magnetic stripe readers (MSRs) or checkout systems, in physical and virtual environments. The disclosure also relates to mobile checkout systems and methods. The system provides a convenient buying experience for consumers, a secure and informative transaction for merchants, and in some cases additional data to be transmitted to a MSR for the purpose of loyalty, identification (ID), or access control.

[0008a] According to a first aspect of the present invention, there is provided a mobile communication device including a merchant application or browser application available on the mobile communication device and adapted to allow a user to select items to purchase from a merchant, comprising: a communication processor that communicates with a checkout server hosting one or more web service checkout application program interfaces (APIs) adapted to communicate with the mobile communication device; and a checkout application installed on the mobile communication device, the checkout application having access to hardware or a peripheral component of the mobile communication device that is inaccessible to the merchant application or browser application, the checkout application adapted: to be launched by the mobile communication device in response to receiving information corresponding to a purchase transaction for items selected for purchase; to receive a checkout token created by the checkout server, wherein the checkout token identifies the purchase transaction; to authenticate the user with the checkout server in response to receiving the information corresponding to the purchase transaction; to retrieve user payment information from the hardware or peripheral component; to communicate the user payment information to the checkout server to cause the checkout server to complete the purchase transaction identified by the checkout token after the checkout token is received and the user is authenticated; and to relaunch the merchant application or browser application when the purchase transaction is complete.

[0008b] According to a second aspect of the present invention, there is provided a method, comprising: allowing, by a mobile communication device, a user to browse and select items for purchase from a merchant through a first application or browser application; launching, by the mobile communication device, a checkout application installed on a mobile communication device in response to the checkout application receiving information corresponding to a purchase transaction for the items selected for purchase; receiving, by the checkout application, a checkout

token identifying the purchase transaction, the checkout token being created by a checkout server to identify the purchase transaction; authenticating, by the checkout application, the user with the checkout server in response to receiving the information corresponding to the purchase transaction; retrieving, by the checkout application, user payment information from hardware or a peripheral component of the mobile communication device that is inaccessible to the first application or browser application; communicating, by the checkout application, the user payment information to the checkout server to cause the checkout server to complete the purchase transaction identified by the checkout token, after receiving the checkout token and authenticating the user; and relaunching, by the mobile communication device, the first application or browser application in response to completion of the purchase transaction.

[0008c] According to some embodiments of the present invention, there is provided a checkout system implemented on a mobile communication device including a merchant application or browser application available on the mobile communication device and adapted to allow a user to select items to purchase from a merchant, comprising: a communication processor in communication with a checkout server hosting one or more web service checkout application program interfaces (APIs) adapted to communicate with the mobile communication device; and a checkout application installed on the mobile communication device and adapted: to be launched in response to receiving information corresponding to a purchase transaction; to communicate with the checkout server and cause the checkout server to complete the purchase transaction; and to relaunch the merchant application or browser application when the transaction is complete.

[0008d] According to some embodiments of the present invention, there is provided a method, comprising: allowing a user to browse and select items for purchase from a merchant through a first application or browser; launching a checkout application installed on a mobile communication device in response to the checkout application receiving information corresponding to a purchase transaction; receiving, by the checkout application, a checkout token identifying the purchase transaction created by a checkout server; communicating, by the checkout application, with the checkout server to cause the checkout server to complete the

purchase transaction; and relaunching the first application or browser in response to completion of the transaction.

[0009] In one embodiment, a system for securely capturing, storing and transmitting magnetic stripe payment card data includes a mobile communication device and mobile application, and a magnetic stripe transporter (MST) dongle. The MST dongle or MST includes a microprocessor, magnetic field transmitter which includes a driver and an inductor that can generate varying magnetic fields, a battery, a charging circuit, a magnetic stripe reader (MSR), a memory means or secure element, an audio jack interface, and a communication interface (for example, a USB interface, a 30pin or 9pin Apple interface, a Bluetooth interface, etc.) working in conjunction with a consumer mobile device and wallet application for capturing magnetic stripe card data, storing the data securely, and transmitting such data to merchants' point of sale (POS) or checkout systems, in the physical and virtual environments.

[0010] Embodiments of the disclosure may include one or more features. The mobile communication device may include a mobile application that initializes the MST for use with a specific wallet account and unlocks the MST for transmission and use. The mobile communication device may be used with a payment checkout application on the mobile communication device or the Internet that interacts with the MST to accept payment card data from the MST and transmit the payment card data to a payment server for processing a transaction either as a merchant POS application or a consumer checkout application. The mobile wallet application may interact with the MST via the audio jack or other communication interface, in various modes of operation including, for example, an Initialize and Reset Mode, a Load Card Delete Card Mode, a Transmit and Use Mode, a Disconnected Transmit Mode, and a POS Card Read Mode.

[0011] In one embodiment, the MST operated in the Initialize and Reset Mode is configured to allow a user to pair and unpair/reset a specific MST with a mobile wallet account and only allow one device per account. The MST operated in the Load Card Delete Card Mode is configured to allow a user to load magnetic stripe card data

CLAIMS

What is claimed is:

1. A mobile communication device including a merchant application or browser application available on the mobile communication device and adapted to allow a user to select items to purchase from a merchant, comprising:

a communication processor that communicates with a checkout server hosting one or more web service checkout application program interfaces (APIs) adapted to communicate with the mobile communication device; and

a checkout application installed on the mobile communication device, the checkout application having access to hardware or a peripheral component of the mobile communication device that is inaccessible to the merchant application or browser application, the checkout application adapted:

to be launched by the mobile communication device in response to receiving information corresponding to a purchase transaction for items selected for purchase;

to receive a checkout token created by the checkout server, wherein the checkout token identifies the purchase transaction;

to authenticate the user with the checkout server in response to receiving the information corresponding to the purchase transaction;

to retrieve user payment information from the hardware or peripheral component;

to communicate the user payment information to the checkout server to cause the checkout server to complete the purchase transaction identified by the checkout token after the checkout token is received and the user is authenticated; and

to relaunch the merchant application or browser application when the purchase transaction is complete.

2. The mobile communication device of claim 1, wherein the checkout server creates the checkout token identifying the purchase transaction in response to the user initiating the purchase transaction.

3. The mobile communication device of claim 1 or claim 2, wherein the checkout application is further adapted:

to register a custom uniform resource locator (URL) with an operating system of the

mobile communication device; and

to be launched using the custom URL,

wherein the merchant application or browser application receives the checkout token from the checkout server, and redirects the checkout token to the checkout application using the custom URL, launching the checkout application with the checkout token included as a parameter of the custom URL, the checkout application receiving the checkout token from the merchant application or browser application as the parameter.

4. The mobile communication device of claim 1 or claim 2, wherein the checkout application receives the checkout token from the merchant application or browser application.

5. The mobile communication device of claim 1, wherein the checkout application confirms the purchase transaction identified by the checkout token with the checkout server in response to authenticating the user, prior to causing the checkout server to complete the purchase transaction.

6. The mobile communication device of claim 5, wherein the checkout application sends the checkout token and results of the purchase transaction to the merchant application or browser application as a parameter of a URL when redirecting the mobile communication device to relaunch the merchant application or browser application in response to completion of the purchase transaction.

7. The mobile communication device of claim 6, wherein the merchant application or browser application displays a results page corresponding to the purchase transaction in response to being relaunched.

8. The checkout system of claim 1, wherein the checkout server completes the purchase transaction by communicating the transaction to a payment processor.

9. The mobile communication device of claim 1, wherein the checkout application is adapted:

to receive the user payment information from a magnetic stripe transporter (MST) in communication with the mobile communication device; and

to store the user payment information in the hardware or peripheral component.

10. The mobile communication device of claim 1, wherein the checkout application is adapted to be launched in response to receiving the information corresponding to the purchase transaction from the merchant application or browser application.

11. The mobile communication device of claim 1, wherein the checkout application is adapted to be launched in response to receiving the information corresponding to the purchase transaction from the checkout server.

12. The mobile communication device of claim 1, wherein the checkout application is adapted to be launched in response to receiving the information corresponding to the purchase transaction from the checkout server through a push notification, email, or short message service.

13. The mobile communication device of claim 1, wherein the checkout application is adapted to be launched in response to receiving the information corresponding to the purchase transaction from a quick response (QR) code displayed on the mobile communication device.

14. A method, comprising:

allowing, by a mobile communication device, a user to browse and select items for purchase from a merchant through a first application or browser application;

launching, by the mobile communication device, a checkout application installed on a mobile communication device in response to the checkout application receiving information corresponding to a purchase transaction for the items selected for purchase;

receiving, by the checkout application, a checkout token identifying the purchase transaction, the checkout token being created by a checkout server to identify the purchase transaction;

authenticating, by the checkout application, the user with the checkout server in response to receiving the information corresponding to the purchase transaction;

retrieving, by the checkout application, user payment information from hardware or a peripheral component of the mobile communication device that is inaccessible to the first application or browser application;

communicating, by the checkout application, the user payment information to the checkout server to cause the checkout server to complete the purchase transaction identified by the checkout token, after receiving the checkout token and authenticating the user; and

relaunching, by the mobile communication device, the first application or browser application in response to completion of the purchase transaction.

15. The method of claim 14, further comprising:

registering a custom uniform resource locator (URL) with an operating system of the mobile communication device, the checkout application to be launched using the custom URL;

receiving the checkout token by the first application or browser application;

redirecting, by the first application or browser application, the checkout token to the checkout application using the custom URL, launching the checkout application with the checkout token included as a parameter of the custom URL,

wherein the receiving of the checkout token includes receiving the checkout token from the first application or browser application as the parameter of the custom URL.

16. The method of claim 14, wherein retrieving the user payment information from hardware or a peripheral component comprises retrieving the payment data from a magnetic stripe transporter in communication with the mobile communication device.

17. The method of claim 14, further comprising receiving, by the mobile communication device, a push notification, email, or short message service from the checkout server,

wherein the launching of the checkout application includes launching the checkout application in response to receiving the information corresponding to the purchase transaction from the checkout server through a push notification, email, or short message service.

18. The method of claim 14, wherein the launching of the checkout application includes launching the checkout application in response to receiving the information corresponding to the purchase transaction from a quick response (QR) code displayed on the mobile communication device.