

# New technologies and time-use diaries

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Innovative and Effective Ways to Collect  
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# Content

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  - 2.2. **Self-completion**
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## Choices to make (irrespective of the mode)

- **Research units** (households, respondents, ...)
- **Sample of units**
- **Length of the field work period** (e.g. several years, one year, several months, ...)
- **Sample of starting days**
- **Number of days** (e.g. one day, one week and one weekend day, three consecutive days, a full week, ...)
- **Start of the registration** (e.g. 4 a.m., midnight, ...)
- **Granularity of an episode** (e.g. continuous, 5 minutes, 10 minutes, 15 minutes, ...)

# Choices to make (irrespective of the mode)

- **Registration method activities:**
  - own wording
  - activity list/taxonomy
  - number of activities / number of levels
  - suggestions via tags?
  - suggestions via external sources (e.g. activity tracker, GPS, ...)
  - ...
- **Which context questions?** (e.g. secondary activity, location/presence/mode of transport, use ICT, for whom, motivation, happiness, ...)
  - own wording
  - predefined

# Choices to make (irrespective of the mode)

- **Linking context to activities / context?** (e.g. no context questions for 'sleep'; means of transport for 'travelling activities', etc.)

# Choices to make (irrespective of the mode)

## ■ **Validity checks:**

### ***Direct checks:***

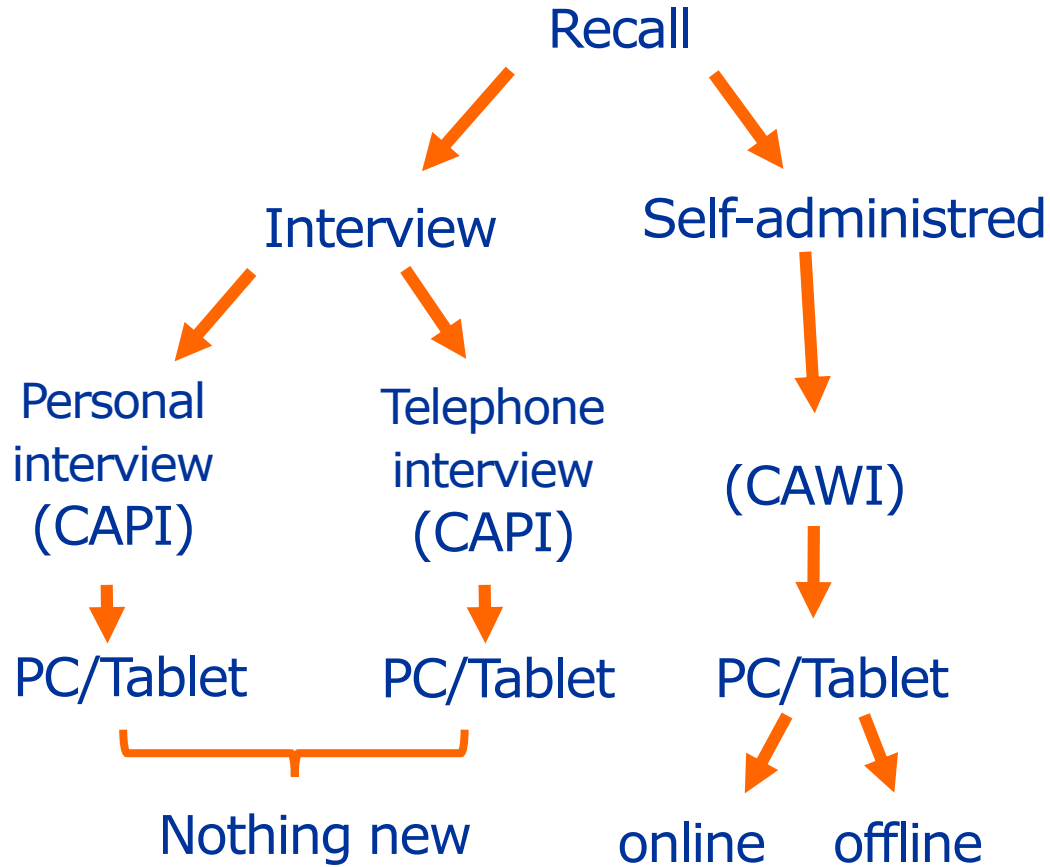
- No registration in the future
- Change of place without transportation\*
- Inconsistencies (e.g. travelling at home)\*

### ***Indirect check (after predefined period of registration):***

- Too few activities (define minimum per day)
- No sleep\* (define period without sleep)
- No eating\* (define period without eating as primary or secondary activity)

\* Only with predefined activity list.

# Using PC/Tablet/Smartphone? - Recall





# Using PC/Tablet/Smartphone? – self-completion

PC	App
Only accessible online	Can be used offline
Cost-effective	Always available (continuous registration)
Don't need an app store	Better user experience
	Dependent on battery usage

# Using PC/Tablet/Smartphone? – self-completion

	PC or Tablet	Smartphone
Input		
• Own wording	+	+ ~
• Selection (predefined list)	+	+
• Keywords / tags	+	+
• Speech recognition	+	+
• Use of smartphone applications (GPS, camera, user statistics, ...)	-	+
• Connected devices (external GPS, wearable, sensors, ...)	-	+

# Using PC/Tablet/Smartphone? – self-completion

	PC or Tablet	Smartphone
Registration		
• Continuous self-registration	+ ~	+
• Time Tracker	-	+
• Experience Sampling Method (push notifications)	-	+

# Self-completion: PC

Must be compatible with different platforms (MacOS, Windows, Linux, ...) and browsers (Internet Explorer, Microsoft Edge, Mozilla Firefox, Google Chrome, Safari, Opera, etc.) and versions, also older versions of these platforms and browsers.

# Self-completion: Tablet/Smartphone

<b>Website</b>	<b>App</b>
Only accessible online	Can be used offline
Cost-effective	Better performance
Don't need an app store	Better user experience

Which kind of app?

**Native app**

**Hybrid app**

**Progressive app**

# Which kind of app?

## Native app

+	-
Maximum use of device functionalities (microphone, gps, camera, etc.)	Not easy to put in the store (Google Play, App Store, ...)
Works offline	Any change / update in the platform software may mean that the app needs to be adjusted
Better integration with other apps	For every platform (Apple iOS, Android, Windows mobile) a different app needs to be developed
Higher speed	
Possibility to send push notifications	

# Which kind of app?

## Hybrid app

+	-
Flexibility in keeping the content up-to-date	Hybrid can be a reason for rejecting placement in the store
Uses the possibilities of the operating system and local functionalities	Maintaining two environments can lead to more costs in the long run
Low development costs	Not recommended for complex apps



# Which kind of app?

## Progressive app

+	-
Possibility to send push notifications	Remains a Web app with a number of limitations. Less features and less accessibility
Works offline	Cannot be found in the store: if the target group is there looking for your app, you will not reach it.
Accessible to everyone (not dependent on an operating system)	Still in the development phase: not yet clear which further functions will be supported
Always up-to-date: you don't have to download updates from a website	Not all browsers and operating systems support all functions.

# General issues and considerations

- In case of mixed input devices (PC, tablet, smartphone): synchronization
- Compatibility of website or app with different screen sizes
- Link between questionnaire(s) and diary
- Back office to organize the flow of the research
- Which meta data are collected during the data collection?
- Speech recognition as an input in the future?
- Data transfer from device to server: manual, automatically synchronization (when, how many times, ...)
- Data storage: Where? Is there a backup? Encryption?  
Confidentiality

# Prototype ICATUS 2016



## **MOTUS software:**

- In continuous development since 2012
- First used in 2013 (feb. 13 - jan. 14) for the time-use study in Flanders (Belgium) among a sample of 3.260 respondents who filled in a 7-day diary
- Later used and adapted for a dozen time-use surveys, e.g. a longitudinal time-use survey in a women's organization that adapted a 30-hour week in 2019 (5 full-weeks registration before, during and after the experiment), a time-use study among a sample of 10.000 teachers (full week 24 hours registration), ...

# Prototype ICATUS 2016

## Options:

- Continuous registration
- Activity list: ICATUS 2016 in 3 levels (no tags) for primary and secondary activity
- Context variables (see further)
- No context for sleep
- If traveling: means of transportation (different options)
- No registration in the future
- Quality checks possible, but not implemented

# Prototype ICATUS 2016

## UNDEFINED TIME

### Allowed amount of undefined hours/day

Unlimited

### Allowed amount of undefined hours/week

Unlimited

### Required amount of activities/day

None

### Required amount of activities/week

None

Close

Save

## QUALITY

### Number of different activities

No validation

### Duration of sleep

No validation

### Occasional eating and/or drinking

Not required

Close

Save

# Prototype ICATUS 2016

## **Options:**

- PC / Tablet / Smartphone: continuous synchronization when online
- Native app for Ios and Android (not for windows), website for smartphone
- Compatible with different screens and operating systems

# Prototype ICATUS 2016: Activity list



We believe that the main divisions of ICATUS are clearly defined, can be understood in different cultures, and provide a good idea of what is considered as work (what is not).

We (slightly) revised the list of work-related activities of ICATUS 2016 (categories 1 to 5).

# Prototype ICATUS 2016: Activity list

We did not change anything in the taxonomy of the IACTUS classification and did not add nor delete categories.

We would only suggest to use the tri-part division as an entry to guide respondents to the taxonomy of different forms of work in ICATUS 2016, and to distinguish work from non-work:

- Paid work, work for benefit, work for the market (paid, use by others)
- Unpaid work for own final use, for your household or family members (own final use)
- Unpaid work for others outside your own household (unpaid, use by others)



# Prototype ICATUS 2016: Activity list

We formulated some of the entries **as activities** (answers to the questions: **What did you do?**).

For instance, activity 110 "Employment in corporations, government and non-profit institutions" was reformulated as "Work for an organization, corporation, institution, government, ... (also unpaid overwork)".

Or 13 "Employment in households and household enterprises to provide services" was formulated as "Delivering services (by yourself or in your household) for pay or profit".

# Prototype ICATUS 2016: Activity list

We further formulated activities more consistently in terms of who produced and for what:

- In section 12. we consistently used “**(by yourself or in your household) to sell, for pay or profit**”.
- In section 13. “**(by yourself or in your household)**”
- In section 21 to 24 “**for your own household or your own final use**”

# Prototype ICATUS 2016: Context

## **Where were you at the time?**

- Your home
- Other family's home
- Working place
- School/place of study
- Shop/services place
- Public area
- Other (not transport)

# Prototype ICATUS 2016: Context

*(if travel)*

**What kind of transport did you use?**

- Travelling on foot
- Travelling by bike
- Travelling by moped, motorcycle or motorboat
- Travelling by car
- Travelling by public transport
- Other

# Prototype ICATUS 2016: Context

**Did you do this alone or together with somebody?**  
(see *Conclusions meeting May 2019, #25*)

- Alone
- Together with somebody

# Prototype ICATUS 2016: Context

***(If together)***

**With whom?**

- Wife/husband
- Parents (in law) with whom you are living together
- Other household members(s) up to 9 years
- Other household member(s) older than 9 years
- Colleagues/fellow students
- Other person(s)

# Prototype ICATUS 2016: Context

## **Did you use a smartphone, tablet or computer?**

- Yes
- No

## **Did you use internet?**

- Yes
- No

# Prototype ICATUS 2016: Context

**Did this activity bring you income (in cash or kind)?**  
*not for sleeping (see Conclusions meeting May 2019, #23)*

- Yes
- No



# Prototype ICATUS 2016: Context

**For who did or what did you do this activity? => not for sleeping, eating/drinking, etc.**

*(see Conclusions meeting May 2019, #24)*

- Myself
- Member(s) of my family
- Myself and member(s) of my family
- Member(s) of other family
- Job
- Community, education, culture religion
- Others

# Prototype ICATUS 2016: Context

**How much did you enjoy this activity?**

1 - 5

Thank you

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