

Blockchain in Education: Possibilities for a Blockchain Based Study Management System for Higher Education Institutions

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Abstract

Purpose of the article This paper aims to show some possibilities to solve some problems regarding the administration of the ECTS between universities through blockchain. The paper does not go into very technical details of building the appropriate blockchain, but rather seeks to theoretically conceptualize a platform, which could be used by universities, students and employers to manage ECTS credits and degree certificates. This means a platform, through which the university would issue ECTS credits to students as tokens after successfully passing an exam and consequently a degree certificate after getting the needed number of credits/tokens. Students would be able to show their achievements to their potential employers or to another university through showing their public key.

Methodology/methods This research is conducted with qualitative research methods including literature review and use cases from different actors, such as companies, start-ups or universities.

Scientific aim Bringing to light new topics and possibilities regarding innovation in the field of higher education.

Findings The profits of such a platform would be the following: • issuing ECTS credits to students would be faster and less complicated; • students wouldn't need to get transcripts of records since they would always have their credits in their wallets and could show these to the interested third parties; • student records would be immutable and transparent in blockchain; • students' personal data would be safer and stored only once; • exchange semesters would be much easier for students and also for universities (universities would have almost nothing to do since learning agreements would be automatic and students could identify themselves with their self-sovereign identity); • students' credits from partner universities would be automatically calculated and recognized based on smart contracts; • through blockchain and smart contracts money and bureaucratic work could be saved; • there would be almost no need for personal communication between staff of universities since the complete process would be automated; • language barriers would be eliminated (at least for the administration); • university administration would act more as a supervisor of the process than doing the work itself.

Conclusions Higher Education should play its role in advancing the society and designing the future. And as almost everyone would agree, the future will not bring less digitalization, but certainly more and the Higher Education Industry should get prepared for that, not only by teaching it but also by applying it. Blockchain technology offers reasonable solutions to different problems in different industries. Among them is Higher Education a player with very big potential.

Keywords: universities, blockchain, education, students, employers, transparency, distributed ledger

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