Data to the people!

A practical approach

What if you were in control of all your personal data? Or rather, what would happen if everyone exercised their GDPR rights as citizens, and started to ask for their data everywhere?

What if companies didn't need to worry about GDPR anymore? What if we could prevent digital dictatorships, by both corporations and governments?

These questions and the ideas that ensued occurred to PwC in 2018, at a time when the General Data Protection Regulation (GDPR) was all over the news and all organisations were required to comply. Like any good idea, we were not the only ones to think of it... We soon discovered that Sir Tim Berners Lee had already launched an initiative under the name, SOLID: SOcial LInked Data.

The idea's very simple: put people (back) in control of their own data.
But the implications are tremendous.

It gives any individual complete control over their personal data – individuals choose what personal data to share and with whom (companies and others).

It breaks the data monopolies, so companies can all innovate and compete, creating a truly data-based economy.

It allows for so many new IT services, applications and services for businesses, governments and citizens alike.

It makes administration much easier for governments and service industries, such as the Healthcare and food industries.

It erases problems with data retention, because a person can keep as much data about themselves as they want, for as long as they want, and will be in full control of what personal data's shared and for how long.

It allows an artificial intelligence (AI) agent to be designed in the best interest of individuals (and not that of a company or country), and thus forces organisations to truly focus on what matters to its customers and citizens.

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The idea of giving control of personal data to those that generate it isn't new, but the technology and methodology for doing it certainly is.

PwC's purpose is to build trust in society and solve important problems, and many of us at PwC have realised that this approach, enabled by this technology, could really make a difference.

We see this shift as a huge game changer for companies, governments and individuals. It has all the characteristics of a Blue Ocean Strategy on at least a European scale.

Gartner identifies technologies that enable a composable enterprise and aspire to regain society's trust, as well as AI-assisted design, as some of the top technologies to watch in its Hype cycle for emerging technologies, 2020 (August 2020). The study also places "Digital me" as one of the five emerging trends for the next decade.

Not content to just follow the ongoing and growing buzz, we wanted to contribute.

Five emerging technology trends

https://www.gartner.com/en/newsroom/press-releases/2020-08-18-gartner-identifies-five-emerging-trends-that-will-drive-technology-innovation-for-the-next-decade

The idea has been picked up in Flanders, Belgium and Europe as well. In recent weeks, two important events have shown that it's a growing trend.

The first, was the "Themanamiddag SOLID" on 28 September 2020, organised by the Flemish Government. It took place on the same day as the State of the Union (Septemberverklaring) of the Flemish Government. This online event had almost four hundred participants!

The Minister-President of Flanders, Jan Jambon, announced a budget to be invested in the SOLID concept, and the need for a data-facility company (data-nutsbedrijf) in Flanders.

Tim Berners Lee gave a live talk stating that, *"Flanders is ready, because the government gets it."*

This places Flanders at the centre of this digital revolution, but Europe and other Member States are also moving.

The second event took place on 6 October 2020, organised by the European Commission's SEMIC Team of the ISA² programme, together with Ghent University.

During a hands-on workshop, people from different Member States learned to take their first steps within a SOLID environment. This included creating a decentralised profile, participating in a chat and using a demo app where participants could "marry" virtually.

In the plenary, it became clear that there's an eagerness to explore and develop this, preferably in joint efforts and by working across Member States.

To show the full potential, let's look at some practical examples and use cases.

1 Grocery shopping

If you've a supermarket customer card, the supermarket knows what you're buying and when. Suppose you are in control of this data yourself – not just the data from your activity at one supermarket, but of all the supermarkets where you shop. Maybe even from other shops or restaurants.

This creates opportunities for applications that can see how healthy the food products you buy are, and whether you buy a lot of organic or local products. Imagine an application that suggests you try apples instead of that extra chocolate bar or can predict your next grocery list?

Now what if a couple of thousand people have this information? Then you have a representative sample of the buying behavior of a population. Supermarket A might be very interested in knowing what you buy at supermarket B, and how much and for what price. Would you want to get some discounts on your shopping by just sharing this data with them for that specific purpose? For companies, this is a way to enrich their data and thus market knowledge in ways that can't be done today.

2

Moving house

Anyone who's done this in their life knows it comes with quite a lot of administration. Just changing your address means emailing and phoning a lot of companies and government agencies, just so they know where you live and stop sending parcels, letters and official documents and bills to your old address.

From a decentralised perspective, you only need to update your address once: in your own data pod. And all people and organisations that have access to that information are immediately updated.

3

Work, jobs, vacancies and training

Life involves learning and experience. When looking for a job, you need to update your CV, but companies also use your CV for tenders or for pooling people within the company for a new project. Finding the people with the right skills, or knowing what to learn next for your career isn't an easy task.

Suppose that whenever you learn something, the appropriate skill and skill level gets added to your personal data pod. When you do a project, for example, the associated information is added to your CV. When you share this with the company you work for, they can immediately see what relevant experience and information you have for a new task. They can see which skills you lack for a possible promotion and suggest appropriate training.

Job vacancies can be automatically matched to the centralised, most up-to-date and detailed information on your data pod.

4

A personal information management company

Of course, you don't want to end up monitoring who has access to your personal data on a daily basis or negotiating the best price to rent access to your data. You want to have a secure environment where it's safely stored and properly curated. In the same way, you wouldn't keep all your money in your own personal safe or have automated payments and income in one account.

This means that there's a market for companies who'll provide these data management services for you and serve as a go-between for companies on the data market.

Note that these companies don't need to have access to your data to conduct data management. And if you don't like their services, you simply go to another "data-bank".

5

Your personal advisor

With today's social media, it's clear how you can be targeted by companies aiming at influencing your buying and voting behaviour. This isn't necessarily a bad thing, but when it comes to personal development, it might be good if the advice provided supports your interests rather than those of a company or government. When we imagine AI that can guide and advise us in lifestyle choices, identify solutions to possible challenges or give valuable insights… we truly want that influence to be in our best interests.

Having control of your personal data means that you can pay for those future services based on your personality profile, goals, ambitions and choices.

There are so many more possible applications and examples. We're sure you're thinking of a few right now.

SOLID starts with the decoupling of data and applications so data can stay with the rightful owner.

SOLID is a set of standards, so it's not a company or a platform and can be used by anyone in many forms.

SOLID is an ecosystem: it provides standards that enable interoperability.

SOLID is a movement: the shift to decouple data from applications.

SOLID is a community: it requires cooperation between different people, companies and organisations.

SOLID has servers: it acts like a web server as well as supporting access control and linked data.

As a server, **SOLID** is application agnostic and allows for any service.

So far, PwC Belgium has contributed to this movement in various ways:

In 2018, we launched an initial workshop in collaboration with Imec and Ghent University. Together with one of the biggest contributors to SOLID, Professor Ruben Verborgh, we explored the concept, considered possible business cases and tried interacting with SOLID using different programming languages (R, Python, Java). We also explored the legal regulations on personal data and the implications of the GDPR.

We pitched the idea at the Integriteitscongres in Antwerp (2018) and at the DISUMMIT 2019

We support the community-led meetup "Digital Twin Belgium".

Our Technology Consulting Department began holding meetings, internally and externally (with Imec, Informatie Vlaanderen, the European Commission), to explore possible use cases.

We offer insights and training internally to convey this new mindset, as well as how this works on a deep technical level.

At PwC, we recognise the true potential of this paradigm shift; how it can build trust and solve important problems.

Joining this digital revolution and supporting Flanders and Europe to develop this idea are the crucial next steps to keep the momentum going. But we'd also like to see initiatives coming from the business side of things to complete the quadruple helix: government, academia, citizen and business involvement.

The role of a consulting company is clear: identify good use cases, plausible monetisation and business models and methods for companies and government institutions to make the shift and encourage start-ups to join this wave.

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