

# Micro-mapping with Smartphones for Monitoring Agricultural Development

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## Monitoring Development by Crowdsourcing Geo-data

- Geographic data of critical importance for monitoring development
- Ideally assigned to local stakeholders
- Volunteered Geographic Information (VGI)



## Micro-mapping

- Assesses small objects where size and dimensions are relevant
- Goes beyond pin-point mapping
- Full geodetic properties for further analysis



## mapIT: Mapping Original Geometry with 5 Clicks

- Intuitive, barrier-free interaction
- Allows for usage by people with minor technical skills
- Geometry calculation based on smartphone and camera sensors
- WYSIWYM: What you see is what you map

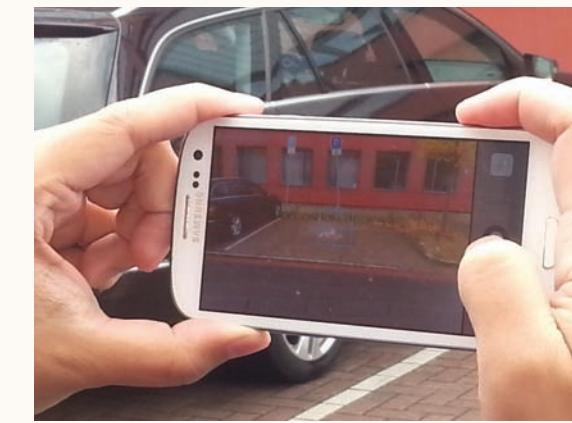


## Application Scenarios

- Statistical information about agricultural development
- Monitoring progress and impact of projects
- On-site information in disaster cases (flooded areas, plant diseases, etc.)
- Documenting archaeological sites, polluted areas, etc.

## The mapIT Workflow

1.



### Taking a photo

The user takes a geo-referenced photo of the targeted object.

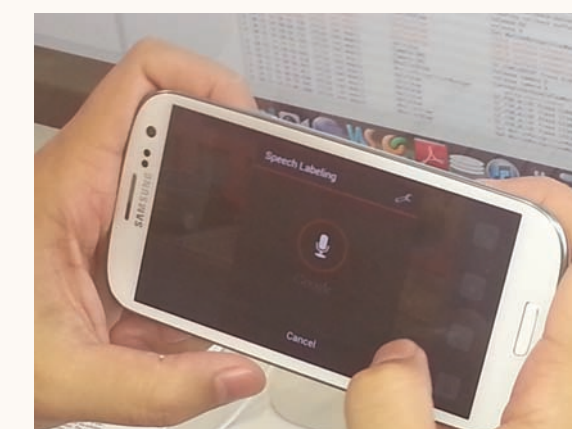
2.



### Outlining the object

The user uses the touchscreen to draw the outline of the object. The location of the segmented object is automatically calculated.

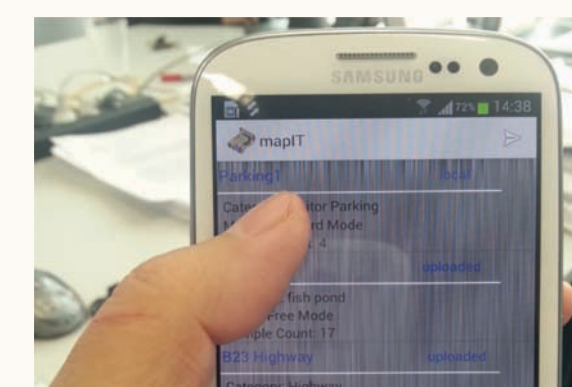
3.



### Annotating by speech

The user semantically annotates the geo-object via speech input, pulldown menu or text.

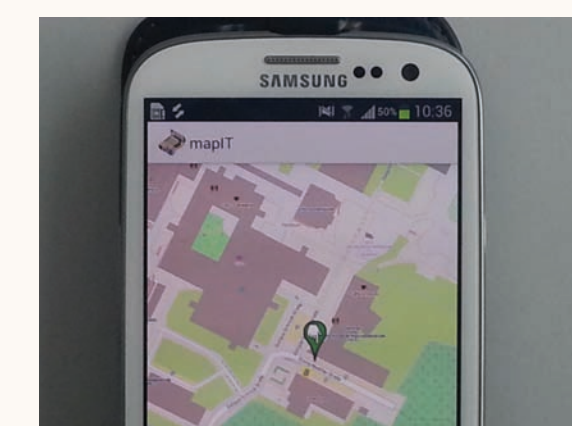
4.



### Uploading to a geo-server

The annotated geo-object is uploaded to a geo-server of choice with one click.

5.



### Inspecting entity

Finally, the geo-object is ready to inspect, edit, and use (in Google Maps or OpenStreetMap, e.g.)

