

[USPTO PATENT FULL-TEXT AND IMAGE DATABASE](#)

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Recipient centric messaging system and protocols to implement it over data networks

Abstract

A method of communicating messages between a sender and a recipient using a communications protocol over a data network, which includes: (a) receiving communication preferences specified by the recipient that includes constraints required to be met for delivery of a message, (ii) publishing the profile with visible preferences from the communication preferences of the recipient when the sender selects the recipient to send the message, (iii) processing a request received from the sender to send the message to the recipient, (iv) generating a customized message form based on the communication preferences of the recipient to enable the sender to compose the message, (v) providing an indication to the sender if any of the constraints are not met, and (vi) delivering the message to the recipient when the constraints specified by the recipient and any constraints applied by a messaging system are met by the message.

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12. The method of claim 2, wherein said recipient centric messaging system does not deliver said first message to said recipient if said reputation score of said sender is less than said threshold reputation score specified in said communication preferences.
13. The method of claim 1, further comprising: verifying said message and when at least one of said human interpreted constraints specified in said communication preferences or said computer interpretable constraints specified by said recipient centric messaging system are not met by said message, not delivering said message, notifying said sender that at least one of said human interpreted constraints and said computer interpretable constraints is not met, and enabling said sender to modify said message to meet said human interpreted constraints and said computer interpretable constraints.
14. The method of claim 1, further comprising: processing a first reply from said recipient to said first message; and crediting a first compensation amount associated with said first message by said sender to said recipient only when said recipient sends said first reply to said sender.
15. The method of claim 14, further comprising: processing a request from said recipient to end a conversation between said sender and said recipient; and disabling an option for said sender to reply to or to send another message in a current conversation thread that comprises said first message and said first reply in response to said request to end said conversation.
16. The method of claim 1, further comprising: notifying said recipient about said message by sending an email when said recipient receives said first message on said recipient centric messaging system from said sender, wherein said recipient centric messaging system sends one notification for a plurality of emails that are specific to said recipient.
17. The method of claim 16, further comprising providing an option to said recipient to send an email reply to said first message directly from said email service using a reply button that is associated with said email and a protocol, wherein said email reply first goes to said email-proxy-server and is routed to said recipient centric messaging system when said recipient selects said reply button.
18. The method of claim 17, wherein said email-proxy-server receives said email from said email service and parses (a) details of said recipient within said recipient centric messaging system, and (b) a type of message received from said sender, wherein said email-proxy-server further (a) identifies what message said email is in response to, (b) decides whether any compensation is required to send a reply, and (c) generates an interface to compose and send said reply to said received email using an application programming interface (API) of the recipient centric messaging system.
19. The method of claim 1, further comprising: deleting a message from said recipient centric messaging system in response to selection of a reject button that is associated with said recipient centric messaging system, wherein said recipient is not credited any compensation attached with said message when said message is rejected.
20. One or more non-transitory computer readable storage mediums storing one or more sequences of instructions for communicating at least one message between a sender and a recipient using a communications protocol over a data network through a recipient centric messaging system, which when executed by one or more processors, cause: receiving, at the recipient centric messaging system, communication preferences specified by said recipient that comprise (a) computer interpretable constraints required to be met for delivery of a first message and (b) human interpreted constraints when said recipient creates or updates a profile on said recipient centric messaging system; publishing said profile, on the recipient centric messaging system, with a set of visible preferences from said communication preferences of said recipient that are visible to the sender when said sender selects said recipient to send a first message; the recipient

said sender are satisfied by said first message; and a compensation providing module, executed by said one or more processors, that transfers said compensation amount attached with said first message to said recipient along with said first message when said first message is delivered and when said recipient sends a reply to said first message.

23. The system of claim 22, wherein said compensation providing module credits a percentage of said compensation amount for said first message to an account associated with said recipient centric message system for facilitating said messaging and for exchange of said compensation amount from said sender to said recipient.

24. The system of claim 22, wherein said compensation providing module provides privileges to said recipient that comprises at least one of (a) credit a compensation amount to a recipient centric messaging system account of said recipient, and (b) provide free messages to said recipient when said recipient invite a new user to said recipient centric messaging system.

25. The system of claim 22, wherein said recipient centric messaging system further comprises: a sender verification module, executed by said processor, that verifies said sender when said communication preferences of said recipient require senders to be verified before sending said first message, wherein said verifying comprises at least one of verifying (a) a social network account of said sender, (b) an email account of said sender, (c) a phone number of said sender, and (d) personal documents of said sender and not delivering said first message when said sender is not verified, wherein said recipient specifies that said sender has to be verified for said first message to be delivered.

26. The system of claim 22, wherein said recipient centric messaging system further comprises: a combined search module, executed by said one or more processors, that searches for said recipient based on attributes of said plurality of registered users comprising (a) a dynamic location of a user, (b) a name or designation of said user, (c) an age and a gender of said user, (d) current or past companies of said user, (e) industry-segments of said user, or (f) educational institutions of said user to send said message, wherein said communication preferences of said recipient is displayed to said sender when selecting said recipient to send said message; and a refund module, executed by said one or more processors, that provides choices to said recipient to (i) return said compensation money to said sender, (ii) donate part of said compensation money to a charity and keep the remaining money for said recipient, or (iii) donate said compensation money to said charity, or to a newly selected charity for said message, wherein said refund module returns said compensation money to said sender of said first message when said recipient does not provide attention to said first message for a certain passage of time, wherein said refund module automatically donates said compensation money to said charity without said compensation money entering to a recipient centric message system account of said recipient.

27. The system of claim 22, wherein said recipient centric messaging system further comprises: a message prioritizing module, executing by said one or more processors, that receives said first message from said sender and prioritizes said first message in said recipient inbox based at least one of (i) whether said sender is known to said recipient, and (ii) said compensation amount attached with said first message; a mailbox module, executed by said one or more processors, that manages said messages received from different recipients, wherein said mailbox module determines a current placement of said first message in an inbox of said recipient based on said compensation amounts associated with other messages in said inbox, wherein said mailbox module (a) determines a cumulative value of compensation amounts associated with said messages in said inbox, (b) displays said cumulative value of said compensation amounts associated with said messages in said inbox of said recipient, and (c) displays each of said messages in said inbox of said recipient along with said compensation amounts attached with each of said messages, and (d) sorts said messages in decreased order of said compensation amount associated with said messages; and a reputation scoring module, executed by said one or more processors, that determines a reputation score for said sender based on feedback from said recipient on at least one of (i) a priority level of said first message, (ii) whether said first message is properly classified by said sender, and (iii) whether said message is offensive or

but many of these messages might go to an email address that they don't check often.

Different people are likely to receive very different amounts of messages depending on where they live, their income level, their profile information etc. Job seekers might be open to receiving as many opportunities as possible. A large number of people might receive very few messages omen might be open to receiving relevant messages on sites like Quora, but many of them are bombarded with inappropriate messages. This is especially true if they have a photo on their profile where men send them dating requests etc. Accordingly, there remain a need for a communication system that is (i) flexible and well-designed and provides a single place to check and reply to messages from people outside their social network and (ii) addresses concerns and needs of a multitude of users across different segments in a way that they are comfortable with having a public communication address.

SUMMARY

In view of the foregoing, an embodiment herein provides a method of communicating at least one message between a sender and a recipient using a communications protocol over a data network through a recipient centric messaging system. The method includes: (a) receiving communication preferences specified by the recipient that includes computer interpretable constraints required to be met for delivery of a first message and human interpreted constraints when the recipient creates or updates a profile on the recipient centric messaging system, (ii) publishing the profile with a set of visible preferences from the communication preferences of the recipient that are visible to the sender when the sender selects the recipient to send a message, (iii) processing a request received from the sender to send the first message to the recipient, (iv) generating a customized message form based on the communication preferences of the recipient to enable the sender to compose the first message to comply with the communication preferences, (v) providing an indication to the sender if any of the constraints are not met, and (vi) delivering the first message to the recipient if and only if all the computer interpretable constraints specified in the communication preferences of the recipient and any constraints applied by the recipient centric messaging system are met by the first message.

In one embodiment, the communication preferences include multiple categories of communications that are set up by the recipient based on (a) properties of senders, or (b) properties of communicated content. The different constraints are specified by the recipient for different categories of communications.

In another embodiment, the communications preferences are specified as a logic formula with (a) AND, (b) OR, and (c) NOT operators separating constraints, and the communications preferences includes at least one of: (i) a limit on a number of characters in the message, (ii) a specification on whether images or attachments are allowed or not, (iii) a compensation amount that is required for delivery of the message, (iv) a threshold reputation score of the sender required for delivery of the message, or (v) a volume of message traffic that is received by the recipient that is associated with a category of communication selected from the different categories of communications. In yet another embodiment, the compensation amount is suggested by the recipient centric messaging system based on at least one of (i) amounts associated with existing messages received by the recipient and priorities of the existing messages in order to increase a priority of the message for the recipient, (ii) one or more properties of content associated with the message. In yet another embodiment, the one or more properties of content includes a length of a video that is attached with the message, or (iii) an amount of attention required by the recipient.

In yet another embodiment, the method further includes the step of requesting the sender to certify that at least visible preferences out of the human interpreted preferences are satisfied by the message before sending the message. If the recipient reports that the sender has wrongly certified at least one of the visible preferences, the recipient centric messaging system blocks the sender from sending further messages to the recipient, or reduces at least one of (a) a reputation score of the sender, or (b) privileges of the sender. In yet another embodiment, the privileges include free messages provided to the recipient.

In yet another embodiment, the method further includes the step of allowing a limited number of free messages within a given time period if the sender and the

recipient (a) share the same alma mater, (b) or previously worked for the same employer.

In yet another embodiment, the constraints applied by the recipient centric messaging system includes (a) a limit to a number of messages that the sender can send without a compensation amount. In yet another embodiment, the number of messages that are allowed to be sent without the compensation amount is determined based on (a) a reputation score of the sender, or (b) a regulation applicable to the recipient for receiving compensation.

In yet another embodiment, the communication preferences includes multiple categories of communications that are set up by the recipient based on (a) properties of senders, or (b) properties of communicated content. In yet another embodiment, the recipient specifies different constraints for different categories of communications.

In yet another embodiment, the communication preferences include an indication that one or more of the constraints are not enforced on one or more senders or types of senders.

In yet another embodiment, the request is received from the sender to send the first message when the sender selects a URL of a unique communication address associated with the recipient within the recipient centric messaging system from a source outside of the recipient centric messaging system.

In yet another embodiment, the method includes the steps of: (a) verifying whether the sender is logged on to the recipient centric messaging system or not, and (b) enabling the sender to login to the recipient centric messaging system if the sender is not already logged in to the recipient centric messaging system.

In yet another embodiment, the recipient centric messaging system automatically captures a URL of the source as metadata to be attached to the first message, and generates the customized message form based on the communication preferences of the recipient on selecting the URL once the sender is logged in to the recipient centric messaging system.

In yet another embodiment, the method further includes the step of filtering and classifying the messages in an inbox of the recipient in the recipient centric messaging system based on the URL of the source outside of the recipient centric messaging system.

In yet another embodiment, the method further includes the steps of: (a) delivering the first message to the recipient if and only if a minimum compensation amount is attached with the first message, and (b) returning at least a part of the compensation amount to the sender when the recipient does not send a reply to the message within a predefined period of time.

In yet another embodiment, the recipient centric messaging system does not deliver the first message to the recipient if a reputation score of the sender is lesser than the threshold reputation score specified in the communication preferences.

In yet another embodiment, the method further includes the step of verifying the message and when at least one of the constraints specified in the communication preferences or the constraints specified by the recipient centric messaging system is not met by the message, not delivering the message, notifying the sender that at least one of the constraints is not met, and enabling the sender to modify the message to meet the constraints.

In yet another embodiment, the method further includes the steps of: (a) processing a first reply from the recipient to the first message, and (b) crediting a first compensation amount associated with the first message by the sender to the recipient only when the recipient sends the first reply to the sender.

In yet another embodiment, the method further includes the steps of: (a) processing a request from the recipient to end a conversation between the sender and the recipient, and (b) disabling an option for the sender to reply to or to send another message in a current conversation thread that includes the first message and the first reply in response to the request to end the conversation.

In yet another embodiment, the method further includes the steps of: (i) processing a second message from the sender to the recipient, (ii) crediting a second compensation amount associated with the second message by the sender to a payment recipient specified by the recipient in the communication preferences only when the recipient sends a second reply to the sender, and (iii) delivering the second message to the recipient if and only if all the constraints specified in the communication preferences of the recipient and any constraints applied by the recipient centric messaging system are met by the second message.

In yet another embodiment, the recipient centric messaging system is integrated with an email service to access features of the recipient centric messaging system through the email service.

In yet another embodiment, the method further include the step of notifying the recipient about the first message by sending an email when the recipient receives the first message on the recipient centric messaging system from the sender. In yet another embodiment, the recipient centric messaging system sends one notification for a plurality of emails that are specific to the recipient.

In yet another embodiment, the method further includes the step of providing an option to the recipient to send an email reply to the first message directly from the email service using a reply button that is associated with the email and a protocol. In yet another embodiment, the email reply first goes to an email proxy server and flows through the recipient centric messaging system when the recipient selects the reply button.

In yet another embodiment, the email proxy server receives the email from an email service and parses (a) details of the recipient within the recipient centric messaging system, and (b) a type of message received from the sender. In yet another embodiment, the email proxy server further (a) identifies what message the email is in response to, (b) decides whether any compensation is required to send a reply, and (c) generates an appropriate application programming interface to compose and send the reply to the received email.

In yet another embodiment, the method further includes the step of deleting a message from the recipient centric messaging system in response to a selection of a reject button that is associated with the recipient centric messaging system. In yet another embodiment, the recipient is not credited any compensation attached with the message when the message is rejected.

In another aspect, one or more non-transitory computer readable storage mediums storing one or more sequences of instructions, which when executed by one or more processors, causes communicating at least one message between a sender and a recipient using a communications protocol over a data network through a recipient centric messaging system, by performing the steps of: a) receiving communication preferences specified by the recipient that includes computer interpretable constraints required to be met for delivery of a first message and human interpreted constraints when the recipient creates or updates a profile on the recipient centric messaging system, (ii) publishing the profile with a set of visible preferences from the communication preferences of the recipient that are visible to the sender when the sender selects the recipient to send a message, (iii) processing a request received from the sender to send the first message to the recipient, (iv) generating a customized message form based on the communication preferences of the recipient to enable the sender to compose the first message to comply with the communication preferences, (v) providing an indication to the sender if any of the constraints are not met, and (vi) delivering the first message to the recipient if and only if all the computer interpretable constraints specified in the communication preferences of the recipient and any constraints

when selecting the recipient to send the message.

In yet another embodiment, the refund module provides choices to the recipient to (i) return the compensation money to the sender, (ii) donate part of the compensation money to a charity and keep the remaining money for the recipient, or (iii) donate the compensation money to the charity, or to a newly selected charity for the message. In yet another embodiment, the refund module returns the compensation money to the sender of the first message when the recipient does not provide attention to the first message for a certain passage of time. In yet another embodiment, the refund module automatically donates the compensation money to the charity without the compensation money entering to a recipient centric messaging system account of the recipient.

In yet another embodiment, the recipient centric messaging system includes a message prioritizing module, a mailbox module, and a reputation scoring module. The message prioritizing module that is executed by the processor receives the first message from the sender and prioritizes the first message in the recipient inbox based at least one of (i) whether the sender is known to the recipient, or (ii) the compensation amount attached with the first message. The mailbox module that is executed by the processor manages the messages received from different recipients. The mailbox module determines a current placement of the first message in an inbox of the recipient based on the compensation amounts associated with other messages in the inbox. The mailbox module may (a) determine a cumulative value of compensation amounts associated with the messages in the inbox, (b) display the cumulative value of the compensation amounts associated with the messages in the inbox of the recipient, (c) display each of the messages in the inbox of the recipient along with the compensation amounts attached with each of the messages, and (d) sort the messages in decreased order of the compensation amount associated with the messages. The reputation scoring module that is executed by the processor may determine a reputation score for the sender based on feedback from the recipient on at least one of (i) a priority level of the first message, (ii) whether the first message is properly classified by the sender, or (iii) whether the message is offensive or inappropriate to the recipient.

The reputation scoring module may further determine the reputation score for the sender based on an analysis of a message history of the sender using predefined rules based on at least one of a (a) number of messages sent by the sender to the recipient, (b) fraction or percentage of messages marked as irrelevant messages by the recipient, and (c) fraction or percentage of messages replied to by the recipient.

In yet another embodiment, the reputation scoring module further determines the reputation score for the sender using a machine learning algorithm which analyzes a plurality of parameters selected from a group consisting of a (a) number of messages sent by the sender to one or more recipients, (b) fraction or percentage of messages replied to by the one or more recipients, (c) relevance ratings assigned to the messages by the one or more recipients, (d) length of replies sent by the recipient, or (e) sentiment analysis of the messages.

In yet another embodiment, the recipient centric messaging system includes a set of application programming interfaces and a protocol that specifies how the sender can send the messages and how the recipient can receive the messages over the recipient centric messaging system. The protocol includes specific requirements for honoring the communications preferences. The recipient centric messaging system displays the communications preferences of the recipient and enforces the sender to comply with the communications preferences in the application programming interface when the sender selects the recipient to send the message.

BRIEF DESCRIPTION OF THE DRAWINGS

The embodiments herein will be better understood from the following detailed description with reference to the drawings, in which:

- FIG. 1 illustrates modules, databases, and user experience components in a recipient centric messaging system that communicate with external services through a network according to an embodiment herein;
- FIGS. 2A-2C illustrate a process view of a sender sending a message to a recipient using the recipient centric messaging system of FIG. 1 according to an embodiment herein;
- FIG. 3 illustrates an exploded view of the recipient centric messaging system of FIG. 1 according to an embodiment herein;
- FIGS. 4A-4B illustrates user interface views of creating or updating a recipient profile based on social network accounts according to an embodiment herein;
- FIGS. 4C-4D illustrates user interface views of specifying recipient preferences according to an embodiment herein;
- FIGS. 5A-5B illustrate user interface views of a recipient profile with a list of visible recipient preferences made visible to a sender and options to contact the sender according to an embodiment herein;
- FIG. 6 illustrates a user interface view of the sender signing up with the recipient centric messaging system of FIG. 1 using an email or a social network account according to an embodiment herein;
- FIGS. 7A and 7B illustrate user interface views of linking the recipient centric messaging system of FIG. 1 to the sender's social network accounts according to an embodiment herein;
- FIG. 8 illustrates a user interface view of the recipient centric messaging system of FIG. 1 verifying a sender by verifying his mobile phone number according to an embodiment herein;
- FIGS. 9A and 9B illustrate user interface views of a sender using an automatically generated message form based on the recipient's preferences to compose a message to the recipient according to an embodiment herein;
- FIG. 10 illustrates a user interface view of the recipient centric messaging system of FIG. 1 computing and suggesting compensation amounts to the sender based on what other people have bid to increase the priority of the message within the recipient's inbox according to an embodiment herein;
- FIGS. 11A and 11B illustrate user interface views of a conversation screen within the inbox of the recipient illustrating conversation options and compensation amounts to be claimed according to an embodiment herein;
- FIG. 12 illustrates a user interface view of a recipient profile that displays the communication preferences of the recipient according to an embodiment herein;
- FIG. 13 illustrates a user interface view of a customized message form for sending the message to the recipient according to an embodiment herein;
- FIGS. 14A and 14B illustrate user interface views of the recipient centric messaging system of FIG. 1 used for determining a reputation score for the sender based on feedback from a recipient according to an embodiment herein;

recipients address (e.g. email address, phone # for SMS, etc.). When they send a message, the message is automatically delivered to the recipient's inbox. It may then be up to the recipient to look at all received messages and make a decision to respond or delete as "junk-mail" or up to the messaging service to automatically determine they are likely to be spam and put them in a special folder in the recipient's inbox. The recipient centric messaging system is designed to be a "recipient-centric" system from the ground up.

The recipient centric messaging system may include a 1-1 messaging system, and/or a group messaging system. It may further include a 1-many messaging systems for managing sponsored communications. The sponsored communication is a direct connecting marketplace between buyers and sellers of attention. The sponsored message with a minimum compensation amount to deliver the message to the buyer. The sponsored message may include (a) a promotional content, (b) an advertisement, (c) a video associated with advertisement or promotion, etc. The messaging system provides a searchable public directory (e.g., profile store) of all users who have signed up with the service and the users may send or receive messages. The system may require users to verify themselves using a variety of methods (e.g. email, phone #, credit card, associating to other social media accounts they own, etc.) so that everybody on the system can have high confidence that they are messaging with the "said" individual versus someone else who might have set-up a similar fake profile and might be an imposter. The system provides an address-handle (e.g. xyz.com/@janereed) that can be showcased on any public website, a LinkedIn profile, blogs, etc. so that interested senders may communicate with registered users. The messaging system may also provide a small graphics-icon that can be shared freely and posted on various websites.

As part of signing-up for the messaging system service, users specify and/or set-up their communications preferences for receiving messages. The users may indicate the topics they are interested in, whether they allow images/attachments to be sent or not (e.g. which is highly relevant to women recipients when getting messages from people they do not know), size limits, and whether any amount of money is paid with the message to compensate the recipient for his attention and time. Often the money sent may be minimal, but even small amounts can greatly discourage senders of spam and inappropriate messages. For more persistent spammers the system also allows for blacklisting senders. The recipient's communication preferences may optionally be specified as a logic formula with "AND", "OR", "NOT" clauses among the possible constraints allowed by the system.

For the sender to send a message, they may simply click on the messaging system address-handle for the recipient. The senders are taken to set of screens that show recipient preferences and a structured message-form that facilitates the senders to meet those requirements. If the recipient has asked for monetary compensation, then the sender needs to first add some money to their account with the messaging system using a credit card or service such as PayPal or Stripe, and then attach the requested sum with the message. The compensation to be attached to the message may be dynamically determined by system. The sender may also need to solve a Captcha code (e.g. to prove they are human and not a machine sending bulk messages) or any satisfy other such requirements specified by the messaging system. Once the sender meets all requirements specified by recipient, the sender can send the message, which will then be delivered to the recipient.

The recipient centric messaging system will also provide the ability to users to specify categories of messages that they would be interested in receiving. Examples of such categories are personal messages, requests for speaking engagements, requests for book reviews, requests to review a business plan, career advice etc. The recipient centric messaging system will make it easy for the sender to indicate the category of the message. Some of the categories are suggested by the system, and some are created by the recipient. Categories allow for the recipient centric messaging system to add filters to categorize the mail that is received, and also to select different payment options for different categories. For example, a recipient might want money when someone wants them to review a business plan, but they might be open to giving career advice for free or to receive a message from someone that knows them. The recipient centric messaging system will let the recipient create custom categories, and set different payment options for each category. The categories of communications may set up by the recipient based on (a) properties of senders, or (b) properties of communicated content. The recipient may specify different constraints for different categories of

notification may be sent to the email along with the message but it may not have all the other features available to messages sent to the recipient centric messaging system (e.g., like compensation amount).

The messaging system may be integrated with email in the following ways: (i) when a message arrives for the user from the messaging system, the summary of the content, or the full message if it is just text is sent to the user via email. The email includes a special "Reply" button embedded inside it. While selecting the "reply" button, the system may directly take you to that message within the system messaging client (e.g., web-client on PCs or mobile client on iOS and Android) for the user/recipient to compose and send the reply. However the reply message is stored in the recipient centric messaging system 100, and not in an email client; (ii) For messages that are text-only and where no-special action/restrictions are applicable for the reply (e.g. as in survey messages entering a special "completion code", or that have reply length constraints, and so on, the messaging system may provide an option so that the user can reply to the message directly from an email client using the email client reply button and protocol. In this case the email reply may go to a proxy-server and then flow through the messaging system (e.g., so that all sender and recipient preferences/constraints are respected), so that any attached money is properly accounted for.

However, the messaging system simplifies the user's task of frequently switching between multiple messaging clients and interfaces; (iii) Beyond the "reply" button, the messaging system may also include other "action" buttons. The messaging system might optionally provide a "Reject" button. The reject button can be used to delete the message from the messaging system and make sure that the recipient is not credited any attached money as he made the decision not to reply (pay attention) to the message; and (iv) the messaging system may also provide daily or weekly digests of activity or pending requests as email notifications to user. This integration can help user to manage their flow of messages coming from the messaging system and ignore some of them during periods when the traffic over the messaging system network is high.

Some of the above exemplar integrations can be implemented through an email-system proxy service. For the messaging system to email pathways, the proxy-service translates the system messages into email and sends them to an appropriate user's one or more registered email address(es). For example, the messaging system may decide (i) what summary to extract from the original system message, (ii) what other HTML-buttons to add to the email message, and (iii) what email address to send such composed messages to. In one embodiment, on the reverse pathway, the proxy-server may receive the email from an email-service, parse the recipient within the messaging system, parse the type of message, what message this is in response to, decide if any money transfers are required and then invoke the appropriate messaging system APIs so that from an end-user perspective it appears that the message-reply was composed and generated within the messaging system.

Further the messaging system may determine and maintain a reputation score for each the sender/recipient in the system to be able to report senders who are frequent spammers and have an idea of responsive recipients. In one embodiment, the messaging system may report the spammy senders, and the responsive recipients based on (i) what kind of message the sender sends to the recipients, and (ii) how much time the recipient takes to respond to the sender's message. In addition, the recipient centric messaging system may use the reputation score to decide if messages from the sender can be sent to the recipient. It may also allow the recipient to specify that they only accept messages if the sender has a score greater than a threshold reputation score. The reputation score may be calculated based on (i) analyzing a message history to identify a (a) number of messages sent by the sender, (b) number of messages marked by the recipient as irrelevant messages (e.g. spam), and/or (c) a number of replies sent by the recipient. The message history may be analyzed by predefined rules, (ii) various parameters that include a (a) number of messages sent by the sender, (b) number of replies sent by the recipient, (c) text contained in the messages, (d) length of the replies sent by the recipient, (e) time of a day (e.g. 11 PM) the message was sent, (f) language used in the message, various parameters analyzed by a machine learning algorithm, and/or (iii) sentiment analysis of the messages. The reputation score may be used to incentivize or encourage the sender to send relevant messages to the recipients and to discourage irrelevant or inappropriate messages.

(viii) a time boundary by when attention needs to be provided to the sponsored message.

The compensation determination module is configured to determine the compensation amount to attach with the sponsored message to get attention from the recipient. In an embodiment, the sponsored message requires a minimum compensation amount to be delivered to the recipient. The compensation determination module associates the compensation with the sponsored message. The compensation determination module may provide a fixed compensation amount to the registered users in the target list. The compensation determination module may alternatively provide a variable compensation amount to the registered users in the target list based on criteria selected from a group that includes: (a) importance and popularity of the plurality of recipients, (b) a minimum compensation amount that the registered users has set to receive the sponsored message, (c) algorithmic recommendations by the recipient centric messaging system based on length of the sponsored message, and (d) historical data indicating which compensation drives what percentage of open-rates for the sponsored messages.

The klout score determination module is configured to determine a social popularity score and/or a reputation score for the registered users. The communication preferences verification module is configured to verify whether the sponsored message complies with the communication preferences of the registered users from the target list of the subset of registered users. The communication preferences may include constraints and communication preferences specific to the sponsored messages. The communication preferences verification module delivers the sponsored message only to those registered users from the target list of the subset of registered users for whom the sponsored message complies with their communication preferences.

The attention criteria verification module is configured to verify whether the recipient meets one or more of the attention criteria to get the compensation amount attached with sponsored message. The compensation crediting module is configured to credit the compensation only to those registered users from the target list of the subset of registered users for whom the sponsored message complies with their communication preferences including the mandatory constraints and the communication preferences specific to sponsored messages only when they provide attention to the sponsored message that meets the attention criteria specified by the sender.

The recipient centric messaging system allows the recipient to specify the communication preferences to receive the sponsored message. The communication preferences may include (i) whether the registered recipient wishes to receive the sponsored messages from all senders or not, (ii) an interested topic that the recipient is open to receive the sponsored message on, (iii) whether the recipient is open to receive the sponsored message from black-listed senders or not, (iv) a specification on whether images are allowed or not and whether attachments allowed or not, and/or (v) a compensation amount that is required for delivery of the sponsored message.

The sponsored messages are displayed under a sponsored message tab that is associated with a mailbox of the recipient centric messaging system. The unclaimed compensation amount may also be displayed in the sponsored message tab. Further, the recipient centric messaging system may indicate (a) list of the sponsored messages along with the compensation amount which is already claimed by the recipient, and (b) unread sponsored messages with their compensation amounts.

DETAILED DESCRIPTION OF THE DRAWINGS

The embodiments herein and the various features and advantageous details thereof are explained more fully with reference to the non-limiting embodiments that are illustrated in the accompanying drawings and detailed in the following description. As used in the below description, the terms "database/store", "module", "user-experience (ux)", "system", and the like are intended to refer to a computer-related entity, either hardware, a combination of hardware and software,

software, or software in execution. For example, a database/store/module may be, but is not limited to being, a process running on a processor, an object, an executable, a thread of execution, a program, and/or a computer. By way of illustration, both an application running on a server and the server can be a database/module. One or more databases/modules may reside within a process and/or thread of execution and a module may be localized on one computer and/or distributed between two or more computers that may be localized in same data center or geographically distributed.

Referring now to the drawings, and more particularly to FIGS. 1 through 17, where similar reference characters denote corresponding features consistently throughout the figures, preferred embodiments are shown. Various aspects are now described with reference to the drawings. In the following description, for purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of one or more aspects. It may be evident, however, that the various aspects may be practiced without these specific details. In other instances, well-known structures and devices are shown in block diagram form in order to facilitate describing these aspects.

FIG. 1 illustrates modules, databases, and user experience components in a recipient centric messaging system 100 that communicates with external services through a network 101 according to an embodiment herein. The recipient centric messaging system 100 includes the various databases and modules and user-experience components that come together to implement the messaging system. In one embodiment, the various systems include additional databases or modules and/or may not include all of the components and modules discussed in connection with the figures. A combination of these approaches may also be used. The various aspects disclosed herein can be performed on electrical devices including devices that utilize touch screen display technologies and/or mouse-and-keyboard type interfaces, in an embodiment. Examples of such devices include computers (desktop and mobile), smart phones, personal digital assistants (PDAs), and other electronic devices both wired and wireless.

The recipient centric messaging system 100 includes databases such as an entity storage database 102, a message storage database 104, a payment and account storage database 106, a user interactions storage database 108, modules such as a search index module 110, a profile and communication preferences module 112, a user verification module 114, a user to user messaging module 116, a group messaging module 118, a messaging account maintaining module/payment module 120, a people and message searching module 122, a performance notification module 124, and user experience components such as a web portal 126, a web-messaging app 128, iOS, Android, or Windows mobile apps 130, and analytics dashboards 132.

The entity storage database (S1)102 may store information about "users/people" but also about other possible entities, such as businesses or groups that could be both senders and receivers of communications. For people and entities, the entity storage database (S1)102 may store information such as a name, an address, a picture, email-addresses, a phone no, a date-of-birth, a driver license number and images, a background-picture for a profile page, education history, employment history, links to the person or entity's social networks (e.g. on Facebook, LinkedIn, Twitter, Quora, Pinterest, Stack Overflow, Medium, etc.), endorsements from other people, Credit Cards/PayPal-accounts/Bank-account links as may be required to receive and send payments within messages, etc. Not all of the fields may be filled out at any given point in time. Other fields may be added at any time to capture more data that is relevant for the communications task. In cases of business/group entities, similar but slightly different fields may be recorded (e.g. the business email address versus the individual/personal email address).

The recipient centric messaging system 100 may encourage users to "verify" several of the above fields using a variety of methods, in an embodiment. For example, sending an email to the specified account and getting a response back may verify an email address. Sending a code via SMS to that phone and receiving a response code back may verify the mobile phone number. The mobile phone verification is an important part of the system since new SIMs for mobile phones are hard to obtain, and the messaging system may limit the maximum number of accounts/user-profiles that can be associated with any single phone number. Similarly, a recipient may verify that the links being provided for various social accounts such as Facebook, Twitter, and LinkedIn are genuine

For any given message with attached payments, the recipient is provided with a variety of ways to deal with the money as shown by few exemplars below. For example, the recipient could: (a) return the money to the sender (e.g., because they happen to be an old long-lost friend), (b) or donate it all to a given charity or in specified proportions to a set of charities, (c) or keep it all for herself, and (d) or keep x % for herself and donate $(100-x)$ % to one or more charities. When the system is directed to donate 100% to one or more charities, the recipient centric messaging system 100 may do so in a way so that there are no tax consequences for the recipient (e.g., no money flows to her, and all is given to charity by the recipient centric messaging system 100 in an anonymous manner), and/or the money could be first directed to the recipient account and then portion of money directed to charity with the recipient-name attached. The recipient centric messaging system 100 also may provide options such that when a recipient is unable to provide attention to a message, (e.g. it has been pending in their Inbox for more than 7 days), the attached money may be refunded to the sender of the message.

As envisioned, in a preferred embodiment, the recipient centric messaging system 100 may not store "real" money in the accounts associated with users and entities. To pay for sending a message, users must first "fund" their recipient centric messaging system 100-account via 3.sup.rd party services such as PayPal, Stripe, or Bank account. In an embodiment, the balance in such user-accounts goes up or down based on payments made or received for messages or returned from unattended messages. However, when the messaging-account is "funded" using external services, or when money is taken out of the messaging system user-account to an external bank/PayPal account, etc., then the system may impose a certain minimum-amount that must be transferred (e.g. system could have a \$5 minimum for adding or removing funds). The \$5 minimum may be required to limit the total no of bank/PayPal/Stripe/transactions required, as typically today, such transactions come with an overhead of $2.9\%+30$ c charge in the US. In one embodiment, the fund details of the user account are stored in the payment and account storage database 106.

To support the above scenarios, the messaging account maintaining module/payment module 120 in combination, may maintain a messaging-account for all users and entities in the recipient centric messaging system 100. In one embodiment, all transactions are duly recorded and an audit-trail is kept. In another embodiment, the recipient centric messaging system 100 attempts to make sure all transactions comply with necessary local, state, national, regulations and guidelines. For example, the system may issue a 1099-MISC form in USA as record submitted for income received by a recipient through such messages. The system may also attempt to perform additional processing, such as fraud detection, money laundering, etc. The recipient centric messaging system 100 may perform some of such processing itself or rely on interfaces to 3.sup.rd party systems/services for the implementation of such hygiene and regulatory matters. The recipient centric messaging system 100 also envisions providing informal guidance to all users on ethical-use and best practices use of money within the system.

The messaging account maintaining module/payment module 120 (e.g., working in close conjunction with the messaging module) may also implement an algorithmic recommended/auction pricing logic for messages to support senders. This recommendation-system may recommend how much money the sender may want to attach to the message to get recipient's attention immediately by being the top-message (e.g., or be in the top-10 unread messages, or based on what other pending messages have paid, or based on other digital auction-logic) and is a hint that the senders can leverage. The recommendation service is also useful because often the recipients may be hesitant/shy/not-know-how-to-best-estimate putting a monetary value to their time or attention, but feel much more comfortable when the recipient centric messaging system 100 is itself doing such price setting or recommendations.

In one embodiment, the recipient communication preferences may be specified to include that certain money is to digitally accompany the message for required conditions to be satisfied. In this case the money specified is an "exact" amount to be delivered with the message. In another embodiment, the money specified may be a "reserve price" (e.g., the minimum amount to be attached), but a higher amount may also be attached to seek attention. In another embodiment, the money is not specified directly by the recipient, but the recipient chooses that the system run an algorithm (e.g., which may be an auction) to determine how

recipient if and only if all the constraints specified in the recipient communication preferences as well as system specified constraints are met by the second message, including an additional compensation if specified in the recipient preferences.

An example of how the system protocols might work for a sender may involve authenticating a user, and then retrieving recipient preferences. A client device may render the user experience of the message creator by displaying the message form that honors those recipient preferences. At this point, the preferences might also state that the sender can't send this recipient a message (e.g., because they are on a blacklist for that recipient or globally because of previously sent spam messages). The sender may send the message and get back a response token. The message could be rejected if the recipient's preferences aren't met. The response token could either be an event based callback or a token that the client can use to poll for the result. In the system, messages may not be delivered immediately since they are checked for inappropriate content, they may require payment etc. The response token allows the sending client to receive the status of the message and take action in case the message was rejected (e.g., by changing the text, paying for the message etc.) On the recipient side, the APIs allow for the unique nature of the mailbox and have API's that allow for retrieving messages by category, tags, source, money etc. They may also get high-level information about the mailbox (e.g., a number of messages, total money attached, total money in the account, unread messages etc. The recipient centric messaging system 100 may further include APIs to manage recipient preferences, mailbox preferences etc.

The protocols may allow the recipient centric messaging system to (a) show the relevant categories based on the recipient preferences, (b) enforce minimum stamp requirements, honor code etc., (c) receive the compensation amount from the sender to send the message, (d) send the message to the recipient and debit the amount from the sender account, (e) deliver the message to the recipient inbox and wait for the recipient response on the message, and (f) credit the compensation amount to the recipient account if the recipient responds to the message, or else refund the compensation amount to the sender account.

FIG. 3 illustrates an exploded view 300 of the recipient centric messaging system 100 of FIG. 1 according to an embodiment herein. The functional block diagram of the recipient centric messaging system includes a preferences database 302, a preferences customization module 304, a preferences displaying module 306, a sender verification module 308, a message customization module 310, a compensation determination module 312, a constraints applying module 314, a compensation providing module 316, a mailbox module 318, a message prioritizing module 320, a combined search module 322, and a refund module 324. The preferences customization module 304 is configured to specify/set-up the communication preferences for receiving messages.

In one embodiment, the communication preferences include but are not limited to: (i) a simple text-field indicating areas of interests, (ii) who they wish to connect with and for what purposes, (iii) a limit of characters or words of text that could be in message, (iv) a specification whether images are allowed or not and whether attachments allowed or not, (v) a minimum payment required for delivery of the message, (vi) categories of communication types specified by the recipient, and (vii) a volume of message traffic received by the recipient associated with a certain category of communication etc. The recipient communications preferences may optionally be specified as a logic formula with "AND", "OR", "NOT" clauses among the possible constraints allowed by the system. The preferences customization module 304 is optionally configured to specify the amount that the sender must attach before sending the message to ensure seriousness and/or as compensation for time/attention of recipient. The preferences displaying module 306 is configured to display the recipient preferences to the sender.

In one embodiment, some of recipient preferences may not be visible to the sender e.g., black-lists of senders. The sender verification module 308 is configured to verify the sender before sending a message to the recipient. The sender may be required to be verified using their social identities, mobile number, personal documents etc. For example, (i) an email may be verified by sending an email to the specified account and getting the challenge response back, (ii) the mobile phone number may be verified by sending a code via SMS to that phone and receiving a response code back, etc. If using a social identity like Twitter, that site verifies the user. For example, Twitter has a concept of a verified user, which is information that is available to the message site when the user logs in using

Twitter. The personal documents (e.g. a driving license etc.) may be verified by checking the license number with a database.

The message customization module 310 is configured to automatically generate a message-form where the sender enters the message. In one embodiment, the message-form displays the recipient preferences/constraints. In another embodiment, the message-form generated is based on the communication preferences of the recipients. The compensation determination module 312 is configured to determine a compensation amount for sending a message to a recipient. For example, (i) the compensation determination module 312 may determine that the compensation amount is zero when the sender wishes to send a personal message (e.g., to a person who is known or who he has corresponded with earlier), and (ii) the compensation determination module 312 may determine that the compensation amount is a minimum of \$2 when the sender wishes to send sponsored/marketing messages. In one embodiment, the compensation determination module 312 determines how much money the sender may want to attach to their message to get the recipient's attention immediately by being the top-message (e.g., or be in the top-10 unread messages, or based on what other pending messages have paid, or based on other digital auction-logic) in the recipient's inbox. In another embodiment, the compensation amount is suggested by the compensation determination module 312 based on (i) amounts associated with existing messages received by the recipient and priorities of the existing messages in order to increase a priority of the message for the recipient, (ii) one or more properties of content associated with the message, wherein the one or more properties of content include a length of a video that is attached with the message, or (iii) an amount of attention required by the recipient. In one embodiment, the compensation may also be other virtual points/goods as often use in gaming systems or search competitions.

The constraints applying module 314 is configured to verify whether the required constraints (e.g. computer interpretable constraints and human interpreted constraints) are met to send the message to the recipient. The computer interpretable constraints may be but are not limited to (i) a character limit mentioned by the recipient, (ii) does the message including attachments, (iii) is a minimum compensation money attached to the message, (iv) is the message received from a verified sender, etc. The human interpreted constraints may include whether the message is related to a topic of interest to the recipient or not. The recipient centric messaging system 100 may allow the sender to verify that the communication preferences of the recipient are met by the message, and (ii) allows the sender to certify that the message respects the recipient's communication preferences. However, if the recipient reports the message as misclassified, inappropriate, or not meeting certain constraints, the reputation score of the sender is affected adversely. The recipient centric messaging system 100 may enforce constraints based on regulations that affect the recipient. For example, certain government employees may not be able to receive money or lawyers might have other such restrictions. In one embodiment, the recipient is able to relax one or more of the constraints needed for the sender if the sender known to the recipient outside of the recipient centric messaging system 100.

The compensation providing module 316 is configured to transfer the compensation amount mentioned in the message to the recipient along with the message. In one embodiment, the sender needs to add money to their messaging system account before they can dispatch the message. The compensation providing module 316 credits a percentage of the compensation amount for the message to an account associated with the recipient centric messaging system 100 for facilitating the messaging and for exchange of the compensation money from the sender to the recipient. The compensation providing module 316 may provide some privileges to the recipient when the recipient invites one or more new users to the recipient centric messaging system. The privileges may include (a) credit the compensation amount to a recipient centric messaging system account of the recipient, or (b) providing free messages to the recipient. The mailbox module 318 is configured to manage the messages received from the different recipients. The recipient centric messaging system 100 may be used as the single communication address across all websites, and so it keeps track of the origin of the message. (e.g., whether it originated on Quora, LinkedIn, Medium etc). In one embodiment, the mailbox module 318 ensures a higher-quality communications experience between senders and recipients of messages by providing the recipient with a single place to manage all their communication from people outside of their social network.

The message prioritizing module 320 is configured to receive the message from the sender and prioritize the message based on the compensation amount

recipient (e.g., Jane Reed).

FIG. 10 illustrates a user interface view of the recipient centric messaging system 100 of FIG. 1 computing and suggesting compensation amounts to the sender based on what other people have bid to increase the priority of the message within the recipient's inbox according to an embodiment herein. The recipient centric messaging system 100 may determine a current placement of the sender's message in the recipient's inbox (e.g. it is currently placed 12th in recipient's inbox), based on the amounts associated with messages that placed higher, dynamically provides a suggestion to the sender in real time that if you want your message to move up to the top 10 messages you need to pay an additional \$3, or if you want your message to move to the top position, you need to pay \$25 to the recipient. The user interface view indicates why the sender should attach money to the messages with reasons and terms such as (i) your message shows up prominently in Jane Reed's inbox thereby increasing the likelihood of getting a response, (ii) offering payment shows that you value Jane Reed's time, and appreciate a response, (iii) you are paying for a response to your message--a "thank you, but I'm not interested" is a perfectly valid response, and (iv) If Jane Reed does not reply within 7 days, you will get a full refund. When selecting "yes" the sender may be able to add compensation money to move his message to the top 10, or to a top message, for example. In one embodiment, in case where money is attached to the message, if the recipient does not provide attention for a certain passage of time, the money is returned to the sender of the message.

FIGS. 11A and 11B illustrate user interface views of a conversation screen within the inbox of the recipient illustrating conversation options and compensation amounts to be claimed according to an embodiment herein. The user interface view (e.g., of the mailbox module 318) includes an inbox tab 1102 to display the one or more messages received from one or more users (i.e. senders) along with a cumulative value of the money associated with these messages and display each of the messages in the inbox of the recipient along with the compensation amounts attached with each of the messages. In one embodiment, the mailbox module 318 displays the received message along with the sender name, sender designation, etc. The user interface view of the mailbox module 318 displays the message with the highest compensation associated with it as top message in the inbox tab 1102.

For example, as shown in FIG. 11A, John Smith's message is displayed as the top message if John Smith attached compensation higher than other senders (e.g., \$25). While selecting the message, the mailbox module 318 displays the full message that is received from the sender (e.g., John Smith). In one embodiment, the user interface view of the mailbox module 318 provides a sort option to prioritize the messages based on the compensation attached with the messages. In another embodiment, the user interface view of the mailbox module 318 automatically prioritizes the messages based on the compensation money attached with the messages. The recipient centric messaging system 100 provides UX indicators to tell the recipient how much money he/she will get by replying to messages in their mailbox module 318 and how many messages the recipient with some indicator of the time required as well.

In one embodiment of the system, the mailbox includes tags 1109 that represent the categories specified by the recipient. These tags can be used as filters to only show the messages that are part of that category.

The user interface view further includes (i) a sponsored message tab 1104 to display sponsored messages, and (ii) an anonymous message tab 1106 to display anonymous messages which is received from the one or more senders. It may display a total amount of money 1108 available in the recipient's messaging system account and sorts the messages in order of decreasing amount of money, or a combination of money and other criteria (e.g., known to the recipient, relevance of topic etc.). The mailbox module 318 may filter the messages by the source (e.g., all messages that originated from people who found your messaging system address from Quora, or LinkedIn, or Twitter, etc). For example, the mailbox module 318 shows the messages in one category if the source of the message is LinkedIn, and it shows the messages in another category if the source of the message is Twitter, etc. The mailbox module 318 may further indicate the category of the messages (e.g., personal message, sponsored message, request for meeting, business pitch etc.) based on the recipient preferences. In one embodiment, the mailbox module 318 includes a filter to filter for only personal messages, business pitches etc. The mailbox module 318 shows the profiles

FIG. 13 illustrates a user interface view of a customized message form for sending the message to the recipient according to an embodiment herein. The sender may compose the message for the recipient using the customized message form for the recipient. The customized message form is automatically generated by the recipient centric messaging system based on the communication preferences of the recipient. The user interface view allows the sender to self-certify that whether the message is related to a promotional message or not, or whether it complies with the recipient's preferences. The user interface view allows the sender to set the importance of the message as Normal, Important, or Priority. If the sender set the message as a normal message, the sender may need to attach the minimum compensation amount (e.g. 0.50\$). If the sender sets the message as an important message, the sender may need to attach 2.50\$ as the compensation amount. If the sender sets the message as priority message, the sender may need to attach 5.0\$ as the compensation amount for the recipient. If the recipient does not reply to the message within a week, the compensation amount is returned to the sender account. The user interface view allows the sender to send the message to the recipient when the sender selects a box that confirms that the message respects the recipient communication preferences.

FIGS. 14A and 14B illustrate user interface views of the recipient centric messaging system 100 of FIG. 1 for determining a reputation score for the sender based on feedback from a recipient according to an embodiment herein. The recipient centric messaging system 100 may determine the reputation score for the sender based on feedback from the recipient on (i) a priority level of the message, (ii) whether the message is properly classified by the sender, and/or (iii) whether the message is offensive or inappropriate to the recipient. The sender may report to the recipient centric messaging system 100 that the message sent by the sender is promotional or an offensive message. The relevance of the message for the recipient is rated as Low, Medium or High (as shown in FIG. 14A) by the recipient. The relevance rating will in turn influence the reputation score of the sender. If the reputation score for the sender is below the threshold reputation score, the sender is not allowed to sending free messages. The recipient may rate the message as high relevance when the message is relevant to a topic of interest and the recipient centric messaging system 100 allows such messages from the recipients in the future. The recipient may report the message as promotional when the message intended for recruiting, marketing, advertising, or sales and the sender should be penalized for not properly identifying that the message sent was promotional.

FIG. 14A depicts a conversation between the sender and the recipient. For example, John Smith may send the first message to Jane Reed about a start-up pitch (e.g. Hi Jane. I have attached my Start-up Pitch in PDF format. Please share your feedback.). John Smith must attach a compensation amount for the first message if Jane Reed specified in her communication preferences that she only receives messages if a minimum compensation amount attached. Jane Reed sends a reply message to John Smith in a conversation thread. Jane Reed may end the conversation when John Smith sends a second message that she consider irrelevant. Further, Jane Reed may mark the priority of the second message as low, which may reduce the reputation score of John Smith.

FIGS. 15A and 15B are flow diagrams illustrating a method of communicating at least one message between the sender and the recipient using a communications protocol over a data network through the recipient centric messaging system 100 according to an embodiment herein. At step 1502, the recipient centric messaging system 100 receives the communication preferences specified by the recipient that includes computer interpretable constraints required to be met for delivery of a first message and human interpreted constraints when the recipient creates or updates a profile on the recipient centric messaging system 100. At step 1504, the recipient centric messaging system 100 publishes the profile with a set of visible preferences from the communication preferences of the recipient that are visible to the sender when the sender selects the recipient to send a message. At step 1506, the recipient centric messaging system 100 processes a request received from the sender to send the first message to the recipient. At step 1508, the recipient centric messaging system 100 generates a customized message form based on the communication preferences of the recipient to enable the sender to compose the first message to comply with the communication preferences. At step 1510, the recipient centric messaging system 100 provides an indication to the sender if any of the constraints are not met. At step 1512, the recipient centric messaging system 100 requests the sender to certify that at least visible preferences out of the human interpreted preferences are satisfied by the message before sending the message. If the recipient reports that the sender has wrongly certified at least one of the visible

