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LIU

(54) **METHOD AND APPARATUS FOR DEFINING, DISTRIBUTING, AND REDEEMING SMS AND MMS COUPONS**

(71) Applicant: **RMG Networks**, Dallas, TX (US)

(72) Inventor: **David Wanqian LIU**, San Francisco, CA (US)

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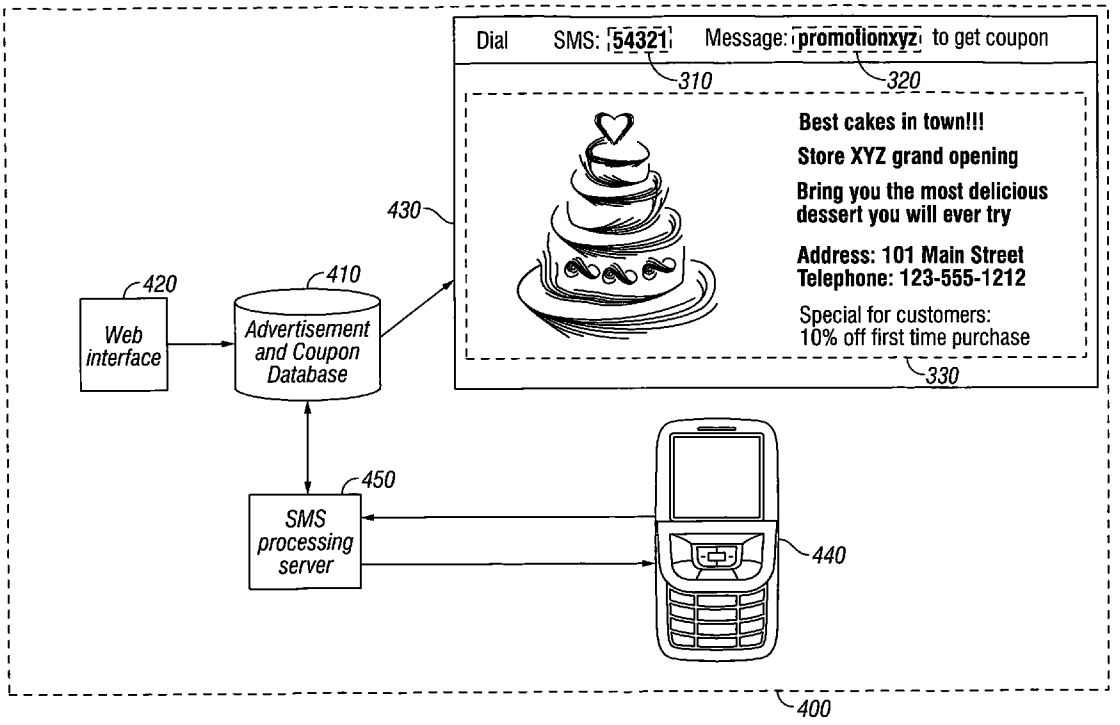
USPC **705/14.26**

(57) **ABSTRACT**

A method and apparatus is disclosed that allows advertisers to define and distribute Short Messaging Service (SMS) and Multimedia Messaging Service (MMS) coupons to consumers, and for consumers to redeem the received coupons, where such SMS and MMS coupons are used by businesses to promote their products and services to consumers.



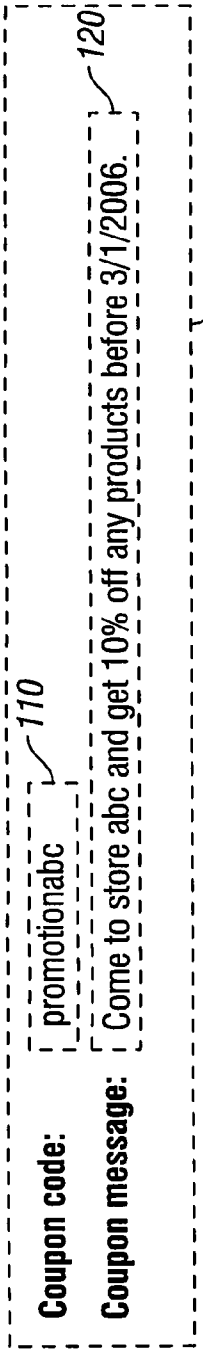

Coupon code:
promotionabc
110
Coupon message:
Come to store abc and get 10% off any products before 3/1/2006.
120
100

FIG. 1

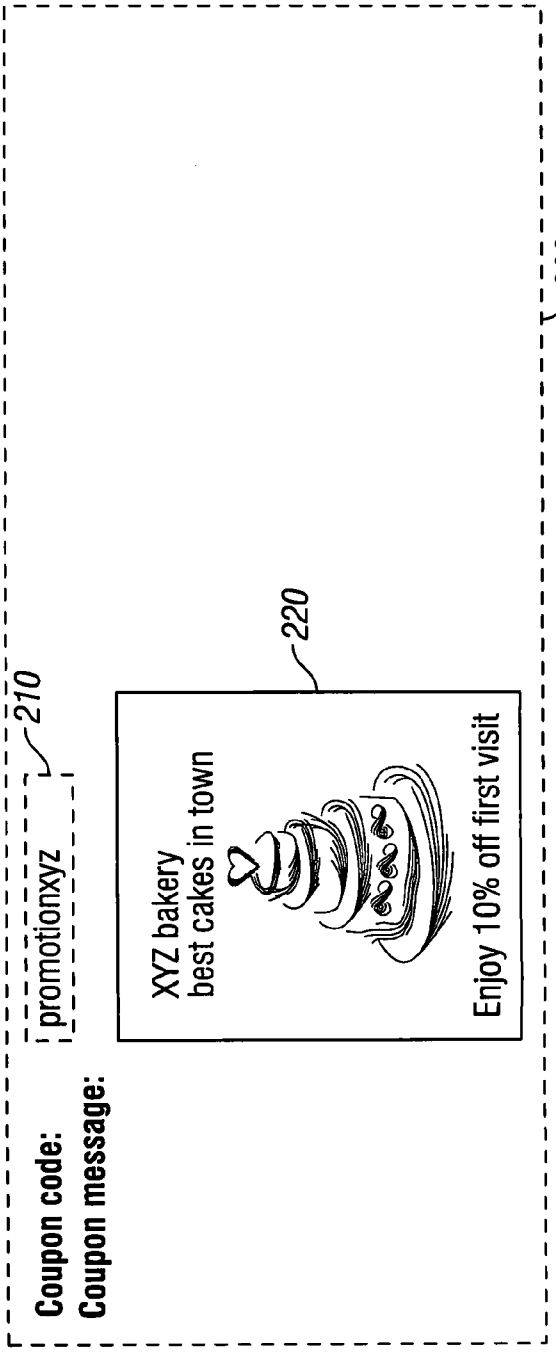

Coupon code:
promotionxyz
210
Coupon message:
XYZ bakery
best cakes in town
220
Enjoy 10% off first visit
200

FIG. 2

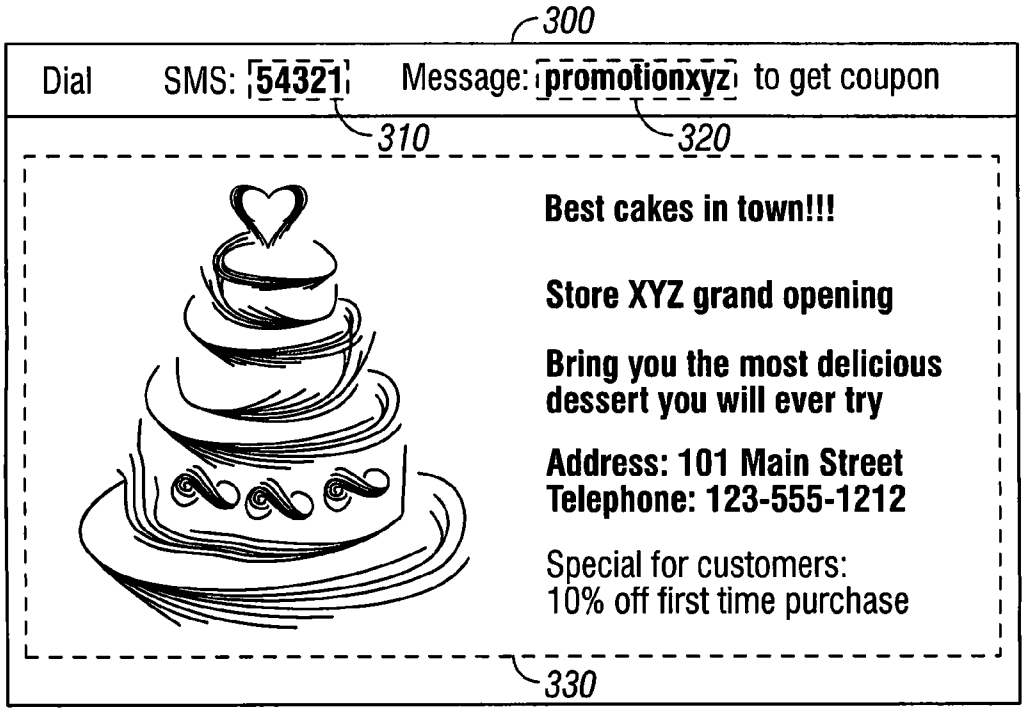

300
Dial SMS: 54321 Message: promotionxyz to get coupon
310
320
Best cakes in town!!!
Store XYZ grand opening
Bring you the most delicious dessert you will ever try
Address: 101 Main Street
Telephone: 123-555-1212
Special for customers:
10% off first time purchase
330

FIG. 3

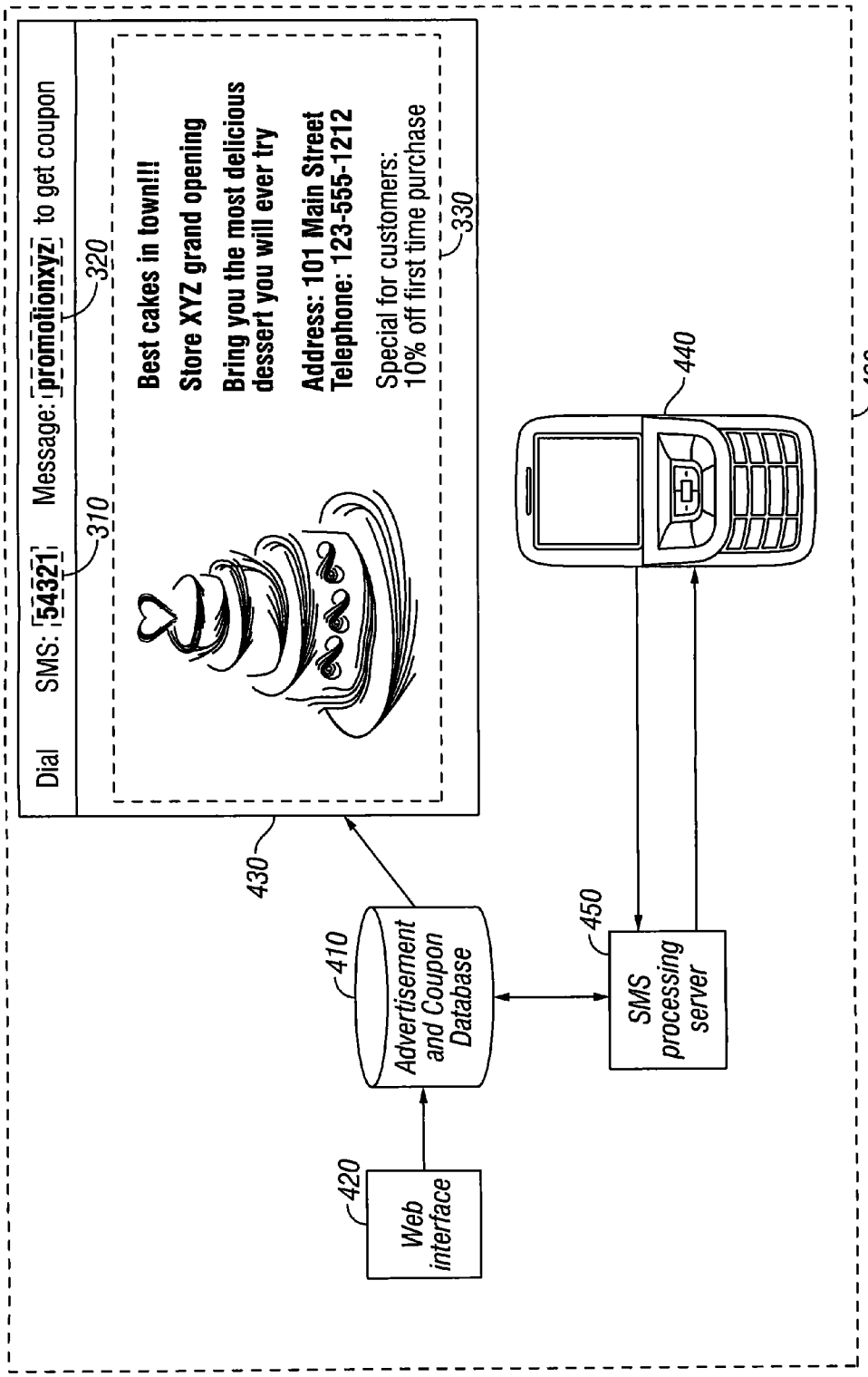

Dial
SMS: 54321
Message: promotionxyz to get coupon
310
320
330
Best cakes in town!!!
Store XYZ grand opening
Bring you the most delicious dessert you will ever try
Address: 101 Main Street
Telephone: 123-555-1212
Special for customers:
10% off first time purchase
430
410
Advertisement and Coupon Database
420
Web interface
450
SMS processing server
440
400

FIG. 4

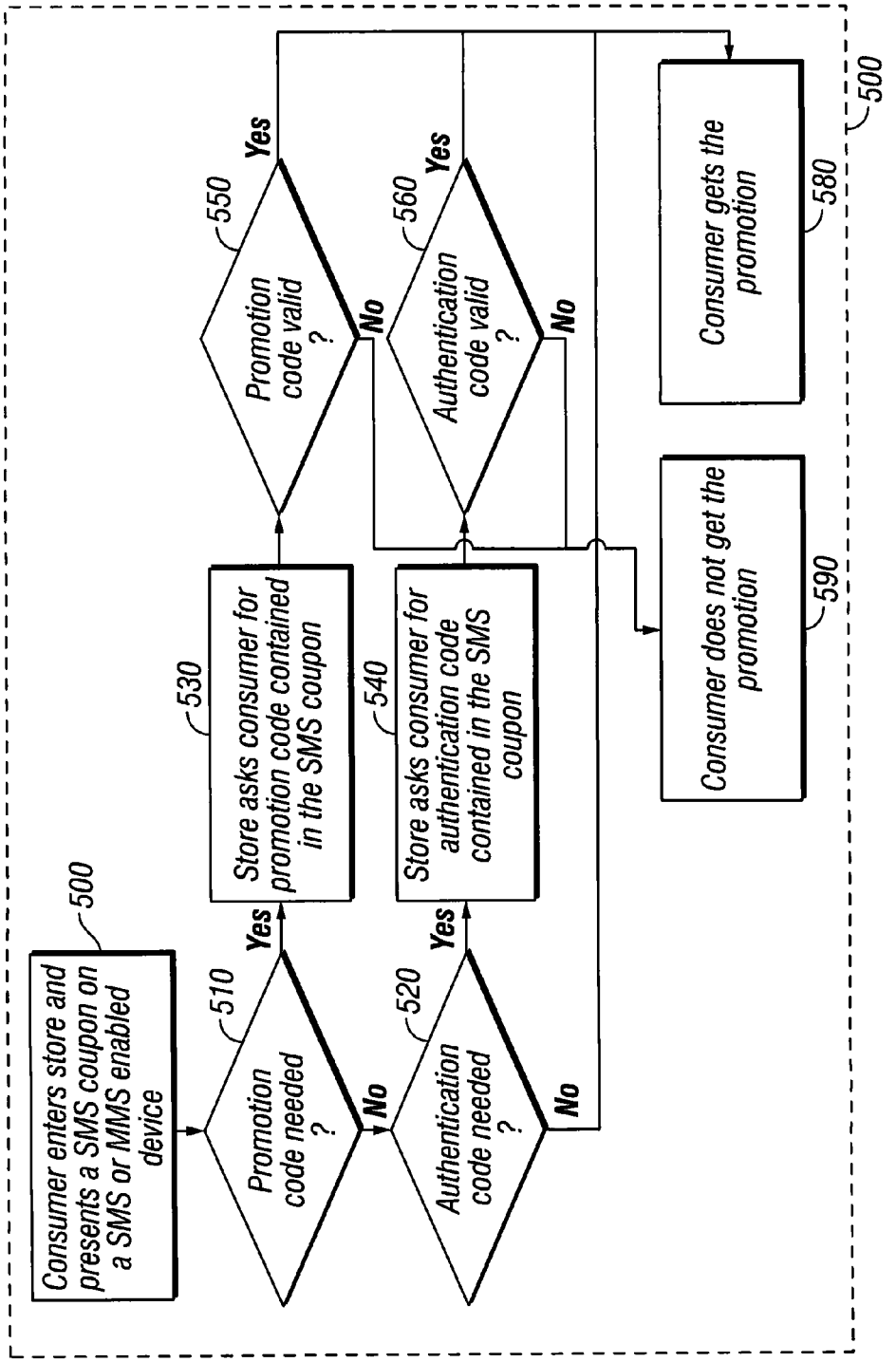

500
Consumer enters store and presents a SMS coupon on a SMS or MMS enabled device
510
Promotion code needed ?
Yes
No
520
Authentication code needed ?
Yes
No
530
Store asks consumer for promotion code contained in the SMS coupon
540
Store asks consumer for authentication code contained in the SMS coupon
550
Promotion code valid ?
Yes
No
560
Authentication code valid ?
Yes
No
580
Consumer gets the promotion
590
Consumer does not get the promotion
500

FIG. 5

danoo 866-93-Danoo

Welcome, Hua! (Logoff) Danoo Idea Contact Service

SMS Coupon

Create a new SMS coupon or update existing SMS coupons.

Create a new SMS coupon:

SMS Code:

SMS Message:

Submit New SMS Coupon!

Update existing SMS coupons:

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SMS Code	SMS Message	Last Update	Edit	Del
madonna	Thanks for you interest in Madonna. Call 1-800-Madonna for ordering information.	2006-10-01 22:05:13	Edit	Del
gas	Free $40 gas card just for test driving at SF Chrysler Jeep, 16th & S. Van Ness, 1-800-800-5337	2006-09-14 10:31:11	Edit	Del
canvas	Show this to cashier and get $1 off your beverage or snack order. Limit 1 per customer.	2006-07-30 21:04:42	Edit	Del
danooart	Get your artwork in front of San Franciscans! Want to see your art posted on Danootube? Email your art to art@danoomedia.com.	2006-07-25 00:36:05	Edit	Del
art	Get your artwork in front of San Franciscans! Want to see your art posted on Danootube? Email your art to art@danoomedia.com.	2006-07-25 00:35:57	Edit	Del
help	Welcome to Danoo Media. 1-866-93-DANOO, www.danoomedia.com.	2006-07-04 18:26:15	Edit	Del
marinlaser	Laser center of Marin. 50% off 1st hair removal, $75 off 1st Restylane, Free IPL. 415-945-9314, marinlaser.com.	2006-07-04 16:09:37	Edit	Del
stop	You are currently unsubscribed from Danoo Network. 1-866-93-DANOO, www.danoomedia.com.	2006-07-04 15:33:48	Edit	Del
danoo	Welcome to Danoo Media. 1-866-93-DANOO, www.danoomedia.com.	2006-07-04 15:33:00	Edit	Del

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FIG. 6

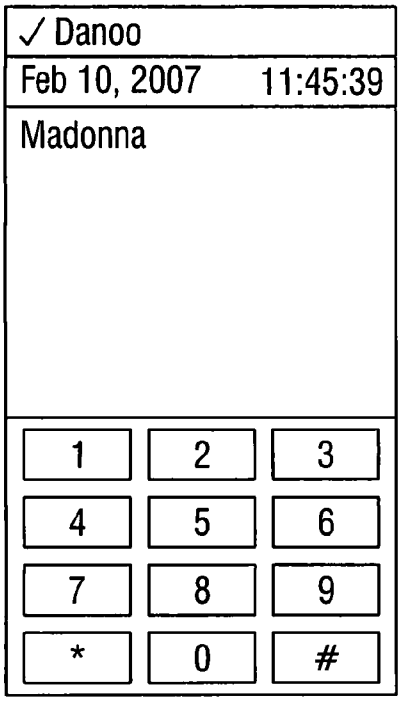
✓ Danoo
Feb 10, 2007 11:45:39
Madonna
1 2 3
4 5 6
7 8 9
* 0 #

FIG. 7A

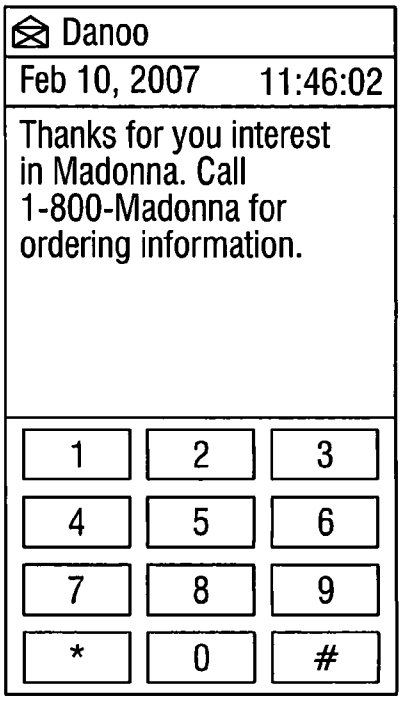
Danoo
Feb 10, 2007 11:46:02
Thanks for you interest in Madonna. Call 1-800-Madonna for ordering information.
1 2 3
4 5 6
7 8 9
* 0 #

FIG. 7B

METHOD AND APPARATUS FOR DEFINING, DISTRIBUTING, AND REDEEMING SMS AND MMS COUPONS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This Application is a Continuation of U.S. patent application Ser. No. 13/333,698, filed 21 Dec. 2011, which is a Continuation of U.S. patent application Ser. No. 11/681,101, filed 1 Mar. 2007, which was issued as U.S. Pat. No. 8,086,488 on 27 Dec. 2011, which claims priority to U.S. Provisional Patent Application No. 60/778,045, filed 2 Mar. 2006, each of which is incorporated herein in its entirety by this reference thereto.

BACKGROUND OF THE INVENTION

[0002] 1. Technical Field

[0003] The invention relates to advertising using electronic media. More particularly, the invention relates to a method and apparatus for defining, distributing, and redeeming SMS and MMS coupons.

[0004] 2. Description of the Prior Art

[0005] Short Message Service (SMS) is a service available on most digital mobile phones, other mobile devices, e.g. a Pocket PC, or occasionally even desktop computers, and some fixed phones, that permits the sending of short messages between mobile phones, other handheld devices, and even landline telephones. Text messages are also often used to interact with automated systems, such as ordering products and services for mobile phones, or participating in contests.

[0006] The Short Message Service-Point to Point (SMS-PP) is defined in GSM recommendation 03.40. GSM 03.41 defines the Short Message Service-Cell Broadcast (SMS-CB) which allows messages, such as advertising, public information, etc., to be broadcast to all mobile users in a specified geographical area. Messages are sent to a Short Message Service Center (SMSC) which provides a store-and-forward mechanism. It attempts to send messages to their recipients. If a recipient is not reachable, the SMSC queues the message for later retry. Some SMSCs also provide a forward and forget option, where transmission is tried only once. Both Mobile Terminated (MT), for messages sent to a mobile handset, and Mobile Originating (MO), for those that are sent from the mobile handset, operations are supported. Message delivery is best effort, so there are no guarantees that a message is actually delivered to its recipient and delay or complete loss of a message is not uncommon, particularly when sending between networks. Users may choose to request delivery reports, which can provide positive confirmation that the message has reached the intended recipient, but notifications for failed deliveries are unreliable at best.

[0007] Transmission of the short messages between SMSC and phone can be done through different protocols, such as SS7 within the standard GSM MAP framework or TCP/IP within the same standard. Messages are sent with the additional MAP operation forward_short_message, whose payload length is limited by the constraints of the signaling protocol to precisely 140 bytes (140 bytes=140*8 bits=1120 bits). In practice, this translates to either 160 7-bit characters, 140 8-bit characters, or 70 16-bit characters. Characters in languages such as Arabic, Chinese, Korean, Japanese or Slavic languages, e.g. Russian, must be encoded using the 16-bit UCS-2 character encoding (see Unicode). Routing data and other metadata is additional to the payload size.

[0008] Larger content, known as long SMS or concatenated SMS, can be sent segmented over multiple messages, in which case each message starts with a user data header (UDH) containing segmentation information. Because UDH is inside the payload, the number of characters per segment is lower: 153 for 7-bit encoding, 134 for 8-bit encoding and 67 for 16-bit encoding. The receiving phone is then responsible for reassembling the message and presenting it to the user as one long message. While the standard theoretically permits up to 255 segments, six to eight segment messages are the practical maximum, and long messages are billed as equivalent to multiple SMS messages.

[0009] Short messages can also be used to send binary content such as ring tones or logos, as well as OTA programming or configuration data. Such uses are a vendor-specific extension of the GSM specification and there are multiple competing standards.

[0010] The SMS specification has defined a way for an external Terminal Equipment, such as a PC or Pocket PC, to control the SMS functions of a mobile phone. The connection between the Terminal Equipment and the mobile phone can be realized with a serial cable, a Bluetooth link, an infrared link, etc. The interface protocol is based on AT commands. Common AT commands include AT+CMGS (send message), AT+CMSS (send message from storage), AT+CMGL (list messages) and AT+CMGR (read message).

[0011] Some service providers offer the ability to send messages to land line telephones regardless of their capability of receiving text messages by automatically phoning the recipient and reading the message aloud using a speech synthesizer along with the number of the sender.

[0012] Today, SMS is also used for machine to machine communication. For instance, there is an LED display machine controlled by SMS, and some vehicle tracking companies, such as ESITrack, use SMS for their data transport or telemetry needs. SMS usage for these purposes are slowly being superseded by GPRS services due to their lower overall costs

[0013] The Multimedia Messaging Service (MMS) is the evolution of Short Message Service (SMS). With MMS, a mobile device is no longer confined to text-only messages. It can send and receive multimedia messages such as graphics, video and audio clips, and so on. It has been designed to work with mobile packet data services such as GPRS and 1x/EVDO.

[0014] There are two modes of delivery in MMS, i.e. immediate or deferred:

[0015] Immediate delivery: When the MMS client on the mobile phone receives the MMS notification, it then immediately, without user intervention or knowledge, retrieves the MMS message from the Multimedia Messaging Service Center (MMSC) that sent the notification. After retrieval, the subscriber is alerted to the presence of a newly arrived MMS message.

[0016] Deferred delivery: The MMS client alerts the subscriber that an MMS message is available, and allows the subscriber to choose if and when to retrieve the MMS message.

[0017] As with the MMS submission, the MMS retrieval request, whether immediate or deferred, occurs with an HTTP request. The MMSC responds by transmitting the

MMS message in an HTTP response to the MMS client, after which the subscriber is finally alerted that the MMS message is available.

[0018] The essential difference between immediate and deferred delivery is that the former hides the network latencies from the subscriber, while the latter does not. Immediate or deferred delivery are handset dependent modes, which means that the handset manufacturer can provide the handset in one mode or the other or let the user decide his preference.

[0019] With the growth of SMS and MMS services, there exists a need to provide conventional communications metaphors, such as those attendant with advertising, in a form suited for such media. For example, it would be advantageous to provide an interactive element in an SMS or MMS environment that supported promotional activities, such as advertising and the distribution of promotional materials such as coupons. It would be advantageous to provide a method and apparatus that allows advertisers to define and distribute SMS and MMS coupons to consumers, and for consumers to redeem the received coupons.

SUMMARY OF THE INVENTION

[0020] The invention comprises a method and apparatus that allows advertisers to define and distribute Short Messaging Service (SMS) and Multimedia Messaging Service (MMS) coupons to consumers, and for consumers to redeem the received coupons. The purpose of the SMS and MMS coupons are for businesses to promote their products and services to consumers.

BRIEF DESCRIPTION OF THE DRAWINGS

[0021] FIG. **1** is an illustration of an SMS coupon according to the invention;

[0022] FIG. **2** is an illustration of an MMS coupon according to the invention;

[0023] FIG. **3** is an illustration of an advertisement promoting a product with an SMS coupon according to the invention;

[0024] FIG. **4** is a block diagram of a system for distributing SMS and MMS coupons according to the invention;

[0025] FIG. **5** is an illustration of a process for redeeming SMS and MMS coupons according to the invention;

[0026] FIG. **6** is a screen shot showing a dialog for submitting a new SMS message or updating an existing SMS message according to the invention; and

[0027] FIGS. **7**A and **7**B show an SMS enabled device sending an SMS to request a coupon (FIG. **7**A) and receiving an SMS coupon (FIG. **7**B) according to the invention.

DETAILED DESCRIPTION OF THE INVENTION

[0028] The invention comprises a method and apparatus that allows advertisers to define and distribute Short Messaging Service (SMS) and Multimedia Messaging Service (MMS) coupons to consumers, and for consumers to redeem the received coupons. The purpose of the SMS and MMS coupons are for businesses to promote their products and services to consumers.

[0029] Referring to FIG. **1**, a presently preferred embodiment of the invention is shown which comprises an SMS coupon **100**. An SMS coupon **100** comprises at least two pieces of information: a code **110** that uniquely identifies the coupon, and a text message **120** that describes the details of a promotion for products or services. For example, the SMS coupon in FIG. **1** is identified by coupon code "promotionabc," and the coupon message is "Come to store abc and get 10% off any products before 3/1/2006."

[0030] Referring to FIG. **2**, a presently preferred embodiment of the invention is shown which comprises an MMS coupon **200**. An MMS coupon **200** comprises at least two pieces of information: a code **210** that uniquely identifies the coupon, and a multimedia message **220** that describes the details of a promotion for products and services. For example, the MMS coupon in FIG. **2** is identified by coupon code "promotionxyz," and the coupon message is a picture that promotes a sale in store xyz.

[0031] The SMS coupon message **120** and MMS coupon message **220** may contain information in addition to description of a promotion. For instance, a promotion code can be included in the message for an advertiser to use later in identifying the promotion when the coupon is presented. The coupon message may also contain an authentication code that is used to verify the authenticity of the coupon. One implementation of the authentication code uses a globally unique serial number. Those skilled in the art will appreciate that other authentication schemes may be used in connection with the invention. Upon presentation of the coupon, the receiving party can check the serial number against a database to ensure that the serial number is valid. The serial number can also be checked for uniqueness to prevent unauthorized duplication.

[0032] Referring to FIG. **3**, the invention comprises an advertisement **300** that is used to publicize SMS coupons and/or MMS coupons. Such advertisement **300** can be displayed on digital signs, televisions, billboards, newspapers, magazines, other printed media, and Internet Web pages. The advertisement **300** includes at least three pieces of information:

[0033] 1) an SMS dialing number 310 that is used to retrieve a coupon;

[0034] 2) a coupon code **320**; and

[0035] 3) advertising content **330** that describes the products, services, or/and promotions.

[0036] The SMS dialing number **310** is a predetermined code, which in the U.S. is usually a five-digit short code. Configurations are provided such that all messages sent to the SMS dialing number **310** are routed to a preconfigured processing server. The coupon code **320** is used to cross reference the coupon code **110** defined in an SMS coupon **100**, or the coupon code **210** defined in an MMS coupon **200**.

[0037] FIG. **3** shows an example of an advertisement on a digital sign. Consumers are instructed to send an SMS text message "promotionxyz" to the dialing number "54321" to retrieve a "10% off first time purchase" coupon. In this example, the instruction for SMS messaging is shown as a banner on the top of the advertisement.

[0038] Other embodiments of the invention, without limitation, include:

- **[0039]** Showing the instruction as a call out box on other parts of the advertisement;
- **[0040]** Embodying the instruction in the advertisement as text or graphics; and/or
- **[0041]** Providing audio instructions on how to retrieve the coupon using SMS messaging.

[0042] Referring to FIG. **4**, the invention provides a system **400** for distributing SMS and MMS coupons, comprising:

- **[0043]** A database **410** containing advertisements and SMS and MMS coupons;
- **[0044]** A Web interface **420** for registering SMS and MMS coupons;

[0045] An advertisement **430** that promotes products and services and publicizes an SMS or MMS coupon;

[0046] One or more SMS or MMS enabled devices **440** such as, for example, mobile phones and/or PDA devices; and

[0047] An SMS processing server **450**.

[0048] A presently preferred embodiment of the invention functions in the following manner:

[0049] An advertiser inputs an advertisement, along with an SMS or MMS coupon, into the database **410** through the Web interface **420**. Each coupon is associated with an advertisement. For each SMS coupon, an advertiser specifies a coupon code **110** and a text message **120** for the coupon. For each MMS coupon, an advertiser specifies a coupon code **210** and a multimedia message **220** for the coupon. The database checks and ensures the uniqueness of the coupon code. Once a coupon is put into the database, the advertiser is responsible for honoring a legitimate coupon distributed to a consumer.

[0050] An advertisement, along with an associated coupon, is chosen from the database and is displayed in public media, an example of which is shown in FIG. **3**. In the case where the advertisement is shown on a digital sign the advertisement, along with the coupon, can be transmitted electronically and displayed in real time. In the case of other printed or broadcast media, the advertisement may be prepared in advance.

[0051] A consumer sees the advertisement on a digital sign, television, billboard, newspaper, magazine, other printed media, or on the Internet. Using an SMS/MMS-enabled device **440**, the consumer sends an SMS text message containing the coupon code **320** to the dialing number **310**.

[0052] The SMS text message from the consumer is routed to the SMS processing server **450**, which is preconfigured to process all incoming messages to the SMS dialing number **310**. An SMS coupon message **120** or an MMS coupon message **220** that matches the coupon code **320** is found in the database. The coupon message is then sent to the SMS or MMS enabled device **440**. For each coupon message that is sent, the action is tracked by the server. The advertiser might be charged based on the number of coupon messages that have been sent.

[0053] Referring to FIG. **5**, the invention provides a method **500** for redeeming SMS and MMS coupons. A consumer enters a store to obtain products or services (**500**). Such store can be a brick-and-mortar store or an online store. The consumer presents an SMS or MMS coupon to the store to obtain a promotion. The store may ask for additional information necessary to obtain the promotion. For example, a promotion code might be included in the coupon (**510**). The store asks the consumer for the promotion code (**530**) and uses it look up the details of the promotion (**550**). For another example, an authentication code might be included in the coupon (**520**). The store asks the consumer for the authentication code (**540**) and uses it to validate the authenticity of the coupon (**560**). Upon verification of the information, the store provides the promotion to the consumer for the obtained products and services (**580**). Should the coupon or the promotion be invalid, then the promotion is not provided to the consumer (**570**).

[0054] FIG. **6** is a screen shot showing a dialog for submitting a new SMS message or updating an existing SMS message according to the invention.

[0055] FIGS. **7**A and **7**B show an SMS enabled device sending an SMS to request a coupon (FIG. **7**A) and receiving an SMS coupon (FIG. **7**B) according to the invention.

[0056] Although the invention is described herein with reference to the preferred embodiment, one skilled in the art will readily appreciate that other applications may be substituted for those set forth herein without departing from the spirit and scope of the present invention. Accordingly, the invention should only be limited by the Claims included below.

1. A method, comprising:

via a computing device, displaying an advertisement in public media, wherein the advertisement includes
a Short Messaging Service (SMS) dialing number,
a coupon code, and
advertising content that describes a product, a service, and/or a promotion;

receiving at a processing server an SMS text message from a consumer via an SMS and/or Multimedia Messaging Service (MMS) enabled device, wherein the SMS text message includes the coupon code;

finding in a database that is associated with the processing server an SMS coupon message or an MMS coupon message that matches the coupon code, wherein the SMS coupon message or the MMS coupon message includes additional information, wherein the additional information comprises any of a promotion code or an authentication code;

sending the matching SMS coupon message or MMS coupon message from the processing server to the consumer via the SMS and/or MMS enabled device;

receiving an SMS coupon or an MMS coupon corresponding to the SMS coupon message of the MMS coupon message from the consumer at a store;

receiving the additional information from any of the consumer or the SMS coupon or the MMS coupon;

verifying the additional information; and

providing the product, service and/or promotion to the consumer based on the verified additional information.

2. The method of claim **1**, wherein the coupon code is unique.

3. The method of claim **1**, wherein the authentication code comprises a globally unique serial number.

4. The method of claim **1**, wherein the store comprises any of a brick-and-mortar store or an online store.

5. The method of claim **1**, wherein the public media comprises any of digital signs, televisions, billboards, newspapers, magazines, other printed media, and Internet web pages.

6. The method of claim **1**, wherein the advertising content comprises any of text, graphics, and/or audio instructions.

7. The method of claim **1**, further comprising:

tracking by the processing server the sending of the matching SMS coupon message or MMS coupon message.

8. The method of claim **1**, further comprising:

charging an advertiser based on the sent matching SMS coupon message or MMS coupon message.

9. The method of claim **1**, further comprising:

routing the received SMS text message to the processing server based on the SMS dialing number, when the consumer sends the SMS text message to the SMS dialing number.

10. A system, comprising:

a processing server;

a database that is associated with the processing server, wherein the database is configured to store an advertisement and an associated Short Messaging Service (SMS) coupon or Multimedia Messaging Service (MMS) coupon input through a web interface by an advertiser,

wherein a coupon code and an SMS coupon message or MMS coupon message are specified by the advertiser for the SMS coupon or the MMS coupon; and

a mechanism for displaying the advertisement in public media, wherein the advertisement includes

an SMS dialing number,

the coupon code, and

advertising content that describes a product, a service, and/or a promotion,

wherein the processing server is configured to

receive an SMS text message from a consumer via an SMS and/or MMS enabled device, wherein the SMS text message includes the coupon code,

find in the database the SMS coupon message or MMS coupon message that matches the coupon code, wherein the SMS coupon message or MMS coupon message includes additional information, wherein the additional information comprises any of a promotion code or an authentication code, and

send the matching SMS coupon message or MMS coupon message to the consumer via the SMS and/or MMS enabled device; and

wherein the system is configured to verify an SMS coupon or MMS coupon received from the consumer through a store, wherein the SMS coupon or MMS coupon corresponds to the SMS coupon message or MMS coupon message, and wherein the verification is based on the validity of the additional information.

11. The system of claim **10**, wherein the database is configured to check and ensure the uniqueness of the coupon code.

12. The system of claim **10**, wherein the authentication code comprises a globally unique serial number.

13. The system of claim **10**, wherein the store comprises any of a brick-and-mortar store or an online store.

14. The system of claim **10**, wherein the public media comprises any of digital signs, televisions, billboards, newspapers, magazines, other printed media, and Internet web pages.

15. The system of claim **10**, wherein the advertising content comprises any of text, graphics, and/or audio instructions.

16. The system of claim **10**, wherein the processing server is further configured to track the sent matching SMS/MMS coupon message.

17. The system of claim **10**, further comprising:

a mechanism for charging an advertiser based on the sent matching SMS/MMS coupon message.

18. The system of claim **10**, further comprising:

a mechanism for routing the received SMS text message to the processing server based on the SMS dialing number, when the consumer sends the SMS text message to the SMS dialing number.

19. The system of claim **10**, wherein the public media comprises a digital sign, and wherein the mechanism for displaying the advertisement is configured to electronically transmit and display the advertisement on the digital sign in real time.

20. A method for redeeming coupons with respect to a system having a processing server and a database associated therewith, the method comprising:

receiving a Short Messaging Service (SMS) coupon or a Multimedia Messaging Service (MMS) coupon at a store from a consumer, wherein the SMS coupon or MMS coupon is associated with an SMS coupon message or MMS coupon message received by the consumer through an SMS and/or MMS enabled device, wherein the SMS coupon message or MMS coupon message includes additional information, wherein the additional information comprises any of a promotion code or an authentication code, wherein the SMS coupon message or MMS coupon message is responsive to

a reception at the processing server of an SMS text message from the consumer via the SMS and/or MMS enabled device, wherein the SMS text message includes a coupon code associated with an advertisement, and

a finding by the processing server through the database of the SMS coupon message or MMS coupon message that matches the coupon code;

receiving the additional information from any of the consumer or the SMS coupon or MMS coupon;

verifying the authenticity of the SMS coupon or MMS coupon by checking the additional information against the database; and

providing a promotion to the consumer for an obtained product or service, based on the verification.

21. The method of claim **20**, wherein the coupon code is unique.

22. The method of claim **20**, wherein the authentication code comprises a globally unique serial number.

23. The method of claim **20**, wherein the store comprises any of a brick-and-mortar store or an online store.

24. The method of claim **20**, wherein the advertisement is displayed in public media.

25. The method of claim **24**, wherein the public media comprises any of digital signs, televisions, billboards, newspapers, magazines, other printed media, and Internet web pages.

26. The method of claim **20**, wherein the advertisement includes advertising content.

27. The method of claim **26**, wherein the advertising content comprises any of text, graphics, and/or audio instructions.

* * * * *