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Capstone Paper

▼ An Analysis of the Ethereum and Ethereum Classic Blockchain

Ethereum is a cryptocurrency platform dependent on smart contracts. Ethereum is operated to build and execute smart contracts and distributed autonomous applications, or DApps (Ethereum 2019). It does not have a centralized authority, censorship, or third-party requirements. Two years after the launch of Bitcoin, the community decided to create the Decentralized Autonomous Organization, or DAO. The DAO was built to support a variety of decentralized crypto projects. The idea was to make a stateless decentralized organization that would use independent investors as its key actors. 1 Not long after that, a crucial flaw in the DAO was discovered, allowing over \$50 million to be stolen. This led to an outcry in the cryptocurrency online world, especially among members of the Ethereum community. This largely negative reaction was mainly because the stolen funds were taken right out of the DAO's account (Ethereum 2019). This left some individuals presuming that the project had failed. To understand the Ethereum cryptocurrency we know today, it is important to look at its Background.

Background

The intention of this project is to analyze the elements of popular cryptocurrency blockchain operations. The primary focus of this study is the Ethereum blockchain network, while acknowledging other comparable blockchain applications in which to compare the network structures. Ethereum and Bitcoin are the two most well-known cryptocurrencies and are similar architecturally. Primary components include consensus algorithms, APIs, abstractions, and wire protocols (Gencer, et al. 2018). Blockchain technologies have been adopted by a wide range of industries, not the least of which includes the financial sector and cryptocurrency market. The success of blockchain has proven its potential to be altered and adopted by any company or organization. In the writing, *Blockchain Technology: Beyond Bitcoin*, Crosby et al. describes blockchain as follows:

Essentially, a distributed database of records, or public ledger of all transactions or digital assets, is shared among participating parties. Each transaction in the public ledger is verified by consensus of the system. Once entered, information can never be erased. The blockchain contains a complete and permanent record of every transaction ever made. (Crosby, et al. 2016)

