device. A user may initiate a financial transaction from his/her communication device or at a access device, such as a payment terminal. The user may then be asked to provide a voice sample by speaking a certain word or phrase. Concurrent to the user speaking the word or phrase, the communication device or payment terminal may emit a supplemental signal, such as an inaudible sound, received from the payment processor, via the speaker of the communication device or payment terminal. The microphone of the communication device or payment terminal may capture the supplemental signal along with the spoken word/phrase and send the captured voice sample and supplemental signal along with transaction information to the acquirer who forwards it to the payment processor. The payment processor may verify that the supplemental signal received is the same as the one initially sent to the communication device. If the payment processor determines a match between the received inaudible sound and the initially sent supplemental signal, the user may be authenticated accordingly.

[0006] One ~~embodiment~~ aspect of the invention is directed to a method for authenticating a user for a transaction comprising providing, by a device, a word string. The method includes playing, by the device, a supplemental signal comprising an inaudible sound, the supplemental signal being unique to the transaction. The method further includes concurrently recording, by the device, an audio segment originating from the user and the supplemental signal, wherein the audio segment is an attempt by the user to vocally reproduce the word string. The method additionally includes, sending, by the device the concurrently recorded audio segment and supplemental signal, to a computer, wherein the computer authenticates the user.

[0007] Another ~~embodiment~~ aspect of the invention is directed to a device comprising a processor, and a non-transitory computer readable storage medium ~~coupled to the processor~~. The computer readable storage medium comprises code, executable by the processor, for implementing the above-described method.

[0008] Another ~~embodiment~~ aspect of the invention is directed to a method for authenticating a user for a transaction including receiving, by a server computer, a payment authorization request comprising an audio segment and a supplemental signal comprising an inaudible sound, the supplemental signal being unique to the transaction, wherein the audio segment and the supplemental signal were concurrently recorded by a device and the

audio segment originates from the user and is an attempt by the user to vocally reproduce a word string provided by the device. The method also includes verifying, by the server computer, that the supplemental signal received in the payment authorization request matches the supplemental signal provided to the device.

[0009] Another ~~embodiment~~ aspect of the invention is directed to a ~~device~~ server computer comprising a processor, and a non-transitory computer readable storage medium coupled to the processor. The computer readable storage medium comprises code, executable by the processor, for implementing the above-described method.

[0010] It can be appreciated that while the discussion herein describes examples using a payment card and a cardholder, the payment card may be generically referred to as any payment instrument and the cardholder may be generically referred to as a user in other embodiments (where a card is not present).

[0011] These and other embodiments of the invention are described in further detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] **FIG. 1** is a block diagram of a payment system, according to an embodiment of the present invention.

[0013] **FIG. 2** is a block diagram of a communication device, according to an embodiment of the present invention.

[0014] **FIG. 3** is a block diagram of a server computer, according to an embodiment of the present invention.

[0015] **FIG. 4** is a flow diagram illustrating a method for authenticating a user for a transaction via a communication device, according to an embodiment of the present invention.

[0016] **FIG. 5** is a flow diagram illustrating a method for authenticating a user 401 for a transaction via an access device 120, according to an embodiment of the present invention.

WHAT IS CLAIMED IS:

1. A method for authenticating a user for a transaction, comprising:

providing, by a device, a word string;

playing, by the device, a supplemental signal comprising an inaudible sound, the supplemental signal being unique to the transaction;

concurrently recording, by the device, an audio segment originating from the user and the supplemental signal, wherein the audio segment is an attempt by the user to vocally reproduce the word string; and

sending, by the device the concurrently recorded audio segment and supplemental signal, to a computer, wherein the computer authenticates the user.

2. The method of claim 1 wherein the computer authenticates the user for the transaction based at least in part on the recorded audio segment.

~~3. The method of claim 1 wherein the supplemental signal comprises at least one of an inaudible sound or an audible sound.~~

43. The method of claim 1 wherein the supplemental signal is received, by the device, from the computer.

~~54~~. The method of claim 1 wherein the supplemental signal is played by a point-of-sale (POS) device while authenticating the user for the transaction.

~~65~~. A device, comprising:

a processor; and

a non-transitory computer-readable storage medium, comprising code executable by the processor for implementing a method for authenticating a user for a transaction, the method comprising:

providing, by the device, a word string;

playing, by the device, a supplemental signal comprising an inaudible sound, the supplemental signal being unique to the transaction;

concurrently recording, by the device, an audio segment originating from the user and the supplemental signal, wherein the audio segment is an attempt by the user to vocally reproduce the word string; and

sending, by the device, the concurrently recorded audio segment and supplemental signal, to a computer, wherein the computer authenticates the user.

~~7~~6. The device of claim ~~6~~ 5 wherein the computer authenticates the user for the transaction based at least in part on the recorded audio segment.

~~8. The device of claim 6 wherein the supplemental signal comprises at least one of an inaudible sound or an audible sound.~~

~~9~~7. The device of claim ~~6~~ 5 wherein the supplemental signal is received, by the device, from the computer.

~~10~~8. The device of claim ~~6~~ 5 wherein the supplemental signal is played by a point-of-sale (POS) device while authenticating the user for the transaction.

~~11~~9. A method for authenticating a user for a transaction, comprising:

receiving, by a server computer, a payment authorization request comprising an audio segment and a supplemental signal comprising an inaudible sound, the supplemental signal being unique to the transaction, wherein the audio segment and the supplemental signal were concurrently recorded by a device and the audio segment originates from the user and is an attempt by the user to vocally reproduce a word string provided by the device; and

verifying, by the server computer, that the supplemental signal received in the payment authorization request matches the supplemental signal provided to the device.

~~12~~10. The method of claim ~~11~~ 9 further comprising authenticating, by the server computer, the user for the transaction based at least in part on the recorded audio segment.

~~13~~11. The method of claim ~~11~~ 9 further comprising generating, by the server computer, the supplemental signal and providing the supplemental signal to the device.

~~14~~12. The method of claim ~~11~~ 9 further comprising, receiving, a payment authorization request associated with the transaction, the payment authorization request including the concurrently recorded audio segment and supplemental signal.

~~15. The method of claim 11 wherein the supplemental signal comprises at least one of an inaudible sound or an audible sound.~~

~~16~~13. A server computer, comprising:

a processor; and

a non-transitory computer-readable storage medium, comprising code executable by the processor for implementing a method for authenticating a user for a transaction, the method comprising:

receiving, by the server computer, a payment authorization request comprising an audio segment and a supplemental signal comprising an inaudible sound, the supplemental signal being unique to the transaction, wherein the audio segment and the supplemental signal were concurrently recorded by a device and the audio segment originates from the user and is an attempt by the user to vocally reproduce a word string provided by the device; and

verifying, by the server computer, that the supplemental signal received in the payment authorization request matches the supplemental signal provided to the device.

~~17~~14. The server computer of claim ~~16~~ 13 wherein the method further comprises authenticating, by the server computer, the user for the transaction based at least in part on the recorded audio segment.

~~18~~15. The server computer of claim ~~16~~ 13 wherein the method further comprises generating, by the server computer, the supplemental signal and providing the supplemental signal to the device.

~~19~~16. The server computer of claim ~~16~~ 13 wherein the method further comprises, receiving, a payment authorization request associated with the transaction, the payment authorization request including the concurrently recorded audio segment and supplemental signal.

~~20. The server computer of claim 16 wherein the supplemental signal comprises at least one of an inaudible sound or an audible sound.~~