Beyond Brazil's Data Protection Law: Guarding Personal Data By Software Design

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ABSTRACT

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CCS CONCEPTS

• **Computer systems organization** → **Embedded systems**; *Redundancy*; Robotics; • **Networks** → Network reliability.

KEYWORDS

Solid, Access control, Decentralized web, Frameworks, Guardian

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1 INTRODUCTION

With the approval of the Brazilian General Data Protection Law (LGPD),[1] several software companies need to redesign the way they handle the personal data of Brazilian citizens. LGPD is based on the General Data Protection Regulation (GDPR),[2] which aims at protecting the personal data of EU individuals. In total, around 120 countries adopt comprehensive privacy laws and regulations to protect personal data held by private and public bodies [1]. Nevertheless, for the LGPD success, there must be not only fair regulation enforcement but also technological advancements, which potentially includes adopting new software development tools.

Tim Berners-Lee and colleagues propose a platform named Solid (derived from "**So**cial **li**nked **d**ata"), which is can be defined as a set of principles, conventions, and tools for building decentralized Web applications [REF]. Solid is based on the principle that users should have full ownership their personal data. Currently, applications such as the social networks Facebook and LinkedIn work as "data silos" and all the personal data created in these platforms are controlled by the application companies. In constrast, decentralized Web applications provide complete separation between users' data and the applications that create and consume this data. While users store data in Web-accessible personal online datastores (pods), applications access users data relying as much as possible in W3C standards and Semantic Web technologies [REF]. Pods are by design application-agnostic and as a result users can change the application that consume their personal data at anytime. Despite incipient, Solid's architecture may be considered in several ways a technical solution to the legal framework set by LGPD and several other data protection regulations.

Nevertheless, there are several shortcomings in Solid that still need to be addressed. A significant limitation is the use of Access Control Lists to authorize a subject (e.g., an application).

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2 BACKGROUND

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2.1 Brazilian Data Protection Law

Altough the Brazilian regulation is strongly inspired by the European GDPR, it has some national specifics, such as cross-border jurisdiction, what implies that the Bill is applicable to any organizations processing personal data of Brazilian residentes, whether it is headquarted in Brazil or not.

LGPD has also included the right of data portability, the right of access to personal data by the owner, and the right of erasure. Differently of the GDPR, which imposes 30 days for the controllers to comply with these requests, the LGPD imposes 15 days.

The Brazilian law also requires companies to nominate a Data Protection Officer (DPO) who will be in charge of monitoring the adoption of best practices for personal data protection and for reporting to the National Data Protection Authority (ANPD).

In a technical perspective, efforts related to the decentralization of the Web help to build systems that are privacy-friendly, respecting user's privacy and in compliance with the

[1] http://www.planalto.gov.br/ccivil_03/_Ato2015-2018/2018/Lei/L13709.htm
[2] http://data.consilium.europa.eu/doc/document/ST-9565-2015-INIT/en/pdf

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regulation. Ainda nao sei se esse paragrafo fica nessa section ou na proxima.

2.2 Access Control in the Decentralized Web

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3 GUARDIAN

4 CONCLUSION

5 BACKUP NOTES

- These laws not only aim at guaranteeing individual rights, but also at fostering economic growth by establishing rules for the adequate use of personal data.

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REFERENCES

[1] David Banisar. 2011. Data Protection Laws Around the World Map. *SSRN Electronic Journal* (2011). https://doi.org/10.2139/ssrn.1951416