

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


Comments https://solidcommunity.net [Log in](#)


Thomas Baron · Apr. 26 · ...
Also I noticed that when I entered comments while I was not logged in Indico, these comments disappeared after a refresh


Thomas Baron · Apr. 26 · ...
I have delete option on all comments event those not made by me, I guess that is wrong is it?


Thomas Baron · Apr. 26 · ...
test again


 **Tim Smith** · Apr. 20 · ...
Thanks for identifying the cause of my disappearing comment :)

 **Pedro Ferreira** · Apr. 19 · ...
Yay! It works! Well done! 🎉


 **Tim Smith** · Apr. 15 · ...
Excellent, many thanks for giving me the opportunity to comment that I have no comment :)

 **CERN e-learning** · Apr. 14 · ...
This is another project, which now has a pod and is delighted to contribute to this wonderful app! Bravo Jan!

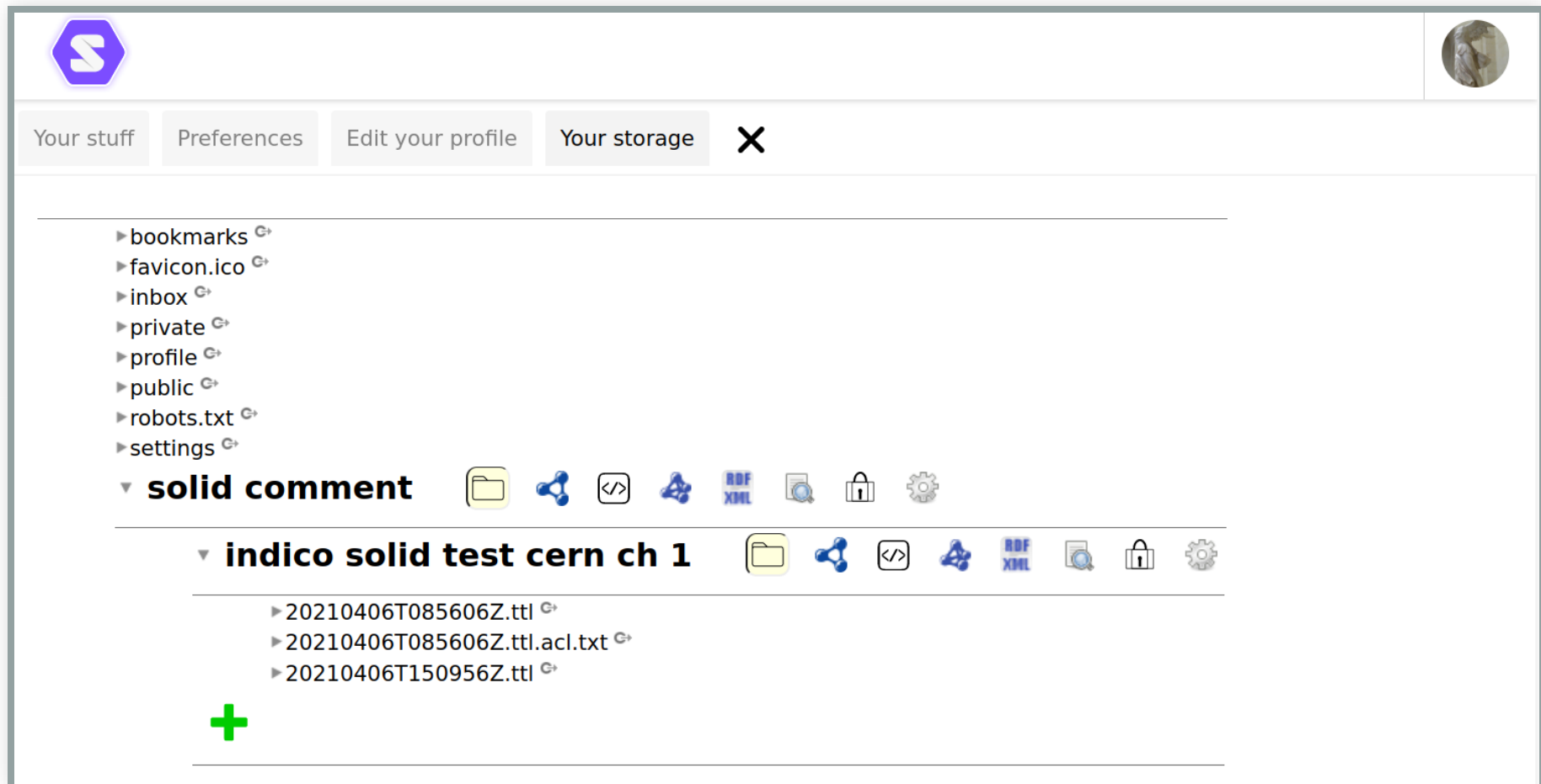
 **CERN Slides app** · Apr. 14 · ...
I have several pods. I wonder via which Solid login I am entering this comment now.

 **Maria Dimou** · Apr. 6 · ...
This is a new comment that I wish to edit on my Solid pod and see it changed there and here. This is the content after edit

Comment is unavailable.
► *Why is this comment unavailable?*

 **Jan Schill** · Apr. 1 · ...
Welcome to the solid-comment POC. Please write a comment.

What you see in your pod



The screenshot displays a web interface for a Solid pod. At the top left is a purple hexagonal logo with a white 'S'. To its right is a circular profile picture. Below these is a navigation bar with tabs: 'Your stuff', 'Preferences', 'Edit your profile', and 'Your storage' (which is active and highlighted). A close button 'X' is to the right of the tabs. The main content area shows a list of items:

- ▶ bookmarks
- ▶ favicon.ico
- ▶ inbox
- ▶ private
- ▶ profile
- ▶ public
- ▶ robots.txt
- ▶ settings
- ▼ **solid comment**
- ▼ **indico solid test cern ch 1**
 - ▶ 20210406T085606Z.ttl
 - ▶ 20210406T085606Z.ttl.acl.txt
 - ▶ 20210406T150956Z.ttl

A green plus sign is located at the bottom left of the main content area.

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

Thesis submission: Conference registration autocomplete

1 June 2021
Europe/Zurich timezone

- Overview
- Registration
- Participant List

Registration

Registration form

Document to use for autofilling. <https://janschill.net/profile/card#me> Autocomplete

Personal Data

Title	<input type="text" value="-- Choose a value --"/>
First Name *	<input type="text" value="Jan"/>
Last Name *	<input type="text" value="Schill"/>
Email Address *	<input type="text" value="schill@hey.com"/>
The registration will be associated with your Indico account.	
Phone Number	<input type="text" value=""/> (+41) 123 45 6789
Affiliation	<input type="text" value="IT University of Copenhagen"/>
Position	<input type="text" value="Student"/>
Address	<input type="text" value="Rued Langgaards Vej 18"/> <input type="text" value="2300 Copenhagen"/>
Country	<input type="text" value="-- Select a country --"/>

*(All the fields marked with * are mandatory)*

Indico conference registration via Solid pod data - list of registrations

The screenshot displays the Indico web interface for a conference registration. The top navigation bar includes 'Home', 'Create event', 'Administration', and 'My profile'. The breadcrumb trail shows 'Home > Thesis submission: Conference...'. The main content area is titled 'Thesis submission: Conference registration autocomplete 1 Jun', created by Jan Schill (schill@hey.com). A 'Registration' section lists registrations for a 'Registration form'. The table below shows four registrations with columns for ID, Full name, Title, Email Address, Affiliation, Registration Date, and State. A left sidebar contains navigation options like Settings, Timetable, Protection, and Organization. A 'Back' button is located at the bottom right of the registration list.

ID	Full name	Title	Email Address	Affiliation	Registration Date	State
<input type="checkbox"/> #3	Maria Dimou		maria.dimou@cern.ch	CERN	2 May 2021, 20:14	Completed
<input type="checkbox"/> #5	CERN e-learning		elearn@mail.cern.ch	CERN	2 May 2021, 20:19	Completed
<input type="checkbox"/> #6	Jan Schill		schill@hey.com	IT University of Copenhagen	12 May 2021, 12:45	Completed
<input type="checkbox"/> #4	CERN Slides		slides.support@cern.ch	CERN	2 May 2021, 20:18	Completed

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:

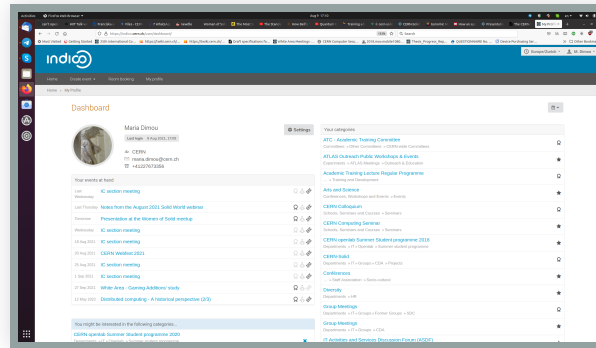
- install the Community Solid Server (CSS) at CERN.
- integrate it with the CERN Single Sign-On (SSO).
- develop an attractive UI with open source tools.
- make our efforts known in the scientific communities outside CERN.

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](#)

