SYSTEMS AND METHODS FOR PROVIDING IDENTITY SCORES

CROSS REFERENCE TO RELATED APPLICATIONS

[01] This application claims priority to U.S. Provisional Patent Application No. 62/345,968, filed on June 6, 2016, and U.S. Patent Application No. 15/432,407, filed on February 14, 2017, each of which is hereby incorporated by reference in its entirety.

BACKGROUND INFORMATION

[02] Currently a myriad of identities and identity systems exist to perform identifications within a variety of different contexts. Traditional paper or physical identities include state issued licenses, passports, etc., which authorities visually inspect, e.g., at government offices, traffic stops, and border crossings, to provide services, authorizations, etc. Commercial identities include bank cards, credit cards, membership cards, etc., which point of sale machines magnetically scan to enable transactions. Digital identities include accounts, user names and passwords for Facebook, Twitter, etc., which a server requests to enable access to content of the accounts. Biometric identities include fingerprints, facial characteristics, iris patterns, DNA sequences, etc., which are optically scanned, chemically tested, etc. to enable access to systems and services.

[03] However, the fractured nature of existing identities and identity systems has created problems for the use of identity in some contexts. The large number of identities and identity systems creates inefficiency in their implementation and use, as both identity users and entities performing identifications must have or support a variety of such identities and systems. Each of these identities is also typically targeted for only a relatively narrow purpose, and may not provide much usefulness beyond performing a basic identification of an individual. Finally, many of these identities and identity systems, whether traditional or of a more recent digital nature, are still susceptible to forgery, attack, or other fraudulent use, even in view of protective measures.

[04] Thus, a need exits for systems and methods to provide identity in a variety of different contexts, with a greater functionality, security and reliability.

SUMMARY

[04a] According to a first aspect of the invention, there is provided a method of providing identity services, the method comprising: receiving identity data from an identity user, the

identity data related to an identity of the identity user; receiving validation data from an identity provider, the validation data related to the identity data; if the validation data indicates that the identity data is valid, generating a transaction to store data related to the identity of the identity user on a blockchain of a blockchain system, the data to be stored including a representation of at least one of: the identity data, or the validation data; and transmitting the transaction to at least one distributed node of the blockchain system.

[04b] According to a second aspect of the invention, there is provided a method of providing an identity score, the method comprising: receiving an identity score request for an identity user from an identity score requestor; executing a read to at least one distributed node of a blockchain system to retrieve data related to one or more identities of the identity user stored on a blockchain of the blockchain system; for each of the one or more identities, determining a weight; and determining the identity score as a function of the weights for each of identities.

[04c] According to a third aspect of the invention, there is provided a non-transitory machine-readable storage medium having program instructions, which when executed by a processor perform a method of providing identity services, the method comprising: receiving identity data from an identity user, the identity data related to an identity of the identity user; receiving validation data from an identity provider, the validation data related to the identity data; if the validation data indicates that the identity data is valid, generating a transaction to store data related to the identity of the identity user on a blockchain of a blockchain system, the data to be stored including a representation of at least one of: the identity data, or the validation data; and transmitting the transaction to at least one distributed node of the blockchain system.

[04d] According to a fourth aspect of the invention, there is provided a non-transitory machine-readable storage medium having program instructions, which when executed by a processor perform a method of providing an identity score, the method comprising: receiving an identity score request for an identity user from an identity score requestor; executing a read to at least one distributed node of a blockchain system to retrieve data related to one or more identities of the identity user stored on a blockchain of the blockchain system; for each of the one or more identities, determining a weight; and determining the identity score as a function of the weights for each of identities.

[04e] According to a fifth aspect of the invention, there is provided a system for providing identity services, the system comprising: a processor; and a non-transitory machine-readable

storage medium having program instructions, which when executed by the processor perform a method of providing an identity score, the method comprising: receiving identity data from an identity user, the identity data related to an identity of the identity user; receiving validation data from an identity provider, the validation data related to the identity data; if the validation data indicates that the identity data is valid, generating a transaction to store data related to the identity of the identity user on a blockchain of a blockchain system, the data to be stored including a representation of at least one of: the identity data, or the validation data; and transmitting the transaction to at least one distributed node of the blockchain system.

BRIEF DESCRIPTION OF THE DRAWINGS

[05] So that the features of the present invention can be understood, a number of drawings are described below. However, the appended drawings illustrate only particular embodiments