WECOUNT

WeCount: Citizens Observing UrbaN Transport

Deliverable 3.1: Initial WeCount platform and sensor kits - DEM

PUBLIC

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European Commission
Research Executive Agency (**REA)**

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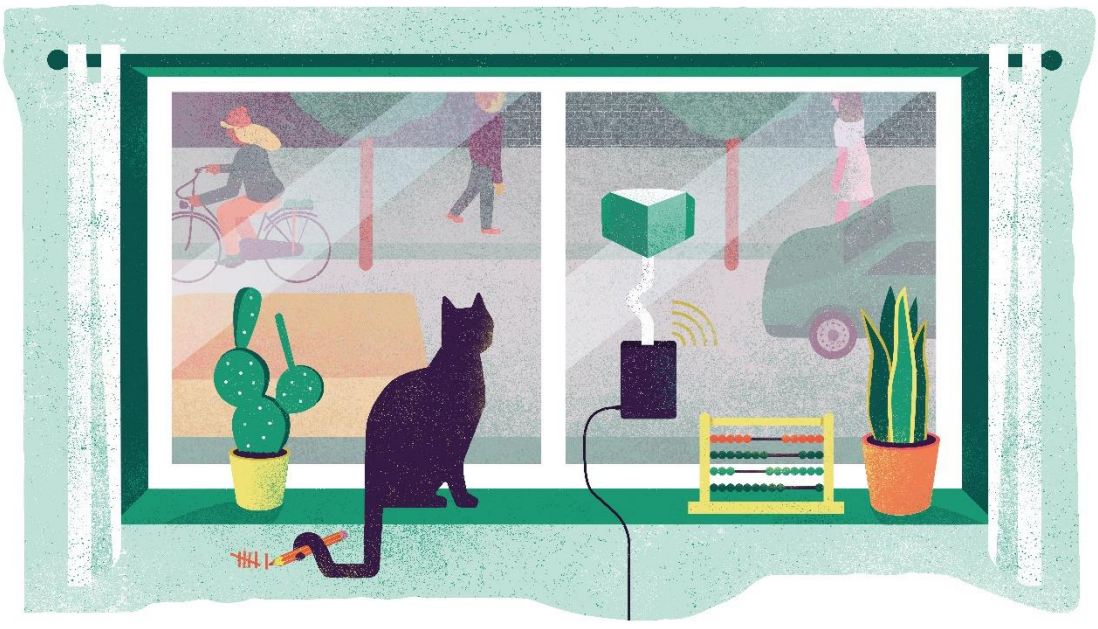

The WeCount Project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 872743

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1 WeCount platform

We established the central platform of the citizen science activities in WeCount. This platform includes the front-end website, the back-end data-storing and -processing and supports the engagement activities throughout the project.

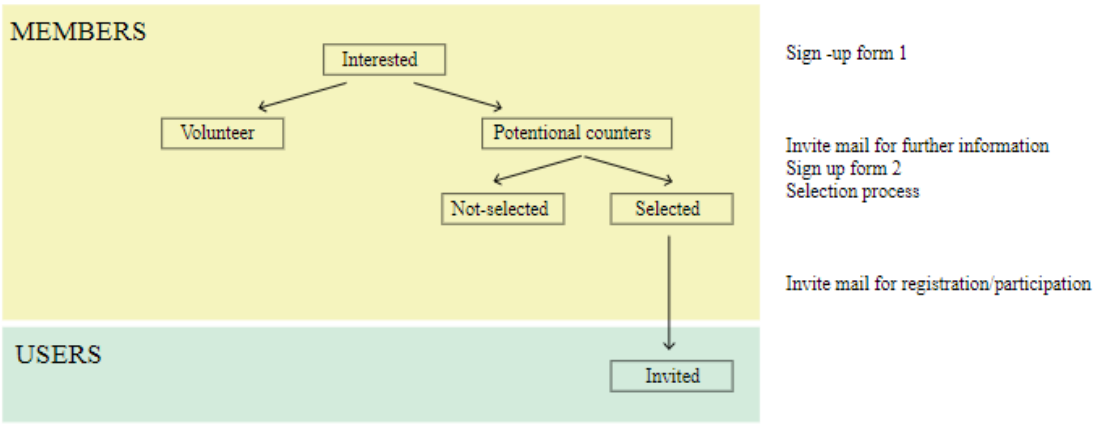
The WeCount platform focuses on easy access to hands-on tools needed to execute the citizen science activity (WP4), in particular the handling of the sensor-data (receive, process, store, front-end dashboard).

Telraam (www.telraam.net) was the starting point. The link to the WeCount website is the following URL: https://we-count.net/home

This required some web development (user interface) and we simplified the "dashboard", build an adaptable dashboard for a range of users from transport scientist wanting to use the data to non-tech concerned citizens, interested in easy to understand indicators. The current Telraam platform holds these features, but we made some adaptations and improvement to increase user-friendliness.

This initial platform was delivered prior to the first pilots in Madrid and Leuven,. The platform will be continuously improved, adding/simplifying functionality continuously from the co-creation process from user interaction, hackathons and user feedback.

The Platform includes a member registration and management platform. Involving citizens via the platform via this flow:



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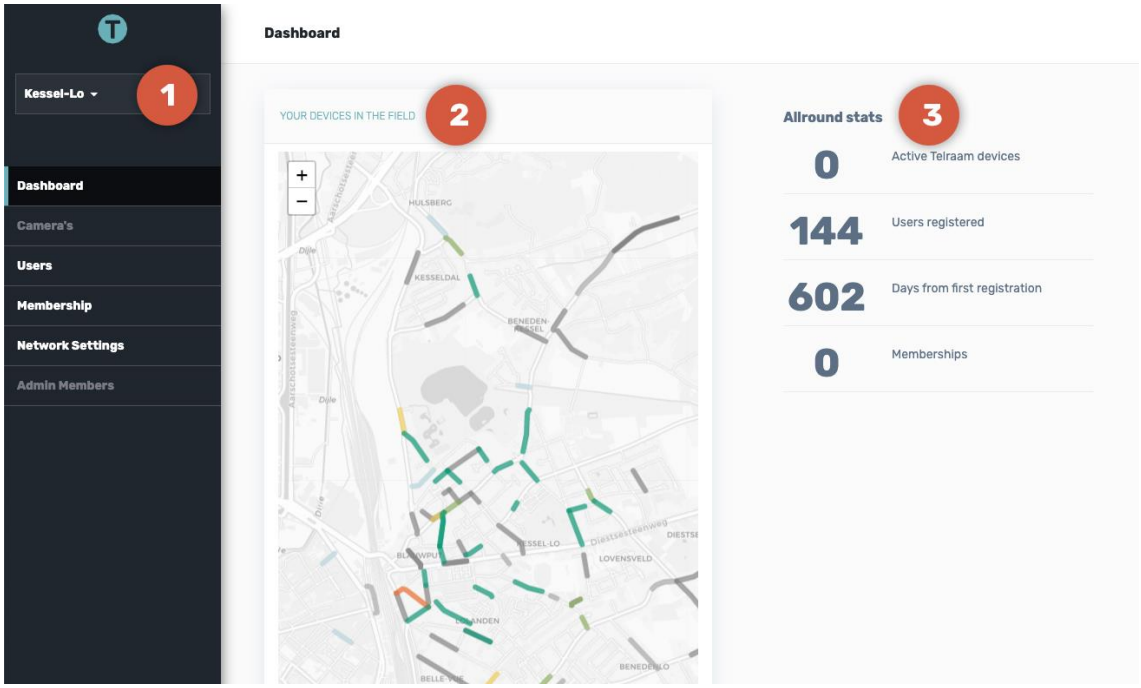
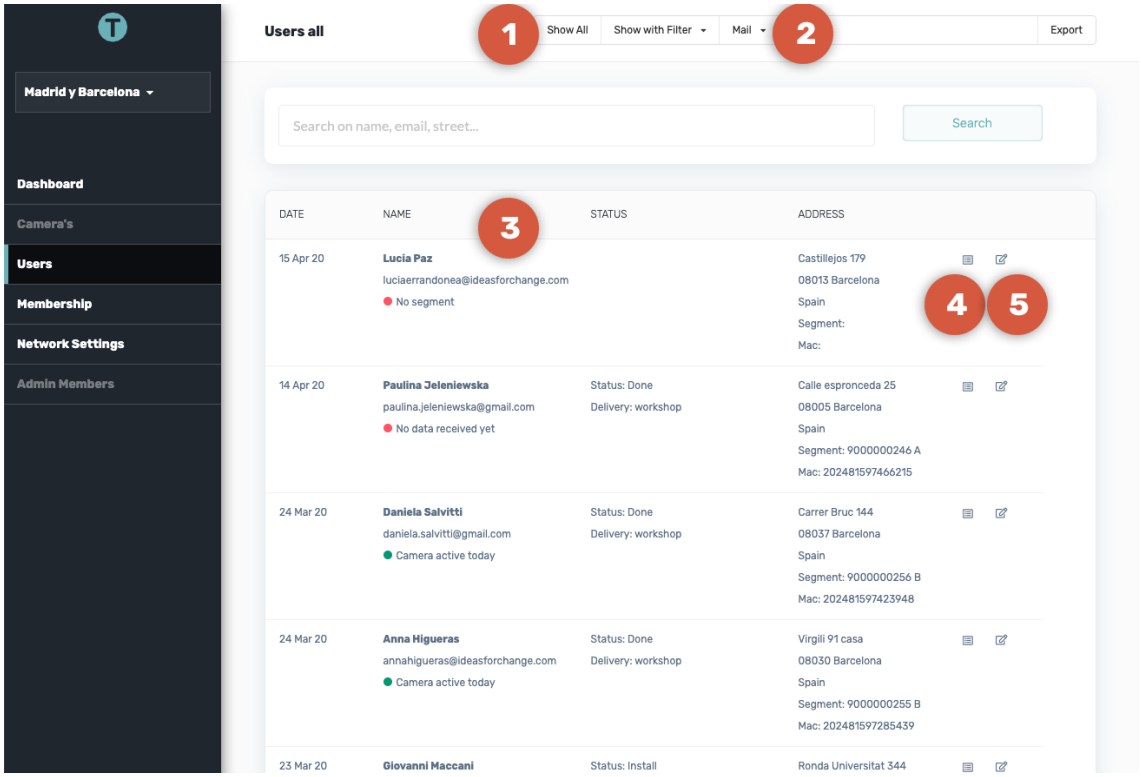
Some impression below:

The dashboard



1. select the network you have access to in the top left from the pull-down menu
2. Showing the map of the network with relevant segments
3. Dashboard showing statistics with relevant segment and user statistics.

Users



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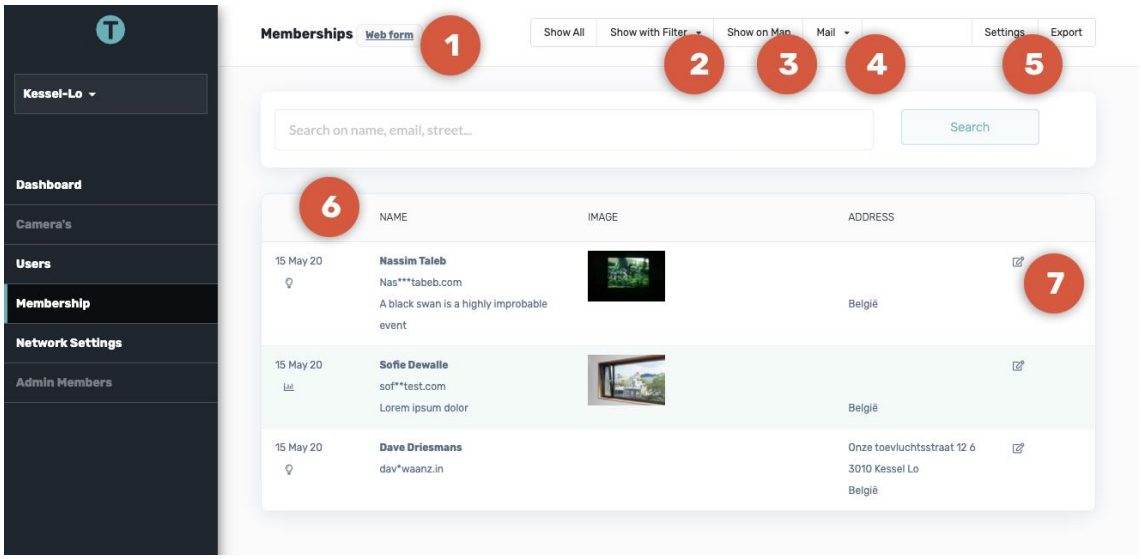
You see a list of all users that belong to your network, including the status of their setup process and, when fully set-up, their camera. With some specific functionality:

1. Filters for the users
2. Functionality to send users a batch email
3. The overview with all details at level of the user
4. A link for each user's action log
5. A link to the user details and mail history

Membership



1. The link to sign-up form 1,
2. Filters for your members
3. A map of the members with dots based on the address
4. Functionality to send members a batch email, including several template mails
5. Settings for both sign-up forms
6. The overview with all details at level of the member
7. A link to the member details and mail history

A tutorial was developed for use within the consortium: https://telraam.net/en/how-to/network-admin

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2 WeCount sensors

The central data platform serves as a basis to receive, process and report data from a range of autonomous sensor data from the citizen science activities.

The starting point is the Telraam sensor. We expanded the scope to plug-in proven traffic counting techniques. It resulted in a shortlist of possible automated sensors that are to be linkable to the WeCount platform and used in the citizen science pilots in WP4.

We simplified the existing sensor tools, focusing on ease of installation and user interactions.

Again, the emphasis in WeCount, throughout the project is to reach a wide range of citizens, not just tech specialists. The further development of the existing sensors -if needed at all- is focused on ease of use.

We aimed for an "install and forget" approach, which means that citizens only have to install the device with no further action needed.

As with the platform, the Telraam Raspberry-Pi based sensor is the starting point. Telraam already has an "install and forget" approach, though ease of installation could be improved, so we did (e.g. captive WIFI, procurement as a finished product instead of self-assembly, software installation.

We selected sensors that are proven to work in previous applications (e.g. Telraam, NO2 sampling tubes, etc.). These sensor toolkit are used now in the two pilots in Leuven & Madrid.

The Sensor as deployed in the field:

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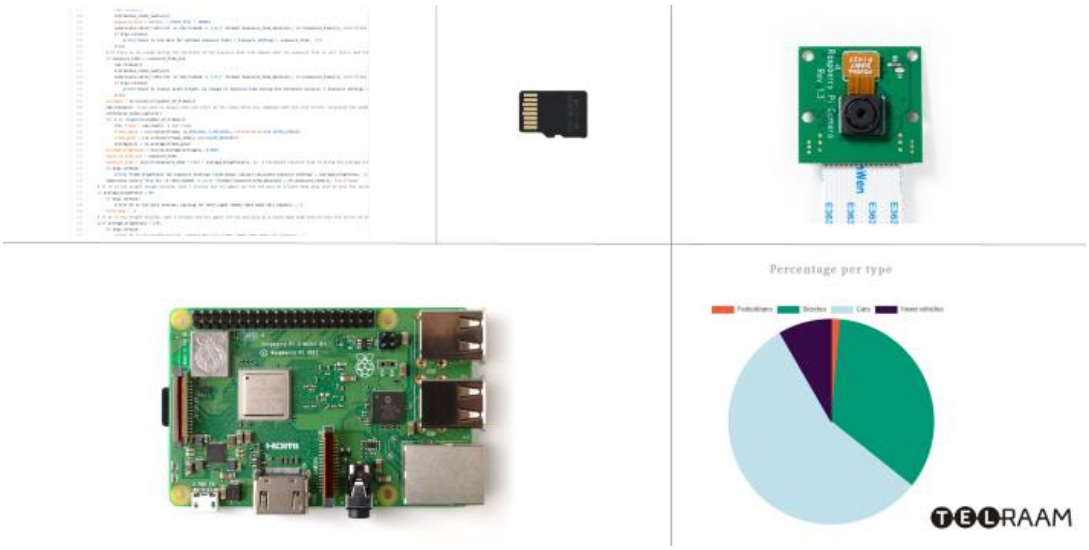
Components:



Clockwise starting top left.

1. Software code
2. SD-card
3. Raspberry Pi camera module
4. Rapsberry Pi
5. data

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