



3D Printing System and Method of Organic Polymer Solar Cell Device Based on Blockchain

Introduction

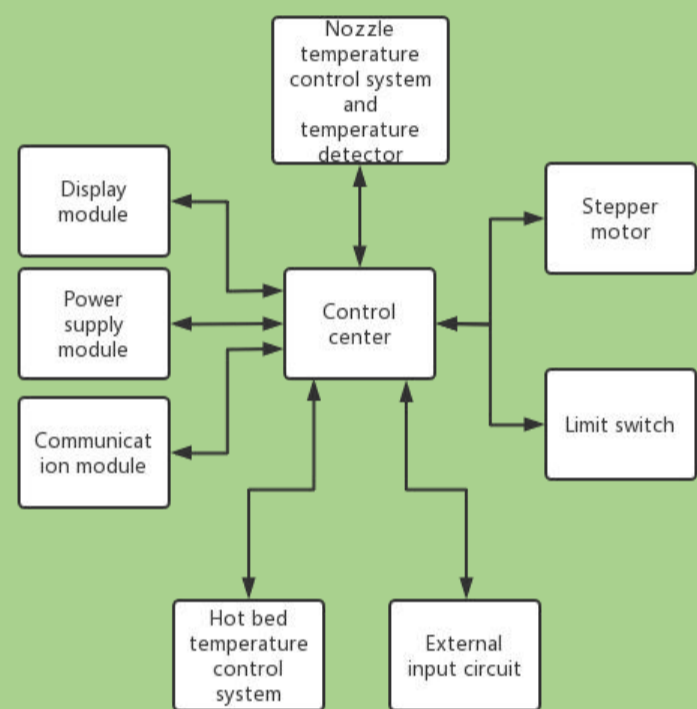
Green development has become the theme of today's social development, among which the development of new energy is the foundation of green development. One of the representatives of new energy is photovoltaic power generation. After a long period of development, photovoltaic power generation technology has become more and more mature. The stability, photoelectric conversion efficiency, cost and other issues of solar cells have been greatly improved. Now that 3D printing technology has become more and more mature, 3D printing technology can be used to replace traditional manufacturing technology to complete the printing and manufacturing of solar cell devices. In order to meet the requirements of low cost and high stability. However, there is not too much technical protection for some model data security issues. Therefore, by combining blockchain technology with 3D printing technology, the data security problem of 3D printing can be solved. Blockchain technology is to use the blockchain data structure to verify and store data. Blockchain can be considered as a distributed ledger that is decentralized, non-tamperable, traceable, and maintained by multiple parties. By applying the features of blockchain technology such as data encryption, time stamping, and distributed consensus to 3D printing technology, combined with the cloud platform, the cost and stability of 3D printed solar cell devices will be further improved.

Major Technique

Blockchain technology, as one of the underlying based of digital cryptocurrencies such as Bitcoin, Ethereum, and Rheincoin. Since Satoshi Nakamoto proposed bitcoin in 2008, its core technology — blockchain technology, had gradually attracted public attention. Before the advent of blockchain technology, the "Byzantine Generals Problem" had not been a perfect way to solve this peer-to-peer communication problem. The core of this problem lied in "consensus." Research had found that this problem also exists in today's society. It was difficult for two strangers to establish a trading relationship without the participation of a third-party agency. Because there was this distrust, and there was no official credit support. How to make two communication points reach a consensus without the participation of a central organization was the key to the problem. Blockchain technology could easily solve this problem. Decentralization could be achieved through the existence of distributed node verification and consensus mechanism.

Result

Blockchain technology had been maturely applied to many fields, from the beginning of finance to the current industrial manufacturing, banking, supply chain finance, copyright protection, government, etc. And 3D printing technology was gradually moving toward these neighborhoods with continuous breakthroughs in materials. This article attempted to combine blockchain technology with 3D printing technology to solve a problem that 3D printing technology was facing the problem of intellectual copyright. It provided more possibilities for the application of 3D printing technology.



Overall framework of 3D printer control