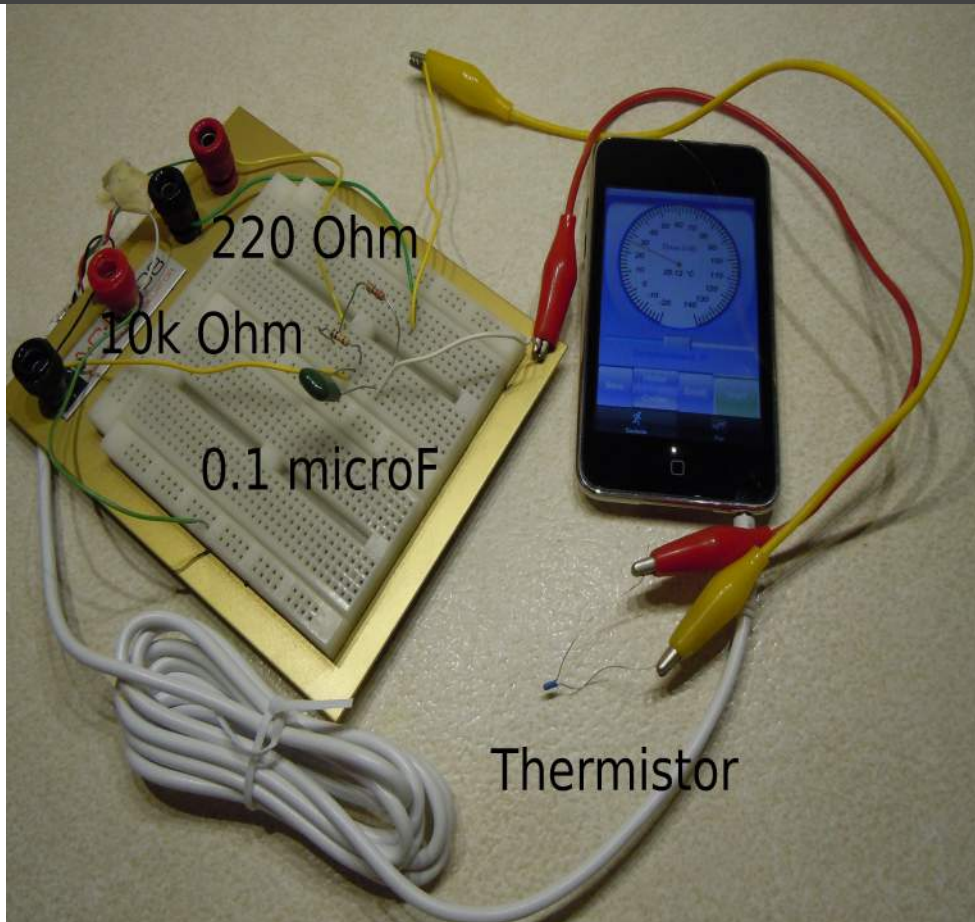


# Real Data with Cell Phones and External Circuits

- Spectrometer (APS app + grating).
- Oscilloscope (app + probe).
- Temperature probe (ours-Android).
- Photo detector timing circuit (ours-Android).
- Ohmmeter (ours-Android).
- Force probe.
- Humidity meter.



# Phones and Tablets with External Circuits



# Workshop in Argentina 8/18-22/2014



## Real data collection with mobile devices.

This is a clearing house site of physics experiments that use cell phones or tablets to collect and analyze real data. Some of these ideas are published, some not. Links to more information about each experiment are also included.

We consider this list to be a collaborative project. If you find other useful ways to use cell phones for real data collect, please let us know and we will add you as a member of this group. Contact [Kyle Forinash](#) or [Ray Wisman](#) for suggestions or comments.

## Recopilación de datos actuales con los dispositivos móviles.

Este es un sitio de intercambio de información de los experimentos de

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## How to get an iSPEX?

Posted [June 10th, 2013](#) by [Frans](#).

We have organized two **national iSPEX measurement days** on 8 July and 5 September 2013. For these days about 10.000 iSPEX units have been distributed for the iPhone 4, 4s and 5. Thanks to the **Academic Year Award** and sponsoring by our partners, the iSPEX add on could be sold at €2,50 a piece (including shipping costs). This is a fraction of the production costs. Lung Foundation donors and subscribers to KIJK, Know How and Zo Zit Dat could order an iSPEX unit for free.

Currently, the iSPEX add-ons are sold out. The latest information on iSPEX can be found on this page and on our [twitter](#) feed and [facebook](#) page.



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