

WHAT WE CLAIM IS:

1. A method for controlling a wireless communication between a device and a transaction card, including:
 - initiating a near field communication between the device and the transaction card to communicate a cryptogram from an applet of the transaction card to the device;
 - capturing, by a front-facing camera of the device, a series of images of the transaction card;
 - processing each image of the series of images to identify a darkness level associated with a distance of the transaction card from the front of the device;
 - comparing each identified darkness level to a predetermined darkness level associated with a preferred distance for a near field communication read operation between the device and the transaction card; and
 - automatically triggering the near field communication read operation between the device and the transaction card to communicate the cryptogram from the applet of the transaction card to the device in response to the identified darkness level corresponding to the predetermined darkness level associated with the preferred distance for the near field communication read operation.
2. The method of claim 1, wherein the step of automatically triggering includes the of step automatically executing a function associated with a user interface input element provided on a graphic user interface of a display of the device, wherein the function includes the near field communication read operation.
3. The method of claim 1 including the step of identifying the darkness level for each image of the series of images to provide a series of darkness levels and analyzing the series of darkness levels to identify a pattern of darkness levels, wherein automatically triggering of the near field communication read operation between the device and the transaction card occurs in response to the pattern of darkness levels.

4. The method of claim 3 wherein the pattern of darkness levels resulting in automatic triggering of the near field communication read operation includes one of a predetermined number of successive darkness levels that exceed the predetermined darkness level associated with the preferred distance for the near field communication read operation.
5. The method of claim 3 wherein the pattern of darkness levels resulting in automatic triggering of the near field communication includes a predetermined total number of darkness levels that exceed the predetermined darkness level associated with the preferred distance for the near field communication read operation.
6. The method of claim 3 wherein the pattern of darkness levels resulting in automatic triggering of the near field communication indicates one or more of a darkness trend or a darkness spike or a darkness plateau in the series of darkness levels.
7. The method of claim 1 wherein each image of the series of images is comprised of a plurality of pixels and wherein, for each image, a subset of the plurality of pixels are used to identify the darkness level for the image.
8. The method of claim 6 further including the step of processing the series of images to identify a feature of the transaction card, and wherein the subset of the plurality of pixels that is used to identify the darkness level of each image includes the feature.
9. The method of claim 7 wherein the darkness level for at least one image comprises an average of pixel values of the subset of the plurality of pixels of the at least one image.
10. The method of claim 8 wherein the darkness level for the at least one image comprises a weighted average of pixel values of the at least one image, where a weight of a pixel is determined based upon a proximity of the pixel to the feature.

11. The method of claim 6 wherein the plurality of pixels of the image is apportioned into a plurality of subsets of pixels, each subset of pixels comprises a subset darkness level, and the darkness level of the image is determined using the subset darkness levels of the plurality of subsets of pixels
12. The method of claim 6 further including the steps of:
 - processing each image of the series of images to identify a complexity level of the image;
 - comparing each identified complexity level to a predetermined complexity level associated with the preferred distance for a near field communication read operation between the device and the transaction card; and
 - automatically triggering a near field communication read operation between the device and the transaction card to communicate the cryptogram from the applet of the transaction card to the device in response to the identified complexity level corresponding to the predetermined complexity level associated with the preferred distance for the near field communication read operation.
13. The method of claim 11, wherein the step of processing each image of the series of images to identify the complexity level of the image includes the steps of, for each image:
 - identifying a complexity level for each pixel, the complexity level for each pixel corresponding to a difference between one or more of a darkness level or a color of the pixel and darkness levels or colors of neighboring pixels;
 - and
 - determining the complexity level of the image using the complexity levels of the plurality of pixels of the image.
14. The method of claim 1 wherein the step of initiating the near field communication between the device and the transaction card for communication of the cryptogram from the applet of the transaction card to the device occurs in response to receipt of a READ input command at a user interface of the device.

15. A device comprising:
- a front-facing camera configured to capture a series of images of a transaction card in response to initiation of a near field communication between the device and the transaction card for communication of a cryptogram from an applet of the transaction card to the device;
 - a near field communication interface;
 - a processor coupled to the front-facing camera and the near field communication interface;
 - a non-volatile storage device comprising program code stored thereon operable when executed upon by the processor to:
 - process each image of the series of images to identify a darkness level associated with a distance of the transaction card from a front of the device;
 - compare each identified darkness level to a predetermined darkness level associated with a preferred distance for a near field communication read operation between the device and the transaction card; and
 - automatically trigger the near field communication read operation between the device and the transaction card to communicate the cryptogram from the applet of the transaction card to the device in response to the identified darkness level corresponding to the predetermined darkness level associated with the preferred distance for the near field communication read operation.
16. The device of claim 15, wherein the program code is further operable when executed upon by the processor to:
- process each image of the series of images to identify a complexity level of the image;
 - compare each identified complexity level to a predetermined complexity level associated with the preferred distance for a near field communication read operation between the device and the transaction card; and

automatically trigger the near field communication read operation between the device and the transaction card for the communication of the cryptogram from an applet of the transaction card to the device in response to the identified complexity level corresponding to the predetermined complexity level associated with the preferred distance for the near field communication read operation.

17. The device of claim 16, wherein the program code is further operable when executed upon by the processor to process the series of images to detect a feature, each image is comprised of a plurality of pixels and a contribution of each pixel to one or more of the darkness level or the complexity level of the image is weighted in accordance with a proximity of each pixel to the feature.
18. The device of claim 16 further comprising a user interface element configured to perform a function when selected by a user, and wherein the program code is further operable when executed upon by the processor to automatically perform the function of the user interface element in response to one or more of the darkness level or complexity level, and wherein the function is the near field communication read operation
19. A system comprising:
 - a transaction card configured for near field communication, the transaction card comprising a memory storing an applet comprising a cryptogram;
 - a device configured for near field communication with the transaction card, the device comprising:
 - a near field communication interface;
 - a camera configured to capture a series of images of the transaction card in response to initiation of a near field communication exchange between the device and the transaction card, the series of images used to control the near

field communication interface to retrieve the cryptogram from the applet of the transaction card;

a processor coupled to the camera;

a non-volatile storage device comprising program code stored thereon operable when executed upon by the processor to:

process each image of the series of images to identify a darkness level associated with a distance of the transaction card from the device;

compare each identified darkness level to a predetermined darkness level associated with a preidentified distance for a near field communication read operation between the device and the transaction card; and

automatically trigger a near field communication read operation between the device and the transaction card to receive a cryptogram from an applet of the transaction card at the near field communication interface in response to the identified darkness level corresponding to the predetermined darkness level associated with the preidentified distance for a near field communication read operation.

20. The system of claim 19 wherein the program code is further operable when executed upon by the processor to:

process each image of the series of images to identify a complexity level of the image;

automatically trigger a near field communication read operation between the device and the transaction card for communication of the cryptogram from the applet of the transaction card to the device in response to the identified complexity level corresponding to a predetermined complexity level associated with the preidentified distance for the near field communication read operation.