(MST).

[0006] The payment device may have a docked mode and an undocked, and a contactless transmission mode. For example, while in the docked mode, the payment device may receive payment card data from a mobile wallet of the mobile device to which it is docked. Additionally, while docked, the payment device may transmit payment card data to a POS terminal's receiver, thereby acting as an integrated mobile payment unit with the mobile device. When undocked/detached, the payment device may operate independently from the mobile device and complete contactless payment transactions without the need of assistance from the mobile device. Yet, however, while detached, operations of the payment device may be supplemented by a wireless connection between the payment device and the mobile device.

[0006a] In accordance with a first aspect of the present disclosure, there is provided a payment device, comprising: a memory storing payment card data associated with a mobile wallet of a mobile device; and a contactless payment transmission processor that includes a docked mode and a detached mode, the docked mode being enabled when the payment device is physically coupled to the mobile device and configured to receive payment card data from the mobile wallet, the detached mode being enabled when the payment device is physically detached from the mobile device, the contactless payment transmission processor in detached mode configured to wirelessly communicate payment card data stored in the memory to a point-of-sale (POS) device as a contactless transmission to perform a transaction.

[0006b] In accordance with a second aspect of the present disclosure, there is provided a system, comprising: a mobile device including a mobile wallet, the mobile wallet including payment card data; and a detachable payment device removably attachable to the mobile device, the detachable payment device receiving payment card data from the mobile wallet when the payment device is coupled to the mobile device, the payment device wirelessly communicating payment card data to a point-of-sale (POS) device as a contactless transmission to perform a transaction while the payment device is uncoupled from the mobile device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] Embodiments of devices, systems, and methods are illustrated in the figures of the accompanying drawings, which are meant to be exemplary and non-limiting, in which like references are intended to refer to like or corresponding parts, and in which:

[0008] FIG. 1 illustrates a system for performing mobile wallet transactions using a detachable payment device according to the present disclosure;

[0009] FIG. 2A is a front view of a mobile device including a detachable payment device according to an embodiment of the present disclosure;

[0010] FIG. 2B is a rear view of the mobile device including the detachable payment device of FIG. 2A according to the present disclosure;

[0011] FIG. 3A is a front view of the mobile device including a detachable payment device according to another embodiment of the present disclosure;

[0012] FIG. 3B is the detachable payment device implementable in accordance with FIG. 3A according to the present disclosure; and

[0013] FIG. 4 illustrates example components of the detachable payment device according to the present disclosure.

DETAILED DESCRIPTION

[0014] The detailed description of the present disclosure set forth herein makes reference to the accompanying drawings, which show various embodiments by way of illustration. While these various embodiments are described in sufficient detail to enable those skilled in the art to practice the disclosure, it should be understood that other embodiments may be realized and that

CLAIMS

What is claimed is:

1. A payment device, comprising:

a memory storing payment card data associated with a mobile wallet of a mobile device; and

a contactless payment transmission processor that includes a docked mode and a detached mode, the docked mode being enabled when the payment device is physically coupled to the mobile device and configured to receive payment card data from the mobile wallet, the detached mode being enabled when the payment device is physically detached from the mobile device, the contactless payment transmission processor in detached mode configured to wirelessly communicate payment card data stored in the memory to a point-of-sale (POS) device as a contactless transmission to perform a transaction.

2. The payment device of claim 1, further comprising a rechargeable power source that powers the contactless payment transmission processor in detached mode, wherein the rechargeable power source is configured to receive a charge from the mobile device when the payment device is physically coupled to the mobile device.

3. The payment device of claim 1, wherein in the docked mode, the contactless payment transmission processor is further configured to wirelessly communicate payment card data stored in the memory to the POS device.

4. The payment device of claim 1, wherein the payment card data includes at least one of static card data, static card data having a dynamic element, at least partially tokenized data, or at least partially tokenized data having a dynamic cryptogram.

5. The payment device of claim 1, wherein the contactless payment transmission processor communicates payment card data to the POS device after a trigger event occurs.

6. A system, comprising:

a mobile device including a mobile wallet, the mobile wallet including payment card data;

a detachable payment device removably attachable to the mobile device, the detachable payment device receiving payment card data from the mobile wallet when the payment device is coupled to the mobile device, the payment device wirelessly communicating payment card data to a point-of-sale (POS) device as a contactless

transmission to perform a transaction while the payment device is uncoupled from the mobile device.

7. The system of claim 6, wherein the detachable payment device wirelessly receives the payment card data from the mobile wallet.

8. The system of claim 6, wherein the detachable payment device communicates payment card data to the POS device using short range contactless transmissions.

9. The system of claim 6, wherein both the detachable payment device and the mobile device communicate payment card data of the mobile wallet to the POS device when the detachable payment device is coupled to the mobile device.

10. The system of claim 6, wherein the detachable payment device further comprises a rechargeable power source that receives a charge from a wired or wireless power source.

11. The system of claim 6, wherein the detachable payment device communicates payment card data to the POS device automatically when the payment device is within a threshold proximity of the POS device.

12. The system of claim 6, wherein the detachable payment device communicates payment card data to the POS device upon a trigger event occurring.

13. The system of claim 12, wherein the trigger event is at least one of a button of the detachable payment device being interacted with, a fingerprint scanner of the detachable payment device being interacted with, or a remote command originating from the mobile device.

14. The system of claim 6, wherein the detachable payment device is in the shape of an electronic pen, and wherein the detachable payment device performs electronic pen functions.

15. The system of claim 6 wherein the payment card data includes at least one fully tokenized card data having a dynamic cryptogram.