SURF ResearchCloud Community Engagement

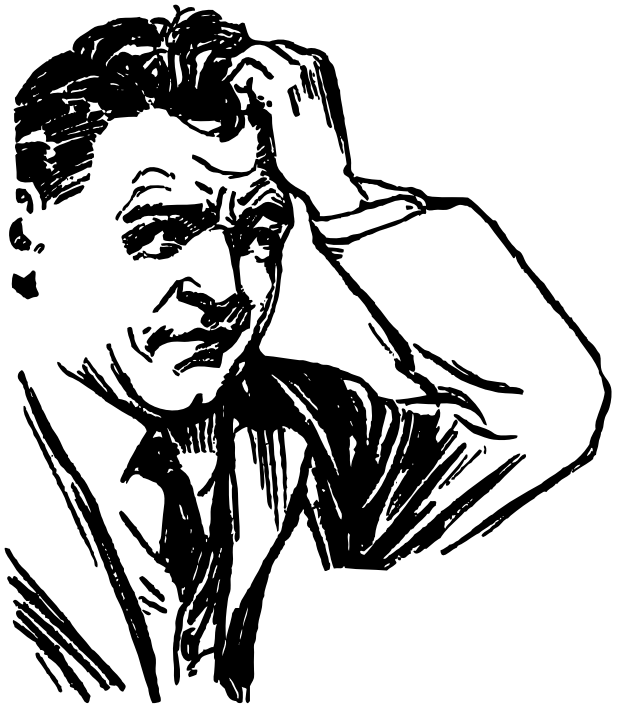
Margreet Riphagen - HU
Rins Rutgers - HU
Ton Smeele - UU

Agenda

- The bigger picture
- The project
- Our approach
- (interim) Results
- Call to action

- Example use cases SRC

The bigger picture



The vast majority of researchers is unable to utilize large-scale IT compute services

Significant impact on research

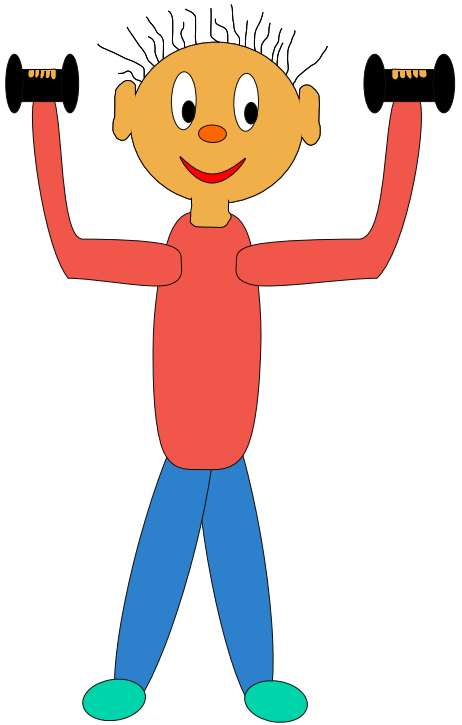
- **Impact on researcher’s realistic ambitions**
  - use a more limited data set (e.g. lower accuracy)
  - limit number of analysis runs or experiments
  - limit processing of data (e.g. not sensitive)

- **Impact on research project time:** €€€
  - Increased time spent on building specialist IT skills at the expense of research time
  - “captured” laptop workstations (due to multi-day runs)

Significant impact on research

Slows down research, frustrates researchers !

What many researchers need



powerful compute service

and

easy to use / operate

“SURF Research Cloud is a portal for building virtual research workspaces efficiently” (surf.nl)

Our project

- **Our consortium's ambition:**

  *Maximize the **benefits for researchers** obtained from using **SURF Research Cloud (SRC)**, by building a **cross-organizational** support **community,** along with best practices and software configurations*

- **"Investments in digital Research Infrastructure" (NWO)**
  - "SRC Community Engagement" in response to a CfP
  - Co-funded total 2 internal-FTE, 1 year (Jan-Nov 2022)

Project coordinated by

- TU/e : Toine Kuiper
- WUR : Erik van den Bergh
- UU : Ton Smeele
- HU : Margreet Riphagen

- SURF : Ivar Janmaat (support to project)

- Project Management: Erik Hakvoort (UU)

Approach

- **Community**
  - Events, consortium partners participate, open to others
  - Coordinators have monthly heartbeat meetings
- **Best practices**
  - Share, analyze and document practices
  - Technical leads
- **“plugin” software development**
  - Agile, prototyping, use case driven
  - Support, bias towards cross-institute, research projects

Project activities

- **Getting the paperwork done!** (December - April)
  - legal/fiscal reviews, Consortium agreement → template!
  - Per institute preparations to setup SRC as a service
- **Research project use cases** (February - … now)
  - Communication activities (alliance staff, practices, …)
  - Requirements analysis (with researchers)
  - Development of software plugins
  - Provide support to researchers on using SRC
- **Best practices working group** (April - November)

Events

January 13	(virtual)	**SRC Technical Introduction workshop** - project team training - 18 attendees from 4 organizations
March 16	Utrecht	**SRC Hackathon** - in close cooperation with SURF - 14 participants from 6 organizations
April 19	Eindhoven	**EWUU alliance annual research conference** - networking with 300+ researchers
September 21	Eindhoven	**SRC Hackathon** - lead by the SURF SRC team - open to all SRC users
October 12	Wageningen	**Organizational aspects of SRC** - workshop/brainstorm on SRC implementation

What have we learned (so far)

- **Working across borders requires significant extra efforts**
  - Different starting points, culture, policies & priorities
- **Yet it can be done!**
  - Build/maintain the relation with informal regular meetings
  - Transparency and understanding → trust
  - Common goals → results
- **And it is fun and addicting!**
  - Facing the same challenges together

What we learned about SRC - 1

- **Easy for researchers: deploy and use workspaces**
  - Researchers + Research Engineers appreciate service
  - Popular applications: Python, R-Studio, Matlab
- **Effort to support: extend catalog will require IT skills**
  - Plugins: write Ansible scripts to install software
  - Assemble applications: some understanding of IT stack
- **Use cases**
  - Suitable to process many types of data
  - Very sensitive data not yet supported – using alternative

What we learned about SRC - 2

- **Service is currently aimed directly at researcher**
  - Limited features for support staff to help out researcher
  - Account/wallet setup takes time, and involves researcher
  - Method for sharing/reuse of plugins can be improved
- **Pleased with SURF team support**
  - Excellent cooperation, open to improve/extend service

Recommended to get started

- **Have one or two champions trained in your organization**
  - Position SRC services within own organization
  - Help out researcher on first steps, unburden
  - Possibly extend catalog to support more use cases

- **Champion profile**
  - IT Consulting
  - Affinity with research
  - System admin / system programmer skills

Next event: Hackathon (Eindhoven)

(September 21)

- **Morning: Beginners training (+ start Hackathon)**
  - Understand the SRC concepts
  - Deploy a virtual research environment using SRC
  - Build and configure your first “plugin”
- **Afternoon: Hackathon**
  - Jointly work on a challenge to extend the SRC catalog
  - Optional: bring your own SRC software challenge
  - Network with peers from SURF and institutes

==> email e.h.hakvoort@uu.nl to request to be added to the events mailing list

Summary

- **Researchers need easy-to-use compute resources**
  - Our experience is that SRC helps to close the gap
- **Community aids to lower support cost**
  - Reuse each others results (share plugins)
  - Exchange best practices
- **DCC project = catalyze the process**

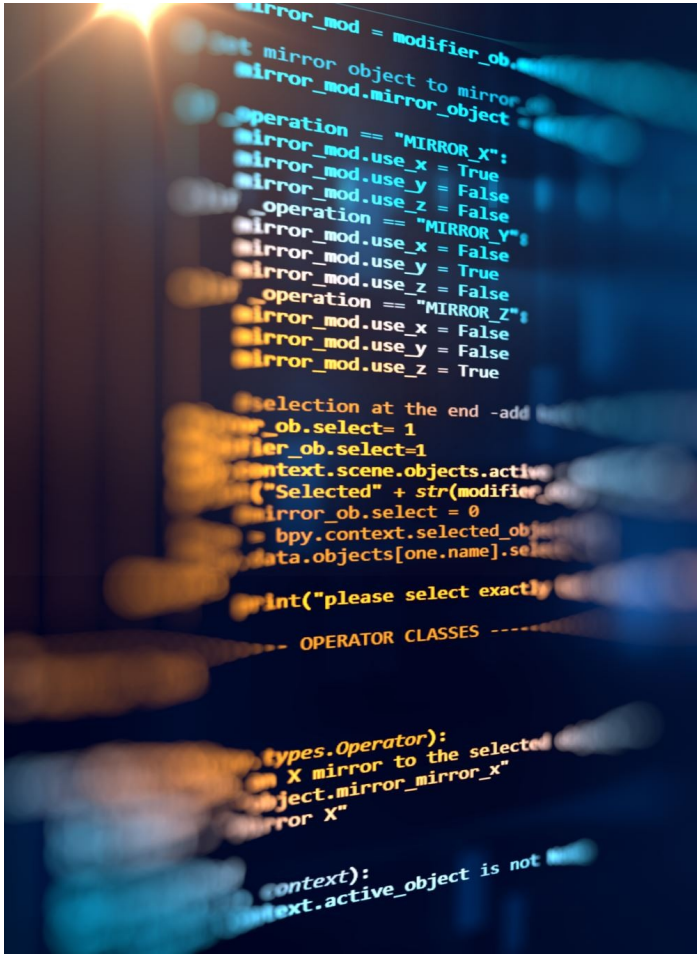
Clipart kindly provided by https://publicdomainvectors.org

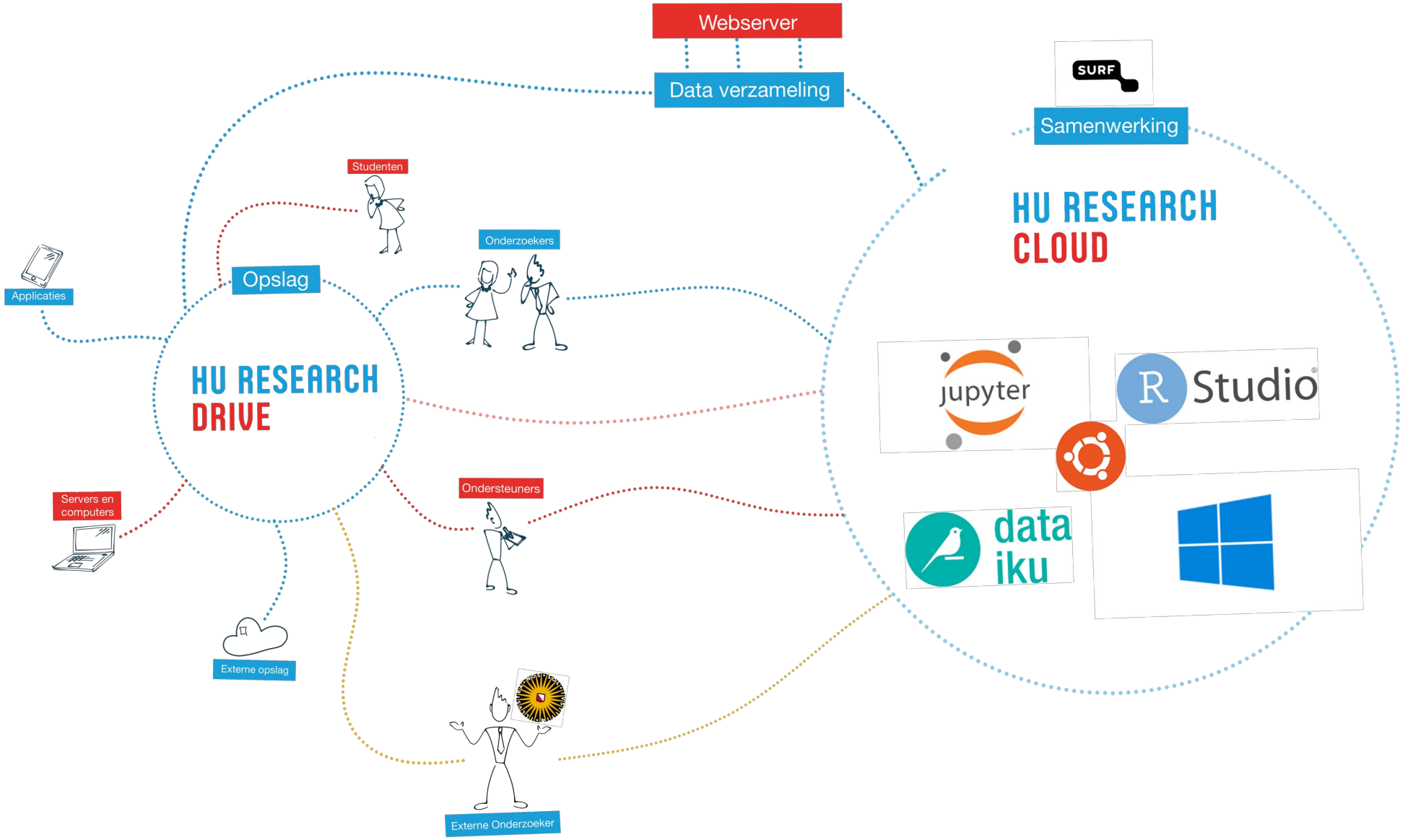
Questions?

Thank you

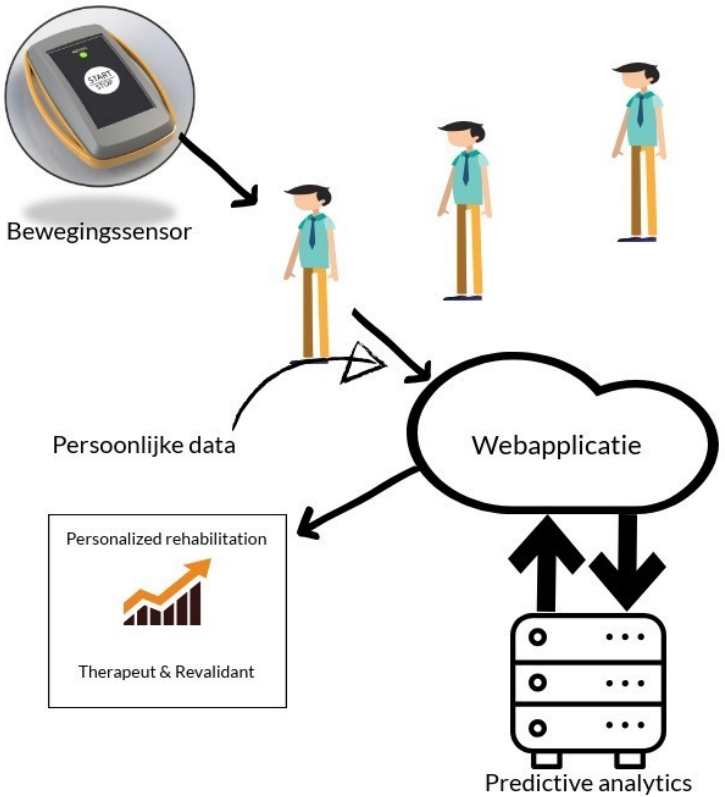
Standaardiseren door digitaliseren

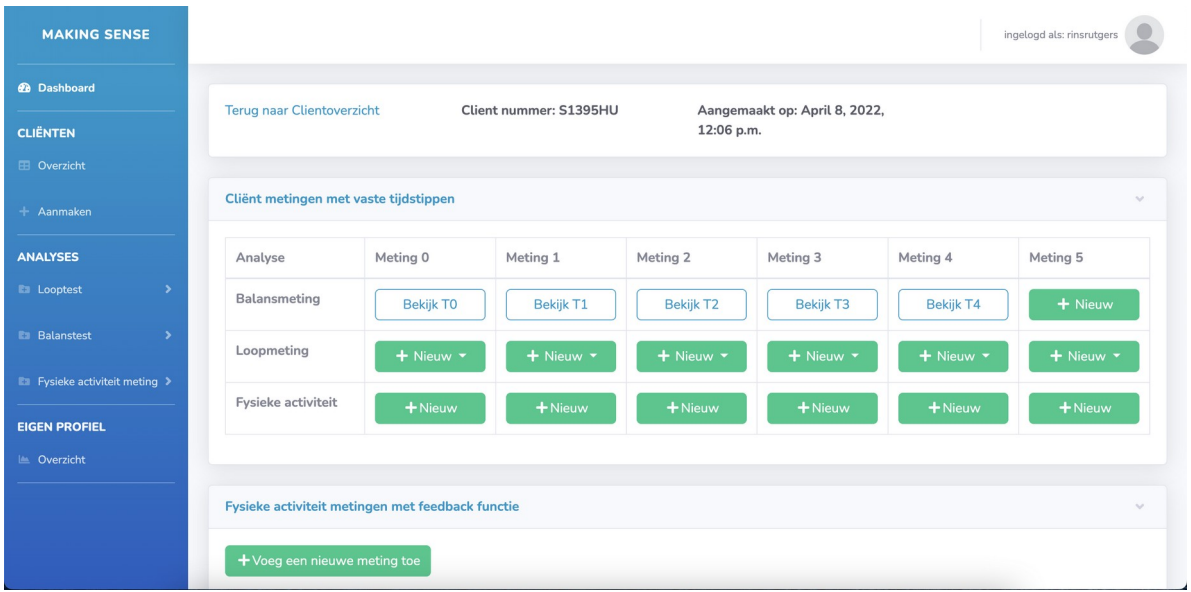
- 3 projecten
- Data wordt verzameld door de praktijk
- Verschillende soorten data
- Meerdere proefpersonen
- Meerdere meetmomenten per proefpersoon
- De praktijk wil graag direct feedback
- Onderzoeker wil de ruwe data kunnen analyseren
- Geen persoonsgegevens



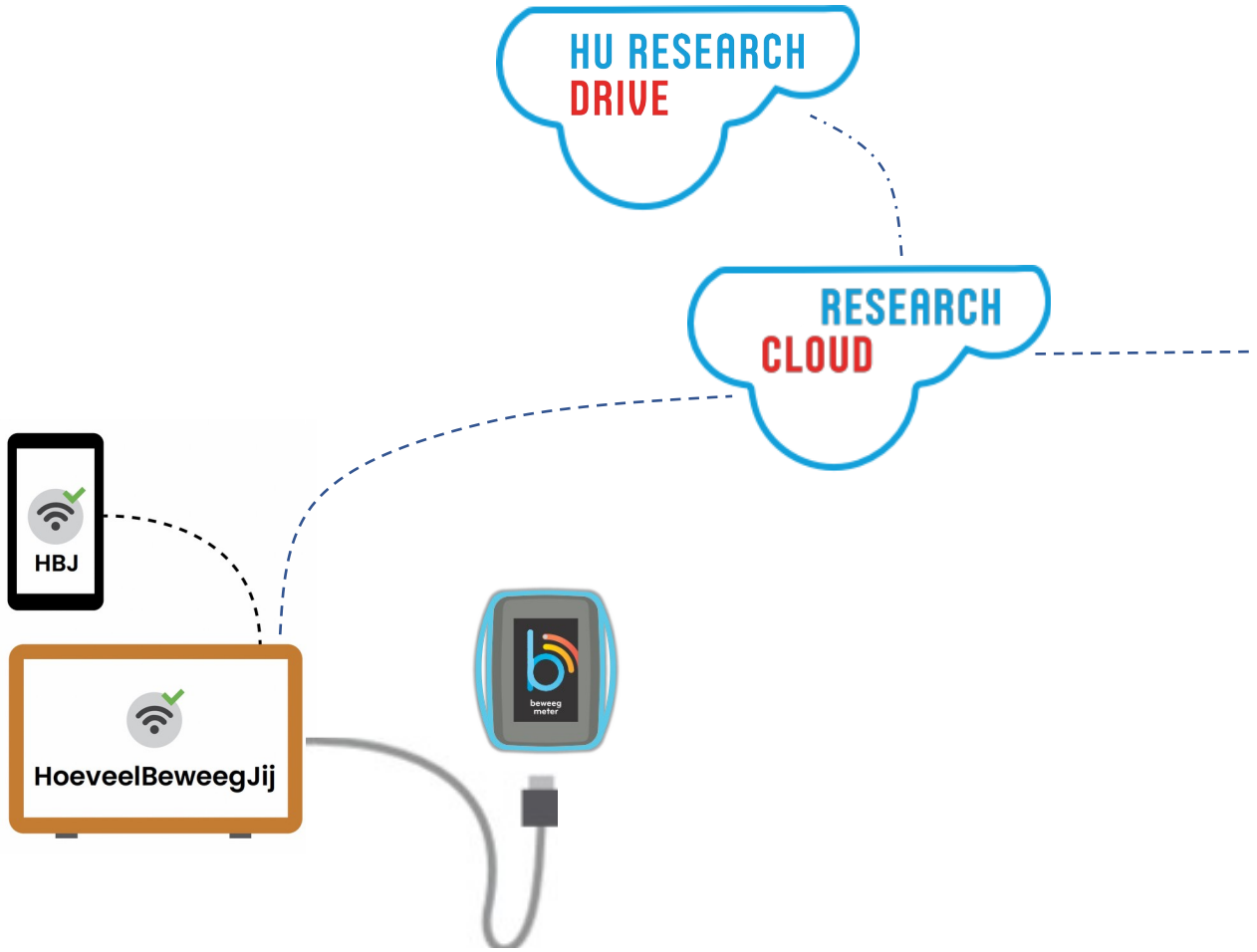

Webserver
Data verzameling
SURF
Samenwerking
HU RESEARCH CLOUD
Studenten
Onderzoekers
Applicaties
Opslag
HU RESEARCH DRIVE
jupyter
RStudio
Servers en computers
Ondersteuners
data iku
Externe opslag
Externe Onderzoeker

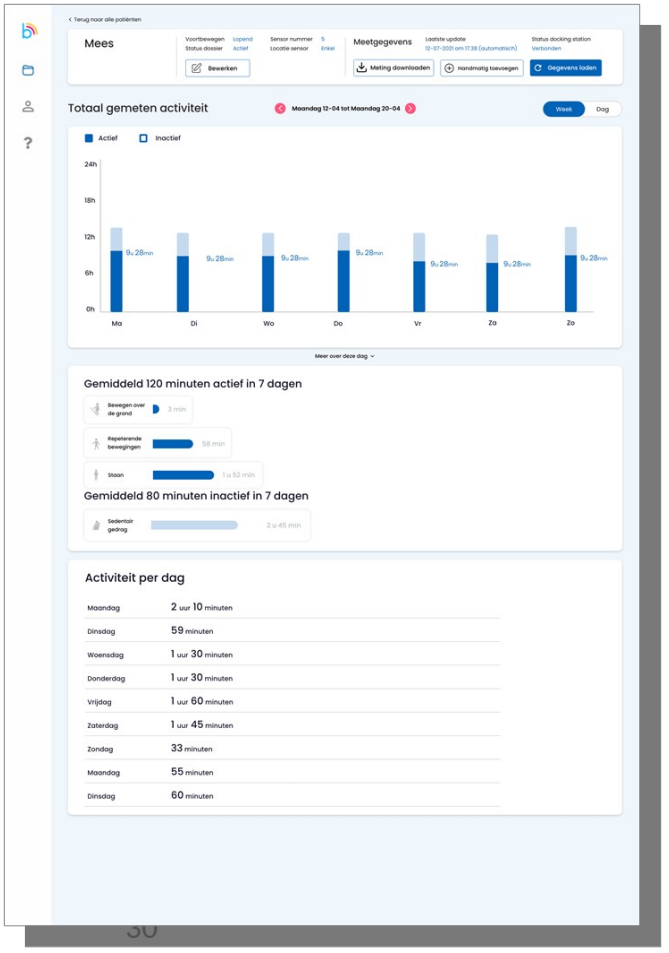
Casus 1: Making sense of sensor data





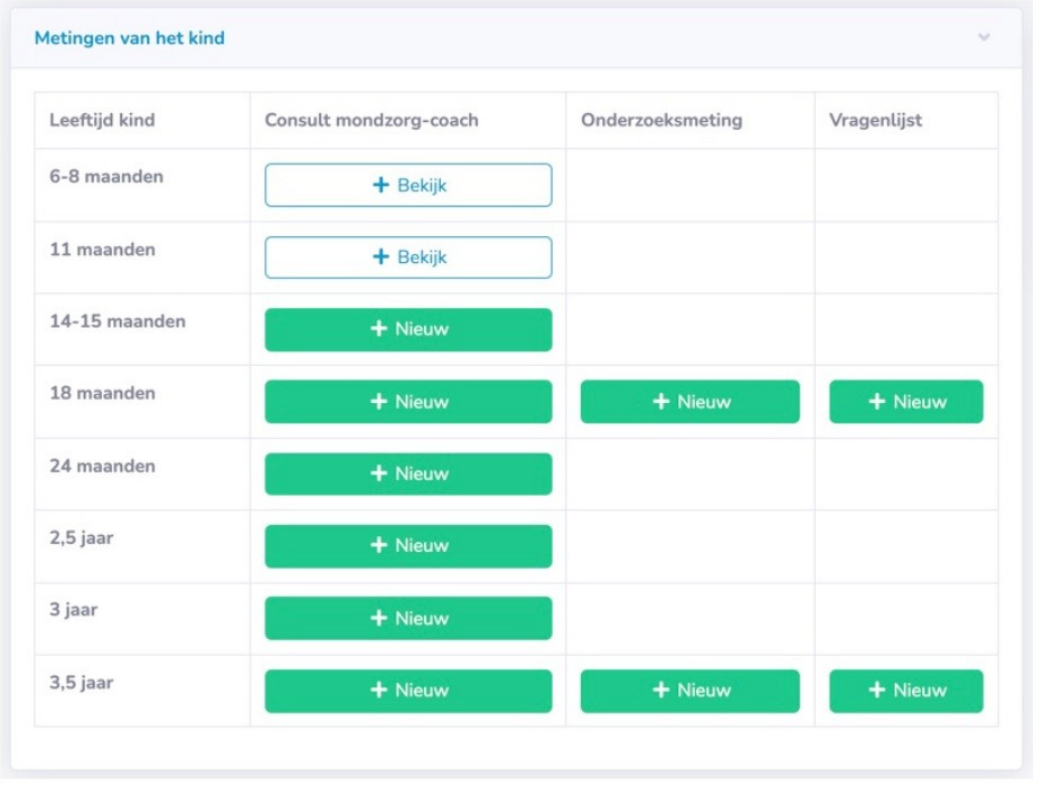
Casus 2: Hoeveel beweeg jij?





Casus 3: Gezonde peutermonden

- 400 geïncludeerde kinderen
- Duur: 4 jaar
- Per kind:
  - 9 Patientenkaarten
  - 3 vragenlijsten
  - 2 onderzoeksmetingen
  - 2 toestemmingsformulieren



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