The MOTUS platform
Combining different research methods

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Our model

MOTUS software platform

Design Collect Analyse Advise
MOTUS

Front Office – respondent side
Data collection methods
Data collection methods

**Survey**

- Timeline
  - 23:00:00-07:10 Sleep
  - 07:10-07:15 Food preparation, baking and preserving
  - 07:15-07:30 Eating
  - Fill in the gap
  - 07:45-08:10 Travel to/from work
  - 08:10... Working time in main job and second job

**Diary**

- TimeLog
  - From We. 7 Sep 2016 12:23
  - Is your activity still ongoing?
  - To We. 7 Sep 2016 23:23

**Context**

- Connected and ready to sync
- PRIMARY ACTIVITY
  - Select a primary activity
  - Connected and ready to sync

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Data collection methods

**SURVEY**

**DIARY**

**CONTEXT**

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Back Office – researchers side
MOTUS: 8 integrated builders

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

Collection mode setup

- Web application
- Mobile application
- Connected devices
  - API
  - Server address
Design phase – Survey builder

Survey setup

- Question types
  - Text
  - Single/Multiple select
  - Numeric
  - Checkbox
  - Time
  - Date
  - Range
  - Ranking
  - Scale
- Skip logic algorithms
  - Category
  - Numeric
  - Multiple – and/or
- Required questions
- Default value
- Answer validation
- ...
Design phase – Diary builder

Diary setup

- Main activity list
  - 3-level deep
  - Specific context
- Parallel activity list
  - Copy Main + other
  - Adapted list
- Select options
  - Tree select
  - Search select
  - Tags
- Context
  - Place
  - Mode transportation
  - With whom
  - Use of media
- Answer validation
  - Hard warnings
  - Soft warnings
- Duration
  - Day
  - Week
  - Selected days
- Format
  - Activity based
  - Google
Design phase – Communication builder

Ways of invitation and communication

- P&P invitation letter
- Open invitation
- Email
- Push notifications
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Back Office – respondent side
Collect phase - Research builder
Collect phase: Dashboard builder

R script

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

Overview response

Response: 56.61%
MOTUS

Back Office – researcher side
Analyse phase: Data builder
Analyse phase: Visualisation builder

```javascript
{
  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 job content
  **Period** 2015

- **Who?** All employees Ministery of Education
  **What?** Worklaod and job content
  **Period** 2016
Some projects

**1. VELUX®**
- **Who?**: 1 family
- **What?**: Human-home interaction
- **Window?**: Before – After 2,5 years

**2. femma²**
- **Who?**: 65 employees + partners
- **What?**: 30h workweek
- **Window?**: 38h – 30h – 38h 4 years

**3. VUB**
- **Who?**: 1,500 PhD Students
- **What?**: Research time & progress & WB
- **Window?**: Trajectory PhD

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Recent large scale project: Teachers in Flanders

- 10,000 teachers
- 70,000 diary days
- 1,000,000 activities
- School & vacation period
- Work load and organization
Any questions?
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