

(iii) ~~a third~~ a third type approval requiring the user to sign the presented transaction, e.g. with an electronic signature. These three types of approval are sometimes characterized as "Inform", "Consent", and "Sign", respectively.

5 The network site transmits the transaction, the selected transaction presentation form, and the selected type of user transaction approval, to obtain approval of the transaction by the user. Preferably, the transaction, the selected transaction presentation form, and the selected type of user transaction approval, are transmitted to the user via a security server to
10 obtain authorization of a user.

According to other preferred aspects of the invention, if the selected type of user transaction approval is the third type approval, the network site receives, from the user, a personal identification number (PIN) that serves as a
15 signature of the user on the transaction. The network site computes a validation PIN based on a secret shared only by the network site and the security server, and not by the user, and compares the received PIN and the computed PIN. Only if the received PIN and the computed PIN match, is the received PIN accepted by the network site as approval of the transaction by
20 the user.

According to still other preferred aspects of the invention, if the selected type of user transaction approval is the second type approval, the network site receives an indication that the user has approved or denied approval of the
25 presented transaction from the security server.

According to yet other preferred aspects of the invention, the network site also transmits the transaction, i.e. the unapproved transaction, to the user for presentation in a browser window on the first network device, e.g. the user's
30 desktop. It should be understood that the browser window referred to here, and the browser pop-up window referred to above are two separate and distinct types of windows that can commonly be displayed by browser applications. If the network site receives comfort indicia of the user from the security server, the network site also transmits the received comfort indicia

and the approved transaction to the user for presentation in the browser window.

5 According to further aspects of the invention, the above functionality can be implemented in an article of manufacture having processor readable storage medium, with stored logic configured to be readable by a processor and thereby cause the processor to operate so as to perform the functions described above.

10 Now taking a security server, rather than network site, perspective, in accordance with aspects of the invention a security server operates to present network transactions requiring different levels of security for approval by a user by initially receiving a transaction having a predetermined security level from a network site transacting with the user.

15 The security server presents the transaction to the user in one of a group of presentation forms including at least two of (i) a first form of presentation corresponding to presentation of the transaction in a browser pop-up window on a network device associated with the user, e.g. the user's desktop
20 computer, (ii) a second form of presentation corresponding to presentation of the transaction in a security software application window on the network device, and (iii) a third form of presentation corresponding to presentation of the transaction in a security application window on another different network device associated with the user, e.g. the user's mobile communication device.
25 The one presentation form corresponds to a predetermined security level for the transaction.

The security server also requests one of a group of transaction approval types including at least two of (i) a first type approval requiring no action by
30 the user after presentation of the transaction, (ii) a second type approval requiring the user to actively approve the presented transaction, and (iii) a
third type approval requiring the user to sign the presented transaction selecting. The one transaction approval type also corresponds to the predetermined security level for the transaction.

CLAIMS

What I/we claim is:

1. A method of operating a network site to obtain approval of network transactions at different levels of security by a user, comprising:

5 selecting, based on a predetermined security level for a transaction, a form in which a transaction will be presented to the user from a group of transaction presentation forms including at least two of (i) a first form of presentation corresponding to presentation of the transaction in a browser pop-up window on a first network device associated with the user, (ii) a
10 second form of presentation corresponding to presentation of the transaction in a security software application window on the first network device, and (iii) a third form of presentation corresponding to presentation of the transaction in a security application window on a second network device associated with the user and different than the first network device;

15 selecting, based on the predetermined security level for the transaction, a type of approval of the transaction required from the user from a group of transaction approval types including at least two of (i) a first type approval requiring no action by the user after presentation of the transaction, (ii) a second type approval requiring the user to actively approve the
20 presented transaction, and (iii) ~~a third~~ a third type approval requiring the user to sign the presented transaction; and

 transmitting the transaction, the selected transaction presentation form, and the selected type of user transaction approval, to obtain approval of the transaction by the user.

25 2. The method according to claim 1, wherein the first network device is a computer and the second network device is a mobile communications device.

30 3. The method according to claim 1, wherein the first network device is a desktop computer and the second network device is a smart mobile phone.

 4. The method according to claim 1, wherein the selected type of user transaction approval is the third type approval, and the transaction, the selected transaction presentation form, and the selected type of user

transaction approval, are transmitted to the user via a security server to obtain authorization of a user, and further comprising:

receiving, from the user, a personal identification number (PIN) that serves as a signature of the user on the transaction;

5 computing a validation PIN based on a secret shared only by the network site and the security server, and not by the user;

comparing the received PIN and the computed PIN; and

accepting the received PIN as approval of the transaction by the user only if the received PIN and the computed PIN match.

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5. The method according to claim 1, wherein the selected type of user transaction approval is the second type approval, and the transaction, the selected transaction presentation form, and the selected type of user transaction approval, are transmitted to the user via a security server to obtain authorization of a user, and further comprising:

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receiving, from the security server, an indication that the user has approved or denied approval of the presented transaction.

6. The method according to claim 1, wherein the transaction, the selected transaction presentation form, and the selected type of user transaction approval, are transmitted to the user via a security server to obtain approval of the user, and further comprising:

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transmitting the transaction to the user for presentation in a browser window on the first network device;

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receiving, from the security server, comfort indicia of the user; and

transmitting the received comfort indicia and the approved transaction to the user for presentation in the browser window.

7. An article of manufacture for obtaining approval of a user of network transactions with a network station at different levels of security, comprising:

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processor readable storage medium; and

logic stored on the storage medium, wherein the stored logic is configured to be readable by a processor and thereby cause the processor to operate so as to:

select, based on a predetermined security level for a transaction, a form in which a transaction will be presented to the user from a group of transaction presentation forms including at least two of (i) a first form of presentation corresponding to presentation of the transaction in a browser pop-up window on a first network device associated with the user, (ii) a second form of presentation corresponding to presentation of the transaction in a security software application window on the first network device, and (iii) a third form of presentation corresponding to presentation of the transaction in a security application window on a second network device associated with the user and different than the first network device;

select, based on the predetermined security level for the transaction, a type of approval of the transaction required from the user from a group of transaction approval types including at least two of (i) a first type approval requiring no action by the user after presentation of the transaction, (ii) a second type approval requiring the user to actively approve the presented transaction, and (iii) a third type approval requiring the user to sign the presented transaction; and

transmit the transaction, the selected transaction presentation form, and the selected type of user transaction approval, to obtain approval of the transaction by the user.

8. The article of manufacture according to claim 7, wherein the selected type of user transaction approval is the third type approval, and the transaction, the selected transaction presentation form, and the selected type of user transaction approval, are transmitted to the user via a security server to obtain authorization of a user, and the stored logic is further configured to cause the processor to operate so as to:

receive, from the user, a personal identification number (PIN) that serves as a signature of the user on the transaction;

compute a validation PIN based on a secret shared only by the network site and the security server, and not by the user;

compare the received PIN and the computed PIN; and

accept the received PIN as approval of the transaction by the user only if the received PIN and the computed PIN match.

9. The article of manufacture according to claim 7, wherein the selected type of user transaction approval is the second type approval, and the transaction, the selected transaction presentation form, and the selected type of user transaction approval, are transmitted to the user via a security server to obtain authorization of a user, and the stored logic is further configured to cause the processor to operate so as to:

receive, from the security server, an indication that the user has approved or denied approval of the presented transaction.

10. The article of manufacture according to claim 7, wherein the transaction, the selected transaction presentation form, and the selected type of user transaction approval, are transmitted to the user via a security server to obtain approval of the user, and the stored logic is further configured to cause the processor to operate so as to:

transmit the transaction to the user for presentation in a browser window on the first network device;

receive, from the security server, comfort indicia of the user; and

transmit the received comfort indicia and the approved transaction to the user for presentation in the browser window.

11. A method of operating a security server to present network transactions requiring different levels of security for approval by a user, comprising:

receiving a transaction having a predetermined security level from a network site transacting with the user;

presenting the transaction to the user in one of a group of presentation forms including at least two of (i) a first form of presentation corresponding to presentation of the transaction in a browser pop-up window on a first network device associated with the user, (ii) a second form of presentation corresponding to presentation of the transaction in a security software application window on the first network device, and (iii) a third form of presentation corresponding to presentation of the transaction in a security application window on a second network device associated with the user and

different than the first network device, wherein the one presentation form corresponds to a predetermined security level for the transaction; and

requesting one of a group of transaction approval types including at least two of (i) a first type approval requiring no action by the user after presentation of the transaction, (ii) a second type approval requiring the user to actively approve the presented transaction, and (iii) ~~a third~~ a third type approval requiring the user to sign the presented transaction selecting, wherein the one transaction approval type corresponds to the predetermined security level for the transaction.

12. The method according to claim 11, wherein the first network device is a computer and the second network device is a mobile communications device.

13. The method according to claim 11, wherein the first network device is a desktop computer and the second network device is a smart mobile phone.

14. The method according to claim 11, wherein the one transaction approval type is the third type approval, and further comprising:

receiving an identifier of the one transaction presentation form and the one transaction approval type from the network site;

computing a personal identification number (PIN) based on a secret shared only by the network site and the security server, and not by the user; and

presenting the computed PIN to the user for use as a signature of the user on the transaction.

15. The method according to claim 11, wherein the one transaction approval type is the second type approval, and further comprising:

receiving an identifier of the one transaction presentation form and the one transaction approval type from the network site;

receiving an indication of approval of the presented transaction from the user; and

transmitting the received indication of approval to the network site.

16. The method according to claim 11, further comprising:

receiving comfort indicia from the user; and

presenting the received comfort indicia to the user in the one presentation form, with the transaction.

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17. An article of manufacture for presentation by a security server of network transactions requiring different levels of security for approval by a user, comprising:

processor readable storage medium; and

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logic stored on the storage medium, wherein the stored logic is configured to be readable by a processor and thereby cause the processor to operate so as to:

receive a transaction having a predetermined security level from a network site transacting with the user;

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present the transaction to the user in one of a group of presentation forms including at least two of (i) a first form of presentation corresponding to presentation of the transaction in a browser pop-up window on a first network device associated with the user, (ii) a second form of presentation corresponding to presentation of the transaction in a security software application window on the first network device, and (iii) a third form of presentation corresponding to presentation of the transaction in a security application window on a second network device associated with the user and different than the first network device, wherein the one presentation form corresponds to a predetermined security level for the transaction; and

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request one of a group of transaction approval types including at least two of (i) a first type approval requiring no action by the user after presentation of the transaction, (ii) a second type approval requiring the user to actively approve the presented transaction, and (iii) ~~a third~~ a third type approval requiring the user to sign the presented transaction selecting, wherein the one transaction approval type corresponds to the predetermined security level for the transaction.

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18. The article of manufacture according to claim 17, wherein the one transaction approval type is the third type approval, and the stored logic is further configured to cause the processor to operate so as to:

5 receive an identifier of the one transaction presentation form and the one transaction approval type from the network site;

compute a personal identification number (PIN) based on a secret shared only by the network site and the security server, and not by the user; and

10 present the computed PIN to the user for use as a signature of the user on the transaction.

19. The article of manufacture according to claim 17, wherein the one transaction approval type is the second type approval, and the stored logic is further configured to cause the processor to operate so as to:

15 receive an identifier of the one transaction presentation form and the one transaction approval type from the network site;

receive an indication of approval of the presented transaction from the user; and

20 transmit the received indication of approval to the network site.

20. The article of manufacture according to claim 17, wherein the stored logic is further configured to cause the processor to operate so as to:

receive comfort indicia from the user; and

25 present the received comfort indicia to the user in the one presentation form, with the transaction.