

CLAIMS

Claim 1

A method for distributing an electronic document using a smart contract in a blockchain including a plurality of nodes, the method comprising:

- dividing the electronic document into first divided data, including an electronic document format and a merging condition and second divided data, including an identifier and electronic document information;

- distributing and storing the first divided data in the plurality of nodes;

- generating a block, including the second divided data and distributing and storing the generated block in the plurality of nodes; and

- merging the first divided data and the second divided data based on the merging condition and the identifier by any one node among the plurality of nodes, wherein:

- the plurality of nodes comprises an electronic document management and distribution module, and

- the merging comprises:

- detecting a request to use an electronic document in any one node among the plurality of nodes;

- extracting the electronic document format and the merging condition from the first divided data using the electronic document management and distribution module;

- extracting the identifier and the electronic document information from the second divided data using the electronic document management and distribution module;

- checking the electronic document format corresponding to the identifier using the electronic document management and distribution module; and

- merging the electronic document information into the checked electronic document format using the electronic document management and distribution module.

Claim 2

The method of claim 1, further comprising: managing, with the plurality of nodes,

the first divided data in the form of a distributed application program.

Claim 3

The method of claim 1, further comprising: providing an electronic document generated as a result of merging.

Claim 4

The method of claim 1, further comprising: when personal information is included in the electronic document, adding a security identifier to a block, including the second divided data.

Claim 5

The method of claim 4, wherein the security identifier includes at least one of an issue number, a content of the electronic document, a resident registration number, and an address included in the electronic document.

Claim 6

A method for distributing an electronic document using a smart contract in a blockchain including a plurality of nodes, the method comprising:

dividing the electronic document into first divided data, including an electronic document format and a merging condition and second divided data, including an identifier and electronic document information;

distributing and storing the first divided data in the plurality of nodes;

generating a block, including the second divided data and distributing and storing the generated block in the plurality of nodes; and

merging the first divided data and the second divided data based on the merging condition and the identifier by any one node among the plurality of nodes, wherein:

the plurality of nodes comprises an electronic document management and distribution module, and

the merging comprises:

detecting a request to use an electronic document including personal information in any one node among the plurality of nodes;

extracting the electronic document format and the merging condition from the first divided data using the electronic document management and distribution module;

extracting the identifier, the electronic document information, and a security identifier from the second divided data using the electronic document management and distribution module;

requesting input of a security text in response to a request for using an electronic document including the personal information using the electronic document management and distribution module; and

comparing the input security text with the security identifier using the electronic document management and distribution module.

Claim 7

The method of claim 6, wherein the method further comprises:

checking the electronic document format in response to the identifier using the electronic document management and distribution module when the security text and the security identifier are the same; and

merging the electronic document information into the checked electronic document format using the electronic document management and distribution module.

Claim 8

A system for distributing an electronic document using a smart contract in a blockchain comprising a plurality of nodes,

wherein the plurality of nodes comprises an electronic document management and distribution module, an electronic document division module, a block generation module, and a memory;

wherein:

by using the electronic document division module, any one node among the plurality of nodes divides the electronic document into first divided data, including an electronic document format and a merging condition and second divided data, including an identifier and electronic document information;

the any one node distributes and stores the first divided data in the plurality of nodes;

by using the block generation module, the any one node generates a block, including the second divided data and distributes and stores the generated block in the plurality of nodes; and

by using the electronic document management and distribution module, any one node among the plurality of nodes merges the first divided data and the second divided data based on the merging condition and the identifier, and

wherein the merging of the first divided data and the second divided data is performed by:

detecting a request to use an electronic document in any one node among the plurality of nodes;

extracting the electronic document format and the merging condition from the first divided data using the electronic document management and distribution module;

extracting the identifier and the electronic document information from the second divided data using the electronic document management and distribution module;

checking the electronic document format corresponding to the identifier using the electronic document management and distribution module; and

merging the electronic document information into the checked electronic document format using the electronic document management and distribution module.