

PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

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**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) **26 SEP 2017**

Applicant's or agent's file reference  
**8223-1704143**

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
**PCT/US 17/41052**

International filing date (day/month/year)  
**07 July 2017 (07.07.2017)**

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC  
IPC(8) - G06Q 40/00 (2017.01)  
CPC - G06Q 40/02, G06Q 40/025, G06Q 40/00

Applicant **VISA INTERNATIONAL SERVICE ASSOCIATION**

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US  
Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450, Alexandria, Virginia 22313-1450  
Facsimile No. 571-273-8300

Date of completion of this opinion  
**28 August 2017**

Authorized officer  
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**Box No. I**      **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
- the international application in the language in which it was filed.
- a translation of the international application into \_\_\_\_\_ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2.  This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).
3.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
- a.  forming part of the international application as filed:
- in the form of an Annex C/ST.25 text file.
- on paper or in the form of an image file.
- b.  furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
- c.  furnished subsequent to the international filing date for the purposes of international search only:
- in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
- on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).
4.  In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims	<u>1-27</u>	YES
	Claims	<u>None</u>	NO
Inventive step (IS)	Claims	<u>None</u>	YES
	Claims	<u>1-27</u>	NO
Industrial applicability (IA)	Claims	<u>1-27</u>	YES
	Claims	<u>None</u>	NO

## 2. Citations and explanations:

Claims 1-27 lack an inventive step under PCT Article 33(3) as being obvious over US 2015/0178829 A1 to Weiss et al. (hereinafter 'Weiss') in view of US 2017/0193599 A1 to Tabbouche.

As to claims 1 and 14, Weiss discloses a method/system of determining a supplemental credit metric based on transaction data of a user (generating a virtual credit score in real-time - receiving at least one customer identifier of the customer from a supplier node, wherein the customer performs an electronic commerce transaction - generating the virtual credit score for the customer at least based on the determined at least one further customer identifier, Abstract), comprising at least one server computer including at least one processor, the at least one server computer programmed and/or configured to:

receiving, with at least one processor, user transaction data comprising transaction parameters associated with transactions initiated with a portable financial device of a user (customer node 110 may be, but is not limited to, a personal computer (PC), a laptop computer, a mobile device, a smart phone, a smart TV, a wearable computing device, and so on, para [0020]-[0022]);

determining, with at least one processor, a supplemental credit metric of the user based at least partially on the transaction parameters (financing server 130 is configured to electronically receive a request from a supplier node 150 to generate a virtual credit score from the customer node 110. The request may also be a request to generate a virtual credit line for a customer, para [0020]-[0022]);

receiving, with at least one processor, a request message, wherein the request message comprises information associated with the user (a request is received from a supplier node to generate a virtual credit score to a customer of a customer node over the web. The request contains identifiers related to the customer, para [0019]);

determining, with at least one processor, information identifying the user based on the information included in the request message (The request further includes customer identifiers related to the customer of the customer node 110. A customer identifier may be, but is not limited to, a name of the customer, a mailing address, an IP address of the customer node 110, a customer email address, a customer phone number, a customer social security number, content information requested from the supplier node 150 by the customer node 110, demographic information of the customer, and so on, para [0019]-[0022]);

determining, with at least one processor, information corresponding to the supplemental credit metric of the user (generating the virtual credit score for the customer at least based on the determined at least one further customer identifier, Abstract);

and communicating, with at least one processor, the information corresponding to the supplemental credit metric of the user to a computing device (Abstract, Upon determination that the virtual credit score meets the virtual credit threshold requirements, the potential credit line is established as a virtual credit line to the customer. In an embodiment, a notification may be provided respective thereof to the supplier node 150 and to the customer node 110, para [0028]-[0029]) but fails to specifically disclose that the supplemental credit metric of the user based at least partially on the transaction parameter.

However, Tabbouche in analogous art discloses that the supplemental credit metric of the user based at least partially on the transaction parameter in para [0004]-[0006] (determining a creditworthiness of a potential borrower comprises receiving call data including incoming international calls received from an international caller to a potential borrower, wherein the potential borrower is determined to specifically rely upon the international caller for at least a portion of the potential borrower's income, determining, by a processor, a financial strength of the international caller based, at least in part, on analyzing an amount spent for international calls from the call data, determining, by the processor, a relationship strength between the international caller and the potential borrower, and determining, by the processor, creditworthiness of the potential borrower based, at least in part, on the determined financial strength of the international caller, and the determined relationship strength between the international caller and the potential borrower).

It would have been obvious to one of ordinary skill in the art to add Tabbouche's method/system determining creditworthiness of a user of a communication device to Weiss's method/system as it is beneficial in instances where conventional methods of determining a credit score of the family member (potential borrower) are unavailable, such as when the family member (potential borrower) is unbanked or resides in a location where conventional loans are unavailable. This is contrast to conventional alternative methods for determining creditworthiness that are primarily focused on the borrower's direct capacity. Embodiments of the present disclosure derive creditworthiness of the borrower based on incoming international call patterns of a financially supporting remitting party (the international caller). (see para [0022]: Tabbouche).

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## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:  
Box V, 2. Citations and explanations:

As to claim 27, Weiss discloses a method of determining a supplemental credit metric based on transaction data of a user (generating a virtual credit score in real-time - receiving at least one customer identifier of the customer from a supplier node, wherein the customer performs an electronic commerce transaction - generating the virtual credit score for the customer at least based on the determined at least one further customer identifier, Abstract), comprising:

receiving, with at least one processor, user transaction data comprising transaction parameters associated with transactions initiated with a plurality of portable financial devices of a user (customer node 110 may be, but is not limited to, a personal computer (PC), a laptop computer, a mobile device, a smart phone, a smart TV, a wearable computing device, and so on, para [0020]-[0022]);

determining, with at least one processor, a supplemental credit metric of the user based at least partially on the transaction parameters (financing server 130 is configured to electronically receive a request from a supplier node 150 to generate a virtual credit score from the customer node 110. The request may also be a request to generate a virtual credit line for a customer, para [0020]-[0022]);

receiving, with at least one processor, a request message from a computing device, the request message associated with the user (a request is received from a supplier node to generate a virtual credit score to a customer of a customer node over the web. The request contains identifiers related to the customer, para [0019]);

and communicating, with at least one processor the supplemental credit metric of the user to the computing device (Abstract, Upon determination that the virtual credit score meets the virtual credit threshold requirements, the potential credit line is established as a virtual credit line to the customer. In an embodiment, a notification may be provided respective thereof to the supplier node 150 and to the customer node 110, para [0028]-[0029]) but fails to specifically disclose supplemental credit metric of the user based at least partially on the transaction parameter; and wherein at least two of the portable financial devices were issued by or on behalf of issuers in different regions from one another.

However, Tabbouche in analogous art discloses supplemental credit metric of the user based at least partially on the transaction parameter in para [0004]-[0006] (determining a creditworthiness of a potential borrower comprises receiving call data including incoming international calls received from an international caller to a potential borrower, wherein the potential borrower is determined to specifically rely upon the international caller for at least a portion of the potential borrower's income, determining, by a processor, a financial strength of the international caller based, at least in part, on analyzing an amount spent for international calls from the call data, determining, by the processor, a relationship strength between the international caller and the potential borrower, and determining, by the processor, creditworthiness of the potential borrower based, at least in part, on the determined financial strength of the international caller, and the determined relationship strength between the international caller and the potential borrower);

and wherein at least two of the portable financial devices were issued by or on behalf of issuers in different regions from one another in para [0026]-[0028] (the service provider 120 establish communication sessions between one or more communication devices 110 and at least another communication device, which may include a mobile device (e.g., smart phone), a landline phone, a VoIP phone, etc. - Call data may include incoming calls, outgoing calls, the call type (e.g., voice, SMS, data, Voice Over IP, Video Chat, wireless application protocol (WAP)), call duration, the phone numbers or other identifiers involved in the calls, such as the origin of incoming calls (e.g., country of origin) or destination of outgoing calls (e.g., country of destination), etc).

It would have been obvious to one of ordinary skill in the art to add Tabbouche's method/system determining creditworthiness of a user of a communication device to Weiss's method/system as it is beneficial in instances where conventional methods of determining a credit score of the family member (potential borrower) are unavailable, such as when the family member (potential borrower) is unbanked or resides in a location where conventional loans are unavailable. This is contrast to conventional alternative methods for determining creditworthiness that are primarily focused on the borrower's direct capacity. Embodiments of the present disclosure derive creditworthiness of the borrower based on incoming international call patterns of a financially supporting remitting party (the international caller). (see para [0022]: Tabbouche).

As to claims 2 and 15, Weiss discloses a method/system wherein the request message is received from the computing device (The financing server 130 is configured to electronically receive a request from a supplier node 150 to generate a virtual credit score from the customer node 110 - The supplier node 150 may be any computing device that takes part in an e-commerce transaction - the supplier node may include, but is not limited to, a PC, a laptop computer, a mobile device, a smart phone, a point of sale (PoS) machine, a web server, an application server, and so on, para 0021)).

As to claims 3 and 16, Weiss discloses a method/system wherein the request message is a transaction authorization request for a transaction initiated with the portable financial device of the user (request further includes customer identifiers related to the customer of the customer node 110 - types of data sources 170 from which data is extracted are determined by the financing server 130 based on a virtual threshold score. A virtual threshold score is at least one minimum requirement that a customer must meet before the customer will be approved for extending the line of credit, para [0022]-[0024]).

As to claims 4 and 17, Weiss discloses a method/system wherein the information corresponding to the supplemental credit metric of the user is communicated to the computing device upon initiation of a transaction by the user using the portable financial device (virtual threshold score is at least one minimum requirement that a customer must meet before the customer will be approved for extending the line of credit - the virtual credit threshold may be generated based on a type of the supplier node 150. The type of the supplier node 150 may be, but is not limited to, an e-commerce website, a rental agency (e.g., a car rental agency), a mortgage website, a brick-and-mortar business, a retail, and so on, para [0021]-[0025]).

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V, 2. Citations and explanations:

As to claims 5 and 18, Tabbouche discloses a method/system wherein the request message is received from the computing device, wherein the computing device is associated with an issuer in the first region, wherein the portable financial device of the user was issued by or on behalf of an issuer outside the first region (para [0020]-[0022]), the service provider 120 establish communication sessions between one or more communication devices 110 and at least another communication device, which may include a mobile device (e.g., smart phone), a landline phone, a VoIP phone, etc. - Call data may include incoming calls, outgoing calls, the call type (e.g., voice, SMS, data, Voice Over IP, Video Chat, wireless application protocol (WAP)), call duration, the phone numbers or other identifiers involved in the calls, such as the origin of incoming calls (e.g., country of origin) or destination of outgoing calls (e.g., country of destination), etc), para [0026]-[0028]).

As to claims 6 and 19, Tabbouche discloses a method/system further comprising: generating, with at least one processor, a credit score corresponding to the user; and generating, with at least one processor, a revised credit score based at least partially on the credit score and the supplemental credit metric (potential borrower may seek a loan (e.g., a microloan) from a lender. However, the lender may lack adequate information related to the potential borrower to determine the advisability of lending money to the potential borrower. According to embodiments described herein, a credit score (e.g., an indicator of creditworthiness) of a potential borrower may be determined based on call information associated with a communication device of the potential borrower, para [0020]-[0022], para [0056]).

As to claims 7 and 20, Weiss discloses a method/system wherein the credit score corresponding to the user is not generated based on the transaction parameters (retrieving data respective of the customer from at least one data source, wherein the date is retrieved using the at least one customer identifier; analyzing the retrieved data to determine at least one further customer identifier; generating the virtual credit score for the customer at least based on the determined at least one further customer identifier, Abstract, customer identifier may be, but is not limited to, a name of the customer, a mailing address, an IP address of the customer node 110, a customer email address, a customer phone number, a customer social security number, content information requested from the supplier node 150 by the customer node 110, demographic information of the customer, and so on. Content requested by the customer node 110 may include, but is not limited to, goods, services, prices of goods and/or services, shipping conditions of goods, and so on, para [0022]).

As to claims 8 and 21, Weiss discloses a method/system wherein the credit score corresponding to the user is not generated based on individual transactions initiated with the portable financial device of the user (retrieving data respective of the customer from at least one data source, wherein the date is retrieved using the at least one customer identifier; analyzing the retrieved data to determine at least one further customer identifier; generating the virtual credit score for the customer at least based on the determined at least one further customer identifier, Abstract, customer identifier may be, but is not limited to, a name of the customer, a mailing address, an IP address of the customer node 110, a customer email address, a customer phone number, a customer social security number, content information requested from the supplier node 150 by the customer node 110, demographic information of the customer, and so on. Content requested by the customer node 110 may include, but is not limited to, goods, services, prices of goods and/or services, shipping conditions of goods, and so on, para [0022]).

As to claims 9 and 22, Tabbouche discloses a method/system further comprising generating a credit score corresponding to the user based at least partially on the supplemental credit metric (determining creditworthiness of a user of a communication device using call data from a telecommunications service provider. The system may include a communication device associated with a potential borrower - determine a credit score of the potential borrower based on at least an amount of money spent by an international caller to speak with the potential borrower, Abstract).

As to claims 10 and 23, Weiss discloses a method/system further comprising at least one of generating and communicating a product or service recommendation to the computing device based at least partially on the supplemental credit metric (virtual credit score threshold is determined based on the characteristics of the supplier node - for a supplier selling products that can be used as collateral, the virtual credit score threshold may be lower than that of a supplier selling consumable goods - retrieved data may include, but is not limited to, a SSN, credit reports, reviews related to the customer, review related to past activity of a customer, employment status, demographic information, and so on. As noted above, a customer may be a business or a person. Thus, in an embodiment, if the customer is a business, then data related to the owner(s) of the business may be retrieved as well. In an embodiment, the retrieved data is further analyzed to determine further customer identifiers, para [0031]-[0035], para [0040]-[0043]) but fails to disclose at least one of generating and communicating a product or service recommendation. However, providing recommendations based on credit scores were well known in ecommerce. Accordingly, it would have been obvious to a person having ordinary skill in the art to generate and communicate product or service recommendation based on credit score to improve marketability of products or services.

As to claims 11 and 24, Weiss discloses a method/system wherein the product or service recommendation is generated based at least partially on a product or service used by users having a similar supplemental credit metric (Abstract, para [0031]-[0035], para [0040]-[0043]) but fails to disclose that product or service recommendation is generated based at least partially on a product or service used by users having a similar supplemental credit metric. However, providing recommendations based on credit scores were well known in ecommerce. Accordingly, it would have been obvious to a person having ordinary skill in the art to generate and communicate product or service recommendation based on credit score as users having a similar supplemental credit metric may prefer the products or services.

As to claims 12 and 25, Tabbouche discloses a method/system further comprising initiating a transaction activity based at least partially on the supplemental credit metric (if the second party spends more on international calls than, for example, about 1%, more than about 2%, more than about 5%, or even more than about 10% of the amount requested by the potential borrower, the decision to extend credit to the potential borrower may be made. For example, depending on labor laws and the minimum wage, an international caller may spend about 4-8% of his disposable income on calls. As such, the international caller spending can be used to derive his disposable income, and can help to determine the maximum amount to be lent to the potential borrower. Additionally, the more concentrated his spending toward a single person to stronger the relationship to the potential borrower, para [0073]).

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## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V, 2. Citations and explanations:

As to claims 13 and 26, Tabbouche discloses a method/system further comprising initiating a target activity based at least partially on the supplemental credit metric (if the second party spends more on international calls than, for example, about 1%, more than about 2%, more than about 5%, or even more than about 10% of the amount requested by the potential borrower, the decision to extend credit to the potential borrower may be made. For example, depending on labor laws and the minimum wage, an international caller may spend about 4-8% of his disposable income on calls. As such, the international caller spending can be used to derive his disposable income, and can help to determine the maximum amount to be lent to the potential borrower. Additionally, the more concentrated his spending toward a single person to stronger the relationship to the potential borrower, para [0073]).

Claims 1-27 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.