



# The MOTUS platform

## Combining different research methods



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UNSD – June, 21  
2018 New York



# Our model



MOTUS  
software platform

:

# MOTUS

Front Office – respondent side



# Data collection methods

## SURVEY


## DIARY

## CONTEXT

☰ PHD SURVEYRESEARCH MORE INFOLOGOUT

PHD SURVEY

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QUESTION 14

How often do you work ...?

..

	never	seldom	occasionally	usually	always
On regular office hours (between 8 AM and 6 PM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the evening (between 6 PM and midnight)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At night (after midnight)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In weekends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In the morning (before 8 AM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
At home	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

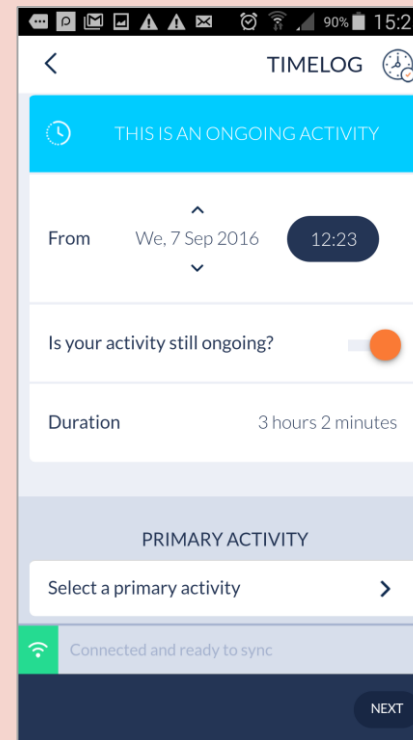
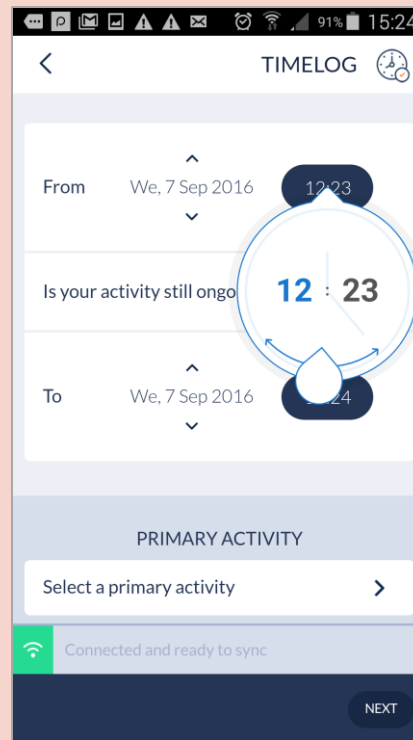
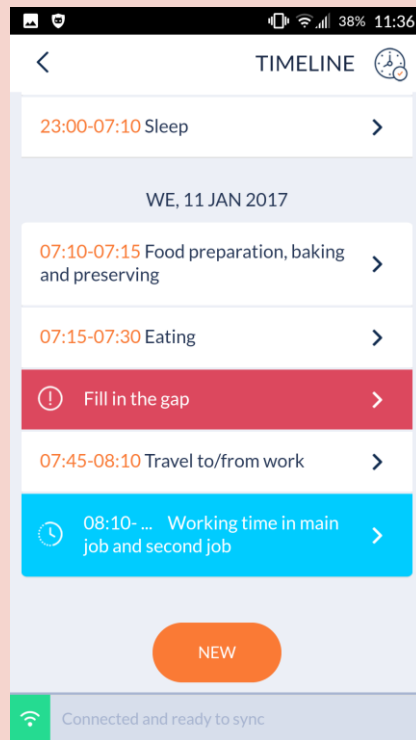
CANCELPREVIOUSNEXT

# Data collection methods

**SURVEY**

**DIARY**

**CONTEXT**

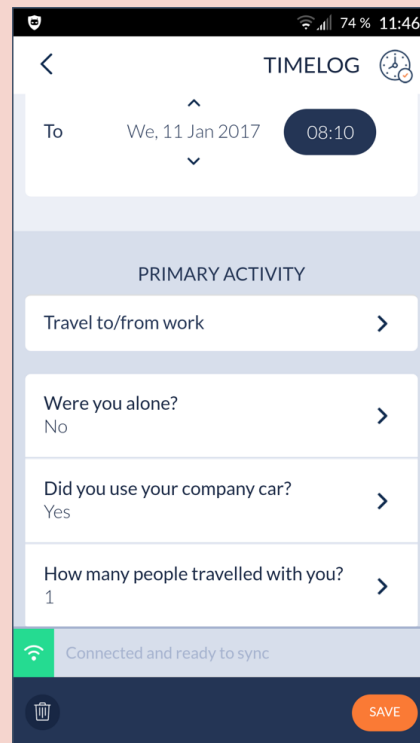


# Data collection methods

**SURVEY**

**DIARY**

**CONTEXT**



TIMELOG

To We, 11 Jan 2017 08:10

PRIMARY ACTIVITY

Travel to/from work >

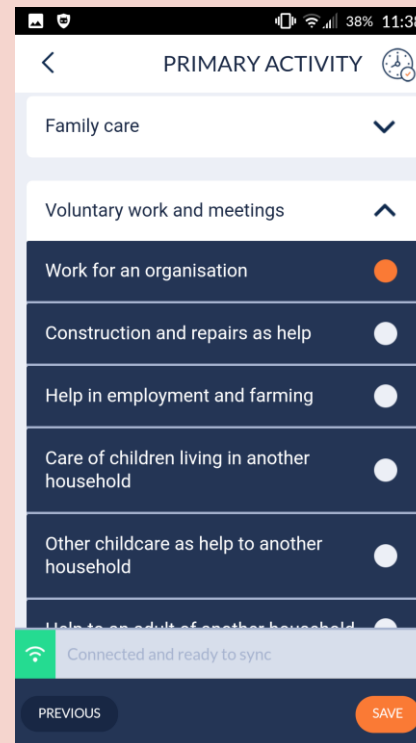
Were you alone?  
No >

Did you use your company car?  
Yes >

How many people travelled with you?  
1 >

Connected and ready to sync

SAVE



PRIMARY ACTIVITY

Family care ▾

Voluntary work and meetings ▲

Work for an organisation ●

Construction and repairs as help ●

Help in employment and farming ●

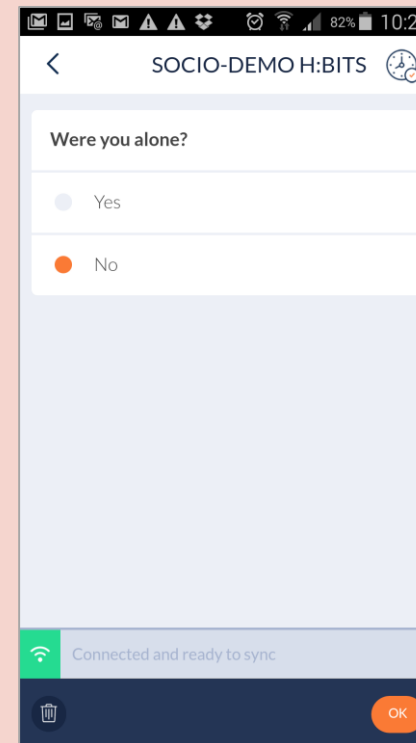
Care of children living in another household ●

Other childcare as help to another household ●

Help to an adult of another household ●

Connected and ready to sync

PREVIOUS SAVE



SOCIO-DEMO H:BITS

Were you alone?

Yes

No

Connected and ready to sync

OK

:

# MOTUS

Back Office – researchers side



# MOTUS: 8 integrated builders



8

- 1. Device builder**
- 2. Survey builder**
- 3. Diary builder**
- 4. Communication builder**
- 5. Research builder**
- 6. Dashboard builder**
- 7. Data builder**
- 8. Visualisation builder**



# Design phase - Device builder

Device

## Collection mode setup

▶ Web application

▶ Mobile application

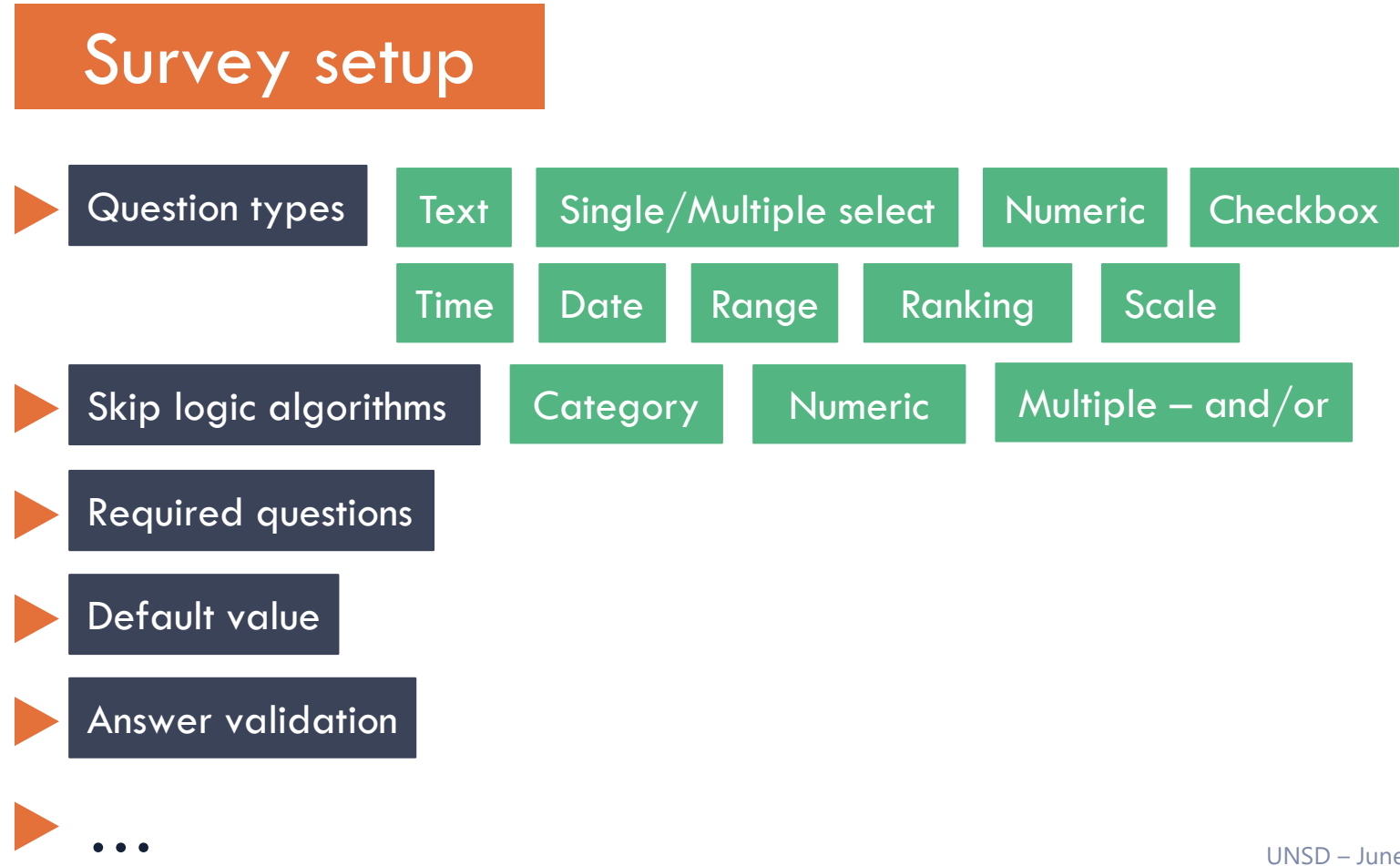
▶ Connected devices

API

Server address

# Design phase – Survey builder

Survey



# Design phase – Diary builder

Diary



# Design phase – Communication builder

Communication

## Ways of invitation and communication

- ▶ P&P invitation letter
- ▶ Open invitation
- ▶ Email
- ▶ Push notifications

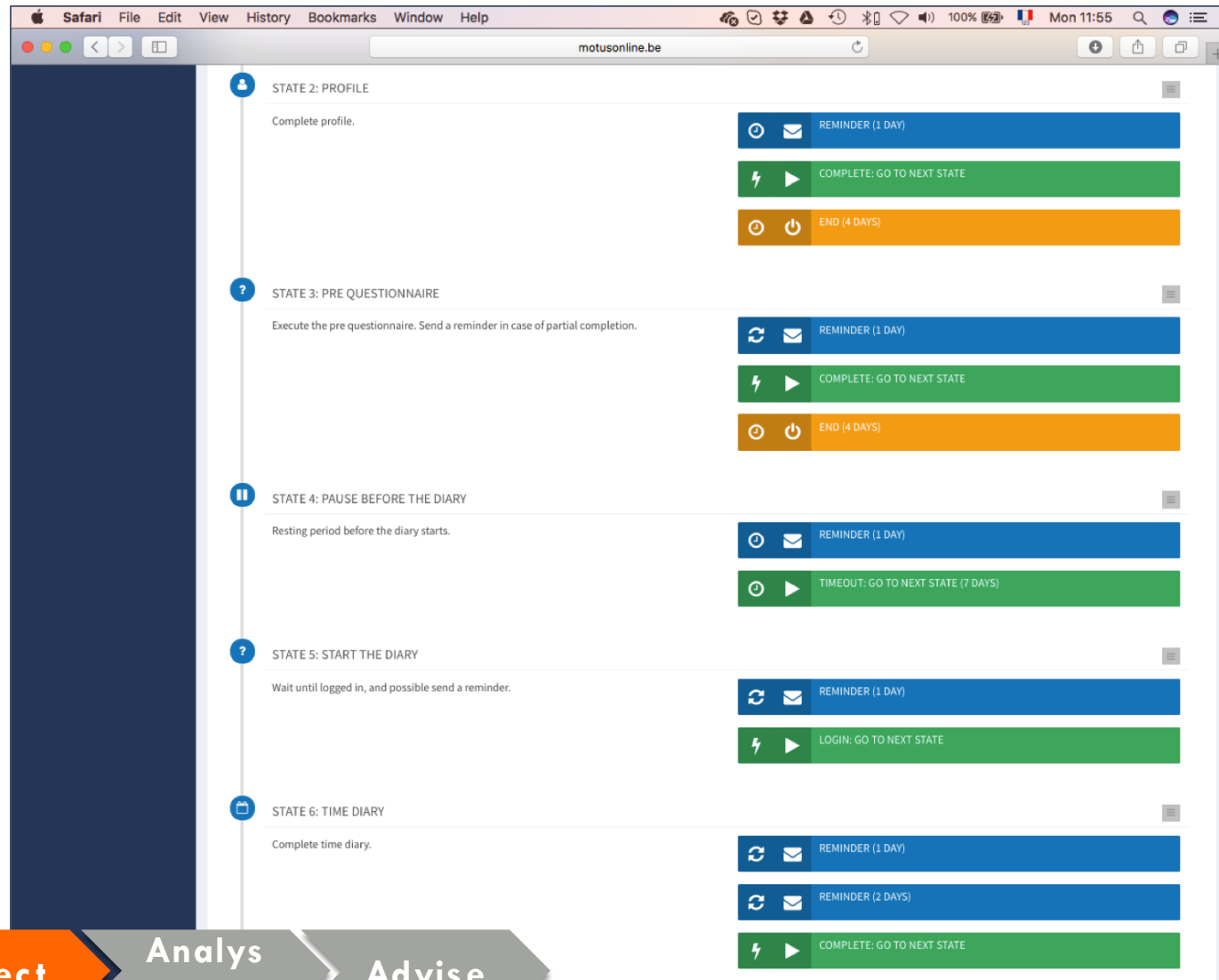
:

# MOTUS

Back Office – respondent side



# Collect phase - Research builder



The screenshot shows a Safari browser window at motusonline.be. The interface is a vertical list of five states, each with a description and three action buttons:

- STATE 2: PROFILE** (User icon): Complete profile. Actions: REMINDER (1 DAY), COMPLETE: GO TO NEXT STATE, END (4 DAYS).
- STATE 3: PRE QUESTIONNAIRE** (Question mark icon): Execute the pre questionnaire. Send a reminder in case of partial completion. Actions: REMINDER (1 DAY), COMPLETE: GO TO NEXT STATE, END (4 DAYS).
- STATE 4: PAUSE BEFORE THE DIARY** (Pause icon): Resting period before the diary starts. Actions: REMINDER (1 DAY), TIMEOUT: GO TO NEXT STATE (7 DAYS).
- STATE 5: START THE DIARY** (Question mark icon): Wait until logged in, and possible send a reminder. Actions: REMINDER (1 DAY), LOGIN: GO TO NEXT STATE.
- STATE 6: TIME DIARY** (Calendar icon): Complete time diary. Actions: REMINDER (1 DAY), REMINDER (2 DAYS), COMPLETE: GO TO NEXT STATE.

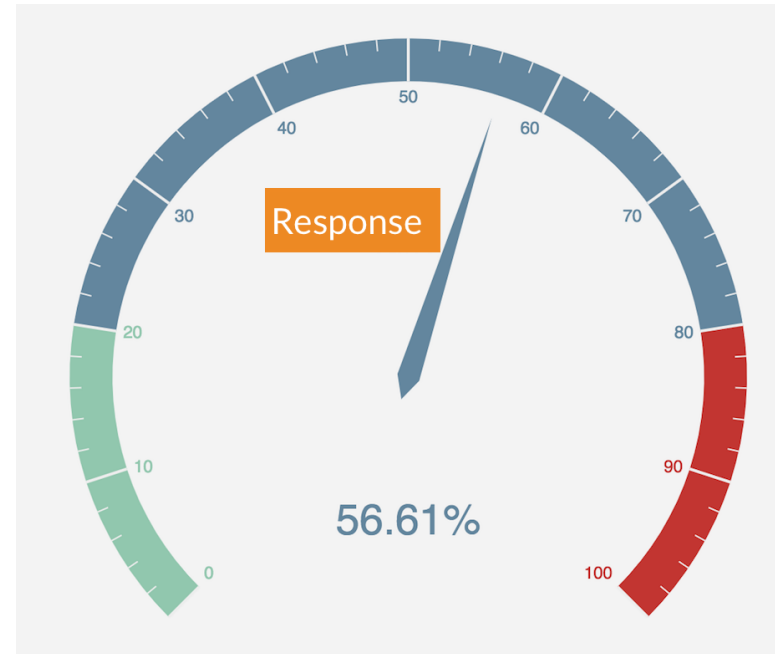


# Collect phase: Dashboard builder

R script

```
15:00:03 Chart has been generated successfully, 5ms RUN  
1 option = {  
2   tooltip : {  
3     formatter: "{a} <br/>{b} : {c}%"  
4   },  
5   toolbox: {  
6     feature: {  
7       restore: {},  
8       saveAsImage: {}  
9     }  
10  },  
11  series: [  
12    {  
13      name: 'Response Department Education ',  
14      type: 'gauge',  
15      detail: {formatter: '{value}%'},  
16      data: [{value: 50, name: '完成率'}]  
17    }  
18  ]  
19 };  
20  
21 setInterval(function () {  
22   option.series[0].data[0].value = (Math.random() * 100).toFixed(2);  
23   myChart.setOption(option, true);  
24 }, 2000);  
25
```

Overview response



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# MOTUS

Back Office – researcher side





# Analyse phase: Data builder

FTS2017 diary 160617.sav [] - IBM SPSS Statistics Data Editor

Visible: 64 of 64 Variables

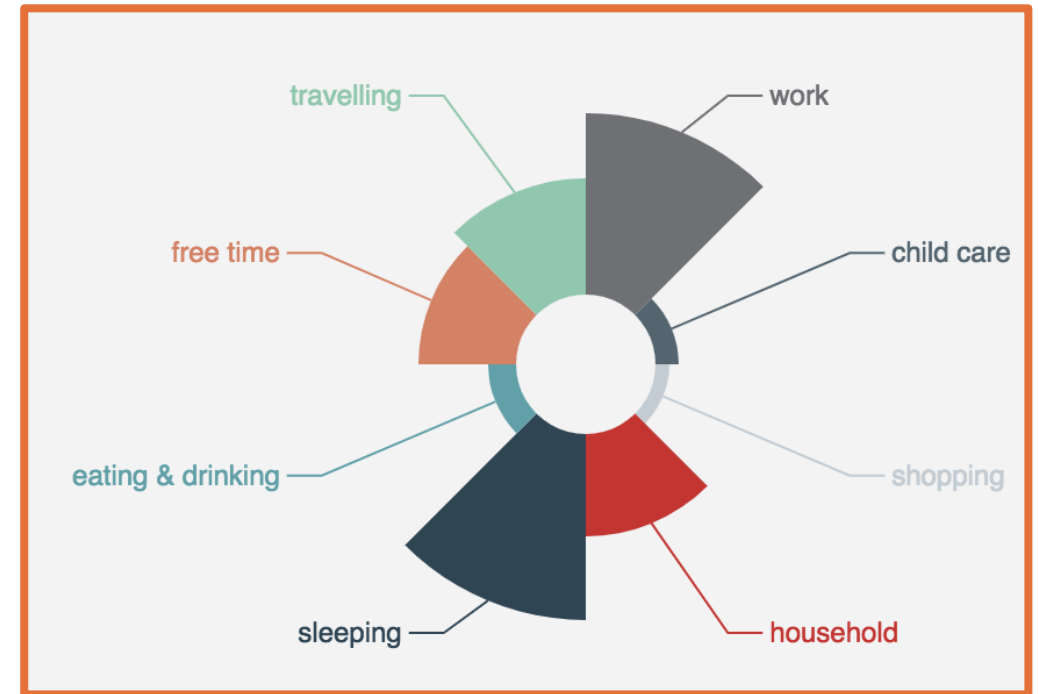
	FTSid	MOTUSid	id	Start_date	Starttime	End_date	Endtime	Duration	Submit_date	Submittime	Main_act_lv1	Main_act_lv2	Main_act_lv3	Sec_act_lv1	!
1	17030001	9226	6446	2017/03/01	4:00	2017/03/01	5:50	1:50	2017/03/02	16:07	Non-work rela...	Personal care,...	Sleep, resting	I did not do an...	
2	17030001	9226	6463	2017/03/01	5:50	2017/03/01	6:20	0:30	2017/03/02	16:09	Non-work rela...	Personal care,...	Eating, drinking	I did not do an...	
3	17030001	9226	6473	2017/03/01	6:20	2017/03/01	8:40	2:20	2017/03/02	16:09	Non-work rela...	Personal care,...	Washing, dres...	I did not do an...	
4	17030001	9226	6486	2017/03/01	8:40	2017/03/01	9:20	0:40	2017/03/02	16:10	Travel and wai...	Travel	Travel to/from...	I did not do an...	
5	17030001	9226	6493	2017/03/01	9:20	2017/03/01	9:30	0:10	2017/03/02	16:11	Non-work rela...	Other or unsp...	Unspecified ti...	I did not do an...	
6	17030001	9226	6504	2017/03/01	9:30	2017/03/01	11:00	1:30	2017/03/02	16:12	Work-related...	Other work ac...	Reading, respo...	I did not do an...	
7	17030001	9226	6521	2017/03/01	11:00	2017/03/01	12:00	1:00	2017/03/02	16:14	Work-related...	Other work ac...	Administrative...	I did not do an...	
8	17030001	9226	6526	2017/03/01	12:00	2017/03/01	12:40	0:40	2017/03/02	16:15	Non-work rela...	Personal care,...	Eating, drinking	I did not do an...	
9	17030001	9226	6540	2017/03/01	12:40	2017/03/01	13:00	0:20	2017/03/02	16:16	Non-work rela...	Leisure (non w...	Conversations...	I did not do an...	
10	17030001	9226	6551	2017/03/01	13:00	2017/03/01	15:00	2:00	2017/03/02	16:17	Work-related...	Other work ac...	Administrative...	I did not do an...	
11	17030001	9226	6556	2017/03/01	15:00	2017/03/01	15:30	0:30	2017/03/02	16:18	Work-related...	Other work ac...	Reading, respo...	I did not do an...	
12	17030001	9226	6566	2017/03/01	15:30	2017/03/01	17:00	1:30	2017/03/02	16:19	Work-related...	Other work ac...	Reading, respo...	I did not do an...	
13	17030001	9226	6575	2017/03/01	17:00	2017/03/01	18:00	1:00	2017/03/02	16:20	Work-related...	Other work ac...	Reading, respo...	I did not do an...	
14	17030001	9226	6581	2017/03/01	18:00	2017/03/01	18:20	0:20	2017/03/02	16:21	Work-related...	Teaching activ...	Class preparat...	I did not do an...	
15	17030001	9226	6588	2017/03/01	18:20	2017/03/01	19:00	0:40	2017/03/02	16:22	Travel and wai...	Travel	Travel to/from...	Non-work rela...	ot
16	17030001	9226	6596	2017/03/01	19:00	2017/03/01	22:00	3:00	2017/03/02	16:23	Non-work rela...	Leisure (non w...	Watching TV, v...	I did not do an...	
17	17030001	9226	6600	2017/03/01	22:00	2017/03/02	4:00	6:00	2017/03/02	16:24	Non-work rela...	Personal care,...	Sleep, resting	I did not do an...	
18	17030002	9227	5865	2017/03/01	4:00	2017/03/01	4:40	0:40	2017/03/02	14:46	Work-related...	Disciplinary an...	Consulting Work	I did not do an...	
19	17030002	9227	5867	2017/03/01	4:40	2017/03/01	6:00	1:20	2017/03/02	14:46	Non-work rela...	Personal care,...	Sleep, resting	I did not do an...	
20	17030002	9227	5880	2017/03/01	6:00	2017/03/01	7:40	1:40	2017/03/02	14:47	Work-related...	Prepare for a c...	Other	I did not do an...	
21	17030002	9227	5893	2017/03/01	7:40	2017/03/01	8:00	0:20	2017/03/02	14:49	Travel and wai...	Travel	Travel to/from...	I did not do an...	
22	17030002	9227	5910	2017/03/01	8:00	2017/03/01	9:00	1:00	2017/03/02	14:51	Work-related...	Disciplinary an...	Consulting Work	I did not do an...	
23	17030002	9227	5919	2017/03/01	9:00	2017/03/01	9:30	0:30	2017/03/02	14:53	Work-related...	Prepare for a c...	Other	I did not do an...	
24	17030002	9227	5923	2017/03/01	9:30	2017/03/01	11:30	2:00	2017/03/02	14:53	Work-related...	Advising and...	Professional c...	I did not do an...	

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# Analyse phase: Visualisation builder

64 ▾  
65  
66  
67  
68  
69  
70 ▾  
71  
72  
73  
74  
75  
76  
77  
78

```
{  
  name: 'Average time',  
  type: 'pie',  
  radius : [30, 110],  
  center : ['75%', '50%'],  
  roseType : 'area',  
  data: [  
    {value:39, name:'work'},  
    {value:5, name:'child care'},  
    {value:3, name:'shopping'},  
    {value:22, name:'household'},  
    {value:40, name:'sleeping'},  
    {value:6, name:'eating & drinking'},  
    {value:21, name:'free time'},  
    {value:8, name:'travelling'}  
  ]  
}
```



# 2 ways of registration

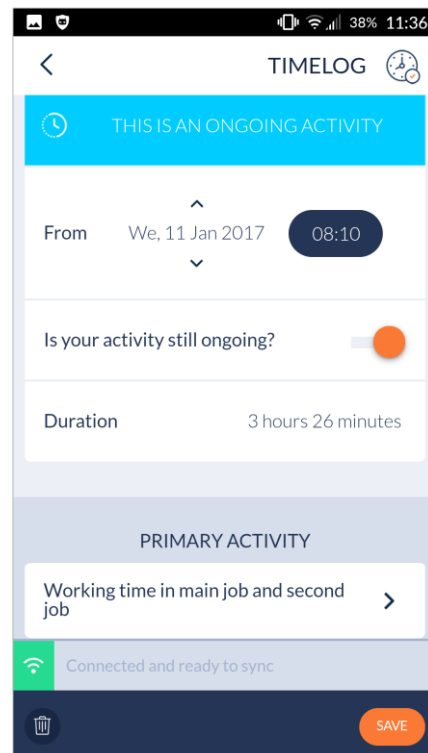
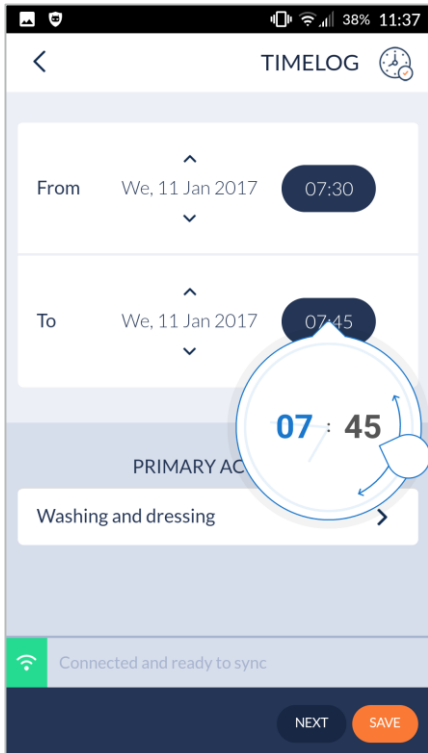
## Active

Retrospective

Time Tracking

Continuous

ESM



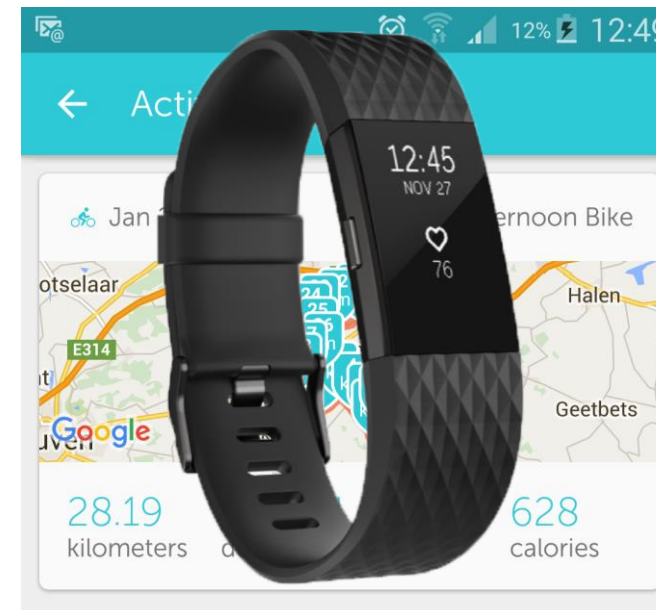
## Passive

Plug-in

Sensors

Wearables

Tagging



:

# Some projects

# Some projects



**Who?** Flemish pop.  
18-75 y.

**What?** Time-use survey –  
1 full week

**Period** 1 full year 2013



**Who?** Professors Vrije  
Universiteit  
Brussel

**What?** Workload and  
jobcontent

**Period** 2015



**Who?** All employees  
Ministry of  
Education

**What?** Workload and  
job content


**Period** 2016

# Some projects




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<b>Who?</b>	1 family
<b>What?</b>	Human-home interaction
<b>Window?</b>	Before – After 2,5 years




---

<b>Who?</b>	65 employees + partners
<b>What?</b>	30h workweek
<b>Window?</b>	38h – 30h – 38h 4 years



VRIJE  
UNIVERSITEIT  
BRUSSEL

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<b>Who?</b>	1.500 PhD Students
<b>What?</b>	Research time & progress & WB
<b>Window?</b>	Trajectory PhD

# Recent large scale project: Teachers in Flanders



10.000 teachers

70.000 diary days

School & vacation period

7 days

1.000.000 activities

Work load and  
organization

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Any questions?



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# Contact details

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[www.hbits.io](http://www.hbits.io)

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