

Title: Implementation of an EduToken and Researcher Wallet

Topic: Future Universities

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The *europass*¹ project of the European Union offers students and job seekers a digital opportunity to manage their skills, competencies and learning successes. A long-term further development of the universities, as also envisaged in the "Future of Universities" call, will certainly lead to greater digitization, networking and cooperation between European universities.

The digital storage of acquired certificates is just the beginning because the development of blockchain technology has provided a powerful tool to further expand the ongoing decentralization of digital systems. If the *europass* is implemented as an inter-university permissioned blockchain, the full potential of the technology can be used. To be mentioned here are the manipulation-proof storage of the data, the decentralized storage (the owner remains in possession of the data), the transparency of the processes, as well as the possibility of high-level automation through smart contracts.

If the idea of the *europass* is taken further, the first thing that comes to mind is the idea of one (or more) tokens. In other words, a form of the unit of value that can be managed directly on the blockchain. Such tokens could be used for various use cases, such as reducing tuition fees, discounts in canteens, discounts or payments for cultural events or the procurement of teaching materials. The acquisition of these tokens can also be creative. A performance-related payment for students as a supplement to scholarships is just as conceivable as a reward for social commitment.

Not only students can benefit from this blockchain ecosystem, but researchers would also be able to manage their publications via the blockchain. The documentation of the publication process that is automatically associated with this is available transparently and can be viewed by all (or only authorized) persons. This means that an intellectual capital report can be created objectively, and fully automated statistical evaluations can be carried out across universities. It is up to the researchers themselves how much (meta)information of the publication is actually published, because the publication (like a student's certificate) remains in the researcher's wallet.

The implementation of an inter-university blockchain solution for the requirements described still needs some research. The whole project can only be carried out if it is accepted by everyone involved. A user-centered process should therefore be set up. Important research questions are:

- How should the processes be designed from the perspective of students, researchers and universities in order to achieve the greatest possible benefit from the technology used?
- Which areas/people are taken into account when collecting the data? It must be a representative selection in order to map as many currently used processes as possible. Different sciences use different methods. Are there scientific disciplines whose processes are difficult to map?
- Which external institutions can be involved? State authorities can obtain the data directly from the blockchain. Universities no longer have to send their publication data individually.
- Are publishers also involved? What added value can these companies bring in?
- How and by whom are e.g. performance-related tokens paid out. Where does the money come from and are tokens distributed by University A also accepted at University B? Can there be an imbalance between universities here?

¹ <https://europa.eu/europass/en/learn-europe>

The implementation of a prototype, which is implemented with a small group of various universities, e.g., as part of the E³UDRES² project, is ideal for concrete implementation. Through the participation of heterogeneous stakeholders (researcher, students, administration, ...) several evaluation cycles will be necessary. The acceptance of the token by external institutions must also be recorded and evaluated. The experience of the Vienna Culture Token² can possibly be used here.

² <https://digitales.wien.gv.at/site/en/culture-token-project-outlin>