WHAT IS CLAIMED IS:

[Claim 1] A card data-based virtual card number generating method performed by a virtual card number generation device, the method comprising:

receiving card unique data from a card held by a user through a short-range communication scheme; and

generating a virtual card number based on the card unique data,

wherein, as the virtual card number is provided to a virtual card number verification device after being generated from the virtual card number generation device, the virtual card number is used for user terminal verification and includes a virtual security code,

wherein the virtual security code is a code generated at a specific time point by using the card unique data,

wherein the generating of the virtual card number further includes:

generating at least one detailed code based on the virtual security code; and

generating the virtual card number based on the detailed code,

wherein the detailed code is changed and generated for a respective unit count by the virtual card number generation device, and

wherein the unit count is set to a specific time interval and is changed as a the time interval elapses.

[Claim 2] The method of claim 1, wherein the detailed code includes a first code and a second code,

wherein the virtual card number is generated by a combination of the first code and the second code,

wherein the first code and the second code are correlated with each other,

wherein the virtual card number verification device determines a search start time point corresponding to the first code and searches for user terminal verification information depending on a search path corresponding to the second code from the search start time point.

[Claim 3] The method of claim 2, wherein the first code is generated based on a time point, at which the virtual card number verification device of the card is registered, and the virtual security code, and

wherein the second code is generated based on the virtual security code.

[Claim 4] The method of claim 2, wherein the first code is generated based on a time point, at which user terminal verification is requested from the user, and the virtual security code, and

wherein the second code is generated based on a count difference between a time point, at which the virtual card number verification device of the card is registered, and a time point at which the user terminal verification is requested, and the virtual security code.

[Claim 5] The method of claim 1, wherein the virtual security code is generated based on the card unique data and a unique value for the virtual card number generation device.

[Claim 6] The method of claim 5, wherein the virtual security code is generated based on a combination serial number obtained by combining a card serial number, which is included in the card unique data, with a serial number of a program

installed in the virtual card number generation device.

[Claim 7] The method of claim 1, further comprising:

searching, by the virtual card number verification device, for a card storage location, at which the card is registered, using a storage location search algorithm based on the virtual card number, wherein the storage location search algorithm is matched with a virtual card number generation function used to generate the virtual card number and searches for the card storage location based on the at least one detailed code in the virtual card number; and

performing, by the virtual card number verification device, the user terminal verification based on the user terminal verification information by searching for a storage space of user terminal verification information connected to user identification (UID) assigned to the found card storage location.

[Claim 8] A card data-based virtual card number generating program stored in a computer-readable recording medium and to execute a method for executing a method of one of claims 1 to 7 in combination with a computer that is a piece of hardware.

[Claim 9] A card data-based virtual card number generation device comprising:

a security code generation unit configured to generate a security code based on card unique data provided from a card held by a user through a short-range communication scheme;

a virtual card number generation unit configured to generate a virtual card

number including the security code by using a virtual card number generation function; and

a virtual card number provision unit configured to transmit the virtual card number to a virtual card number verification device and to request user terminal verification,

wherein, as the virtual card number is provided to the virtual card number verification device after being generated by the virtual card number generation unit, the virtual card number is used for the user terminal verification and includes a virtual security code,

wherein the virtual security code is a code generated at a specific time point by using the card unique data,

wherein the virtual card number generation unit generates at least one detailed code based on the virtual security code and generates the virtual card number based on the detailed code,

wherein the detailed code is changed and generated for each unit count, and

wherein the unit count is set to a specific time interval and is changed as a the time interval elapses.

[Claim 10] The virtual card number generation device of claim 9, wherein the detailed code includes a first code and a second code,

wherein the virtual card number is generated by a combination of the first code and the second code,

wherein the first code and the second code are correlated with each other, and

wherein information for the user terminal verification is found depending on a search path corresponding to the second code from a search start time point

corresponding to the first code determined by the virtual card number verification device.