

CLAIMS

1. A method, comprising:

receiving, by a device from a communications interface of a contactless card, a uniform resource locator (URL) comprising encrypted data as a parameter;

downloading, by the device and from the URL, a first application from an application server ~~based on the URL~~;

installing and opening the downloaded first application on the device;

transmitting, by the first application ~~executing on the device~~, the encrypted data to an authentication server;

receiving, by the first application from a virtual account number server, a virtual account number;

providing, by the first application, the virtual account number to an autofill service executing on the device; and

autofilling, by the autofill service, the virtual account number to an account number field of a payment form outputted for display by a second application executing on the device.

~~2. The method of claim 1, further comprising:~~

~~installing the first application on the device subsequent to downloading the first application.~~

23. The method of claim 1, further comprising:

outputting, by the second application prior to receiving the URL from the contactless card, the payment form comprising the account number field, an expiration date field, and a card verification value (CVV) field.

34. The method of claim 23, further comprising:

receiving, by the first application from the virtual account number server, an expiration date associated with the virtual account number and a card verification value (CVV) associated with the virtual account number;

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

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

45. The method of claim 34, wherein the expiration date and the CVV comprise one or more of: (i) an expiration date and a CVV generated by the virtual account number server, and (ii) an expiration date and a CVV of the contactless card stored in an account database.

56. The method of claim 1, wherein the first application comprises at least one of: (i) a progressive web application executing in a web browser, (ii) an instant application, and (iii) an application available external to the application store, wherein the second application comprises at least one of: (i) the web browser, (ii) a native operating system application, and (iii) an application available in an application store.

67. The method of claim 1, further comprising:
submitting the payment form comprising the virtual account number in the account number field.

7. The method of claim 1, wherein the virtual account number is received by the first application based on the authentication server validating the encrypted data.

8. The method of claim 1, further comprising:
transmitting at least one attribute of the device to the application server prior to
downloading the first application.

9. The method of claim 1, wherein the URL is received via near-field communications (NFC) and in an NFC Data Exchange Format (NDEF).

108. A non-transitory computer-readable storage medium, the computer-readable storage medium including instructions that when executed by a processor, cause the processor to:
receive, from a communications interface of a contactless card, a uniform resource locator (URL) comprising encrypted data as a parameter;
download, from the URL, a first application from an application server ~~based on the URL~~;
install and open the downloaded first application;
transmit, by the first application, the encrypted data to an authentication server;

receive, by the first application from a virtual account number server, a virtual account number;

provide, by the first application, the virtual account number to an autofill service executing on the processor; and

autofill, by the autofill service, the virtual account number to an account number field of a payment form outputted for display by a second application executing on the processor.

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

~~install the first application on a device comprising the processor subsequent to downloading the first application.~~

~~1011.~~ The computer-readable storage medium of claim ~~108~~, wherein the instructions further cause the processor to:

output, by the second application prior to receiving the URL from the contactless card, the payment form comprising the account number field, an expiration date field, and a card verification value (CVV) field.

~~1211.~~ The computer-readable storage medium of claim ~~1011~~, wherein the instructions further cause the processor to:

receive, by the first application from the virtual account number server, an expiration date associated with the virtual account number and a card verification value (CVV) associated with the virtual account number;

provide, by the first application, the expiration date and the CVV to the autofill service; and

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

~~1213.~~ The computer-readable storage medium of claim ~~1112~~, wherein the expiration date and the CVV comprise one or more of: (i) an expiration date and a CVV generated by the virtual account number server, and (ii) an expiration date and a CVV of the contactless card stored in an account database.

~~13~~14. The computer-readable storage medium of claim 108, wherein the first application comprises at least one of: (i) a progressive web application execute in a web browser, (ii) an instant application, and (iii) an application available external to the application store, wherein the second application comprises at least one of: (i) the web browser, (ii) a native operating system application, and (iii) an application available in an application store.

~~14~~15. The computer-readable storage medium of claim 108, wherein the instructions further cause the processor to:

submit the payment form comprising the virtual account number in the account number field.

~~15~~16. A computing apparatus comprising:

a processor; and

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

receive, from a communications interface of a contactless card, a uniform resource locator (URL) comprising encrypted data as a parameter;

~~download, from the URL, a first application from an application server-based on the URL;~~

install and open the first application;

transmit, by the first application, the encrypted data to an authentication server;

receive, by the first application from a virtual account number server, a virtual account number;

provide, by the first application, the virtual account number to an autofill service executing on the processor; and

autofill, by the autofill service, the virtual account number to an account number field of a payment form outputted for display by a second application executing on the processor.

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

~~install the first application on the apparatus subsequent to downloading the first application.~~

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

output, by the second application prior to receiving the URL from the contactless card, the payment form comprising the account number field, an expiration date field, and a card verification value (CVV) field.

18. The computing apparatus of claim 17, wherein the instructions further cause the processor to:

receive, by the first application from the virtual account number server, an expiration date associated with the virtual account number and a card verification value (CVV) associated with the virtual account number;

provide, by the first application, the expiration date and the CVV to the autofill service; and

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

19. The computing apparatus of claim 18, wherein the expiration date and the CVV comprise one or more of: (i) an expiration date and a CVV generated by the virtual account number server, and (ii) an expiration date and a CVV of the contactless card stored in an account database.

20. The computing apparatus of claim ~~15~~16, wherein the first application comprises at least one of: (i) a progressive web application execute in a web browser, (ii) an instant application, and (iii) an application available external to the application store, wherein the second application comprises at least one of: (i) the web browser, (ii) a native operating system application, and (iii) an application available in an application store.