CLAIMS

1. A method of digital item management using a distributed ledger comprising:

deploying, on the distributed ledger, a smart contract comprising definitions of characteristics of digital items in an item space and ~~that implements an item space~~ program code comprising instructions which operate to perform actions on digital items in the item space, wherein digital items of the item space are stored on the distributed ledger;

receiving, by the smart contract, a transaction from a client account for managing digital items, the transaction requesting an action on a digital item in the item space;

executing at least a portion of the program code of the smart contract to cause the action requested by ~~the~~ the transaction;

transmitting, by the smart contract, an output to the client account regarding the transaction.

2. The method of claim 1 wherein the transaction is an item generation transaction.

3. The method of claim 2, wherein the smart contract generates a digital item in response to the item generation transaction and records it into the distributed ledger.

4. The method of claims 2 or 3, wherein the item generation transaction further comprises one or more variables indicating information used to generate a digital item.

5. The method of claims 2, 3 or 4, wherein the generated digital item represents an actual item already present in the real world or a unique item generated in accordance with an algorithm.

6. The method of claim 2, wherein the item generation transaction is from a client account associated with a third-party server, and the item generation transaction causes the smart contract to create a digital item that has characteristics representing a real-world physical item that is either currently present in the real- world, or capable of generation in the real-world.

7. The method of claim 2, wherein the item generation transaction is from a client account associated with a third-party server, and the item generation transaction causes the smart contract to create a digital item that is a virtual object for use in a game associated with the third-party server.

8. The method of claim 1 wherein the transaction is an item transfer transaction.

9. The method of claim 8 wherein the smart contract transfers ownership of an item to a different client account in response to the item transfer transaction and records the new ownership into the distributed ledger.

10. The method of claim 1 wherein the transaction is an item ~~conversation~~ conversion transaction.

11. The method of claim 10 wherein the smart contract converts the digital item to a real-world physical item in response to the item ~~conversation~~ conversion transaction.

12. The method of any of the previous claims, wherein the item space defines one or more characteristics of digital items, wherein a characteristic further comprises a name and a datatype.

13. The method of claim 12, wherein ~~a~~ the datatype further comprises a list of possible values for the characteristic.

14. An apparatus comprising a non-volatile machine-readable medium storing a program having instructions which when executed by a processor will cause the processor to perform a method of digital item management using a distributed ledger, the instructions of the program for:

deploying a smart contract on the distributed ledger that comprises an implementor that implements an item space, the smart contract comprising definitions of characteristics of digital items in the item space and program code comprising instructions which operate to perform actions on digital items in the item space, wherein digital items of the item space are stored on the distributed ledger;

receiving, by the smart contract, a transaction from a client account for managing digital items, the transaction requesting an action on a digital item; executing at least a portion of the program code of smart contract to cause the action requested by the transaction;

transmitting, by the smart contract, an output to the client account regarding the transaction.

15. The apparatus of claim 14 wherein the transaction is an item generation transaction.

16. The apparatus of claim 15, wherein the smart contract generates a digital item in response to the item generation transaction and records it into the distributed ledger.

17. The apparatus of claim 14 wherein the transaction is an item transfer transaction.

18. The apparatus of claim 17 wherein the smart contract transfers ownership of an item to a different client account in response to the item transfer transaction and records the new ownership into the distributed ledger.

19. The apparatus of claim 14 wherein the transaction is an item ~~conversation~~ conversion transaction.

20. The apparatus of claim 19 wherein the smart contract converts the digital item to a real-world physical item in response to the item ~~conversation~~ conversion transaction.