

project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 815269



THE CIVITAS INITIATIVE
IS CO-FUNDED BY
THE EUROPEAN UNION

mo

MOBY App: A Personalized Smartphone-based Travel Survey Platform

Dr. Athena Tsirimpa

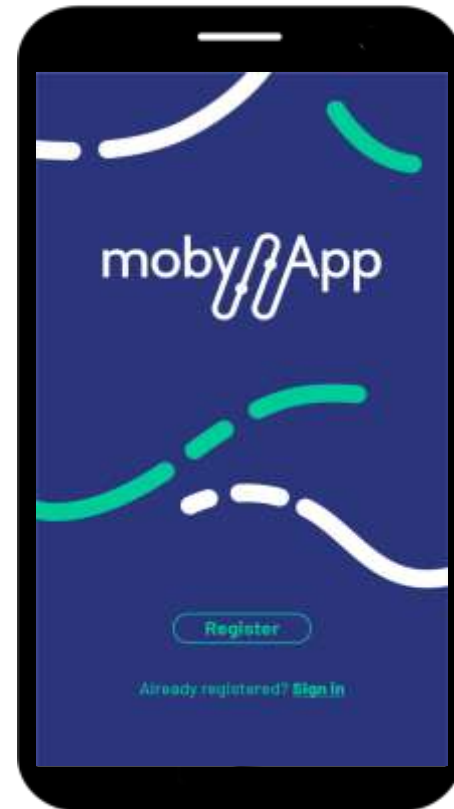


The MobyApp

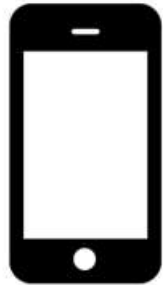
The MobyApp is a state-of-the-art personalised smartphone-based travel survey platform, designed to collect detailed multi-day data on travel and activity patterns.

This platform is used by public transport authorities and other interested actors (i.e. companies or research organisations) to collect multi-day data on travel and activity patterns that are used for transport planning purposes.

It is the result of several research and innovation projects funded by the European Commission or other international research councils that has been developed following privacy-by-design principles.



Smartphone app
(mobile device)



Raw Tracking
Data

Server and
Database



Machine
Learning

Processed
Tracking Data

Validated
Tracking Data

Web/User Interfaces



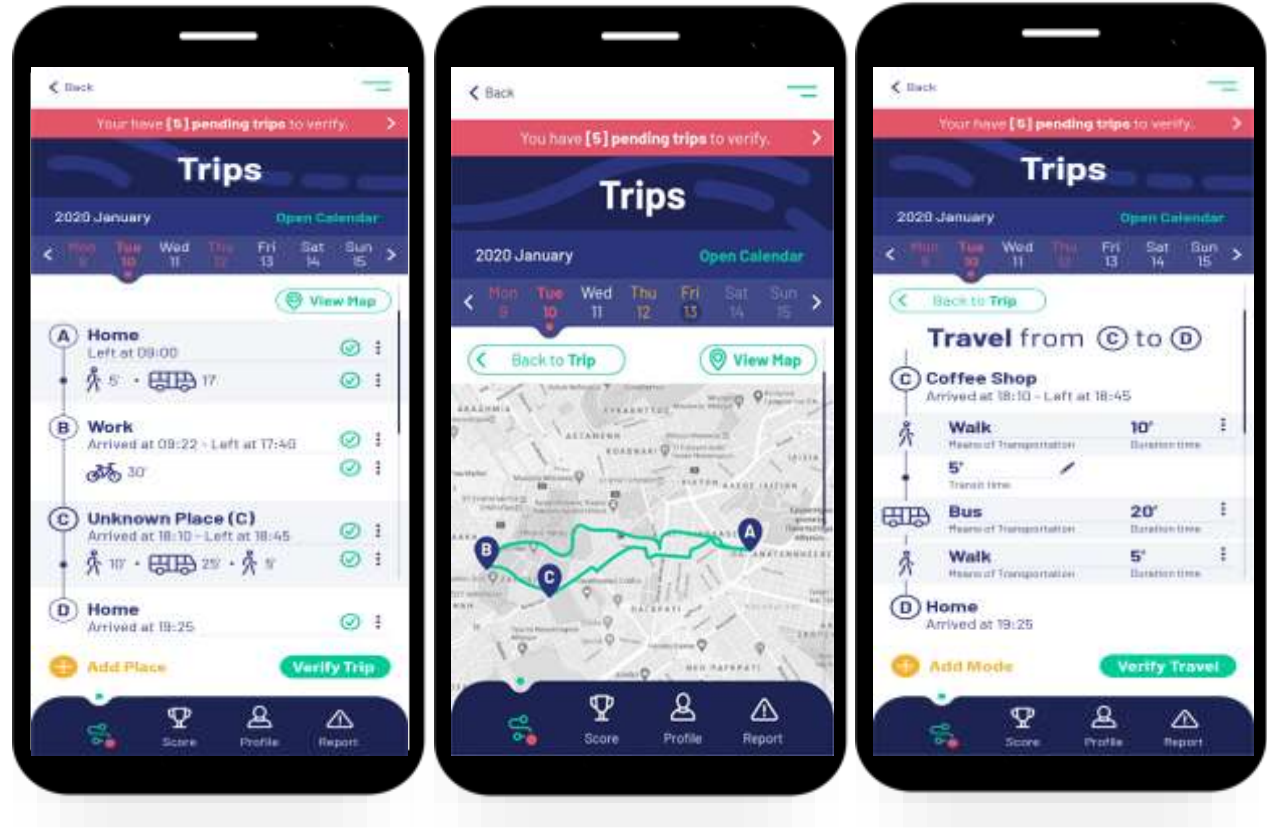
Activity Diary

Survey
Management
System

- the **smartphone app** (Android and iOS) that collects raw data, such as GPS, GSM, Wi-Fi and accelerometer;
- the **server that stores the collected data** as well as contextual databases, and processes it using machine learning algorithms to detect trips and stops and infer activities; and
- the **web interface** that:
- enables users to see their activity/trip diary, and
- provides a **survey management system** to those who organise the survey (the clients of MOBY X) to supervise the progress of the survey and check key statistics of the collected data via infographics.

Activity diary

Multi-day data on travel and activity patterns, such as: number of trips, locations visited, purpose of trip, arrival/departure time, mode used for each trip etc.



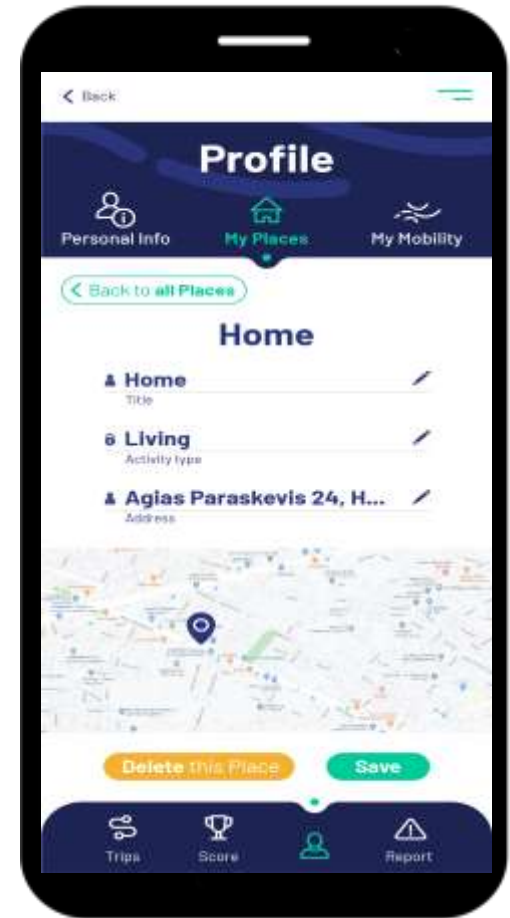
Activity diary

Extra questions based on the needs of the client could be added to the validation screen.



Activity diary

To boost the tracking and minimize the interaction time of the user with the app, the MobyApp offers the option to declare the frequently visited locations.



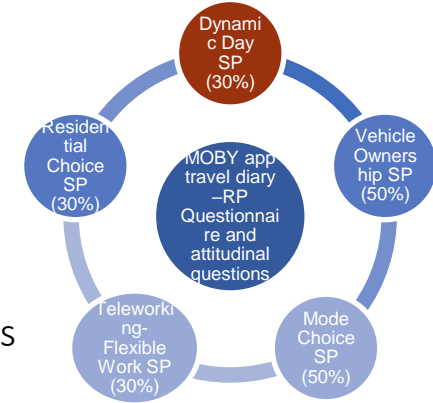
Link surveys

The customer can link to the MobyApp platform questionnaire surveys that could be popped-up at any stage/time of the survey (i.e. before the activity diary starts or at any other point of the survey).



HARMONY Surveys

- Key innovations regarding HARMONY surveys administered via MOBY App:
 - a satellite design to collect more in-depth data about user's daily activities and decision making that includes:
 - Seven-day activity-travel diary: complete record of each person's daily schedules including all locations visited, activities engaged, and all trips made
 - Stated Preference Experiments that captures the decision-making process of travelers towards:
 - Vehicle Ownership
 - Mode Choice
 - Teleworking – Flexible Work
 - Residential Choice
 - Dynamic Decisions
 - a set of complementary survey components that provide data for more detailed behavioral models, as well as for verification and validation.
 - Attitudes and perceptions regarding automated vehicles and UAVs





Your current usage of public transport and carsharing services is shown as follows:

- Public transport: %{usage_pt}
- Car-sharing: usage_carsharing

Please consider the following scenario and answer the subsequent questions in each scenario, given your current car ownership status and travel demand.

Scenario 1	PT pass	Carsharing membership	MaaS package	None
Subscription fee (£)	55	6	51	
Rollover			No	
Which mobility tool do you prefer the most?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assuming all mobility tools were available in the market, which mobility tools would you like to purchase given your current car ownership status? (please check all that apply)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Given your current vehicle ownership status and travel demand as well as the mobility tools you have selected in this scenario, how many one-way trips would you travel by each mode?

HARMONY Surveys: Dynamic Day SP

DAY 1 / 6

3

Now, imagine that you are repeating this trip for 6 days! The first of these 6 days, while travelling to the activity, you acquire live information indicating that the travel time for your upcoming trip will be 24 minutes. What would you do in this situation?

This bar indicates the travel time for your specific trip, with regards to your habitual departure and maximum arrival times, to help you understand the expected delay today.



Do you change your travel plans?

Alternatives include:

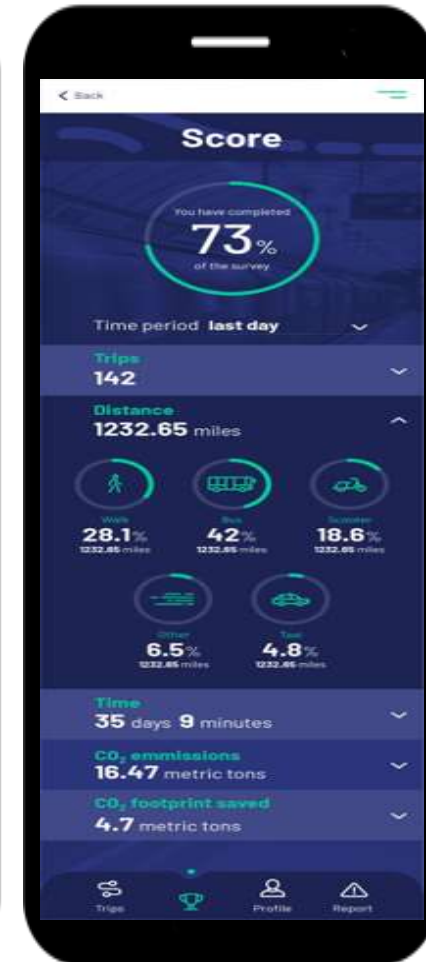
1. Changing your travel plans (e.g. departure time, mode, route);
2. Cancelling the activity and optionally planning a new one instead;
3. Keeping your initial habitual plan (no change).

Next Page

My score

Users are able to see statistics related to their trip or their experience under the Score screen:

- Trips (per selected period)
- Total distance (per selected period)
- Distance covered per mode (per selected period)
- Total travel time (per selected period)
- Travel time per mode (per selected period)
- CO2 emissions & CO2 emissions avoided (per selected period)
- Percentage of goal completed (verified trips / survey goal)



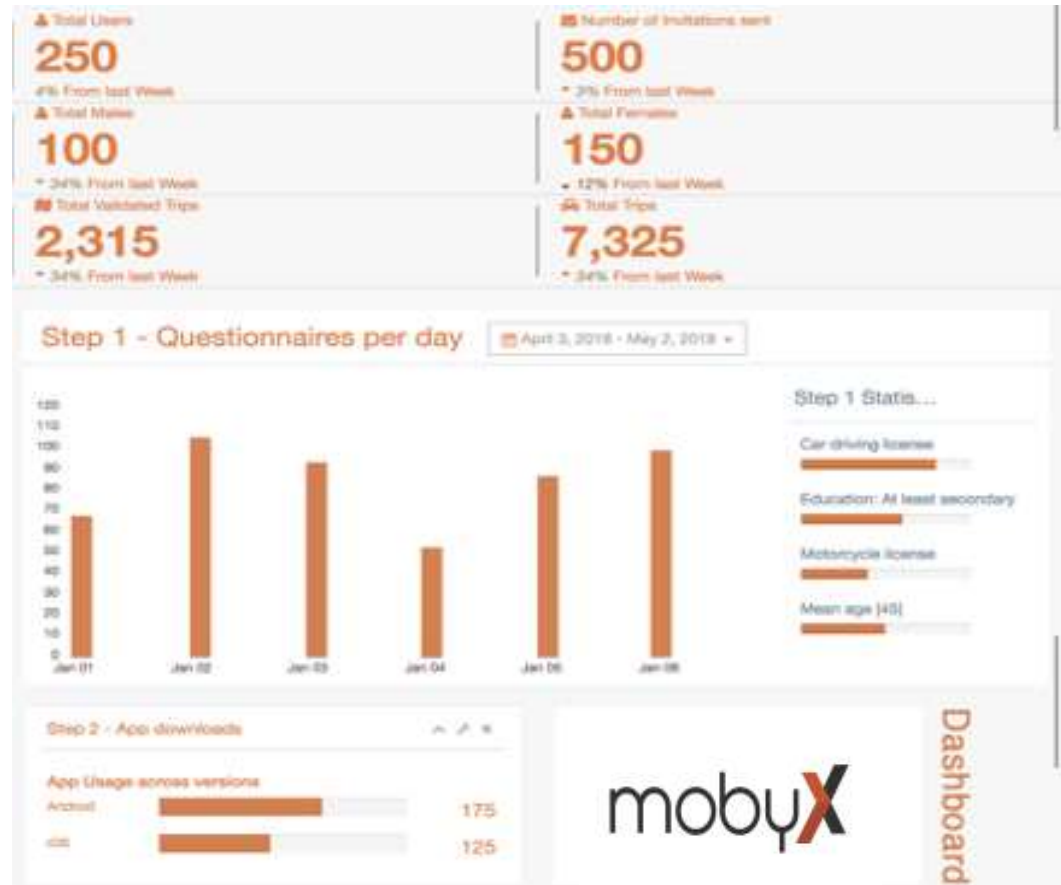
Survey Management System

The MOBY app system has a fully-featured Survey Management System (SMS) that allows clients, field managers and interviewer staff to access reports, data files and users' Activity Diaries.

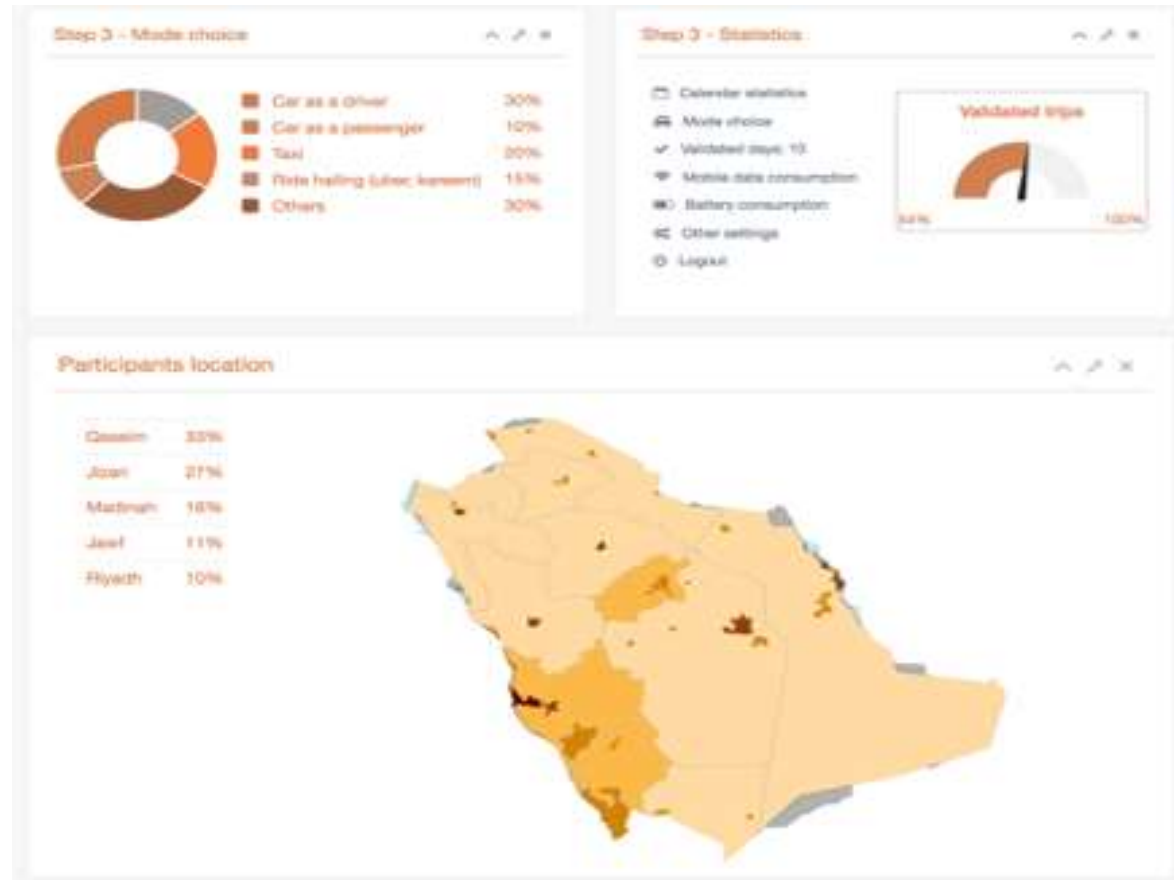
- Generic survey statistics: this function enables an interviewer to access the user's Activity Diary in order to assist with data verification
- Questionnaire (Step 1) statistics
- Activity diary statistics (Step 2)
- Participant Details: A list with the contact information for the survey participants (i.e. the e-mail or phone number-where available).

The SMS interface can also be customized to the needs of the client to present specific statistics.

Customized Survey Management System



Customized Survey Management System



Survey Management System

In the main page all the surveys are presenting with some basic information about them.

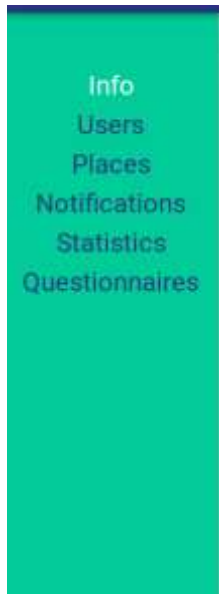


The screenshot displays a web interface for a Survey Management System. At the top, there is a dark blue header with the word "Surveys" in the center and a "LOGOUT" link on the right. Below the header, the main content area is titled "Your Surveys". A table lists the surveys, with one entry visible: "HARMONY-wars 1". The table has columns for Name, Min required type, questions/controls, questions/controls, status, and status. The status for the first survey is "01/11/2020" and "00/100". At the bottom right of the table, there is a pagination control showing "Rows per page" set to "10" and "1 of 1" items.

Name	Min required type	questions/controls	questions/controls	status	status
HARMONY-wars 1	10	https://transden.sawtoothsoftware.com/HARMONY_MockChaos/cgi-bin/cseweb.pl?hid_atuystname=HARMONY&hid_pageid=06&hid_link=1&hid_javascript=1&hid_screenwidth=1200&userid=1234&surveyid=astadadadad		01/11/2020	00/100

Rows per page: 10 1 of 1

Survey Management System



After selecting the survey, all the details about this survey are available. Also, a navigation through the side navbar is provided.

HARMONY - wave 1

Name	HARMONY - wave 1	Min. validated trips	13
City	Turin	Intro questionnaire	https://transdem.sawtooths
Survey starts	01/11/2020	Status	active
Survey ends	30/11/2020	<input type="checkbox"/> Access after end	
Country	United Kingdom		

By selecting the “INFO”, all the information about the selected survey are presented.

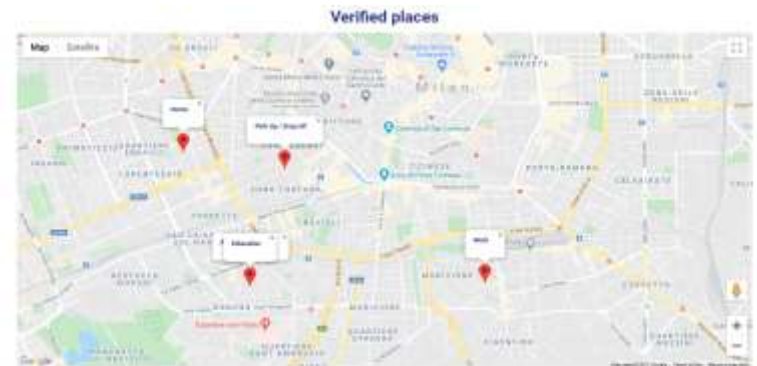
Survey Management System

HARMONY - wave 1

First Name	Last Name	Email
		varits@mobics.gr
		odyseas@mobics.gr
		btset@psjd.com
		eighteen@eighteen.com
		test@test.com
		gender@gender.com
		testing@testing.com
		kond_fu2@hotmail.com
		test@test.qwe
		uuu@www.vvv


Rows per page: 10 1/10 of 41

On the “Users” page, all the available users that are registered in this survey are presented.



In the section “Places”, a map of all the verified activities recorded on an actual map is available with their main activity type.

Survey Management System

Send Notification 

Title	Body	Sent at
test	test	06/04/2021 17:38:09

Rows per page: 10 ▼ 1-1 of 1 < >

In the section “Notification”, the coordinator can send notifications to all the survey users and see the messages sent to them. Also, by pressing “Send Notification,” the coordinator can send a new message.

In the section “Questionnaires”, are available all the questionnaires for the selected survey. Right now, the only available questionnaire is a test questionnaire for the HARMONY project. At the final stage, in this section will be available all the questionnaires that have been developed for the selected survey. Also, the user will be able add new surveys and edit the existing ones.

moblyApp Survey 10:00:01

Your Surveys

Name	We visited 100%	questionnaire count	questionnaire status	status	date
HARMONY-wave 1	100	https://forms.office.com/HARMONY_AbdcChaoCg3b1c3ewb1p7Hd_eJdyxme1HARMONY%3Elangum=94HLJh1=14HLJlanguepl=1&id_accomelli=120&user=1234&surveyid=onlyskidde		01/11/2020	active

Rows per page: 10 ▼ 1-1 of 1 < >



The MobyApp Team



<http://mobyx.co>



MobyX

info@harmony-
h2020.eu



https://harmony-
h2020.eu/



www.harmony-h2020.eu



Harmony-H2020



Harmony_H2020



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 815269



THE CIVITAS INITIATIVE
IS CO-FUNDED BY
THE EUROPEAN UNION