Claims

We claim:

1. A portable device for commerce, the portable device comprising:
   an emulator loaded in a smart card module for storing security values and updated transaction logs, and an e-purse applet to cause the portable device to function as an electronic purse (e-purse);
   a first interface configured to perform field communication (NFC) with a reader to perform electronic commerce with the e-purse applet against a fund stored in the emulator;
   a second interface configured to perform mobile commerce with a payment server via an application against the fund stored in the emulator; and
   a security module configured to install and personalize the e-purse applet to establish a secured channel for interactions between the e-purse applet and a payment server for subsequent operations via either the first interface or the second interface, wherein security access keys to the e-purse applet are updated.

2. The portable device as recited in claim 1, further comprising a contactless interface to facilitate communication between the e-purse applet and the payment server.

3. The portable device as recited in claim 1, wherein the e-purse applet is built on top of a global platform providing a security to personalize the smart card module, wherein both e-purse keys and card access keys are personalized into the e-purse applet.

4. The portable device as recited in claim 1, wherein the portable device is equipped with a RFID interface that allows the portable device to act as a tag to be read off by the reader connected to a computing device coupled to the Internet.

5. The portable device as recited in claim 4, wherein a web agent on the computing device is configured to interact with the RFID reader and the network server, the

agent sends commands or receives responses thereto through the RFID reader to/from the e-purse applet, and on the other hand, the agent composes network requests and receives responses thereto from the payment server.

6. The portable device as recited in claim 1, wherein the e-purse applet has been personalized by operations including:

establishing an initial security channel between the smart card module and a security authentication module (SAM) external to the smart card module to install and personalize the e-purse applet in the card module, and

creating a security channel on top of the initial security channel to protect subsequent operations of the smart card module with the SAM, wherein any subsequent operation is conducted over the security channel via the e-purse applet.

7. The portable device as recited in claim 6, wherein essential data being personalized include one or more operation keys, default PINs, administration keys and passwords.

8. The portable device as recited in claim 1, wherein the smart card module is part of the portable device.

9. The portable device as recited in claim 1, wherein the smart card module is an external device inserted into the portable device.

10. A method for a portable device for commerce, the method comprising:

loading a smart card module with an emulator for storing security values and updated transaction logs, and an e-purse applet to cause the portable device to function as an electronic purse (e-purse);

performing near field communication (NFC) via a first interface with a reader to perform electronic commerce with the e-purse applet against a fund stored in the emulator;

performing mobile commerce via a second interface with a payment server via an application installed in the against the fund stored in the emulator; and

personalizing the e-purse applet to establish a secured channel for interactions between the e-purse applet and a payment server for subsequent operations via either the first interface or the second interface, wherein security access keys to the e-purse applet are updated.

11. The method as recited in claim 10, wherein the portable device includes a contactless interface to facilitate communication between the e-purse applet and the payment server.

12. The method as recited in claim 10, wherein the e-purse applet is built on top of a global platform providing a security to personalize the smart card module, wherein both e-purse keys and card access keys are personalized into the e-purse applet.

13. The method as recited in claim 10, wherein the portable device is equipped with a RFID interface that allows the portable device to act as a tag to be read off by the reader connected to a computing device coupled to the Internet.

14. The method as recited in claim 13, wherein a web agent on the computing device is configured to interact with the RFID reader and the network server, the agent sends commands or receives responses thereto through the RFID reader to/from the e-purse applet, and on the other hand, the agent composes network requests and receives responses thereto from the payment server.

15. The method as recited in claim 10, wherein said personalizing of the e-purse applet comprises:

establishing an initial security channel between the smart card module and a security authentication module (SAM) external to the smart card module to install and personalize the e-purse applet in the card module, and

creating a security channel on top of the initial security channel to protect subsequent operations of the smart card module with the SAM, wherein any subsequent operation is conducted over the security channel via the e-purse applet.

16. The method as recited in claim 15, wherein essential data being personalized include one or more operation keys, default PINs, administration keys and passwords.

17. The method as recited in claim 10, wherein the smart card module is part of the portable device.

18. The method as recited in claim 10, wherein the smart card module is an external device inserted into the portable device.

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Method and apparatus for conducting e-commence and m-commence

Inventor(s): Liang Seng Koh
41291 Carmen Street
Fremont, CA 94539, USA
Citizenship: Singapore

Futong Cho
397 Sandhurst Drive
Milpitas, CA 95035, USA
Citizenship: U.S.A.

Hsin Pan
2374 Olive Avenue
Fremont, CA 94539, USA
Citizenship: U.S.A.

Fuliang Cho
5812 McKellar Drive
San Jose, CA 95129, USA
Citizenship: U.S.A.

Assignee:
RFCyber Corp.
4160 Technology Drive, Suite A
Fremont, CA 94538
USA

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