Blockchain-based application for earthquake Insurance

Jelmer van Ginkel MSc in FinTech

Insurance industry

Insurance has been one of the major cases for the usage of blockchain technology. It has the potential to solve current issues revolving around conflict of interest, transparency and lack of customer interaction by disintermediating. Most corporate insurance companies fear the technology that is enhancing this disintermediation. The Insurance industry is highly regulated which provides some protection to the current industry and makes it hard for new entries to enter the industry. Although, new customers demand new products to solve the current issues in the insurance industry.

Information process Apply Pay-out claim policy quote Calculates Verify premium premium policy claim ClaimVerification RiskAssessment oracle oracle Calculate Calculate RiskScore distance Query Historical Seismicportal earthquakes

UNIVERSITY of **STIRLING**



Technical detail

The developing of a Dapp (decentralized apps) is similar to an app. Instead the Ethereum blockchain will function as the back-end. Users are able to deploy contracts within the network on to the Ethereum blockchain. Contracts can be accessed via one of the EVMs(Ethereum virtual machines). Frontend programs are able to connect to the Ethereum network through by using one of the web3 libraries. Users are able to interact with the contracts through their wallets. Contracts are able to oracles which provide them with external data feed to breach the gap between the real world and the Ethereum network.

Ethereum

Proposed Decentralized application

The application uses the GIF(Generalized insurance framework) from Etheric. This is a solidity library with a set of functions to create a generic flow for any insurance. The goal is to create an earth insurance within this generic flow. An oracle provides data which can be used in the phases of applying and claiming insurance. This data needs a computation of distance between the insured and the earthquake as smart contract computation are costly. Provable provides a query to do computation on with a docker file which contains a python script. The data will be used to assess risk of the insured and verify claims automatically.













