Abstract

In the current world, almost all of the operations in any computing based ecosystems belong to the following categories: centralized/ distributed. Gradually these systems or businesses are moving towards a decentralized mechanism which offers a power to the edge of networks and one such new mechanism is Blockchain.

A Blockchain can be simply explained as kind of ledger based database. Generally, the traditional databases i.e., both relational and non-relational are usually controlled by a single entity. The Blockchain on the other hand is a reliable ledger database which is created and shared among all the members who/which are participating in a network of computers. It is important because it records and stores every transaction which occurs in the network thereby solving the problem of a central Administrator i.e., eliminating the need for trusted third party members. So, Disintermediation is one of the features blockchains brings to the table.

In addition to this, another benefit of these blockchain based databases can be described as the fault tolerance feature, which is because of the redundancy in the network. Each of the node in the block chain processes every database transaction. Because of this reason, no particular member node is very important to the database as a whole. Also, as all the nodes in the network connect to one other in a peer-to-peer manner, the blockchain ensures that nodes which might be down or failed can easily catch up on missed database transactions. This paper will mainly focus on explaining the blockchain in general, the architecture, latest advancements and applications based on blockchain, challenges with using the blockchain based databases and the future directions on how things might get better using blockchain. The outcome of this literature review would be an understanding of how the Blockchain works and could potentially impact global business and software industry. This review would also help one to understand the potential software development and engineering opportunities as Blockchain has become the new buzzword in the Computer science industry.

References: