

TAP TO AUTOFILL CARD DATA

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Patent Application No. 16/256,983, titled “TAP TO AUTOFILL CARD DATA” filed on January 24, 2019. The contents of the aforementioned application are incorporated herein by reference.

TECHNICAL FIELD

[0002] Embodiments herein generally relate to computing platforms, and more specifically, to tapping a card to a computing device to initiate the autofill of payment data into a payment form on the computing device.

BACKGROUND

[0003] Account identifiers for payment cards are often long numeric and/or character strings. As such, it is difficult for a user to manually enter the account identifier correctly. Indeed, users often make mistakes and enter incorrect account numbers into computing interfaces (e.g., payment interfaces). Furthermore, processes have been developed that allow cameras to capture and identify account identifiers entered in a device, thereby posing security risks to account identifiers.

SUMMARY

[0004] Embodiments disclosed herein provide systems, methods, articles of manufacture, and computer-readable media for tapping to autofill card data to a form on a computing device. According to one example, an application may determine that a payment field of a form has received focus. The application may then receive encrypted data from a communications interface of a contactless card associated with an account, the encrypted data generated based on a cryptographic algorithm and a diversified key, the diversified key stored in a memory of the contactless card and generated based on a master key and a counter value stored in the memory of the contactless card. The application may then receive, from a server, verification of the encrypted data, the server to decrypt the encrypted data based on the cryptographic algorithm and the diversified key stored in a memory of the server to verify the encrypted data, the diversified key stored in the memory of the server generated based on a master key and a counter value stored in the memory of the server. The application may then receive, from the server, an encrypted account number associated with the account, and decrypt the encrypted account number to yield the account number. An autofill service of an operating system (OS) executing on the processor circuit, may then autofill the account number to the payment field of the form.

[0004a] An aspect of the present disclosure provides a method, comprising receiving, by an application executing on a device, encrypted data from a contactless card; determining, by the application based on a result received from a server, that the server verified the encrypted data; receiving, by the application, an account number; providing, by the application, the account number to an autofill service; and autofilling, by the autofill service, the account number to a payment field of a form.

[0004b] Another aspect of the present disclosure provides a computer-readable storage medium including instructions that when executed by a processor of a device, cause the processor to receive encrypted data from a contactless card; determine, based on a result received from a server, that the server verified the encrypted data; receive an account number; provide the account number to an autofill service; and autofill, by the autofill service, the account number to a payment field of a form.

[0004c] Another aspect of the present disclosure provides a computing apparatus comprising a processor; and a memory storing instructions that, when executed by the processor, cause the processor to receive encrypted data from a contactless card; determine, based on a result received from a server, that the server verified the encrypted data; receive an account number; provide the account number to an autofill service; and autofill, by the autofill service, the account number to a payment field of a form.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] Figures 1A-1B illustrate embodiments of a system for tapping to autofill card data.

[0006] Figures 2A-2B illustrate embodiments of tapping to autofill card data.

[0007] Figures 3A-3D illustrate embodiments of tapping to autofill card data.

CLAIMS

1. A method, comprising:

receiving, by an application executing on a device, encrypted data from a contactless card;

determining, by the application based on a result received from a server, that the server verified the encrypted data;

receiving, by the application, an account number;

providing, by the application, the account number to an autofill service; and

autofilling, by the autofill service, the account number to a payment field of a form.

2. The method of claim 1, further comprising:

transmitting, by the application, the encrypted data to the server prior to receiving the result.

3. The method of claim 1, wherein the account number is received from one of the contactless card or the server, the method further comprising:

determining, by the application, that the received account number is encrypted; and

decrypting, by the application, the encrypted account number prior to providing the account number to the autofill service.

4. The method of claim 1, further comprising:

determining, by the application, that the payment field has received focus; and

determining, by the application, that the form includes the payment field, an expiration date field, a billing address field, and a card verification value (CVV) field.

5. The method of claim 4, further comprising:

receiving, by the application, an expiration date, a billing address, and a CVV associated with the contactless card;

providing, by the application, the expiration date, the billing address, and the CVV to the autofill service; and

autofilling, by the autofill service, the expiration date to the expiration date field of the form, the billing address to the billing address field of the form, and the CVV to the CVV field of the form.

6. The method of claim 1, further comprising:

modifying, by the application, the autofill service based on at least one of: (i) completion of a purchase, or (ii) expiration of a predetermined amount of time, wherein modifying the autofill service comprises one or more of: (i) removing the account number from the autofill service, or (ii) copying random data to the autofill service.

7. The method of claim 1, wherein the encrypted data is based on a cryptographic algorithm and a diversified key, wherein the diversified key is based on a master key and a counter value.

8. A computer-readable storage medium including instructions that when executed by a processor of a device, cause the processor to:

receive encrypted data from a contactless card;

determine, based on a result received from a server, that the server verified the encrypted data;

receive an account number;

provide the account number to an autofill service; and

autofill, by the autofill service, the account number to a payment field of a form.

9. The computer-readable storage medium of claim 8, wherein the instructions further cause the processor to:

transmit the encrypted data to the server prior to receiving the result.

10. The computer-readable storage medium of claim 8, wherein the account number is received from one of the contactless card or the server, wherein the instructions further configure the computer to:

determine that the received account number is encrypted; and

decrypt the encrypted account number prior to providing the account number to the autofill service.

11. The computer-readable storage medium of claim 8, wherein the instructions further cause the processor to:

determine that the payment field has received focus; and

determine that the form includes the payment field, an expiration date field, a billing address field, and a card verification value (CVV) field.

12. The computer-readable storage medium of claim 11, wherein the instructions further cause the processor to:

receive an expiration date, a billing address, and a CVV associated with the contactless card;

provide the expiration date, the billing address, and the CVV to the autofill service; and

autofill, by the autofill service, the expiration date to the expiration date field of the form, the billing address to the billing address field of the form, and the CVV to the CVV field of the form.

13. The computer-readable storage medium of claim 8, wherein the instructions further cause the processor to:

modify the autofill service based on at least one of: (i) completion of a purchase, or (ii) expiration of a predetermined amount of time, wherein modifying the autofill service comprises one or more of: (i) removing the account number from the autofill service, or (ii) copying random data to the autofill service.

14. The computer-readable storage medium of claim 8, wherein the encrypted data is based on a cryptographic algorithm and a diversified key, wherein the diversified key is based on a master key and a counter value.

15. A computing apparatus comprising:

a processor; and

a memory storing instructions that, when executed by the processor, cause the processor to:

receive encrypted data from a contactless card;

determine, based on a result received from a server, that the server verified the encrypted data;

receive an account number;

provide the account number to an autofill service; and

autofill, by the autofill service, the account number to a payment field of a form.

16. The computing apparatus of claim 15, wherein the instructions further cause the processor to:

transmit the encrypted data to the server prior to receiving the result.

17. The computing apparatus of claim 15, wherein the account number is received from one of the contactless card or the server, wherein the instructions further cause the processor to:

determine that the received account number is encrypted; and

decrypt the encrypted account number prior to providing the account number to the autofill service.

18. The computing apparatus of claim 15, wherein the instructions further cause the processor to:

determine that the payment field has received focus; and

determine that the form includes the payment field, an expiration date field, a billing address field, and a card verification value (CVV) field.

19. The computing apparatus of claim 18, wherein the instructions further cause the processor to:

receive an expiration date, a billing address, and a CVV associated with the contactless card;

provide the expiration date, the billing address, and the CVV to the autofill service; and

autofill, by the autofill service, the expiration date to the expiration date field of the form, the billing address to the billing address field of the form, and the CVV to the CVV field of the form.

20. The computing apparatus of claim 15, wherein the encrypted data is based on a cryptographic algorithm and a diversified key, wherein the diversified key is based on a master key and a counter value, wherein the instructions further cause the processor to:

modify the autofill service based on at least one of: (i) completion of a purchase, or (ii) expiration of a predetermined amount of time, wherein modifying the autofill service comprises one or more of: (i) removing the account number from the autofill service, or (ii) copying random data to the autofill service.