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# Blockchain-based approach to create a model of trust in open and ubiquitous higher education

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## Abstract

Currently, the training of the future work force presents challenging problems to higher education. This training, in the form of practical and theoretical knowledge can come from multiple platforms, channels and means, both formal and informal. In addition, it is quite difficult to assess the knowledge skill level that a student has acquired to optimize their chances for future employability. This, together with the need to still manage academic curricula on paper, the problems of confidence when validating these documents and contrasting them with real knowledge, etc., means that management in higher education requires revolutionary new tools. This work evaluates the benefits of the blockchain (or distributed ledger) technology and advocates a decentralised model of confidence for transactions based on an academic crypto currency. In this approach blockchain is used to manage transactions of content, teaching and competencies, assessed by consensus by students, trainers and employers, to eliminate once and for all the “gap” between the academic world and the working world. This paper aims to address the current challenges of an increasingly dispersed, open and ubiquitous higher education. The proposed model can be implemented in any training institution to adapt its teaching to the specific needs of professional profiles validated by employers in the sector. This model has been validated by means of a prototype with more than acceptable results.

## Keywords

Blockchain Digital certificate Competencies Mined by consensus Confidence  
P2P

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## Notes

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

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