Topic for Bachelor/Master Thesis or Research Project
Fakechair 2.0 – An Academic Peer-Reviewing Platform on the Blockchain

Challenge

Academic peer-reviewing is an essential part of a science in general. Experts review submissions, ensure quality standards and suggest improvements to their peers - colleagues and researchers from the same field. The resulting publications are published in journals or presented at conferences. The more prestigious the publishing medium, the higher the reputation for the corresponding author and reviewer and the higher the number of citations of the researchers' work. However, the current peer-review process is flawed on many levels. For example, badly-paid or overworked referees do not spend sufficient time on reviewing, thus nonsense articles are being published, an anonymous reviewer can take advantage of her position and force authors to cite her work and powerful publishing houses lock scientific results behind a paywall, causing high costs for readers. To facilitate open access, incentivize reviewers for high-quality work and prevent misuse, Michael Spearpoint proposes a peer-reviewing platform on the blockchain data structure. A public blockchain is a transparent and shared log, maintained in a distributed Peer-to-Peer (P2P) network. Rewards in form of a digital token (i.e. cryptocurrency) can incentivize researchers to contribute with high-quality reviews. In such a decentralized network, no central institution is in charge of the managed process, thus censorship is not possible.

Fakechair is a prototype of a conference management and review tool on the Ethereum testnet Rinkeby that has been developed in a previous project. Users can create and manage conferences as well as submission to those conferences on Fakechair. Moreover, a simple review procedure was implemented as well. However, the platform is still missing certain features. As part of on-going research, we proposed a new academic peer-review process that has be implemented as a new fakechair module. Furthermore, usability and platform integration and testing has to be done. Finally, the Fakechair core-functionality of managing conference has to enhanced and generalized in order to support all kinds of academic peer-review scenarios.

Task

A proof of concept of the Fakechair platform already exists. Therefore, the task for this project is to continue the development of the platform. At the end of this project, the Fakechair platform should be ready to be used in a real-world scenario of academic peer-reviewing for conferences and academic journals.

Resources:

1.) Fakechair Github Repository – Link

2.) Fakechair Bachelor Thesis (Fabiola Buschendorf – University of Goettingen) - Link

3.) A Proposed Currency System for Academic Peer Review Payments Using the BlockChain Technology (Michael Spearpoint) - Link

Contact: Benjamin Leiding benjamin.leiding@cs.uni-goettingen.de