

one processor to perform a process for validating electronic certificate codes is provided. The process includes creating one or more user accounts associated with one or more users at one or more user devices, generating one or more electronic certificates associated with the one or more user accounts, generating one or more electronic certificate codes associated with the one or more electronic certificates, storing the one or more user accounts, the one or more electronic certificates, and the one or more electronic certificate codes in one or more databases, downloading a mobile software application to the one or more user devices, providing one or more activation codes to the one or more users, and validating the mobile software application.

[0005a] According to a first aspect, there is provided a network connected secure system for validating electronic certificate codes, comprising: a network connected secure computing system communicatively coupled to a network for access by a plurality of users at a plurality of user devices; a database coupled to the network connected secure computing system to store information including at least a user account, one or more electronic certificates associated with the user account, and one or more electronic certificate codes associated with the one or more electronic certificates; a mobile software application downloadable from the network connected secure computing system to a user device of the plurality of user devices; and the network connected secure computing system is configured to: provide an activation code associated with the user account to a user of the user device, validate the downloaded mobile software application for use in response to receiving the activation code from the user device, activate the one or more electronic certificates associated with the user account in response to validating the downloaded mobile software application, provide the one or more electronic certificates associated with the user account for display by the mobile software application at the user device, and provide the one or more electronic certificate codes for display by the mobile software application at the user device.

[0005b] According to a second aspect, there is provided a computer-readable non-transitory storage medium configured with data and with instructions that when executed by at least one processor causes the at least one processor to perform a process for validating electronic certificate codes, the process comprising: creating a user account associated with a user of a user device; generating one or more electronic certificates associated with the user account; generating one or more electronic certificate codes associated with the one or more electronic certificates; storing the user account, the one or more electronic certificates, and the one or more electronic certificate codes in one or more databases; downloading a mobile software application to the user device; providing an activation code associated with the user account

to the user; validating the downloaded mobile software application for use in response to receiving the activation code from the user device; activating the one or more electronic certificates associated with the user account in response to validating the downloaded mobile software application; and providing the one or more electronic certificates associated with the user account for display by the mobile software application at the user device.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0006] Illustrated in the accompanying drawing(s) is at least one of the best mode embodiments of the present invention. In such drawing(s):

[0007] FIG. 1 illustrates a system for validating electronic certificate codes according to an embodiment of the present invention;

[0008] FIG. 2 illustrates a computing system for validating electronic certificate codes of FIG. 1 according to an embodiment of the present invention;

[0009] FIG. 3 illustrates a multi-layer security process for validating electronic certificate codes according to an embodiment of the present invention;

[0010] FIG. 4 A illustrates a hotel loyalty program system according to an embodiment of the present invention;

[0011] FIG. 4B illustrates a hotel loyalty program system including a hotel network having a POS system and POS agent according to an embodiment of the present invention;

[0012] FIG. 5 illustrates a graphical user interface of a mobile software application of a loyalty program according to an embodiment of the present invention;

[0013] FIG. 6 illustrates a graphical user interface of a mobile software application of a loyalty program showing available electronic certificates according to an embodiment of the present invention;

[0014] FIG. 7 illustrates a graphical user interface of a mobile software application of a loyalty program showing an electronic certificate code according to an embodiment of the present invention; and

CLAIMS

What is claimed is:

1. A network connected secure system for validating electronic certificate codes, comprising:
 - a network connected secure computing system communicatively coupled to a network for access by a plurality of users at a plurality of user devices;
 - a database coupled to the network connected secure computing system to store information including at least a user account, one or more electronic certificates associated with the user account, and one or more electronic certificate codes associated with the one or more electronic certificates;
 - a mobile software application downloadable from the network connected secure computing system to a user device of the plurality of user devices; and
 - the network connected secure computing system is configured to:
 - provide an activation code associated with the user account to a user of the user device,
 - validate the downloaded mobile software application for use in response to receiving the activation code from the user device,
 - activate the one or more electronic certificates associated with the user account in response to validating the downloaded mobile software application,
 - provide the one or more electronic certificates associated with the user account for display by the mobile software application at the user device, and
 - provide the one or more electronic certificate codes for display by the mobile software application at the user device.
2. The network connected secure system of claim 1, wherein each of the one or more electronic certificate codes includes an alpha-numeric code.
3. The network connected secure system of claim 2, wherein the alpha-numeric code links to information stored in the associated user account.
4. The network connected secure system of claim 1, wherein each of the one or more electronic certificates includes an expiration date and time.

5. The network connected secure system of claim 1, wherein the mobile software application provides one or more graphical user interfaces.

6. The network connected secure system of claim 5, wherein the one or more graphical user interfaces display the one or more electronic certificates.

7. The network connected secure system of claim 5, wherein the one or more graphical user interfaces display the one or more electronic certificate codes.

8. The network connected secure system of claim 6, wherein the one or more graphical user interfaces display a graphical representation of a countdown to expiration of an electronic certificate code associated with an electronic certificate in response to receiving a user's selection of the electronic certificate from the one or more displayed electronic certificates.

9. The network connected secure system of claim 8, wherein the graphical representation of a countdown includes the number of days, hours, and seconds remaining before the expiration of the electronic certificate code.

10. The network connected secure system of claim 8, wherein the graphical representation of a countdown begins when the electronic certificate code is displayed.

11. The network connected secure system of claim 6, wherein the one or more graphical user interfaces display a scan-able barcode associated with an electronic certificate code in response to receiving a user's selection of an electronic certificate from the one or more displayed electronic certificates, wherein the electronic certificate is stored in association with the user account and the electronic certificate code.

12. The network connected secure system of claim 1, wherein the electronic certificates entitle users of the associated user accounts to certain rights or benefits.

13. A computer-readable non-transitory storage medium configured with data and with instructions that when executed by at least one processor causes the at least one

processor to perform a process for validating electronic certificate codes, the process comprising:

- creating a user account associated with a user of a user device;
- generating one or more electronic certificates associated with the user account;
- generating one or more electronic certificate codes associated with the one or more electronic certificates;
- storing the user account, the one or more electronic certificates, and the one or more electronic certificate codes in one or more databases;
- downloading a mobile software application to the user device;
- providing an activation code associated with the user account to the user;
- validating the downloaded mobile software application for use in response to receiving the activation code from the user device;
- activating the one or more electronic certificates associated with the user account in response to validating the downloaded mobile software application; and
- providing the one or more electronic certificates associated with the user account for display by the mobile software application at the user device.

14. The computer-readable non-transitory storage medium of claim 13, wherein each of the one or more electronic certificate codes includes an alpha-numeric code.

15. The computer-readable non-transitory storage medium of claim 13, wherein each of the one or more electronic certificates includes an expiration date and time.

16. The computer-readable non-transitory storage medium of claim 13, wherein the mobile software application provides one or more graphical user interfaces.

17. The computer-readable non-transitory storage medium of claim 16, wherein the one or more graphical user interfaces display the one or more electronic certificates.

18. The computer-readable non-transitory storage medium of claim 16, wherein the one or more graphical user interfaces display the one or more electronic certificate codes.

19. The computer-readable non-transitory storage medium of claim 17, wherein the one or more graphical user interfaces display a graphical representation of a countdown to

expiration of an electronic certificate code associated with an electronic certificate in response to receiving a user's selection of the electronic certificate from the one or more displayed electronic certificates.

20. The computer-readable non-transitory storage medium of claim 19, wherein the graphical representation of a countdown begins when the electronic certificate is displayed.