

# Participatory Sensing: an emerging driver mobile+cloud systems

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<http://urban.cens.ucla.edu>

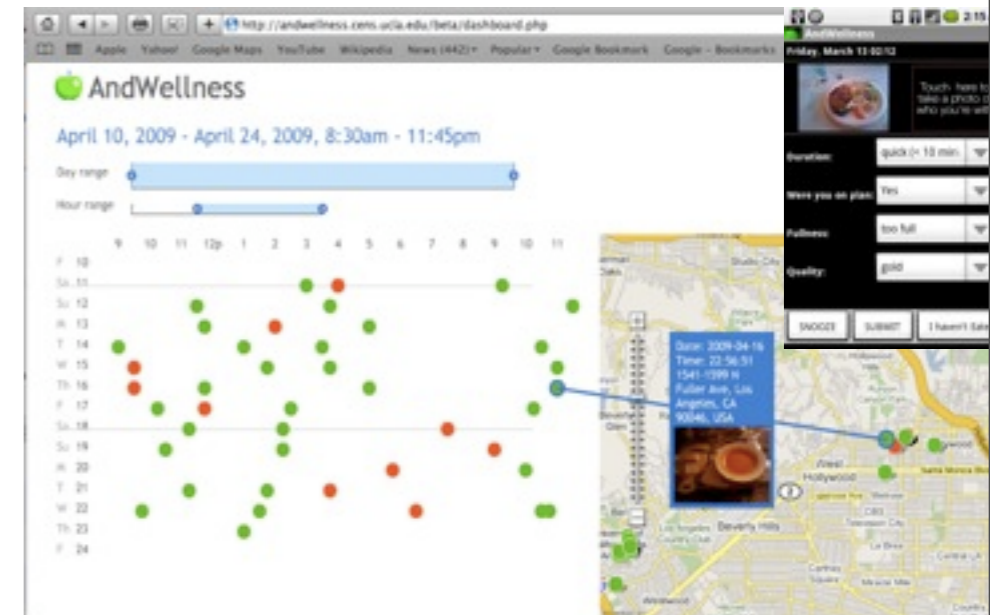
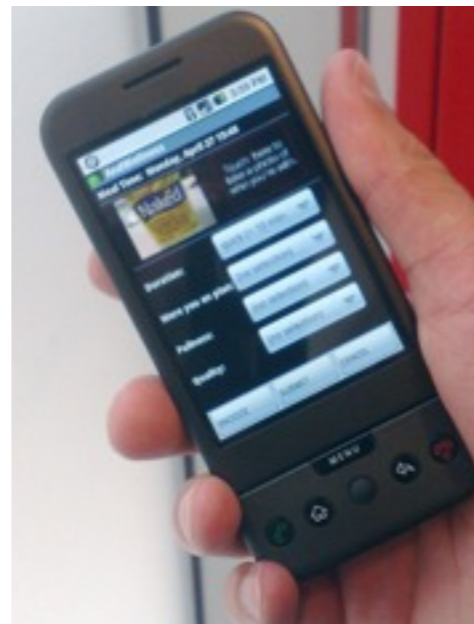
## Documentation of Climate Change

geocoded image, video, text as evidence of... dates of flowering/fruiting, species distribution, human/plant/animal movements, mitigation activities, local uses/relevance...



<http://whatsbloomin.com>

**AndWellness: health behavior change**  
through self monitoring prompted, geocoded ecological momentary assessments using mobile phones

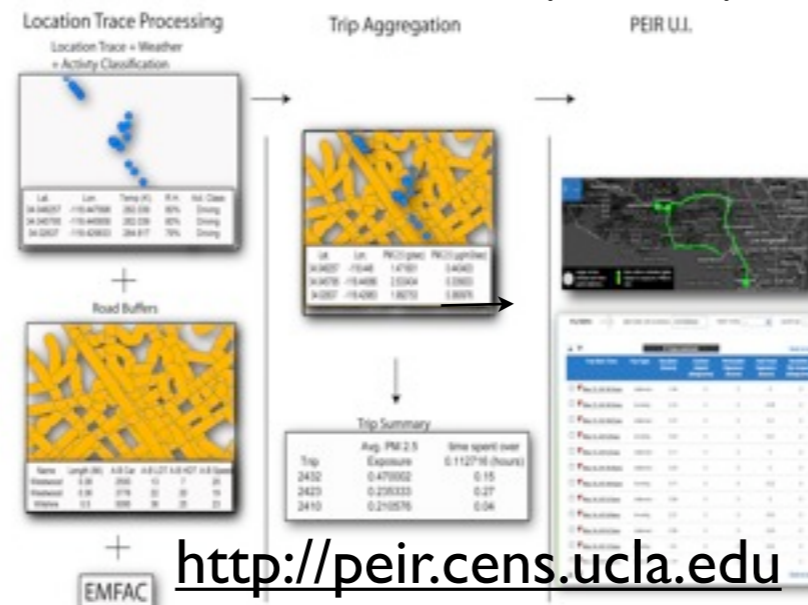


<http://andwellness.cens.ucla.edu/CI2/>

Enabled by  $>3 \times 10^9$  mobile phone users, increasingly with gps, imagers, UI

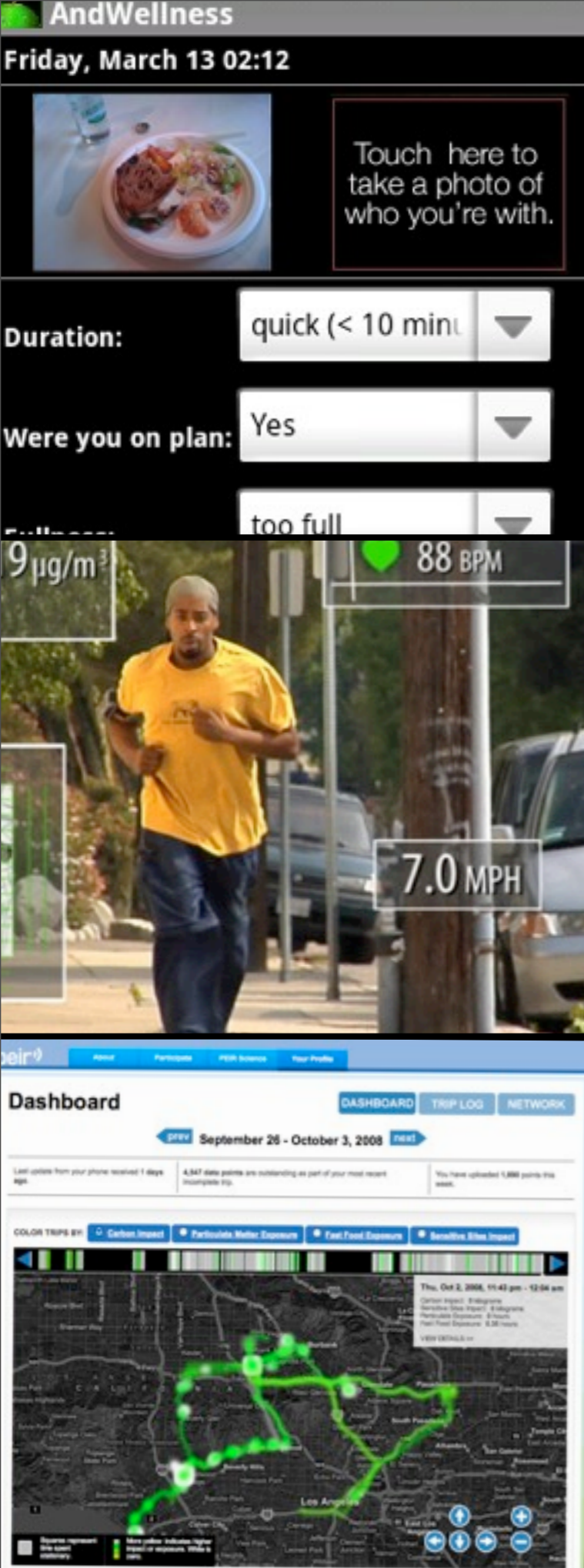
## PEIR: personal environmental impact report

leverages individual's location (gps) trace and micro-environmental models to estimate personal exposure

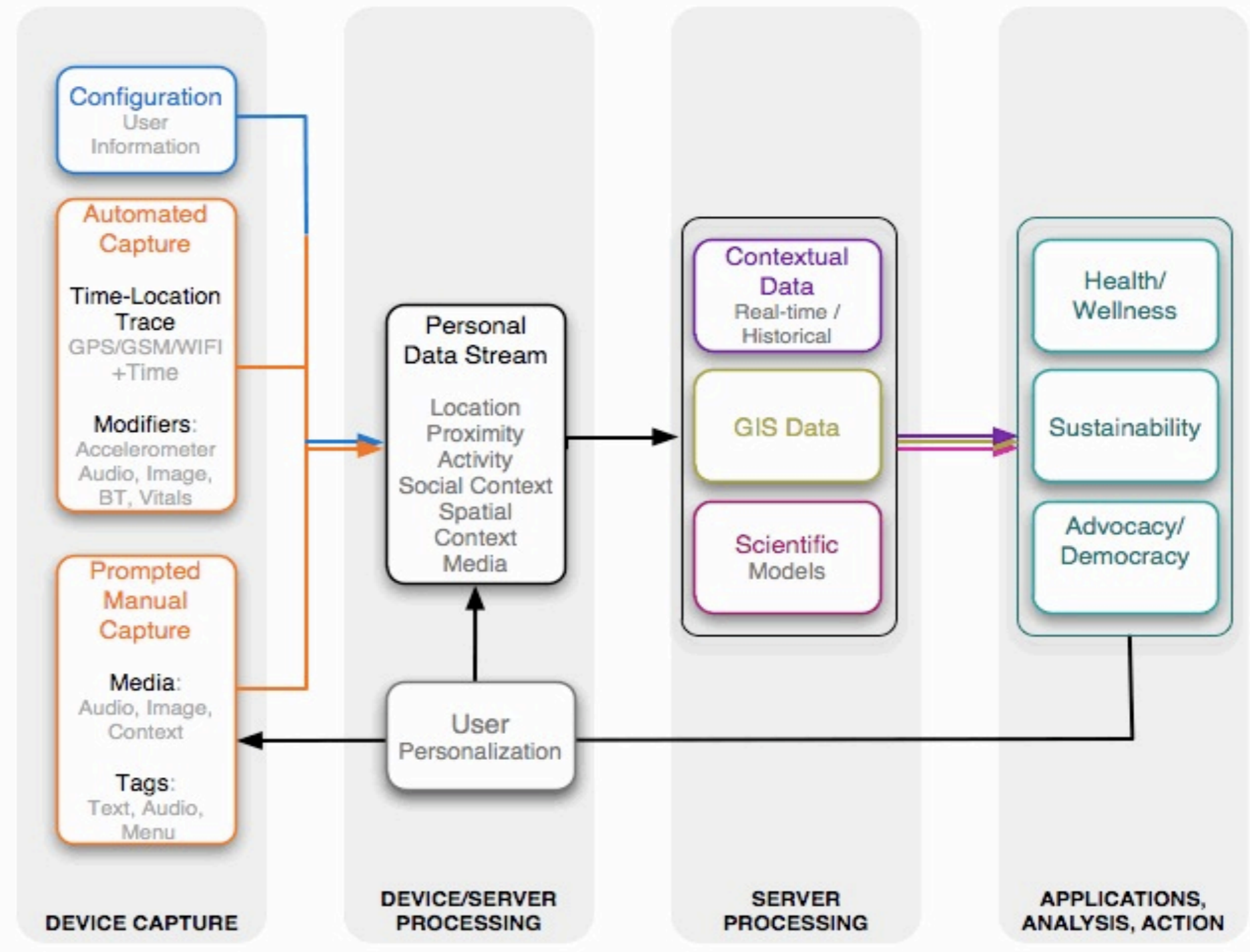


<http://peir.cens.ucla.edu>

Motivated by  $6 \times 10^9$  people on planet earth and their concerns...



# Design challenge: common workflow and services to enable broad application of systems and methods



# Design challenge:

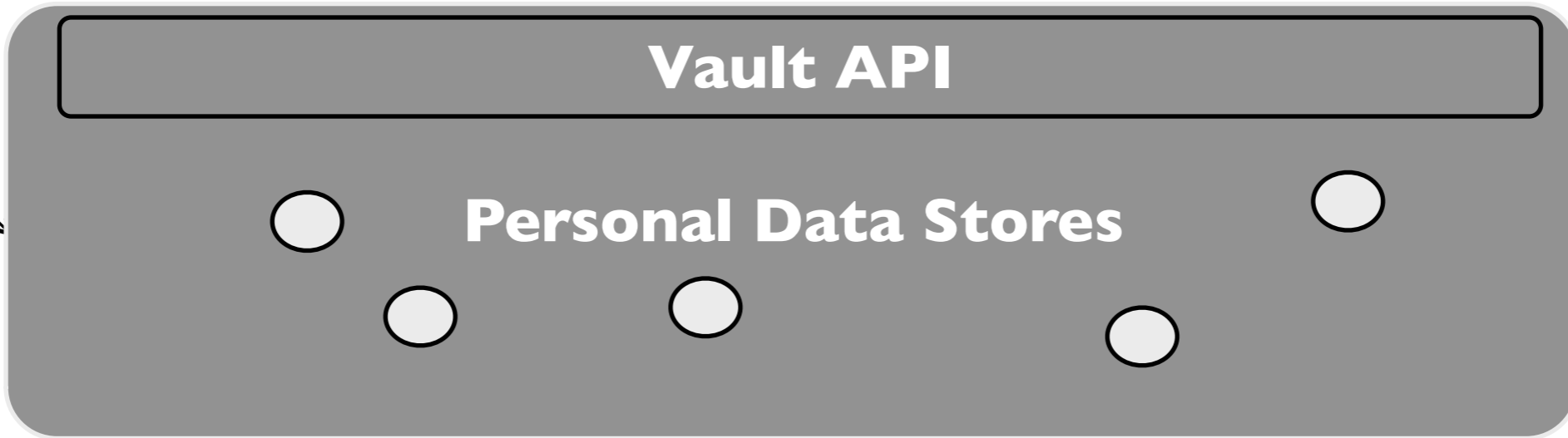
allowing participants to retain control over their raw data

## Mechanism: Personal Data Vault

**vault + filters = granular, assisted control** over what you send to who, what that data says about you, whether you reveal who you are or share anonymously, ...



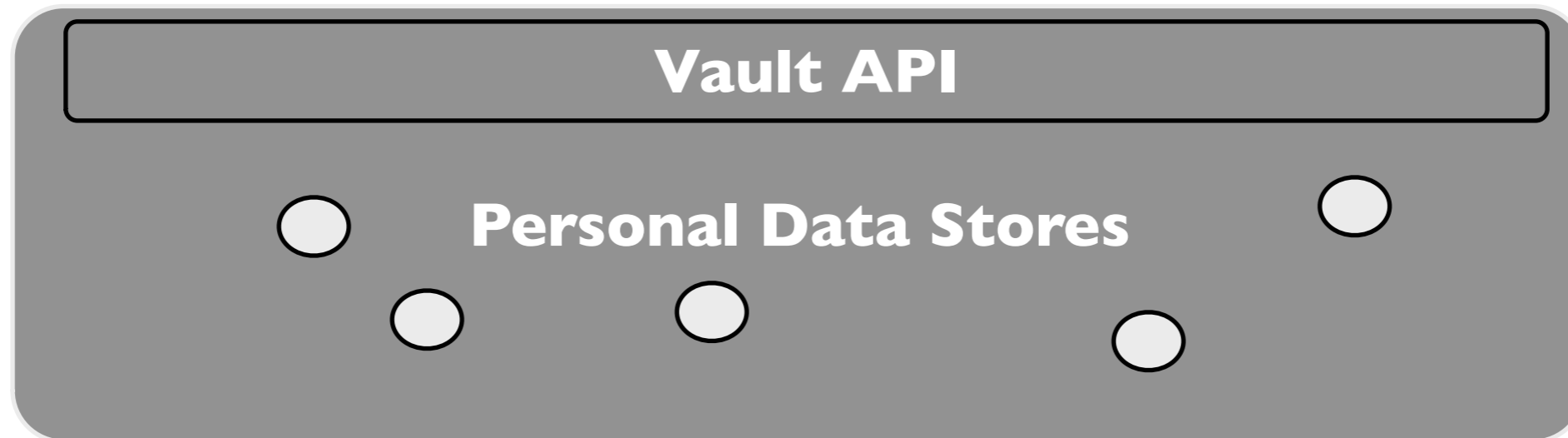
Raw  
GPS



Filtered  
GPS



EMAs  
Raw  
GPS



EMAs  
Filtered  
location

