CLAIMS

1. A digital work collaborative creation method, the method is applied to a digital work collaborative creation system, wherein the system comprises a server end and a client end, the server end and the client end are in communication connection through a network, comprising:

obtaining a collaborative creation task, wherein the collaborative creation task comprises a plurality of subtasks, each of the subtasks comprises subtask description information, and a dependency relationship exists among the subtasks;

obtaining creation states of the subtasks, wherein the creation states comprise a creatable state and a non-creatable state, and the creation states are set according to the dependency relationship among the subtasks;

providing a subtask in the creatable state to a creator for the creator to input created information according to the subtask description information; wherein the subtask in the creatable state on the client end is provided through a program interface and/or displayed graphically, and is able to be selected for creation by the creator, and the subtask in the non-creatable state is provided through the program interface and/or displayed graphically, and is unable to be selected by the creator;

receiving the created information from the creator for the subtask, and generating an execution content corresponding to the subtask;

the execution content is stored in the form of an execution content data block, wherein the execution content data block includes creation content information, creator identity information, content relationship information comprising a content attribution relationship, and a task identifier;

storing the execution content data block in a server end storage module, and generating an access address of the execution content data block; and

generating a digital work draft, which is provided through the program interface and/or display graphically, according to the execution content.

2. The method according to claim 1, wherein the collaborative creation task comprises a task template, and the task template comprises template description information, a task setting object, and the subtasks;

the template description information is configured to describe the task template;

the task setting object is configured for a task releaser to input task setting information;

the subtasks comprise the subtask description information, and the dependency relationship exists among the subtasks;

the subtasks are configured to be provided to the creator for the creator to input the created information according to the subtask description information;

the dependency relationship among the subtasks is configured for setting the creation states of the subtasks;

and/or

the task template further comprises a creation content block of a digital work and a first content generation manner;

the creation content block of the digital work comprises a content block object, a content block display attribute, and a content block relationship attribute;

the content block object is configured for inputting a work content;

the content block display attribute is configured to describe a display form of the work content of the content block object in the digital work;

the content block relationship attribute is configured to describe a mutual relationship between the creation content block and other content blocks in the digital work;

the first content generation manner is configured to describe a manner of generating the creation content block from the execution content of the subtask; and

the collaborative creation task further comprises task setting information, the task setting information is configured to be provided to the creator for the creator to input the created information according to the task setting information and the subtask description information.

3. The method according to claim 1, wherein the execution content of the subtask at least comprises:

the creation content information, comprising content information input by the creator for the subtask;

the creator identity information, generated based on the creator; and

the content relationship information, comprising

the content attribution relationship, being an attribution relationship between the execution content of the subtask and the subtask, wherein the attribution relationship is configured to indicate that the subtask owns the execution content.

4. The method according to claim 3, wherein, when a first subtask depends on a second subtask and a first execution content belongs to the first subtask, the content relationship information of the first execution content further comprises:

a content dependency relationship, pointing to a second execution content, from which the first execution content is derived, in execution contents owned by the second subtask;

and/or

a content inheritance relationship, pointing to a third execution content, wherein both the third execution content and the first execution content belong to the first subtask, and the first execution content is obtained by revising on the basis of the third execution content.

5. The method according to claim 1, wherein the creation content information comprises:

next-level subtasks, comprising next-level subtask description information configured to be provided to the creator for the creator to input the created information according to the next-level subtask description information;

an attribution relationship between the next-level subtasks and the execution content of the subtask, wherein the attribution relationship is configured to indicate that the execution content of the subtask owns the next-level subtasks;

and/or

a first dependency relationship among the next-level subtasks, configured for setting the creation states of the next-level subtasks.

6. The method according to claim 5, wherein the attribution relationship configured to indicate that the execution content of the subtask owns the next-level subtasks further comprises:

a second dependency relationship between the next-level subtasks and execution contents of other subtasks, pointing to the execution contents of other subtasks on which the execution content of the subtask depends;

and/or

a third dependency relationship between other subtasks and the next-level subtasks, pointing to the next-level subtasks.

7. The method according to any one of claims 1-6, wherein the step of obtaining the collaborative creation task comprises: obtaining the task identifier of the collaborative creation task, wherein the task identifier is a globally unique identifier generated when the collaborative creation task is released;

and/or

the step of generating the execution content corresponding to the subtask comprises: generating the execution content data block, wherein the execution content data block comprises the creation content information, the content relationship information, and/or the task identifier, and/or the creator identity information; and the content relationship information comprises the content attribution relationship, and/or a content dependency relationship, and/or a content inheritance relationship;

and/or

the step of generating the execution content corresponding to the subtask further comprises: storing the execution content data block, generating the access address of the execution content data block, generating an execution content data packet, and releasing the execution content data packet into a blockchain, wherein the execution content data packet comprises the access address of the execution content data block, and/or a digital

fingerprint of the execution content data block generated according to the execution content data block.

8. The method according to any one of claims 1-6, further comprising forming a first task state graph according to the subtasks and the dependency relationship existing among the subtasks, wherein first nodes of the first task state graph comprise the subtasks, and a first relationship among the first nodes comprises the dependency relationship among the subtasks.

9. The method according to claim 8, wherein a process of generating the execution content corresponding to the subtask further comprises:

generating a second task state graph, wherein second nodes of the second task state graph comprise subtask nodes and execution content nodes, the subtask nodes comprise the subtasks, the execution content nodes comprise the execution contents of the subtasks, and a second relationship among the second nodes comprises the dependency relationship among the subtasks, content attribution relationships between the execution contents and the subtasks, and/or content dependency relationships between the execution contents, and/or content inheritance relationship between the execution contents.

10. The method according to claim 8, wherein the step of providing the subtask in the creatable state to the creator for the creator to input the created information according to the subtask description information comprises:

displaying the first task state graph or the second task state graph;

and/or

a subtask type of a subtask with creation content information that comprises next-level subtasks is a framework-type subtask, and a subtask type of a subtask with creation content information that does not comprise next-level subtasks is an atomic-type subtask;

generating a digital work information snapshot when an execution content node of an atomic-type subtask exists in the second task state graph, or when an execution content node of an atomic-type subtask and an execution content node of a next-level atomic-type subtask both exist in the second task state graph, or when an execution content node of a

next-level atomic-type subtask exists in the second task state graph, wherein the information snapshot comprises:

the execution content nodes;

or the execution content nodes and a content dependency relationship among the execution content nodes.

11. The method according to any one of claims 1-6, wherein a process of setting the creation states according to the dependency relationship among the subtasks comprises:

setting a subtask that does not depend on any other subtask and is able to be directly created to be in the creatable state;

setting a subtask that is only able to be created by depending on one or more other subtasks to be in the creatable state when all atomic-type subtasks on which this subtask depends have execution contents; and setting this subtask to be in the non-creatable state when one of the atomic-type subtasks on which this subtask depends does not have an execution content.

12. The method according to claim 11, wherein when an atomic-type subtask on which the subtask depends has a plurality of execution contents, the step of setting the subtask to be in the creatable state comprises:

receiving one execution content selected by the creator from the plurality of execution contents; and

setting the subtask to be in the creatable state.

13. The method according to claim 5, wherein, when a first subtask is a framework-type subtask and a second subtask depends only on the first subtask, the step of setting the creation states according to the dependency relationship among the subtasks comprises:

receiving execution content in the first subtask selected by the creator; and

setting the second subtask to be in the creatable state when atomic-type next-level subtasks owned by the selected execution content all have execution contents.

14. The method according to claim 5, wherein, when a first subtask is a framework-type

subtask and a second subtask depends on the first subtask and one or more other atomic-type subtasks, the step of setting the creation states according to the dependency relationship among the subtasks comprises:

if the creator does not select the execution content in the first subtask;

setting the second subtask to be in the creatable state when all the atomic-type subtasks on which the subtask depends have execution contents; and setting the second subtask to be in the non-creatable state when one of the atomic-type subtasks on which the subtask depends does not have an execution content;

or

if the creator selects one or more subtask execution contents in the first subtask;

setting the second subtask to be in the creatable state when atomic-type next-level subtasks owned by the one or more selected execution contents all have execution contents and all atomic-type subtasks on which the subtask depends have execution contents; and setting the second subtask to be in the non-creatable state when one of the atomic-type next-level subtasks owned by the one or more selected execution contents does not have an execution content, or one of the atomic-type subtasks on which the subtask depends does not have an execution content.

15. A method for releasing a digital work collaborative creation task, the method is applied to a digital work collaborative creation system, wherein the system comprises a server end and a client end, the server end and the client end are in communication connection through a network, comprising:

obtaining a selected task template, wherein the task template comprises template description information, a task setting object, and subtasks, each of the subtasks comprises subtask description information, and a dependency relationship exists among the subtasks;

providing the task setting object to a task releaser through the client end for the task releaser to input task setting information, and receiving task setting information uploaded by the task releaser via the client end;

generating and releasing a collaborative creation task according to the task setting

information input by the task releaser and the task template; and

forming a first task state graph according to the subtasks and the dependency relationship existing among the subtasks, wherein nodes of the first task state graph comprise the subtasks, and a relationship among the nodes comprises the dependency relationship among the subtasks;

wherein obtaining the selected task template comprises:

obtaining a globally unique task template identifier of the task template; and

wherein generating and releasing the collaborative creation task comprises:

generating a globally unique task identifier of the collaborative creation task; and

generating a collaborative creation task data block, wherein the task data block comprises the following contents: the task identifier, the task template identifier, the task setting information, and task releaser identity information; and

storing the collaborative creation task data block in the server end, generating an access address of the collaborative creation task data block, generating a collaborative creation task data packet, and releasing the collaborative creation task data packet into a blockchain, wherein the collaborative creation task data packet comprises the access address of the collaborative creation task data block, and/or a digital fingerprint of the task data block generated according to the task data block, and/or the task releaser identity information.

16. An electronic device, comprising: a memory and a processor, wherein the memory and the processor are in communicational connection with each other, the memory has computer instructions stored therein, and the processor is configured to execute the digital work collaborative creation method according to any one of claims 1-14 or the method for releasing a digital work collaborative creation task according to claim 15 by executing the computer instructions.

17. A computer-readable storage medium, wherein the computer-readable storage medium has computer instructions stored therein, and the computer instructions are configured to cause a computer to execute the digital work collaborative creation method according to any one of claims 1-14 or the method for releasing a digital work collaborative creation task

according to claim 15.