METHOD AND SYSTEM FOR DISTRIBUTION OF BARCODE INFORMATION FOR PERFORMING A TRANSACTION VIA A NETWORK

FIELD OF THE INVENTION

This invention relates generally to barcodes, and more particularly to a method and system for distribution of decoded barcode information to perform transactions across a network.

BACKGROUND

Barcodes are machine readable descriptions of information using bars and space patterns. There are many types of barcodes, each barcode has unique characteristics and features designed to meet a specific industry or application. Traditionally, barcodes store data in the widths and spacings of printed parallel lines. More recently, barcodes have also stored data in other configurations such as patterns of dots, concentric circles and text codes hidden within images.

Conventional barcode encoding typically represents number characters. In response to the needs of the industry, more sophisticated barcodes represent characters other than numbers. For example, two dimensional (2D) barcodes do not consist of bars but rather a grid of square cells. The 2D barcode is a two dimensional way of representing information that is similar to a linear (one dimensional) barcode, but has more data representation capability.

Barcode encoding is conveniently implemented in networks and onto mobile platforms. For example, barcode readers are commonly supported in mobile platforms on a variety of portable mobile devices such as mobile phones having cameras to capture the image of the barcode. Two popular and well-supported codes on existing mobile platforms are quick response (QR) code and DataMatrix because of their ability to encode large data in a small sized code. QR Code is a registered trademark in Japan and other countries of Denso Wave Incorporated of Tokyo, Japan. DataMatrix is a standard of International

Organization for Standardization (ISO) covered by ISO/IEC16022. Through these two common barcode coding, the portable camera phone captures the digital image of the 2D barcode and decodes the encoded barcode in accordance with the respective barcode coding. Once decoded, the decoded information is usually presented in a particular format of the user's choice which is typically based on the type content of the decoded information. Although mobile applications to decode and distribute the contents are widely available in the market, the methods currently available to distribute the decoded information have limited capabilities. The format delivery services commonly used are uniform resource locator (URL), short message service (SMS), dialing a telephone number, e-mail, streaming of media content, v-card information, and the like.

With URL distribution, the 2D barcode is embedded with a URL, which, when captured by the barcode reader and decoded, opens up the mobile phone native browser to access URL of the website. However, a limitation of URL is that there is no support for reading forms and translating the decoded data on the mobile phone.

With SMS distribution, information like the message and the recipient's number are embedded in the 2D barcode, which is decoded by the barcode reader and sends the relevant information to a specific SMS access code. This is widely used in voting and poll contests. However, a limitation of SMS is that there is no support for the user to change the mode of transmission from SMS to general packet radio service (GPRS) and vice-versa.

With dialing a telephone number, the telephone number is embedded in the 2D barcode, which when decoded, displays the telephone number which gives the user an option to call. This is widely used in taxi bookings, customer services, etc. However, a limitation of dialing a telephone number is that there are no standard headers commonly used for identifying the data embedded in the barcode such as a telephone number.

With e-mail distribution, the recipient's e-mail address along with the necessary information is embedded in the 2D barcode, and the barcode reader decodes the barcode information and allows the user to send an e-mail to the recipient.

With streaming of media content distribution, the 2D barcode is embedded with a URL, which when decoded by the barcode reader, opens up a media player to play the content. The media content distribution approach is widely used in entertainment advertisements.

With v-card information distribution, the 2D barcode is embedded with the v-card information, which when decoded by the barcode reader, the user has the option to save the contact information to a phonebook. However, a limitation of v-card information is that even though a number of applications may support the v-card data format, the v-card tags are unstructured and do not adhere to v-card standards and v-card versions that are universally accepted in the market.

The current methods discussed are limited to barcodes with encoded barcode information that initiate a desired automatic distribution approach once the barcode information is decoded. There is a need for a system and method that extends the functionality of the conventional barcodes to provide additional functionality in the distribution of encoded barcode information to perform transactions via networks.

SUMMARY

An aspect of the invention is a method of distributing barcode information encoded in a barcode to perform a transaction via a network, the method comprising providing a media having the barcode thereon; capturing a digital image of the barcode and storing the digital image in a memory; decoding the barcode information from the digital image, the decoded barcode information having a request for additional information for performing the transaction; supplying the additional information to a device in response to the request; transmitting the additional information from the device to a server via the network; and performing the transaction in response to the additional information at the server.

An aspect of the invention is a system for distributing barcode information encoded in a barcode on a media to perform a transaction via a network, the system comprising a

camera for capturing a digital image of the barcode; a memory for storing the digital image; a decoder for decoding the barcode information from the digital image, the decoded barcode information having a request for additional information for performing the transaction; a display for displaying the request; a device for supplying the additional information in response to the request; a device transmitter for transmitting the additional information from the device to a server via the network; and a processor in the server for causing the transaction in response to the additional information.

BRIEF DESCRIPTION OF THE DRAWINGS

In order that embodiments of the invention may be fully and more clearly understood by way of non-limitative examples, the following description is taken in conjunction with the accompanying drawings in which like reference numerals designate similar or corresponding elements, regions and portions, and in which:

FIG. 1 shows a block diagram of a system in accordance with an embodiment of the invention;

FIGS. 2A-2B illustrate a user flow (FIG. 2A) and a processor of a server (FIG. 2B) in accordance with an embodiment of the invention;

FIG. 3 shows a user profile entry graphical user interface in accordance with an embodiment of the invention;

FIG. 4 shows a method in accordance with an embodiment of the invention;

FIG. 5 shows a table of headers in accordance with an embodiment of the invention;

FIG. 6 shows a table of a format in accordance with an embodiment of the invention; and

FIG. 7 shows a table representation of a form and translation on a portable camera device in accordance with an embodiment of the invention.

DETAILED DESCRIPTION

A method and system are disclosed for distributing information encoded in a barcode to perform a transaction via a network. Such an application is described in detail below to illustrate an embodiment of the invention; however, it will be appreciated that other embodiments of the invention may be embodied in other applications. For example, the barcode information may be encoded with QR code, DataMatrix code or the like. In the following description, for the purposes of explanation, numerous specific details are set forth in order to provide a thorough understanding of the invention. It is apparent to one skilled in the art, however, that the present invention may be practiced without these specific details or with equivalent arrangements. In some instances, well-known structures and devices are shown in block diagram form in order to avoid unnecessarily obscuring the invention.

The method and system in accordance with an embodiment of the invention extends the application of the distribution of encoded barcode information beyond the above mentioned delivery services of URL, SMS, dialing a telephone number, e-mail, streaming of media content, v-card information, and the like.

Referring to FIG. 1, an exemplary system 100 is shown in accordance with an embodiment of the invention. The system 100 comprises a barcode 10, the digital image of which is captured by a camera 12. The digital image is stored in a memory 14. A user device 20 such as a mobile phone has the camera 12, memory 14, an interface 16 and a processor 18. The user device 20 may have an input 24 for information to be input by the user and a display 26 for information to be displayed to the user. The interface 16 communicates with a network 30, which may be a public network, private network, the Internet, a mobile communications network or the like. A server 40 receives information from the device 20 via the network 30. The server 40 processes the information received from the device 20 with a processor 44.

In an embodiment, the encoded barcode information is decoded in the device 20 at a decoder 22. In another embodiment, the barcode information is not decoded at the device 20, and instead, the barcode information is decoded in the server 40 at a decoder

46, and the decoded barcode information is returned from the server 40 to the device 20 via the network 30. The device 20 shown by dashed box may be configured as separate components for example the camera 12 may be separate from the other components shown.

The decoded barcode information contains a request for additional information that is displayed on the display 26. The request is presented in a form that is generated from the processor 18. The format of the form is contained in the decoded barcode information. An application installed on the device may comprise of modules such as form translator module 72, user profile manager module 74, form fill module 76, and the like. The form requests additional information of the user 8 (see FIG. 2A) to provide and transmit from the device 20 to the server 40 via the network 30 for completing a transaction. The server 40 stores the additional information in a database 50, and transmits the additional information via the network 30 to a merchant 54 or other destination such as a payment gateway 52 to complete the transaction.

An embodiment of the invention provides interaction between a user 8 and an entity, such as the merchant 54 providing a service. The interaction is performed automatically via a communication channel such as a mobile platform. An encoded barcode is embodied on a media accessible to the user. The media may be a poster, display, voucher, coupon, certificate, passport, book and the like. The user captures the barcode on the media, and decodes the barcode information. The decoded barcode information contains a request for additional information required by the merchant before the service is provided to the user. The user provides the requested additional information, and the merchant provides the service (such as a product purchase and shipment) to the user upon receipt of the additional information if the additional information is complete or satisfies the merchant's requirements.

The system of an embodiment of the invention has a number of options for users and merchants. The system decodes content in a variety of formats, for example, URL, SMS, e-mail, text and v-card formats, and the like. The system is capable of performing additional features such as rendering the form in the portable camera phone to provide a graphical interface for the public user to interact and perform certain actions easily.

Another feature is the flexibility to switch the mode of transmission for public users and merchants. The user selects the preferred mode of transmission to either SMS or GPRS connection. Similarly, the merchant decides the preferred mode of transmission in receiving the data gathered by the server from the user such as SMS or GPRS.

The system is well-suited for a number of applications, for example, lucky draw, magazine/newspaper subscriptions, purchase of items from mobile devices, distribution of vouchers/gift certificates, mobile bidding, and the like, and enables users to participate in any of the above instances by using their mobile devices 20, such as a mobile cellular telephone, equipped with a camera 12 that is supported by the mobile client application of the system.

The over-all process flow of a user 8 in the system 100 is shown in the method 80 of FIG. 2A of a user's interaction with the system in accordance with an embodiment of the invention. A user 8 captures a digital image of the 2D barcode 10 from any print media, such as a poster in the merchant's store branch, using the device 20 and waits for the 2D barcode to be decoded and translated into a form 62 by the device 20 or the server 40. The user completes the form with the requested additional information using the device 20 and transmits the additional information to the server 40 using the device 20. In an embodiment, the user 8 may send the information by a number of communication channels, such as by SMS, GPRS or the like.

The server 40 and its processor 44 are shown in FIG. 2B. The server 40 receives the transaction details in the additional information and processes the transaction details using the database 50. In the case of payments, a proper secured channel may be implemented and addressed to communicate with the payment gateway 52. The server also sends an acknowledgment message 70 to the device 20 via the network 30 in response to receiving the additional information from the device 20. The acknowledgement message 70 includes a reference number associated with the transaction. Further information customized by the merchant may also be added to the acknowledgment message 70.

FIG. 4 shows a method 110 in accordance with an embodiment of the invention where the barcode 10 is captured 112 by the device and decoded 114. The data may be numeric number, alphanumeric, binary etc. The contents are parsed based on the headers like FORM, SMS, TEL, and the like to be identified 116. The information is processed 118, for example, for FORM, the meta-data is collated to render the graphical user interface (GUI) components. The form is displayed 120 on the screen with the components. The action 122 of the user is sent 124 to server for required processing. The submission of the additional information from the user upon action, for example the meta-data and value may be grouped and sent to the server.

The system 100 comprises two main components, server 40 and user device 20. The server 40 performs the administration tasks, barcode generation, data communication, data storage, interface channel functions, report generation, and the like. The server 40 includes an administration module 90, central data repository module 92, barcode generator module 94, interface channels module 98, and reports generator module 99.

The administration module 90 is a web based utility program that has three user privileges. Each privilege has duties and functionalities and may be categorized as administrator privilege, merchant privilege, and media privilege. The administrator privilege has access to all modules of the application. Other functions include management of the entire system to ensure 99.99% uptime and availability 24 x 7, administration on the registration of the merchant's and media's profile, determination on the type of report templates available to be customized for the individual merchants and the media, management of the billing system, and generation of reports upon request of the merchants or media.

The merchant privilege allows users to manage and generate the 2D barcode and has access to the barcode generator module 94. Once generated, this image is downloadable and can be sent to the media for printing purposes. The merchant privilege allows a user to choose the preferred mode of transmission that will be made available for the user to choose and submit the data through different interface channels (SMS, GPRS, etc.). The merchant privilege allows the user to access and collect the data based on their existing customers, and have access to customize and generate

reports to keep track of their transactions by choosing their preferred reading format (e.g. PDF, Excel or CSV format). The frequency of the report generation can also be set by the user.

The media privilege allows the user to be responsible for delivering the 2D barcodes to the public users. The public users download the generated 2D barcode image and place it with advertisements of the merchants. The public users can also act on behalf of the merchants.

Barcode generator module 94 is a web tool used by the merchants to generate 2D barcodes. Information to be generated in the 2D barcodes can be a URL, text message, phone number, e-mail address or v-card information. The barcode generator module 94 generates barcodes based on the form designer by showing a what you see is what you get (WYSIWYG) interface that aids the users to design the look and feel of the form. Based on the design, meta-data information is also embedded on the 2D barcode.

The interface channels module 98 provides data communication to and from the system 100. The different channels available for the transmission clients to connect to are classified by the different channels. For example, an SMS channel handles incoming and outgoing Short Message Service (SMS) requests. This mode can also be handled by a GSM modem or SMPP client. A GPRS channel connection passing through the telecommunications GPRS gateway is responsible for this channel. An Internet channel, by default, is the medium to access the administration console 90, barcode generator module 94 and reports generator module 99. A web server is installed for proper communication to the Internet gateway. Mobile data transmission can be accessed through Wi-fi, 2.5G/3G/xG connections and thru this channel. In a payment channel, the payments pass through validation and authorization. This communicates seamlessly with the payment gateway for real time processing of payment transactions. An e-mail channel via an SMTP server delivers e-mail messages to the merchants and media.

The central data repository module 92 stores data in a reliable database to avoid data loss and ensure security.

The reports generator module 99 generates reports for the administrator, merchant and media. Reports may be viewed in HTML format. Reports can also be generated in PDF, Excel or CSV file format and delivered as e-mails automatically to the addressed merchant or media. Sample reports may be consolidated sales revenue of merchants or media, total number of active responses from the public users on a daily, monthly, quarterly or yearly basis, total number of barcodes generated, list of customer information and particulars, consumer feedback, customized reports upon request of the merchant or media, and the like.

The user device 20 is a thick-client application that is installed on the portable camera phone of the user. The device 20 may capture the 2D symbology barcode image, decode the data and perform the appropriate action. The client application may have modules such as a user profile manager module, 2D barcode decoder and translator module, intelligent auto fill manager, and the like. The user profile manager has the capability to safe keep user profiles that are confidential and frequently used information (name, email address, date of birth, contact number, credit card details, etc.). This data pre-fills fields on the form for the convenience of the users. A sample screenshot form 60 on the user's profile is shown in FIG. 3, where the form has different fields 62(a), 62(b), 62(c) and 62(d) and function buttons 64, 66 and 68.

The barcode decoder and translator module decodes the captured 2D barcode. Common contents decoded and then shown to the users are URL, text message, phone number, e-mail address, v-card information, and the like. In addition, this module translates and shows the forms to be presented to the user.

The intelligent auto-fill module allows automatic fill-in of the details of the user based on the user profile stored by the user profile manager. Once the barcode translates into a form, this module has the intelligence to automatically fill-in details of the user base on the user's profile stored by the user profile manager. The user has the option to change the appropriate information.

The mobile application of an embodiment of the invention decodes the data embedded in the 2D barcode that is captured by the portable camera phone. The captured 2D

barcode may be decoded by QR code, DataMatrix code, or the like. The data decoded is then translated into various formats such as binary, numeric, alphanumeric, kanji, and the like. Once the data is decoded, to identify the decoded information the application detects the header for further processing. The header may take a variety of forms such as TEL, TLK, and the like. The headers that may be used are shown in FIG. 5 in accordance with an embodiment of the invention.

Once a header is detected of a particular type, for example a form, the application displays the contents of the form which can be messages or labels, information of controls for accepting entries from the user like textboxes, list boxes, choice and other fields. Meta-data are pieces of hidden information, which uniquely identifies the specific characteristic attached to a particular form. This allows the server to save the correct information to a particular merchant's database. The format 140 is for example shown in FIG. 6.

FIG. 7 shows a table representation 150 of the form and the translation on the portable camera phone. The display displays the graphical user interface (GUI) with the components and appropriate message for the user to make entries. The user may fill in the necessary fields and submit them to the server.

It will be appreciated that the system may be configured for different applications. Potential applications where the system may be implemented include: online purchase of tickets; product catalog viewing; dial to customer service numbers; participate in contests such as lucky draw; subscribe to newsletters, magazines, product news, or the like; request for download of ringtones, games, or the like; storing of contacts in the phonebook; purchase of commodities; advertising; feedback/polling; customer loyalty program/merchant points; provision for information retrieval transactions, for example bus stop service information, news/information kiosk for newspaper daily headlines, or the like; identification mode, for example personal particulars on NRIC/credit cards; or the like. Thus, the system performs the transaction based on any of these or other applications.

In an embodiment the application allows the public users to submit one entry to the system for a chance to win prizes. Users must have the XB application installed on the portable camera phone. Customers need to capture the 2D Barcode from any print media at the merchant's branch stores. It will automatically decode the 2D barcode and load the form for the customers to fill in the details. After completion, the customers can either send the information via SMS or GPRS. Default mode of transmission depends on the merchant's settings. An acknowledgement message with the reference number will be sent back to the user for every entry submitted. Benefits to the merchant include data collection on customer's information and especially mobile numbers which can be used to generate advertising; view the total number of entries per branch; gather estimated number of customers visiting per branch per day; and show reports through the website. Alternative options of delivery include e-mail in PDF, Excel or CSV format. Information to be filled-in by the customer includes for example: name; e-mail; NRIC; contact number; branch of purchase; and the like.

In an embodiment the application informs the public user to subscribe to their favorite magazines, newspapers or any print media. Users install the application on the portable camera phone. Customers capture the 2D Barcode from the print media. It automatically decodes the 2D Barcode and loads the application form with the subscription details. Customers fill-up the necessary additional information and send it via SMS or GPRS to the server. The default mode of transmission depends on the merchant's settings. An acknowledgement message with the reference number is sent back to the user for every subscription submitted. Benefits to merchant includes data collection on customer's information and especially mobile numbers which can be used for advertising; added value to attract more subscribers on the go; view the total number of subscribers per day; report products commonly subscribed by the public users; automatic processing of credit card details via our payment gateway; consolidated daily, weekly, monthly or yearly profit; and subscription reports seen thru the website. Alternative options of delivery include e-mail in PDF, Excel or CSV format. Information filled-in by the user may include: name; NRIC; address; contact number; mode of payment; by cheque - cheque number and amount; by card - card type, name of cardholder, card number, expiry date.

In an embodiment the application allows the user to purchase hot items on their portable camera phone anytime. Users have the application installed on the portable camera phone. Users capture the 2D Barcode from the print media. The application automatically decodes the 2D Barcode and loads the form with the user's details. Users complete and fill-in the necessary additional information and send it to the server via SMS or GPRS. The default mode of transmission depends on the merchant's settings. An acknowledgement message with the reference number and the estimated time of delivery is sent back to the user for every purchased item submitted. Benefits to the merchants include: data collection on customer's information and especially mobile numbers used to generate advertising; added value to attract more customers on the go; view the total number of items purchased per day; report hot items most purchased by the public users; automatic processing of credit card details via our payment gateway; consolidated daily, weekly, monthly or yearly profit; and reports seen through the website. Alternative options of delivery include e-mail in PDF, Excel or CSV format. Information to be filled-in by the user may include: name; NRIC; address; contact number; mode of mode of payment; by cheque - cheque number and amount; by card - card type, name of cardholder, card number, expiry date.

In an embodiment the application informs the public users to capture codes on their portable camera phone to receive vouchers or gift certificates from their patronized merchants. This can also serve as a gift item to friends/employees by keying in the mobile number of the recipient. Users have the application installed on the portable camera phone. Users capture the 2D Barcode from the print media. It automatically decodes the 2D Barcode and loads the form with the user's details. Users fill-up the necessary additional information and send it to the server via SMS or GPRS. The default mode of transmission depends on the merchant's settings. Vouchers or gift certificates are then sent back to the user as an SMS reply. Users show the message to the cashier/store manager of the store to avail the discount. Benefits to merchants include: data collection on customer's information and especially mobile numbers which can be used for advertising; added value to attract more customers on the go; view the most requested voucher / gift certificate; view the total number of vouchers / gift certificates requested per day; view the total number of vouchers / gift certificates that were claimed per day; and show reports through the website. Alternative options of

delivery include e-mail in PDF, Excel or CSV format. Information filled-in by the user includes: name; NRIC; address; recipient's mobile telephone number; message to recipient.

In an embodiment the application allows the public users to bid an item based on the 2D Barcode captured on their portable camera phone. The bidding period is from 9:00 am to 6:00 pm, everyday. Users have the application installed on the portable camera phone. Users capture the 2D Barcode from the print media. It automatically decodes the 2D Barcode and loads the form with the user's details. Users fill-up the necessary additional information including their bid amount and send it to the server via SMS or GPRS. The default mode of transmission depends on the merchant's settings. An acknowledgement message with the reference number is sent back to the user for every bid submitted. At the end of the day, the user with the winning bid is notified via SMS on how to claim the item and the mode of payment. Benefits to the merchant include: data collection on customer's information and especially mobile numbers which can be used for advertising; added value to attract more customers on the go; view the items which have the most bid; view the total number of bidders per day; and reports shown through the website. Alternative options of delivery include e-mail in PDF, Excel or CSV format. Information filled-in by the user may be: name, NRIC, address, contact no., bid amount and the like.

While embodiments of the invention have been described and illustrated, it will be understood by those skilled in the technology concerned that many variations or modifications in details of design or construction may be made without departing from the scope of the present invention.

CLAIMS:

1. A method of distributing barcode information encoded in a barcode to perform a transaction via a network, the method comprising:

providing a media having the barcode thereon;

capturing a digital image of the barcode and storing the digital image in a memory;

decoding the barcode information from the digital image, the decoded barcode information having a request for additional information for performing the transaction;

supplying the additional information to a device in response to the request;

transmitting the additional information from the device to a server via the network; and

performing the transaction in response to the additional information at the server.

2. The method of claim 1, wherein the barcode is a two dimensional barcode.

3. The method of claims 1 or 2, further comprising decoding the barcode information in the device.

4. The method of claims 1 or 2, further comprising transmitting the digital image to the server via the network, decoding the barcode information in the server, and transmitting the decoded barcode information from the server to the device via the network.

5. The method of any one of claims 1-4, further comprising displaying a form with the request on the device and supplying the additional information in response to the displayed form.

6. The method of claim 5, further comprising generating the form from the decoded barcode information.

7. The method of claim 5, further comprising supplying the additional information with payment details for the transaction.

8. The method of any one of claims 1-7, further comprising supplying the additional information by a user through an input of the device.

9. The method of any one of claims 1-8, wherein the barcode is generated by the server.

10. The method of any one of claims 5-7, further comprising transmitting the form from the server to the device via the network.

11. The method of any one of claims 1-10, further comprising processing the transaction in the server in response to the additional information.

12. The method of any one of claims 1-11, wherein the media is a poster, display, voucher, coupon, certificate, passport, or book.

13. The method of claim 1, further comprising capturing the digital image with a camera within the device.

14. The method of claim 1, wherein the device is a mobile telephone that captures the digital image.

15. The method of claim 1, wherein the barcode information is encoded on the barcode in QR code or DataMatrix code.

16. The method of claim 1, wherein the network is the Internet or a mobile communications network.

17. The method of claim 1, further comprising transmitting the additional information from the server to a merchant via the network, and performing the

transaction at the merchant in response to the additional information.

18. The method of claim 1, wherein:

the device is a mobile telephone;

a user captures the digital image using the mobile telephone;

the mobile telephone provides the request to the user;

the user supplies the additional information to the mobile telephone in response to the request;

the mobile telephone sends the additional information to the server via the network;

the server sends the additional information to a merchant; and

the merchant performs the transaction for the user in response to the additional information from the server if the additional information satisfies the merchant's requirements.

19. The method of claim 18, wherein the server sends an acknowledgement message to the mobile telephone via the network in response to the additional information, and the acknowledgement message includes a transaction number associated with the transaction.

20. The method of claim 18, wherein the merchant provides the media to the user.

21. A system for distributing barcode information encoded in a barcode on a media to perform a transaction via a network, the system comprising:

a camera for capturing a digital image of the barcode;

a memory for storing the digital image;

a decoder for decoding the barcode information from the digital image, the decoded barcode information having a request for additional information for performing the transaction;

a display for displaying the request;

a device for supplying the additional information in response to the request;

a device transmitter for transmitting the additional information from the device

to a server via the network; and

a processor in the server for causing the transaction in response to the additional information.

22. The system of claim 21, wherein the barcode is a two dimensional barcode.

23. The system of claims 21 or 22 wherein the device decodes the barcode information.

24. The system of claims 21 or 22, wherein the server receives the digital image via the network, decodes the barcode information, and transmits the decoded barcode information to the device via the network.

25. The system of claims 21-24, wherein the device includes the display and displays a form with the request on the display.

26. The system of claim 25, wherein the system generates the form from the decoded barcode information.

27. The system of claim 25, wherein the additional information includes payment details for the transaction.

28. The system of any one of claims 21-27, wherein a user supplies the additional information through an input of the device.

29. The system of any one of claims 21-28, wherein the barcode is generated by the server.

30. The system of any one of claims 25-27, wherein the server transmits the form to the device via the network.

31. The system of any one of claims 28-30, wherein the server processes the transaction in response to the additional information.

32. The system of any one of claims 21-31, wherein the media is a poster, display, voucher, coupon, certificate, passport, or book.

33. The system of claim 21, wherein the device includes the camera.

34. The system of claim 21, wherein the device is a mobile telephone that includes the camera.

35. The system of claim 21, wherein the barcode information is encoded on the barcode in QR code or DataMatrix code.

36. The system of claim 21, wherein the network is the Internet or a mobile communications network.

37. The system of claim 21, wherein the server transmits the additional information to a merchant via the network, and the merchant performs the transaction in response to the additional information.

38. The system of claim 21, wherein:

the device is a mobile telephone that includes the camera and the display;

a user captures the digital image using the camera;

the display provides the request to the user;

the user supplies the additional information to the mobile telephone in response to the request;

the mobile telephone sends the additional information to the server via the network;

the server sends the additional information to a merchant; and

the merchant performs the transaction for the user in response to the additional information from the server if the additional information satisfies the

merchant's requirements.

39. The system of claim 38, wherein the server sends an acknowledgement message to the mobile telephone via the network in response to the additional information, and the acknowledgement message includes a transaction number associated with the transaction.

40. The system of claim 38, wherein the merchant provides the media to the user.