Accordingly, there is a need for a bridge technical solution to enable consumers to use their contactless payment devices (particularly consumer mobile devices that include payment circuitry) to securely conduct magnetic stripe card transactions that does not require significant changes to legacy systems, such as the magnetic stripe readers (and/or other communications interfaces) associated with merchant point-of-sale (POS) devices and issuer processing systems.

SUMMARY

According to one aspect, there is provided a method comprising: transmitting, by a mobile device processor of a cardholder's mobile device to a digital enablement service computer, information to activate a simulated magnetic stripe payment wallet application stored in a memory of the mobile device; receiving, by the mobile device processor from the digital enablement service, at least one cryptographic key; generating, by the mobile device processor, an unpredictable number (UN); generating, by the mobile device processor based on the UN, dynamic CVC3 data; assembling, by the mobile device processor, emulated magnetic stripe data for use in a purchase transaction; and transmitting, during initiation of a purchase transaction by the mobile device processor, the emulated magnetic stripe data to a communications interface associated with a merchant device.

According to another aspect, there is provided a payment-enabled mobile device comprising: a mobile device processor; a communications device operably connected to the mobile device processor; a storage device operably connected to the mobile device processor and storing a simulated magnetic stripe payment wallet application and storing instructions configured to cause the mobile device processor to: transmit information to a digital enablement service computer to activate the simulated magnetic stripe payment wallet application; receive at least one cryptographic key from the digital enablement service computer; generate an unpredictable number (UN); generate dynamic CVC3 data based on the UN; assemble emulated magnetic stripe data for use in a purchase transaction; and transmit via the communications device, during initiation of a purchase transaction, the emulated magnetic stripe data to a communications interface associated with a merchant device.

BRIEF DESCRIPTION OF THE DRAWINGS

Features and advantages of some embodiments of the present invention, and the manner in which the same are accomplished, will become more readily apparent upon consideration of the following detailed description of the invention taken in conjunction with the accompanying drawings, which illustrate preferred and exemplary embodiments and which are not necessarily drawn to scale, wherein:

FIG. 1 is a block diagram that illustrates a transaction processing system according to some embodiments of the disclosure;

FIG. 2 is a block diagram of an embodiment of a multifunctional mobile device having communications capabilities and configured to operate in accordance with aspects of some of the embodiments of the disclosure;

FIG. 3 is a block diagram illustrating data stored in a mobile device in accordance with some embodiments of the disclosure;

FIG. 4 is a block diagram of another of a contactless mobile device and payment card account registration and transaction processing system according to some embodiments of the disclosure; and

FIG. 5 is a flowchart illustrating a simulated magnetic stripe payment data process for use by a proximity payment device in accordance with some embodiments of the disclosure.