



WeCount: Citizens Observing Urban Transport

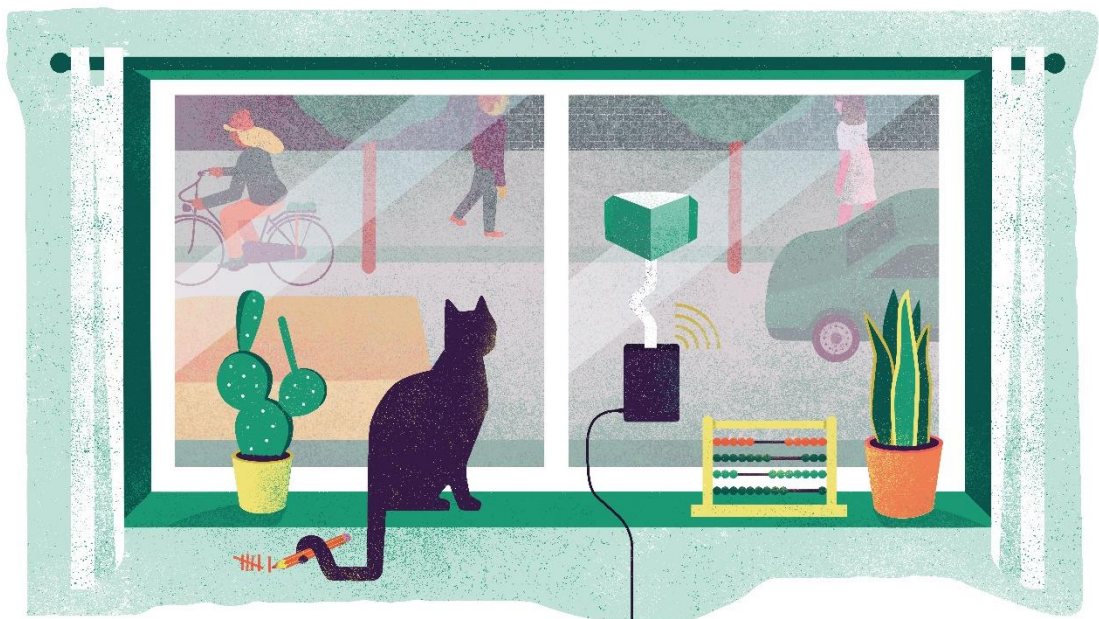
Deliverable 3.1: Initial WeCount platform and sensor kits - DEM

PUBLIC

Report for:
European Commission
Research Executive Agency (REA)

Date: 9/7/2020

Author: Veerle Vranckx



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

Document Details

Authors	Veerle Vranckx
Contact	Veerle Vranckx
Creation Date	9/7/2020
Date of Last Revision	9/7/2020
Description	Deliverable 3.1: Initial WeCount platform and sensor kits

Version History

Version	Updated By	Date	Changes / Comments
V1.0	Veerle Vranckx	9/7/2020	Content/Layout
V.2.0	Kris Vanherle	9/7/2020	Revised



Contents

Contents	3
1 WeCount platform	4
2 WeCount sensors	7



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.

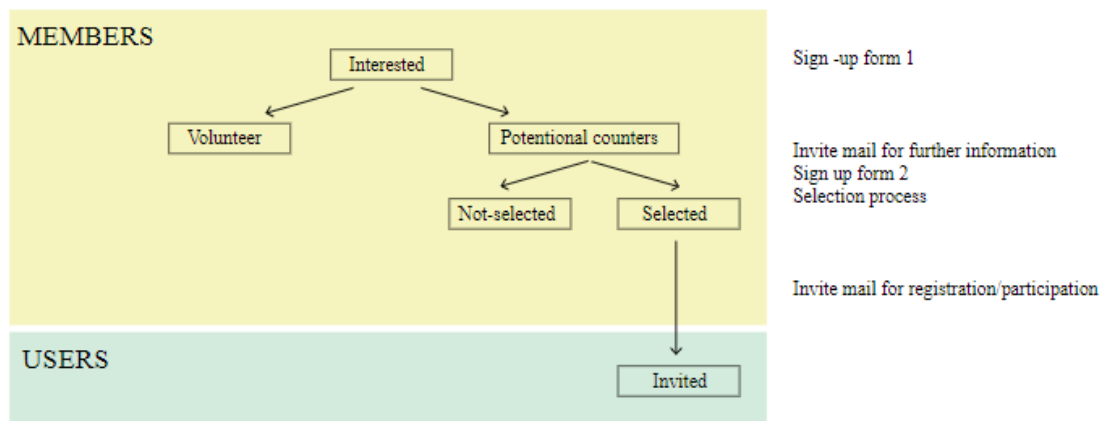
The WeCount platform focuses on easy access to hands-on tools needed to execute the citizen science activity (WP4), in particular the handling of the sensor-data (receive, process, store, front-end dashboard).

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:



Some impression below:

The dashboard

The dashboard interface is shown with three numbered callouts: 1. A pull-down menu in the top left corner showing 'Kessel-Lo'. 2. A map titled 'YOUR DEVICES IN THE FIELD' displaying a network of colored segments on a street map. 3. An 'Allround stats' section on the right with four rows of statistics: 'Active Telraam devices' (0), 'Users registered' (144), 'Days from first registration' (602), and 'Memberships' (0).

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

The Users interface is shown with five numbered callouts: 1. 'Users all' header. 2. Action buttons: 'Show All', 'Show with Filter', 'Mail', and 'Export'. 3. A search bar with the placeholder text 'Search on name, email, street...'. 4. A table listing users with columns for DATE, NAME, STATUS, and ADDRESS. 5. A red dot icon next to the user name in the table row.

DATE	NAME	STATUS	ADDRESS
15 Apr 20	Lucia Paz luciaerrandonea@ideasforchange.com ● No segment		Castillejos 179 08013 Barcelona Spain Segment: Mac:
14 Apr 20	Paulina Jeleniewska paulina.jeleniewska@gmail.com ● No data received yet	Status: Done Delivery: workshop	Calle espronceda 25 08005 Barcelona Spain Segment: 9000000246 A Mac: 202481597466215
24 Mar 20	Daniela Salvitti daniela.salvitti@gmail.com ● Camera active today	Status: Done Delivery: workshop	Carrer Bruc 144 08037 Barcelona Spain Segment: 9000000256 B Mac: 202481597423948
24 Mar 20	Anna Higuera annahiguera@ideasforchange.com ● Camera active today	Status: Done Delivery: workshop	Virgili 91 casa 08030 Barcelona Spain Segment: 9000000256 B Mac: 202481597285439
23 Mar 20	Giovanni Maccani	Status: Install	Ronda Universitat 344



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

	NAME	IMAGE	ADDRESS
15 May 20 🔍	Nassim Taleb Nas***tabeb.com A black swan is a highly improbable event		België
15 May 20 🔍	Sofie Dewalle sof**test.com Lorem ipsum dolor		België
15 May 20 🔍	Dave Driesmans dav*waanzz.in		Onze toevluchtsstraat 12 6 3010 Kessel Lo België

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>



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.

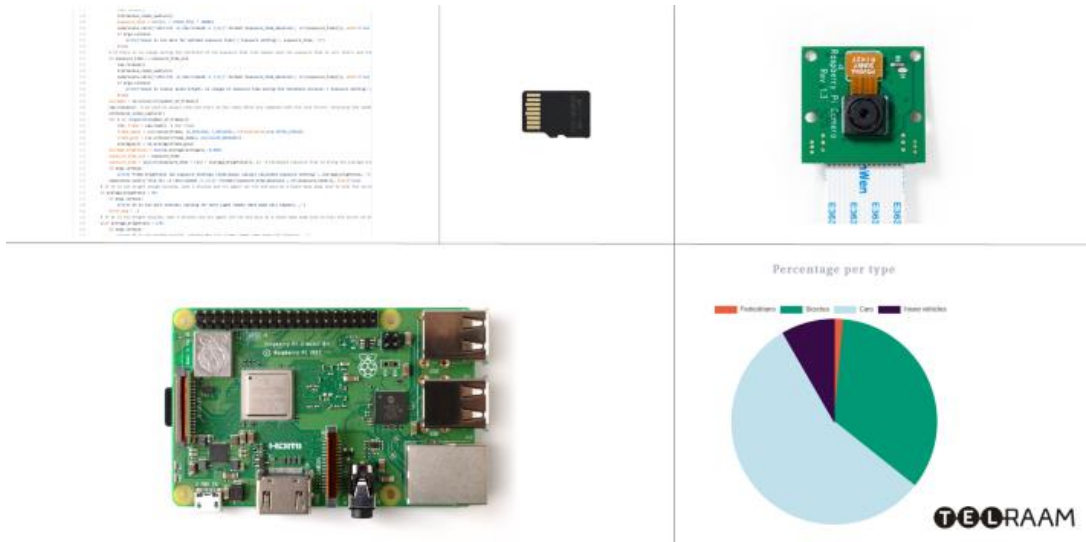
As with the platform, the Telraam Raspberry-Pi based sensor is the starting point. Telraam already has an “install and forget” approach, though ease of installation could be improved, so we did (e.g. captive WIFI, procurement as a finished product instead of self-assembly, software installation).

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:



Components:



Clockwise starting top left.

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

