

# Energy-efficient sensing with Android smartphones.

Martin Maciej Kukla  
School of Computer Science  
University of St Andrews

Dr Tristan Henderson  
School of Computer Science  
University of St Andrews

## What is a problem?

- Advanced services/ examples
- Phone sensing
- Energy
- Energy-efficient phone sensing
- structure: sensor energy measurements + Locy

## What is the solution?

### Sensor energy measurements

- Sample sensor applications
- 1% battery depletion
- ?

### Locy

- leverage accelerometer
- movement detection
- adaptive duty-cycling

## Does it work?

### Sensor energy measurements

- complete results
- accelerometer versus localization services

### Locy

- energy efficiency performance, different scenarios, different mobile phones

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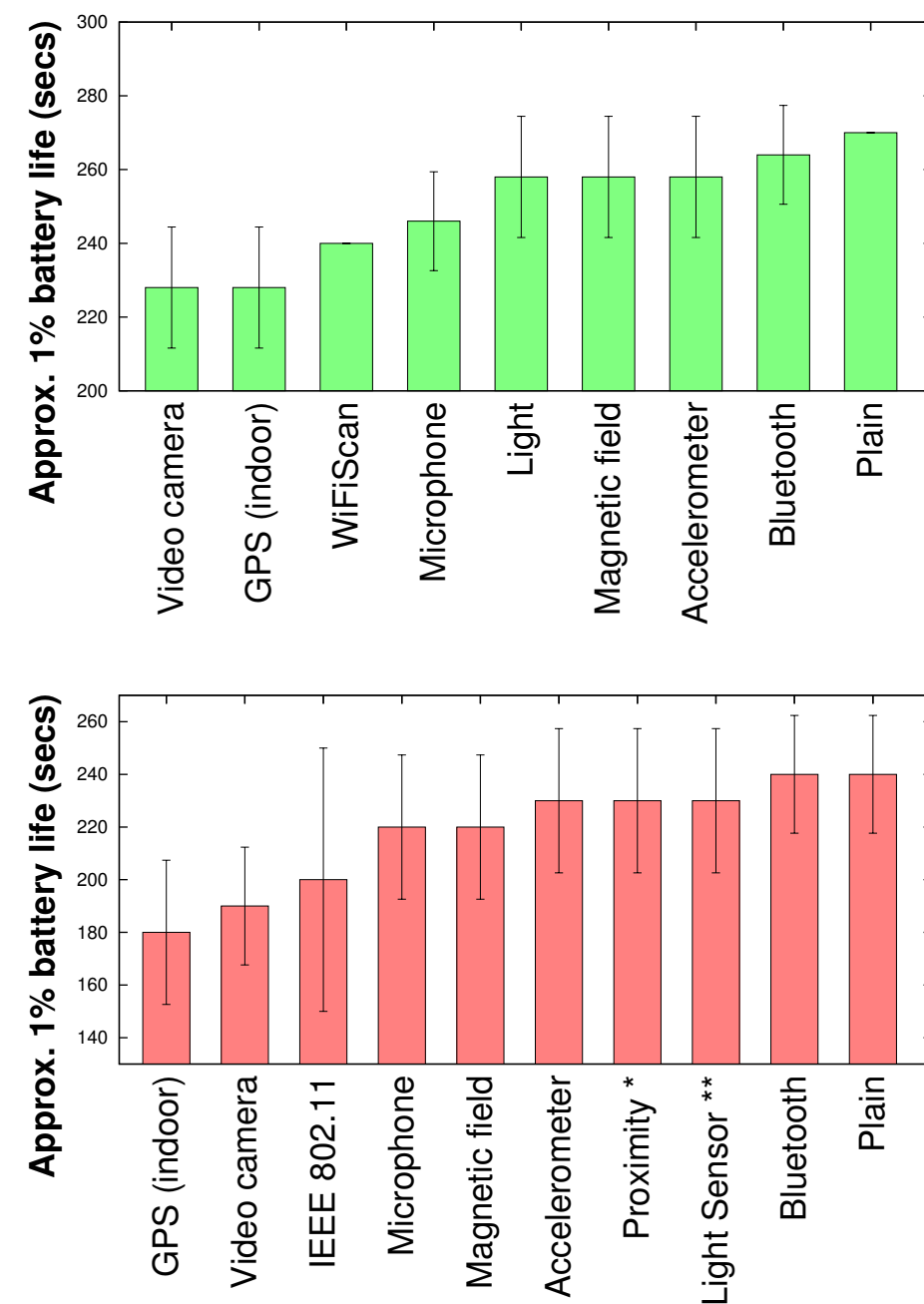


Figure 1: The complete results of energy measurements for all devices. The energy efficiency of different sensors is as expected and overlaps with the results of other research.

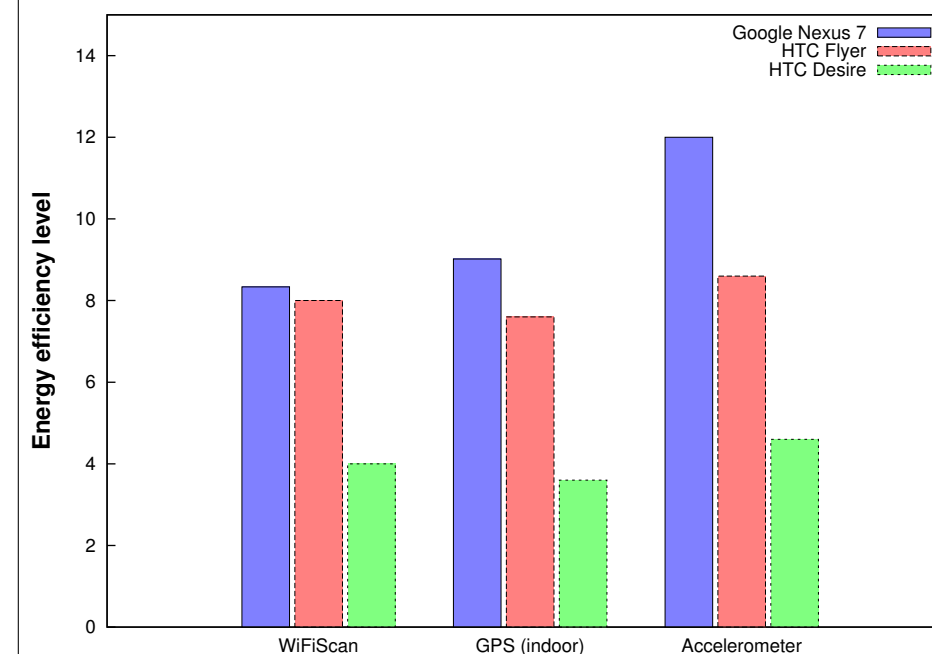


Figure 2: Energy efficiency levels of IEEE 802.11, GPS and accelerometer sensors across different devices. Accelerometer is more energy-efficient, but the difference is not substantial, and thus, efficient accelerometer sampling strategies need to be introduced.