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Keio University
Institution for a Global Society Corporation

Joint Development and Empirical Research of a Blockchain Platform to Securely Transmit and Record Students' Personal Data by FinTEK and IGS at Keio University Joined and Supported by the Bank of Mitsubishi UFJ, SOMPO Holdings, and Sumitomo Life

The Keio University Centre for Finance, Technology and Economics at Keio (FinTEK; Minato-ward, Tokyo; Director Teruo NAKATSUMA) and the Institution for a Global Society (IGS; Shibuya-ward, Tokyo; CEO Masahiro FUKUHARA) are initiating a joint research project called STAR (Secure Transmission And Recording) using a blockchain to securely manage and utilise personal data.

The mission of STAR is to “return private information back to the hands of the students.” During the three-year period of this research, our goals are:

- (1) Attaining a system for the secure and transparent transfer of private information from students to firms
- (2) Researching strategies on information usage that benefits both students and firms
- (3) Improving accuracy of matching students and firms

Up to 20 firms, each from a different economic sector, will join STAR. Those that have already committed to the project include the Bank of Mitsubishi UFJ, SOMPO Holdings, and Sumitomo Life. After three years, the project will expand to invite the participation of many firms from various sectors of the economy.

FinTEK is an institution for interdisciplinary research and education in financial technology (fintech). Its aim is to promote pioneering research using information and communications technology, cryptology, economic theory, and data science to provide policy recommendations as well as empirical evidence on fintech's social and economic implications. IGS has been working to improve matching between students and firms through research on evaluation indicators and big data in the area of education and HR.

STAR, as a joint empirical research project conducted by FinTEK, IGS, and participating firms, will provide a platform that connects students and firms.

1. Background

In the era of Society5.0 and Big Data, data use is an increasingly crucial part of corporate strategy. At the same time, serious concerns over the misuse of personal data led to the introduction of the General Data Protection Rule (GDPR) in 2018 in Europe and the Revised Act on the Protection of Personal Information in 2020 in Japan. Responding to such movements is important, and the recruitment process in Japan is also showing signs of change; firms are beginning to hire all year round and a search is on for new and improved ways to match firms and students.

Firms are now expected to protect personal information while at the same time effectively using personal data. Universities, on the other hand, must strengthen the support they provide to students in starting their careers while protecting their private information. In view of these challenges, FinTEK and IGS at Keio University started a joint research with firms eager to engage in research on improved data usage.

STAR is a project to conduct empirical research using a blockchain on data usage that benefits both firms and students while also creating a platform that connects them.

2. Overview

The STAR system combines encryption technology with the traceability function of blockchain. By using this system, students recover complete control over their personal data in terms of which part of their data they disclose to whom and for how long. Approved third parties can also add data to the students' files on the blockchain, such as details on class performance. This increases the credibility and objectivity of data. Furthermore, GDPR's "right to be forgotten" is secured as students can completely remove their data from the blockchain, ensuring that firms do not have to confirm that such data has been expunged from their records. Participating firms can use the blockchain to securely conduct empirical research on how to exchange data and communicate with students more effectively.

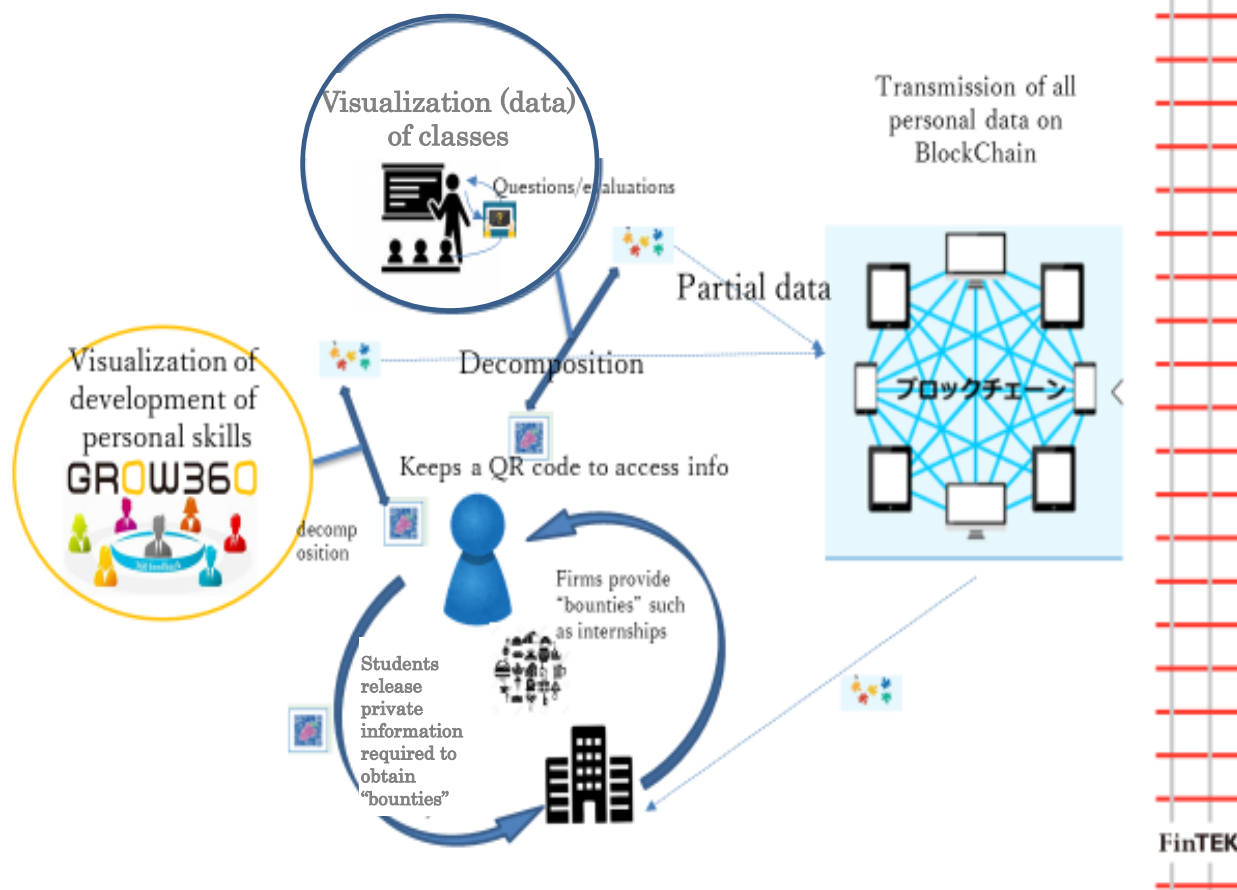
Merits for students:

- In response to requests for information from firms, students can choose exactly which information they transmit to which firm and for how long.
- Students can choose to include objective information from others such as professors, friends, and coaches.
- Students can completely erase any part of their information from the blockchain.

Merits for firms:

- Firms can find and approach human resources hitherto undiscovered by gaining access to information on students' activities, records, and evaluations inside and outside the university.
- In the era of COVID-19, where direct contact is kept to a minimum, firms can get to know the students' skills and characteristics through more personal data.
- Firms no longer have to concern themselves with how to securely access, manage, and/or delete personal information.

Secure Transmission And Recording (STAR)



3. Plan

First Year:

- Build a prototype of STAR, the technological platform that allows effective use of data by firms while protecting students' personal information.
- To be used by at least 5,000 students at Keio and other universities.

Second Year:

- Further expansion of the system to allow students to actively transmit information.
- Add activity records including student "circles," seminars, and extra-curricular activities.
- Link to the Learning Management System.
- Use by a majority of Keio students and at least 10,000 students at five other universities.

Third Year:

- Scale up and improve the performance of STAR to prepare for use by a majority of Keio students and at least 20,000 students at ten other universities.

From the 4th year onwards (Post-study period)

- Participation by other firms and university students from all over Japan and around the world.

4. Contacts

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