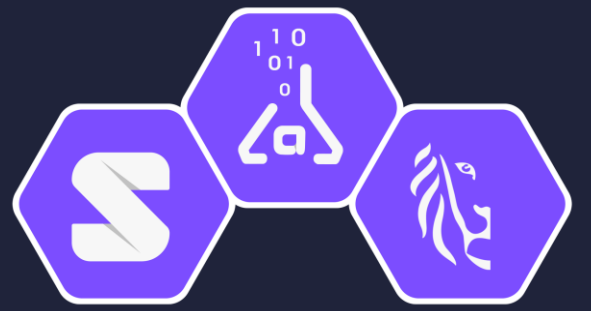
# *“The hardest thing is that we’re just doing things that have never been done before.”*

Summary of a series of interviews focused on UX-related struggles and needs of designers and developers who are working with Solid.

# Research within the framework of SolidLab Flanders

Tim Theys & August Bourgeus



Vlaamse overheid

DEPARTMENT OF ECONOMY SCIENCE & INNOVATION

Gefinancierd door de Europese Unie
NextGenerationEU

This document summarizes a series of 12 interviews with designers and developers who have experience in designing Solid interfaces. The interviews aimed to identify their most common UX-related struggles and needs when working with Solid. The results will be a guide for us to orient our future research within SolidLab Flanders towards the identified needs.

# Why? A clear call for help from the community

**Has any work been done to standardise UX patterns for logging into Solid applications?**


I'm not aware of any standarized best practices, but I'd certainly like to see them :).

Guidelines omtrent SOLID UX zijn zeker nodig.

However all these tasks are going to take some time, I would argue it is part of maturing. Nevertheless, we would welcome this work of 'standardizing UX' (which goes beyond the under the hood code) - develop some prototypes (wink: browser extension), mockups, Solid onboarding App. (there were some attempts before too: GitHub - solid-contrib/solid-signin-ui: Sign In application 2).

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# Who?

## The interviees

12 people with experience in designing Solid applications

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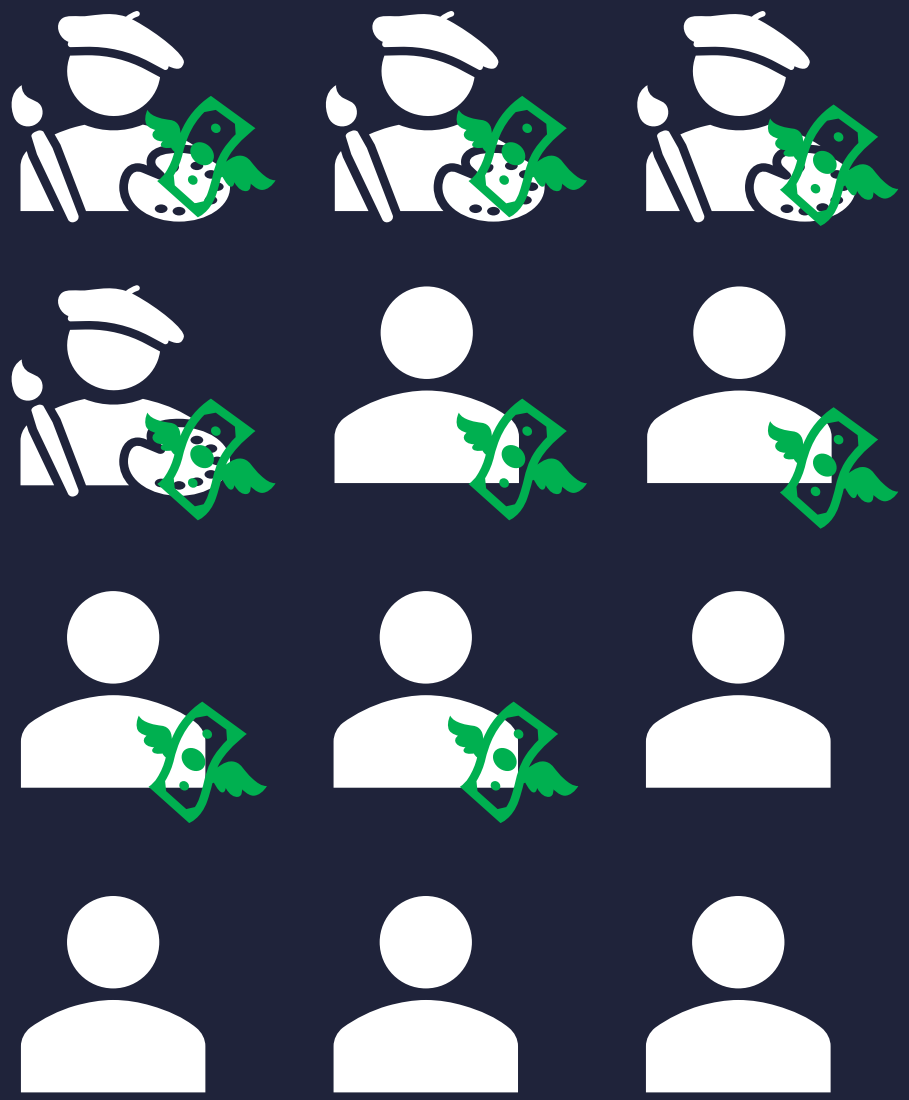
**8 are professionally working with Solid**



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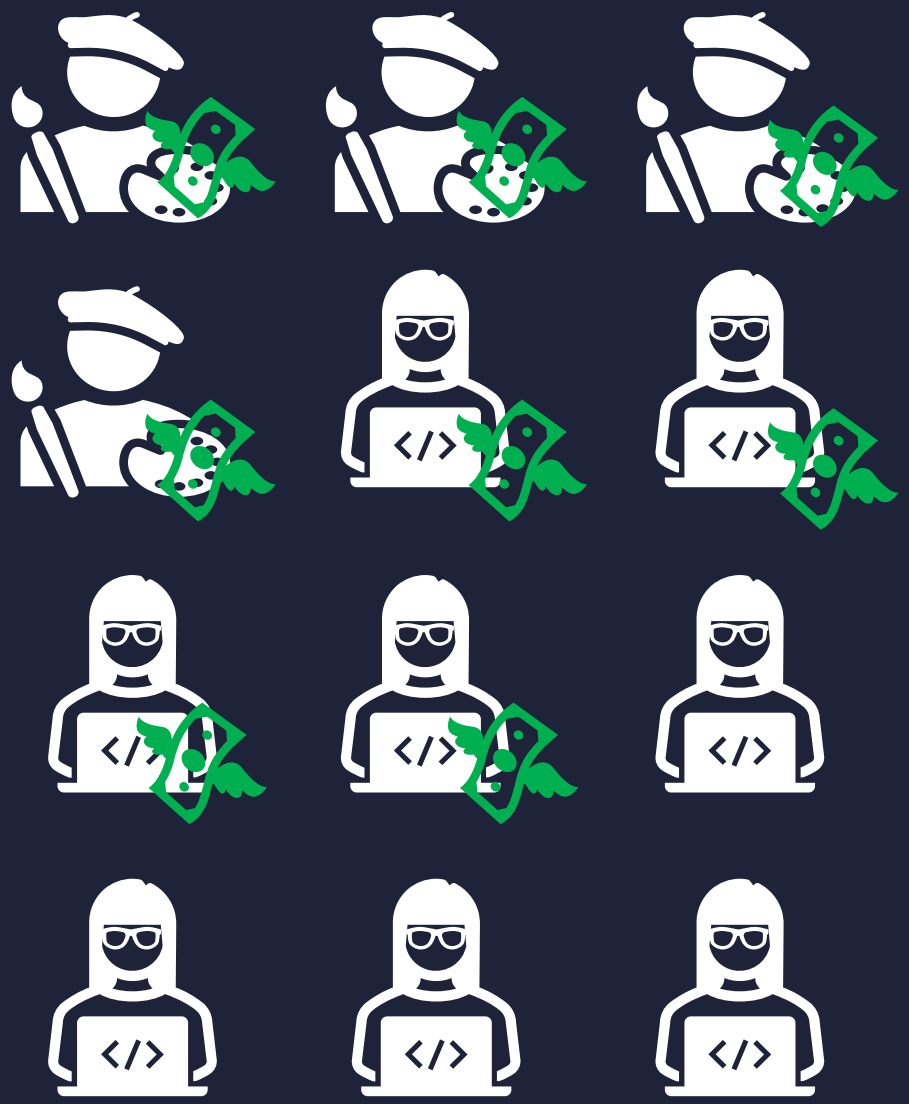

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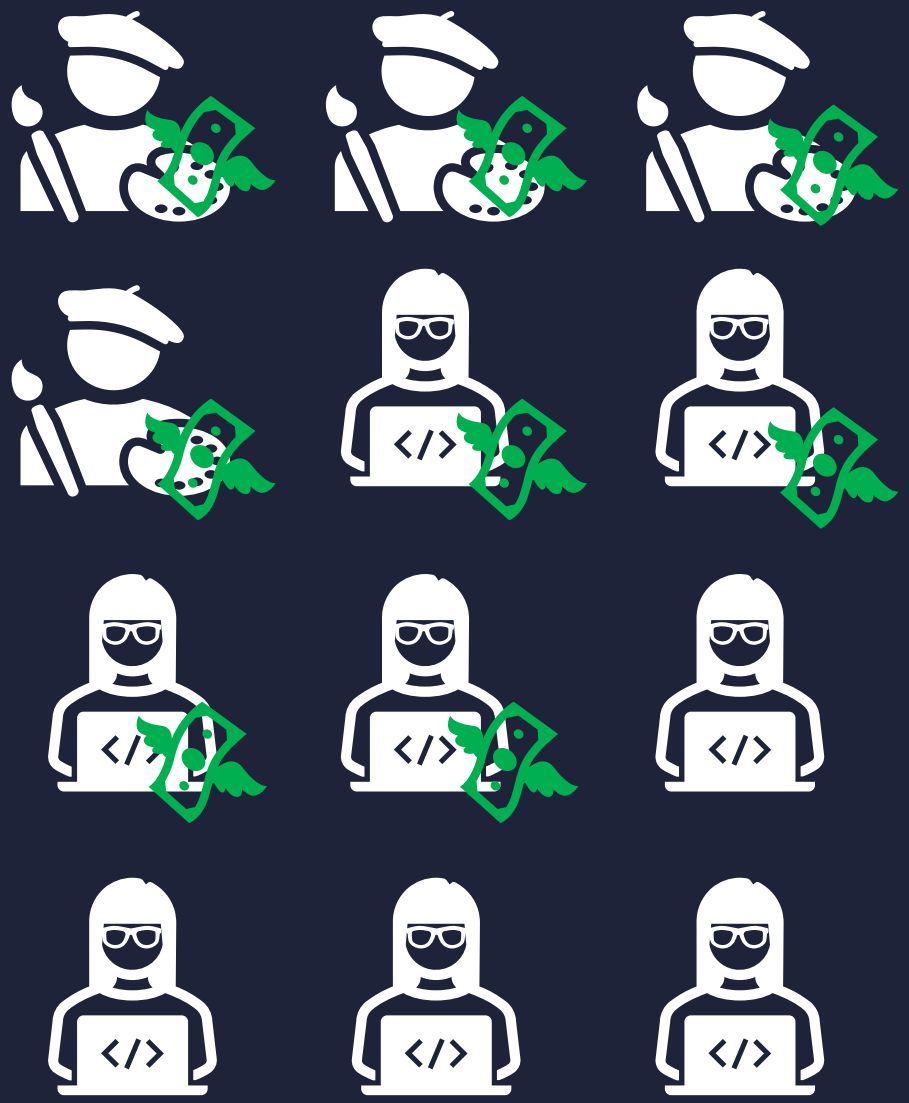

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**A worldwide perspective from people located in:**

The interviewees were presented with a list of 8 UX-related struggles that we identified on previous Solid workshops and community fora. Then they were asked to rank the struggles from ‘most important to be solved’ to ‘less important’. The respondents were also motivated to think out loud to clarify their choices. The results of this exercise are presented in the next slides.

# We asked which UX related problems are most important to be solved

1) Struggles with explaining Solid

2) Lack of design patterns

3) Confusion about use of terminology

4) Struggles with visualizing data

5) Lack of standardized icons and UI elements

6) Unclear Solid principles

7) Lack of specific evaluation tools

8) Legal requirements

## 1) Struggles with explaining Solid

Struggles with **explaining Solid** and related concepts such as WebID and data vaults to the users.

The obvious number one problem that made it into the top 3 of every interviewee, with just one exception, is the struggle of explaining the concept of Solid. The most prominent hurdle designers and developers bump upon is the **fear of being too overwhelming and confusing** for end-users. Some of the respondents even questioned if there is always a need to explain Solid, posing it should maybe just be something running in the background.

*“It’s a lot of information to communicate. [] How much do you communicate; **how much do people care**?”*

*“The most common challenge I hear is presenting the concept of PODs.”*

*“Do we tell users about PODs?”*

*“The complicated part is making sure it is **not overwhelming and confusing** and (users) needing a degree in computer science to understand it.”*

*"**Try to explain it.** It is very hard to explain without going to deep technically.”*

Do people really have to understand Solid or is it good enough if they understand the benefits? One of the respondents made a parallel with encrypted messages:

*“Most people don’t know what encryption is, however, they go towards encrypted messages to text people, just because they have heard the concept and they kind of know that it is good and understand it protects their privacy.* ***They don’t even know how it works; they don’t even need to know how it works.”***

## 2) Lack of design patterns

Lack of **standardized patterns** (e.g. for login, consent flows, ...)

Second in line is the lack of standardized patterns. Different reasons were mentioned explaining the need for standardization. The most prominent one is the belief that standardized flows will **increase peoples' trust** through recognizability and as such **heighten the adoption potential**. Further, some interviewees expect that it can make Solid more understandable for users across different applications. Another reason that was mentioned is that it could take away a burden for the designers since they will not have to worry about designing a GDPR-compliant flow anymore.

The patterns mentioned most by designer and developers as being crucial, are the **login and consent flow**.

*"I believe a standard flow adds a lot of **trust**. If you have to give consent everywhere in the same way, the user will feel like this is managed on a deeper level than just the application level. [] **Repetition builds trust.**"*

*"Standardization is definitely a win for the users. The more everyone uses it in the same way the easier it is for the user to **recognize and trust it**."*

*"From the moment there are standardized patterns, there will be no need for UX designers to understand GDPR. "*

Comments specifically regarding the login flow

*"It is the first step, and it is the biggest unknown."*

*"There is one friction point where we haven't found the right way yet, and it's when you log in with Solid. [] The users need to log in to their POD and that adds another brand [] and that would be the brand of the POD provider. That adds an extra layer of things to explain to the user and* ***they don't like that, they would like to keep a unified experience****."*

(About selling the idea of Solid to companies)
*"At the very moment you tell them, look there is going to be a new brand in your UX, and the user has to log in into some Solid stuff they don't understand,* ***it's dead.****"*

## 3) Confusion about use of terminology

Confusion about what **terminology** is best to use (e.g., login vs connect, data vault vs wallet, …)

As confusion about what terminology is best to use is ranked as the 3rd biggest struggle, different interviewees mentioned they would like to see a **proposed 'best to use' terminology**. Their main argument is that they believe consistency across applications could be beneficial for the users' understanding. However, not everyone shared this view. Some argued that the used terminology is **context-dependent,** and every company should be free to choose the terminology that best fits their context.

*"I would not say best to use terminology but **must use terminology**. Is it data POD, is it datavault, what is it now? [] If you say best to use you still leave the choice for the application which can make it **confusing**."*

*"You can only start explaining something if the used terminology is the same."*


*"As long as it makes sense in the context it is fine."*

*"It would be nice to have at least a proposed terminology for us and to present to our clients how to use it in their interface."*

## 4) Struggles with visualizing data

Struggles with **visualizing data** in an engaging way (e.g., visualizing POD data)

The main issue mentioned regarding struggles with visualizing data is distinguishing **between verified and non-verified data.** Just as with the design patterns, some of the interviewees believe that some level of **standardization** could be of help here.

*"Maybe there is a need for sort of a standardized way of visualizing some well-known data types. [] Maybe it should be **engaging and standardized**."*

*"How are you going to visualize the **quality of the data** UX-wise, so you know: this is quality (verified) data, and this is user-created data."*

## 5) Lack of standardized icons and UI elements

Lack of **standardized icons** and other **UI** elements for visually supporting a Solid interface.

When talking about the lack of standardized icons and other UI elements, we noticed that the personal need for this is closely related to the belief of to what extent Solid should be explained. Interviewees who are of the opinion that Solid should mostly be something running in the background, naturally feel less of a need for standardized visual elements. Others, who are more focused on explaining the idea of Solid to users, feel more of a need for this.

*"Solid has a logo just like HTML has a logo,* ***we don't want it to be customer facing****."*

*"Actually, we started to use* ***animations*** *in the interface to help explain things. And we've seen that that helps."*

## 6) Unclear Solid principles

Unclear what the **Solid principles** actually are and how to translate that into an interface.

Although this problem comes only in 6th place, interviewees don’t agree on whether or not Solid principles exist.

In general, there were two opposing views. Some interviewees claimed that understanding the values and principles of Solid is essential to design & develop applications. They claim that in order to give an alternative to current web applications, one should follow certain value-based principles.

On the other hand, some interviewees stated that Solid is just a specification and that there is no need for principles. These principles are not well defined and are of no use for designers and developers.

*"**Solid principles imply that Solid is some kind of vision or 'religion'** while instead, it is just a specification so there is no need for Solid principles."*

*"Principles are very good, but not really as useful to a practitioner as guidelines. But I still question this."*


*"**Solid itself is not opinionated;** it is a technology. [] The values and principles are related to the app you are building."*

*"I believe that if you want to position **Solid as a counterpart of everything that is wrong now**, then this is very important (about principles)."*

*"As a designer you then know, ok this is what I need to communicate on this screen."*

*"I believe guidelines are too loose in this phase, I would maybe even talk about **mandatory principles**."*

*"The Solid principles are for me the most important. Because I talk now to too many people who want to use Solid like they use blockchain because it is blockchain. [] It is only when these principles are valued and used by the application creators that this can **build users' trust** because they know what is behind it and it is always the same."*

## 7) Lack of specific evaluation tools

A lack of specific **evaluation tools** for testing and evaluating Solid interfaces.

Interviewees pointed out that a lack of evaluation tools is not a Solid-specific problem. Although designers acknowledged that having such tools is important, they aren't prioritized at this moment.

The interviewees were presented three possible evaluation tool, being:

- a checklist for self-evaluation,
- guide & sample questions for usability testing,
- a new UX scale focusing on usability and trust.

The checklist for self-evaluation appeared to be the most useful to the designers and developers.

*“Every designer has this struggle, how are you going to evaluate your designs?* ***This is not really a Solid specific problem.”***

*"The* ***checklist for self-evaluation*** *really caught my eye because that's something I as an individual can use and you know, even though I don't have a testing budget. I'm never going to sort of like do a survey of users' impressions of my sort of prototypes."*

*"A checklist for self-evaluation is more interesting in a later stage of the design process."*

## 8) Legal requirements

Struggles with meeting **legal requirements** when building Solid interfaces (e.g., making the consent flow GDPR proof)

Most of the interviewees stated that Solid goes beyond current legal requirements. Legal requirements concerning Solid applications weren't seen as something different from non-Solid applications. Furthermore, interviewees often didn't understand the fuzz on consent and legal requirements.

*"**I don't really get what the legal struggles are**, you give consent, or you don't. I feel like people always want to make this harder than it is."*

*"I think with Solid it is **easier** than other things"*

*"I don't understand why people make this such a big deal; **you just have to ask consent.**"*

**During the interview series, a few themes frequently returned. The next slides go deeper into the most recurring themes.**

# Technical benefits and limitations

As 8 out of 12 interviewees have a more technical background, naturally a few comments were made on the technical benefits and limitations of Solid.

A clear benefit mentioned by half of the developers is the fact that Solid applications can be built front-end only, taking away the barrier of having to manage databases. This reduced complexity is mainly appreciated by developers working on Solid nonprofessionally.

However, developers also mentioned some difficulties they experienced while working on Solid. Firstly, they stated regularly bumping into technical limitations of Solid, having to find a way around it. Further, there are some for whom the technical specifications are not always that clear. Finally, two also declared experiencing that Solid apps can sometimes work slowly.

*“From a developer perspective [] for me it’s great because I do not have to think about dataspaces, I can just focus on my client application. That **gives me a lot of time and resources** to actually spent more thinking about that.”*

*“There are always some **technical constraints**, because there are still things we can’t yet do with Solid, so we have to find a way around it”*

*“One of the main issue for me with Solid apps, as I mentioned before, is that they are **very slow**”*

*“I mean one of the practical pain points at the moment is that the standards and **specifications are still in flux** and still being defined.”*

## Lack of examples

A common method designers and developers use, is inspecting existing Solid applications or applications with resembling flows to learn from them. However, many indicated that right now there is a clear lack of good examples and often the available examples differ too much from their own applications. Six interviewees explicitly stated that they would be highly interested in seeing case studies of best practices that could serve as inspiration for their own designs.

*“The hardest thing is that we’re just doing things that have never been done before.”*

*“**There just aren’t really any examples** on how to design things, like consent flows.”*

*“If people do not have so many examples or the examples do not use the best UX, **that is how applications will end up bad.**”*

# Asking for reponsability of the user

As Solid offers the possibility to people to do more with their personal data, some interviewees mentioned that designers and developers should be very aware of the responsibility that is being asked of the users. Designers mentioned struggling with making sure this data management task is not overwhelming or overshadowing the initial goal of the user. One of the pain points is allowing the right level of granularity of control that best matches the users' needs.

*"I think the most challenging part is that we are going to ask user to take more responsibility for their data. And that is a big ask for the people. []* ***How are we going to make it, so it is not overwhelming?"***

*"**There is a lot of friction** in the experience. It's **good friction** if you're looking from a data privacy or data management point, but it's **bad friction** if you're thinking about; my users' goal is to do something all other services allow you to do very easily."*

# Comments regarding the granularity of control

*“Are you going to organize it thematically and then on company level or sector level?”*

(Quoting a participant of a user test)
*“If this was my financial data, I probably would want this level of granularity of control. I would want to see all the detail, but for the XXX experience* ***I don’t really care****.”*

# Remembering WebIDs

A common concern brought to light by three of the interviewees, is the possible difficulty for users to remember their WebIDs. This concern is closely related to the fear that users will keep on creating new WebIDs upon login and lose all overview over their accounts. Different interviewees are therefore looking into ways to reduce the complexities around WebIDs. For example, by linking the users email to their WebID or by reducing the length of the URIs as much as possible.

*"One big problem I foresee regarding UX is remembering the name of your WebID. I want to build a **UX shortcut** that makes use of your email. For example, if your email is xxx@gmail.com, then make my WebID use.id/xxx."*

*"It is really hard to carry around the URI and you having to copy and paste it."*

*"Like how initially people had 10 email addresses, [] this seems like the same danger for WebIDs, that everybody will **keep creating new WebIDs.**"*

*"Just like the **@ in email addresses**, a WebID could maybe have a certain easily **recognizable element** that could make it easier to remember."*

Do you have a question or comment, feel free to contact us:

**Tim Theys** – Tim.Theys@UGent.be

**August Bourgeus** - August.Bourgeus@vub.be

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https://solidlab.be

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