The CERN-Solid Proof of Concept (PoC)

Success & Follow-up

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Presentation for the 2021-10-07 Solid World

How did this PoC start

From creative thinking and lobbying in the CERN-Solid gitter channel.

1. Jan Schill looking for a MSc thesis subject in this area.
2. Maria Dimou wrote this project description.
3. CERN and Solid experts supported us
   and answered our questions
   between September 2020 and June 2021.
4. As a result this excellent quality thesis came out
   and the CERN community became Solid-aware.

The PoC definition

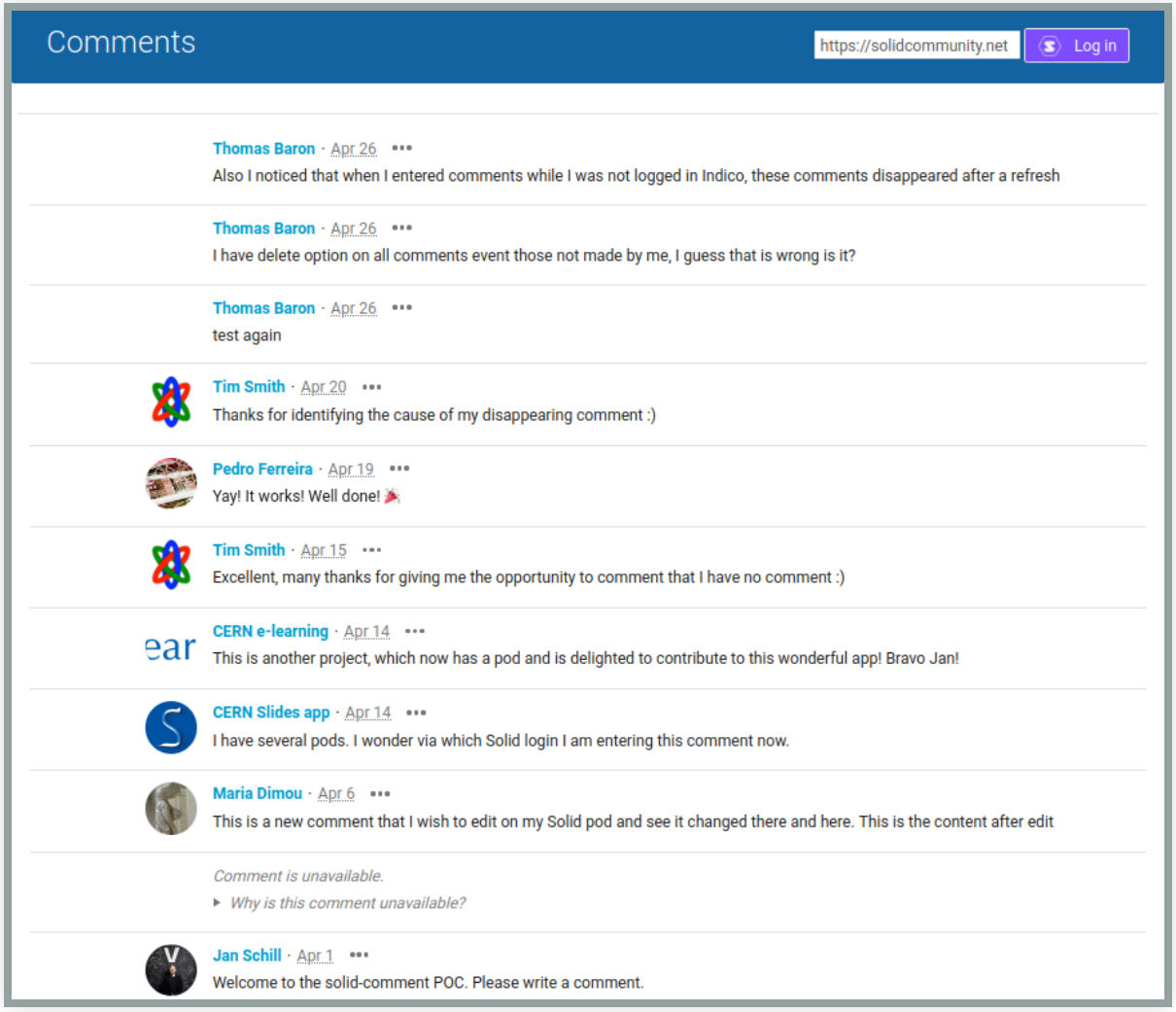
Enrich the CERN Indico application functionality based on Solid principles

1. Introduce *Comments* in Indico events, the content of which reside in the user's Solid pod.
2. Fill-in *Registration* fields in Indico conferences with personal data taken from the Solid pod.

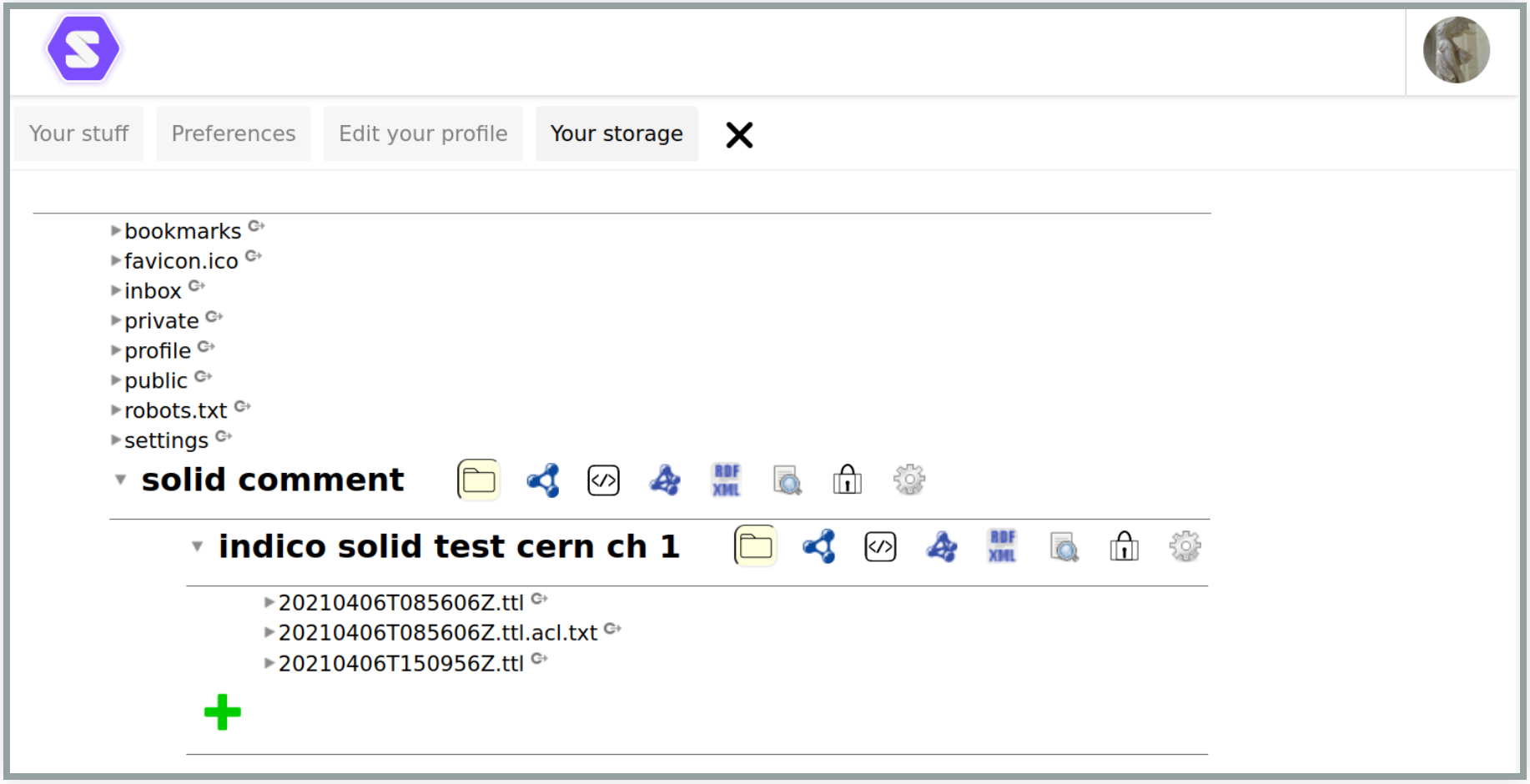
What is Indico

- A CERN-developed open-source tool for event organisation, archival and collaboration.
- Indico is used every day at CERN to manage
  more than 850K *events*
  and 3.5M *attachments* by 146K *users*.
- Also adopted by UN agencies and other organisations.
- Resilient and reliable for over 20 years.
- Indico has no incentive to keep user data when possible.

Comments to Indico events via Solid pod authentication



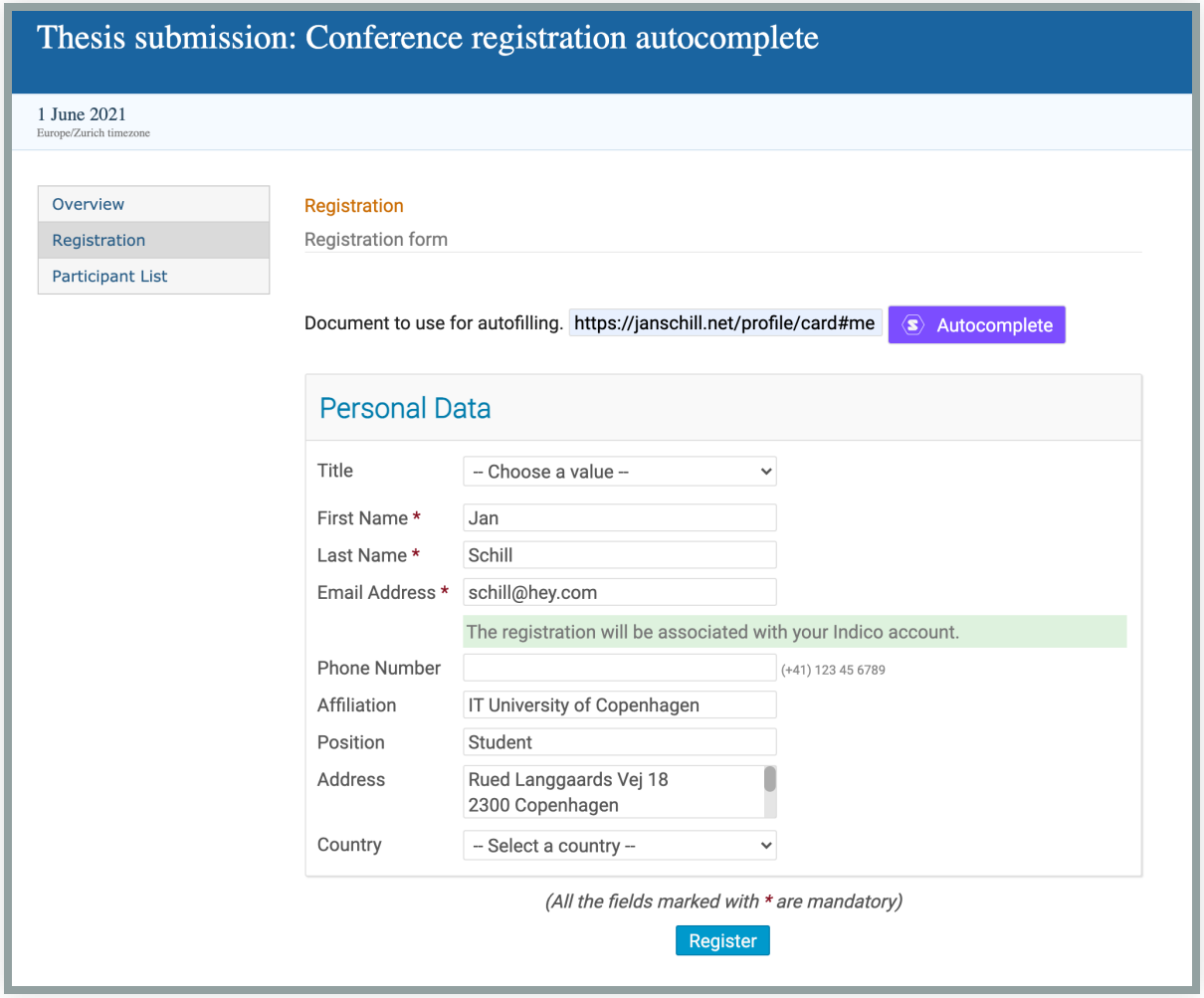
What you see in your pod



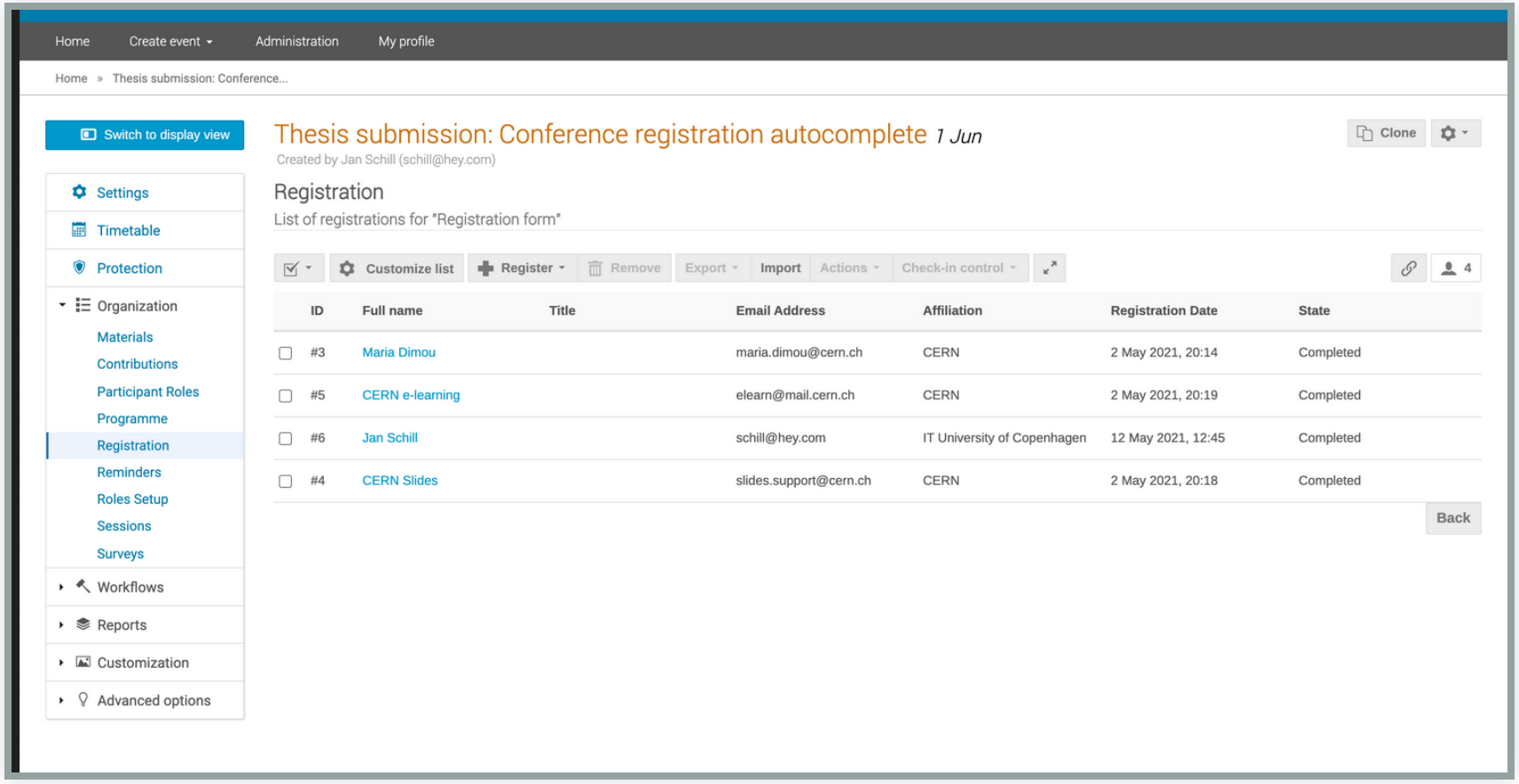
Details on the code for *Comments*

- Client-side developed JavaScript application
- Self-contained, can be re-used in other applications
- Stores one comment in one file on data pod
- Communicates with data pod directly
- Needs authenticated Indico session
- Indico holds the reference to the location of comment

Indico conference registration via Solid pod data - prompt



Indico conference registration via Solid pod data - list of registrations



Indico conference registration via Solid pod data - Linked Data

LD: Subject	**LD: Predicate**	**LD: Object**	**Indico form**
#me	ns:fn	“Jan Schill”	name=“first_name”
#me	ns:fn	“Jan Schill”	name=“last_name”
#me	ns:hasEmail	mailto:schill@hey.com	name=“email”
#me	ns:gender	“Male”	Label=“Gender”

ns = *http://www.w3.org/2006/vcard/ns#*

Details on the code for *Conference Registrations*

- **Design of implemented module**: retrieve personal information **for** an Indico conference registration **from** data pod
- Original idea to store personal information **of** conference registration **in** data pod abandoned due to:
  - Sensitivity of payment details requiring reliable data retrieval
  - Archival of events need the data at Indico
  - Management of events/conference need performant data retrieval

Challenges for CERN with Solid today

- Few applications using Solid pods so far
- CERN users require an attractive pod UI
- No formal support for the open source solutions
  (lack of resources at CERN for projects of the future)
- Solid being a living standard, the specifications also evolve, especially in the Access Control area, leading to varying server implementations.
    - CERN has to give priority to apps with operational status.

Strategic decisions for CERN

Despite these challenges we believe:

- Solid is here to stay and expand.
- It is strategically and ideologically important for CERN to be engaged with Solid.

Concrete proposal for the short-term

For the above-explained reasons we recommend that we:

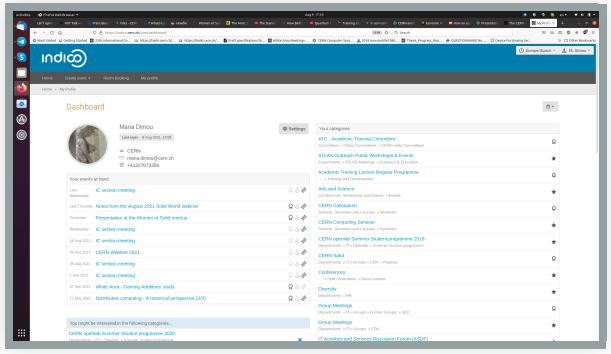
- install the Community Solid Server (CSS) at CERN.
- integrate it with the CERN Single Sign-On (SSO).
- develop an attractive UI with open source tools.
- make our efforts known in the scientific communities outside CERN.

See the Policy document for details.

Useful use case for CERN

Providing Solid pods to all CERN users would answer the cross-app “CERN user profile” aspiration

Some CERN apps offer user profiles, e.g. Indico:



These are *not* owned by the user, nor can they contain any data of the user’s choice.

Follow-up project to get there

Théo Meyer, ITU student, interested in this work,
is now working on this follow-up project.

Project components

1. Evaluate the CSS code and functionality.
2. Install and configure a CERN CSS instance.
3. Contribute code to CSS, if needed, based on the CERN installation experience.
4. Study CSS performance and scaling issues.
5. Comment on the necessary methods to promote Solid pod adoption by the CERN community.

Thank You

Jan Schill for fantastic work with the PoC
Théo Meyer for taking up the follow-up project
Tim Berners-Lee for guidance
Michiel de Jong for Solid expert advice
Ruben Verborgh for reading the Policy note
CERN management and colleagues for following this work with interest

References

- CERN-Solid entry point
- CERN-Solid chat
- The completed PoC Project description
- The PoC Project repo:
  - Comment
  - Registration
  - CERN mirror of the repo
- The current Follow-up project
- Policy document for a CERN Solid server

Thank You!