(54) Title: METHOD AND APPARATUS FOR CONTROLLING CONFIGURATION OF AN ONLINE AUCTION FACILITY

(57) Abstract: According to aspects of the invention, there is provided a computer system and method for controlling configuration of an auction website. In one embodiment according to the invention, a computer system for controlling configuration of an auction website comprises a receiver adapted to receive a first message from a first user on a first mobile device, said first message including a user identification and at least one audiovisual media representation of an item to be auctioned, and an extraction processor adapted to automatically extract the user identification and at least one audiovisual media representation from said received first message responsive to receipt of the first message and to create an auction record for the item to be auctioned associated with said extracted user identification and at least one audiovisual media representation.
Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codex and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
METHOD AND APPARATUS FOR CONTROLLING CONFIGURATION OF AN ONLINE AUCTION FACILITY

TECHNICAL FIELD

This invention relates to methods and apparatus for controlling configuration of an online auction facility. Embodiments of the invention relate to apparatus and methods for carrying out forward and reverse purchase auctions from mobile phone devices or other browsing means.

BACKGROUND

The online auction is a popular model in which participants (or 'bidders') bid for products and services offered by individuals or businesses over the Internet. The process of buying and selling in an auction-type system is made possible through auction applications, which control the various functions and processes.

In the online auction model, the host does not actually sell its own goods or services. The host acts as a facilitator in the distribution of goods and services offered by others by: listing and displaying goods; allowing bidders to bid on items; and sometimes overseeing the payment process.

Several types of online auctions are possible. In an ordinary auction (forward auction), buyers compete to obtain a good or service by bidding against each other. Typically, price offers will increase incrementally and the highest bidder will acquire the goods or services upon payment of the bid price.

A reverse auction, on the other hand, is a type of auction in which the role of the buyer and seller are reversed. The primary objective of the reverse auction is to drive purchase prices downward, i.e. sellers compete to obtain business from buyers.

More and more, users of mobile phone devices wish to access and use the same or equivalent services they are able to access and use from their desktop PCs or other browsing means. The online auction is one such example. Users of online auctions increasingly wish to buy and sell goods quickly and simply from their mobile phone
devices. For example, purchase an item whilst travelling on the bus or advertise for wanted items when they are seen in a shop.

There is a need, therefore, for a mobile-optimised auction system which allows users to browse, buy and sell goods and services directly from mobile phone devices.

Internet auction sites have become very popular in the last ten years with a large number of individuals using such auction sites to make informal transactions of goods. Numerous network-based commerce systems have emerged since advancements in security for users of the internet. Through these network-based commerce systems, potential sellers can enter information about their product or service for potential buyers to bid on. The information submitted by potential sellers is then organised, stored and presented as a listing by the network-based commerce system. Potential buyers can search through the organised seller information to find products or services on which they to purchase. As a result, buying goods over the internet is by and large an easy and straightforward process. On the other hand, selling items can be complex and time-consuming and does explain why on average more than 90% of online auction users are buyers rather than sellers.

Mobile camera phones (a mobile phone with an integrated camera capable of capturing still and moving images) have become very popular amongst individuals, with camera phone penetration being at nearly 50% amongst 25-34 year olds in 2004 (Source: Enpocket). Camera phones are regularly bundled with data connections allowing images to be sent easily and uploaded on to computers and between other mobile phone users. Transactions conducted over the mobile phone (or M-commerce) is therefore growing quickly. M-commerce transactions are generally low-value ($3 average – Source: Juniper Research), with ticketing, mobile content (ring tones, etc) currently dominating such transactions. However, person-to-person mobile payments are maturing with the emergence of several wallet systems, and the launch in the UK of a joint payment system called Pay4It. There are on course other payment systems available for collecting monies (e.g. PayPal). These person-to-person payments enable informal transactions, such as those associated with online auctions.
Even though the prevalence of network-based commerce systems is far reaching, the restrictions and inconvenience of being tied to a computer, even a laptop model, does create restrictions on the ease of using such a commerce system. The present invention provides an improved system.

This application also provides a description of a novel reverse auction concept to the area of online/internet purchase auctions. Buyers interested in a specific item will be able to post a picture or video and a description of that item from their mobile phone. Sellers will search and browse listings then make offers to sell to the buyer. The seller providing the lowest offer wins the chance to sell to the buyer.

SUMMARY OF THE INVENTION

According to one aspect of the present invention, there is provided a computer system for controlling configuration of an auction website.

In one embodiment according to the invention, a computer system for controlling configuration of an auction website comprises a receiver adapted to receive a first message from a first user on a first mobile device, said first message including a user identification and at least one audiovisual media representation of an item to be auctioned, and an extraction processor adapted to automatically extract the user identification and at least one audiovisual media representation from said received first message responsive to receipt of the first message and to create an auction record for the item to be auctioned associated with said extracted user identification and at least one audiovisual media representation.

Preferably, embodiments further comprise features as set out in claims 2 to 28.

According to another aspect of the present invention, there is provided a method of controlling configuration of an auction website.

In another embodiment according to the invention, a method of controlling configurations of an auction website comprises receiving a first message from a first user on a first mobile device, wherein said first message includes a user identification and at least one audiovisual media representation of an item to be auctioned, automatically extracting the user identification and the at least one
audiovisual media representation from said first message responsive to receipt of the
first message, and automatically creating an auction record from said extracted user
identification and the at least one audiovisual media representation.

Preferably, embodiments further comprise features as set out in claims 30 to 52.

According to a further aspect of the invention, there is provided a server for
auctioning an item.

In a further embodiment according to the invention, a server for auctioning an item
comprises a database of known users of the server, said database comprising a set
of records for each known user, including an user identification associated with said
known user, a receiver adapted to receive a first message from a first user, said first
message including an user identification, a processor adapted to extract the user
identification from said received first message and to determine from said database
and extracted user identification whether the first user is a known user.

Preferably, an embodiment further includes a transmitter adapted to send a second
message from the server to the first user in response to receipt of said first message
when the first user is determined not to be a known user, said second message
providing a link to a registration information input form for providing registration
information on the first user, said registration information input form being associated
a new record for the first user, such that the first user becomes a known user.

According to a further aspect of the invention, there is provided a method of
detecting prior use of an auction system by a user.

In another embodiment of the present invention, a method of detecting prior use of
an auction system by a user, comprises receiving a message from a user including
data on an item to be auctioned and a user identification, comparing said received
user identification against a database of previously received user identifications
associated with known users of the auction system.

According to a still further aspect of the invention, there is provided a server for
auctioning an item.
In another embodiment of the present invention, a server for auctioning an item, comprises a management processor adapted to provide a suite of management tools for use in managing an auction of an item, wherein the management processor is adapted to operate dependent upon the user being determined to be known user of the server.

Preferably, the suite of management tools includes a visual representation manipulation tool, adapted to manipulate a received image of an item to be auctioned.

According to a still further aspect of the invention, there is provided a method of listing an item to be auctioned on an auction website server.

In yet another embodiment of the present invention, a method of listing an item to be auctioned on an auction website server, comprises receiving a multimedia message about an item to be auctioned from a user's mobile camera phone, said multimedia message containing an attachment comprising any one or more of: a picture, video or sound, sending a WAP push message to the mobile camera phone of the user containing a link to an information input form, and receiving further information on the item to be auctioned through the information input form.

Embodiments also provide a method of listing an item to be auctioned on an auction website server, comprising receiving an email message from a user containing an attachment containing information on the item to be auctioned in the form of any one or more of: a picture, a video or a sound, sending a return email to the user containing a link to an input form, and receiving further information on the item to be auctioned through the information input form.

Embodiments of the present invention also provide a method for producing an auction listing, comprising receiving a first message from a user including a user identification and at least one audiovisual representation of an item to be auctioned, extracting the user identification and the at least one audiovisual representation of the item to be auctioned from said received message, creating an auction record associated with said user identification and said at least one audiovisual representation, creating an information input form associated with said auction record, comparing said user identification against a database of known users,
populating at least a portion of the information input form based on information from the database of known users when said comparison indicates the user is a known user, and forwarding a second message to the user containing a link to said information input form, such that said user can input any remaining required further information.

Other embodiments of the invention provide a method of reverse auctioning an item on an auction website, comprising receiving a first message from a first user including an user identification and at least one audiovisual media representation of an item the first users wishes to purchase, authenticating the user, sending a second message to the first user requesting further information on the item the first user wishes to purchase, to define search criteria for searching items already on sale from other users, receiving further information from the first user defining said search criteria, and comparing the search criteria with information associated with each item for sale on the auction website and providing details of items matching said predefined criteria.

In still further aspects of the present invention, there are provided a computer program code and computer program product comprising instructions executable by a computer, recorded on a computer readable carrier, and which upon execution carries out the methods of the above embodiments.

In the following, an audiovisual media representation includes any one or more of a picture, video or sound, and does not necessarily include both audio and visual content at the same time, i.e. the term is intended to cover all of: audio only; visual only; and the combination of audio and visual content.

Additional advantages and novel features of the invention will be set forth in part in the description which follows, and in part will become apparent to those skilled in the art upon examination of the following and the accompanying drawings; or may be learned by practice of the invention.
BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention and as to how the same may be carried into effect, reference will now be made, by way of example only, to the accompanying drawings, in which:

Figure 1 shows a schematic diagram of an embodiment of the auction server according to the present invention;

Figure 2 illustrates the listing process of the present invention;

Figure 3 illustrates the forward auction mechanism of the present invention;

Figure 4 illustrates the mobile interface for adding details to an item listing;

Figure 5 illustrates the mobile interface to view a list of items for auction;

Figure 6 illustrates the mobile interface to view details of an item listing;

Figure 7 shows the reverse auction listing method according to an embodiment of the invention;

Figure 8 shows the bidding process in more detail for an embodiment of the reverse auction method according to the present invention;

Figure 9 shows an example of bid increment sizes in relation to the auctioned item price, according to an embodiment of the invention;

DETAILED DESCRIPTION

Those skilled in the art will appreciate that while this disclosure describes what is considered to be the best mode and, where appropriate, other modes of performing the invention, the invention should not be limited to the specific configurations and methods disclosed in this description of the preferred embodiment. For example, the following is cast in terms of using Multimedia messages (MMS’s), Short Messaging Service messages (SMS’s) and emails, however, the invention is not so limited. Other equivalent messaging means, that allow the attachment and transfer of audiovisual media representation data files, such as pictures, videos and sounds,
may also be used, for example instant messaging services such as Microsoft MSN Messenger messages.

The users of auction websites can be broadly categorised into two types: buyers and sellers. Buyers are looking to purchases goods or services (hereinafter referred to items) through the auction website, while sellers are looking to sell items through the auction website. Thus an item to be auctioned may be for offered for sale or wanted to buy. Both buyers and sellers may be individuals or companies. A particular user, especially when they are an individual person, may be both a buyer and seller during the course of their use of the auction website. This, in the following description, the term 'user' is used where the portion of the invention being described may be equally applied to both the buyer and the seller.

Figure 1 illustrates an embodiment of the present invention 10. There is provided a server 100 connected with at least one network for transmitting data to users of the server 100, for example a mobile phone network 101. Preferably, the server is connected to an alternative network, such as the internet 102, so that users may access the auction site from any internet connected device, for example a desktop PC 105.

Typically, the server 100 is in communication with at least one buyer 104 via a suitable device 108, and at least one seller 106 via a suitable device 108 which may be a mobile phone device, desktop PC or other suitable browsing means. Preferably, the devices 108 are mobile camera phones.

It will be appreciated that the mobile network 101 and internet 102 will typically be interconnected, such that mobile devices 108 users may access the internet while on the move. Mobile phone companies typically offer data bundles allowing such connection to the internet 102.

The server 100 further comprises: a database 110 for storing information on all the aspects of the auction process, such as the users registered to use the auction website (known users), bids offered, bids received, and the like; an MMS receiver module 120 for receiving MMS’s from users; an SMS transceiver module 125, for
sends sending and receiving SMS's to/from users, including WAP (Wireless Application Protocol) push messages containing URLs to WAP content pages; a website module 130 for providing the website pages driving the auction website process that are accessible by the users; a WAP module 135 for providing WAP content pages; an email processor 140, for sending and receiving emails from or to users of the auction website 130 running on the server 100; and an auction module 150, which controls the various aspects of the auction process dependent upon auction algorithms 155 according to the invention, including any price determination algorithms.

The server web-site 130 is accessible by the users 104/106 via their access device, for example mobile phone devices 108 and/or other browsing means, such as desktop computers 105 with HTML browsers.

In more detail, the database 110 includes: a list of items 112 to be auctioned, which may be the goods or services offered by sellers for sale or the goods or services requested by buyers to purchase; a list of known users 114 who have previously registered for (and used) the services of the auction website server 100, these often taking the form of user accounts; details of all the bids 116 that have been both sent and received by the buyers 104 or sellers 106 during the course of the auction process. This may take the form of a tally of how many bids have been placed and logically associates this information with the item being bid upon stored in the item database 112. The tally will indicate such things as the price of the offers made by a certain user (buyer 104 or seller 106), and the user account of the user who has made the offer. The above described portions of the database 110 may take the form of a single database containing all the information, cross associated in the necessary way. Alternatively, the database 110 may comprise a number of sub databases for each set of data (Items 112, Known Users 114, Bids 114, etc).

The database 110 will typically be formed from non-volatile storage, such as hard disk drives. However, other non-volatile memory such as flash RAM, MRAM, or the like may be used. Even volatile memory could be used in an embodiment of the present invention. A typical embodiment would comprise a Redundant Array of Inexpensive Disks (RAID) array, for example, a RAID 5 hard disk array.
There will now follow a description of embodiments of the Forward auction process, followed by embodiments of the reverse auction process. It will be apparent that portions of either embodiments may be applicable to the other embodiment, albeit with some minor alterations, for example, replacing the seller with the buyer, or decreasing bids for reverse auctions rather than the increasing bids for forward auctions, and the like.

**Forward Auction**

A method and system for creating a listing on a network-based commerce system auction site through use of mobile telephony. A seller captures one or more image and video files from their mobile camera phone for an item to be listed. The seller sends these images and/or video files to a server by Multimedia Message (MMS). MMS allows users to send pictures, videos and sound recordings to other compatible handsets and/or mobile phone network plans. On receipt of these files by the server a new listing is created with the files associated to it. The server then uses a WAP push message, for example, in the form of an SMS containing an URL, to automatically direct the seller’s mobile phone’s browser to a form requesting additional details about the listing. Details include but are not limited to the title, description, condition, price and category. There can also be short codes for more common goods or classifications of goods (e.g. 1 = glassware; 2 = electronic goods; 3 = books, etc). If the seller’s mobile phone number is not known to the server they are also requested to enter registration details including name, address, postcode and date of birth. If the seller’s phone number is recognised, their details should already be stored in the server’s database of previous sellers. After all listing and registration details are submitted, payment by one of several means is requested in order to list goods on the auction site. Once payment is received for listing, the listing is published to an internet site provided by the server. The seller may subsequently modify the listing.

The above described receipt of the audiovisual media representation file by the server via MMS effectively triggers the formation of an information input form, preferably from a template. The information input form allows the additional details requested about the item to be auctioned to be inputted by the user. When the user is already known to the server, such that the user may be called a known user,
certain portions of the necessary information required may be automatically filled in on behalf of the first user from the data stored in the server for that user. This reduces the time taken to fill in the form, and the amount of traffic required also, prior to listing the auction. This is especially beneficial in the context of a mobile auction, since the means of inputting information may be restricted (due to the size and/or configuration of the input device on the mobile device). Equally, reducing the amount of data sent over the air may reduce the cost associated with making a new auction listing.

In the case that the first user is not already known, the information input form may include fields requesting information about the user, so that the user can be registered on the hosting auction website.

A conventional auction process with fixed price option is undertaken, allowing buyers to place bids or pay the seller-specified fixed price immediately.

File Formats
Picture and video formats will generally be compatible with mobile phones (both for those with, and without cameras), for example pictures could be uploaded in JPEG file format and videos in the industry standard 3GPP format. Upon uploading the pictures and/or videos, an application is present on the server 100 which may, for example, resize images in order to optimise them for display on mobile phones. For example, a user may upload a photograph to the server in a resolution of 640x480 pixels. The server then resizes the image to 400 x 300 pixels.

In this way, the user does not need to remember to take a picture in any particular size, since the server application will automatically resize to a predetermined size suitable for use in a particular portion of the process, e.g. 400 x 300 pixels for use on the website portion online, and 120 x 90 for mobile use and for thumbnails. Pictures may be taken in other picture file formats, for example GIF or PNG format. Any of the most common file types may be used. Thus any pictures created should be supported by most, if not all, mobile phones and can also be viewed by all computer-based web browsers.
Alternatively, the user (i.e. buyer/seller) may also make a video of the item they want to buy and the seller may video the item they wish to sell. This is a great way to let buyers get a good look at your item.

**Forward Auction Mechanism**

**Selling**

Sellers can quickly and easily create listings from their phone or from a computer. Items listed will be displayed on the site for 7 days or until the seller withdraws the item. Images uploaded from a computer or phone will be resized to the dimensions required by the web interface and two thumbnail versions (large and small) will be created automatically. Video and audio files uploaded will be displayed using embedded players of the appropriate type, preferring QuickTime where there is a choice.

The items are stored in the database 110. Typically, the items are categorised and stored in the database based on criteria such as: title, description (such as sizes, age, aspects of appearance), condition, goods category, notable features, delivery details (including postage costs), etc. The seller generally also submits: a minimum price they are willing to sell the given item for, which corresponds to the amount that the auction for the item will start at and is also the reserve price for the item; a photograph of the item, which acts as proof of possession and to aid the buyer in verifying the correctness of the specification and the condition of the item.

**From a Mobile Phone**

The present invention provides the first mobile-powered auction site. Users will be able to list items on the site using the following simple process:

1. Take a picture with a camera phone and send it to a virtual mobile number.
2. Receive a WAP push message which redirects the phone’s browser to a form.
3. Complete the form with details about the item.
4. Enter a username, their first name, surname, house number and post code, if
   their number is not already in our database.

5. View a page linking to a version of the selling terms and conditions and tick a
   box to confirm that they understand and agree to those terms and conditions.

6. Submit.

As this process is initiated by an MMS message, it is limited to domestic users. In
addition, MMS messages may be limited in size, and therefore not large enough for
useful video clips to be sent. For this reason the Hosting Auction Site may
alternatively support listing items through emails sent to the Host's message
processing software.

The WAP push message sent back to the user (seller in the above example) is a
form of browser message. This WAP push message works in the same way as a text
message but it allows the user to follow a link to the hosting auction website, or
mobile internet site, if need be. It may be stored separately from normal messages,
within the mobile phone, for example in the "Browser messages" folder.

The process will be very similar, as follows:

1. Seller creates an email containing their phone number and attaches the
   assets for the listing.

2. Seller sends the email to a published address,
   
   e.g.sell@[HostingAuctionSite.com].

3. User's phone number is extracted from the message body, and the WAP push
   message is sent.

4. Seller completes details and submits as before.

If the recipient is within the UK, payment can be made by premium rate SMS. If the
user is outside the UK, payment will need to be made via an online payment
processor. This may also be available through the mobile phone handset.
Figure 2 shows the above described auction listing process. In more detail, the process starts by a seller wanting to sell an item 200. Therefore, the seller takes a photo 201 of the item they would like to sell with their mobile camera phone 108, or other suitable device, and sends 202 the picture to the server 100. Any audiovisual media representation of the item to be auctioned may be used, such a video or sound, instead of (or in addition to) the afore-mentioned picture.

Typically the audiovisual media representation is sent to the server 100 via an MMS message 202, however an email message, or other message format that allows the attachment of a picture, video or sound may be equally used. An user identification is included in the message sent to the server 100. In the case of the MMS message, the user identification takes the form of the sender’s telephone number which is contained within the MMS message. In the case of alternative message format, the user identification may derived from a predetermined field of the message, such as the ‘from’ field of an email. Alternatively, the necessary information made be parsed from the main body of the text within the message.

The server 100 receives the message sent by the seller, which includes the audiovisual representation of the item to be auctioned, and creates a new auction record, or listing from the information provided in the message received 203.

In the case of a received MMS, the server 100 then sends a WAP push link to the seller 204. The mobile will then processes the linked contained in the WAP push message 205, and direct the seller to an information input form which the seller completes by supplying details and an optional maximum price for a given item 206.

Figure 4 shows an exemplary information input form.

A check of the user is carried out 207/208 by cross checking the telephone number from which the MMS was sent against the stored telephone numbers in the known user database. If the seller is new to the system, i.e. is not a known user of the server 100, then the further information input form will additionally contain information required in order to register with the auction website 209.
If the seller is known, then respective portions of the further information input form will be pre filled in with data from the membership portion of the database 208.

Once all the necessary information is entered, the seller may be asked to double check the information already entered 210.

Once everything is checked by the seller, the seller pays for the listing by an accepted form of payment, such as a reverse charge premium SMS, or other charging method, such as Luup or Paypal 211, or credit card.

Once payment is confirmed, the new listing for the item to be auctioned by the seller is listed on the website/mobile site 212.

**From a Computer**

A link titled "Sell" in the primary site navigation will take the user to a single page form where they may enter all the required details about their item and select up to five image, video or audio files to upload. If the seller has not yet entered house number and postcode details, they will be required to enter these here. The seller must confirm they have read the selling terms and conditions. The seller will be asked to pay via an online payment service, or optionally, premium rate SMS immediately. The listing will begin once this payment is confirmed.

Files uploaded will be restricted to the major image, video and audio types supported by web browsers, i.e. JPEG, PNG, GIF, MPG, MOV, AVI, Real Media, 3GP, 3G2, MP3, WAV and AIFF. Files may be limited, for instance, to a maximum of 2Mb in size.

**Exemplary interfaces**

Figure 4 shows an example interface of an embodiment of the present invention for the information input form. In the example shown, there is provided text input fields or list selection fields for entering the required further information on the item to be auctioned. These include a title; description of the item; and condition of the item.
Figure 5 shows an example interface of an embodiment of the present invention for listing items currently up for auction.

Figure 6 shows an example interface of an embodiment of the present invention for showing a user details about a particular item being auctioned on the website. This includes read only listings of the information requested in the information input form shown in Figure 4. The listing, in the example provided, further includes a notification opt-in portion, activated by either registering (when the user is a new, as yet, unknown user) or signing in (when the user is a known user, but has not yet logged onto the website).

Forward Auction Process

Figure 3 shows an embodiment of the forward auction process.

The auction mechanism is the system of listing items, finding buyers, managing bids and the process of helping buyer and seller to fulfil the order once placed.

- The seller lists the item, setting an initial price 301.
- The seller optionally adds a fixed price, allowing buyers to skip bidding
- A potential buyer locates the item 304 and enters the limit they are willing to pay at this point, or agrees to pay the fixed price 306.
- In the case of a bid, the system calculates a new price 305 as follows:

  if there are no bids: price = initial price
  otherwise: if there is more than one bid: incremental price = second highest bid + increment
  if highest bid < incremental price: price = highest bid
  otherwise: price = incremental price
  otherwise: price = initial price + increment
For instance, the increment is variable depending on the current high bid. Figure 9 shows an example bid increment plan, based upon the price of the item being auctioned.

- In the case of a bid, other bidders place bids, bidders may place multiple bids.
- If no fixed price order is placed, the listing is automatically closed after 7 days (e.g. 7:00 Friday 20th to 7:00 Friday 27th)
- If no fixed price order is placed, the bidder with the current highest bid wins 308, the price agreed is the current incremental price, not the bidder’s bid limit.
- The phone numbers of the buyer and the seller are made available to one another. Actually speaking to the other person will help to increase trust levels between buyer and seller over email conversation.
- Buyer and seller agree payment outside of the Hosting Auction Site system 309. This includes negotiating and agreeing the method of shipping and who pays for this.
- Buyer and seller may optionally leave a feedback about the other user 311.

In an alternative to the above described external payment scheme, where the two parties (buyer and seller) agree payment outside of the hosting Auction Site, the hosting site may instead incorporate an internal, or even bought in 3rd party payment system, to effect payment between users. For example, PayPal, Luup or the like.

In this case, the payment may be made by a plug in payment module, operated for example by a JavaScript, Active X control or the like. Equally, the payment scheme may be operated by suitably linking the databases of the auction site and 3rd party payment system, to effect transfer of the necessary information required for billing that is already stored by the auction site, such as the item cost, delivery cost, user name, user address, user telephone number, and the like.

**Fixed Price**

In an embodiment, the buyer may have the opportunity to buy an item at a fixed price.
As well as listing items for auction, sellers will be able to add a fixed price through the web interface and mobile account management interface (not the initial listing submission form). If a seller adds a fixed price, the detail page for the listing will allow buyers to view the price and click to submit their intention to pay that price. A notification will be sent to the seller informing them of the offer. A seller will be able to view the offer made and the phone numbers of the buyers through their account interface. The seller can then contact the buyer to arrange payment and delivery.

**Ratings and feedback**

Optionally, the Hosting Auction site may invoke a simple user ratings and feedback system to help buyers judge the reputation of sellers and vice versa. On completion of a sale, both buyer and seller will be able to leave positive or negative feedback about the other, as well as a short comment. Positive feedback will increase the user's rating by one point, negative feedback will decrease it. The rating of a user will be indicated by a set of symbols next to their username whenever this is displayed. Each username will be a link to a page displaying feedback left by other users.

**Billing**

The charge for a listing may be a base rate, plus a per asset (image, video or audio file) price or a combination of both. A basic listing might cost, for instance, £1 and include one free asset, with subsequent assets costing e.g. 25p per image, 40p per video.

Listing fees will be billed by reverse SMS for MMS/WAP listed items and by online payment provider (Worldpay, PayPal, etc) for items listed through a browser or by email from a handset by default. The user will have the option to select the payment mechanism for each transaction.

For MMS/WAP listed items, once the user has completed the details they will receive an SMS containing a text message. This message may be "[Host Auction Site]: confirm billing for listing 123. Pls reply 'confirm payment 123'." The code may be uniquely generated for each use. The user must reply "confirm payment 123" with the correct code. A second SMS may be sent containing the text "[Host Auction
Site]: Listing 123 confirmed. Thanks!” or words of similar effect. This SMS will be premium rate and charged to the rate required to fulfil the fee.

Payments made online may be supported the Host Auction Site by integrating with a payment provider. The provider will process payments made by credit cards or via e-money systems such as PayPal. The Hosting Auction Site can then either operate alongside a service such as for example, Worldpay, where payment pages are hosted by the provider, or choose to integrate the payment process into it’s own site.

Premium rate SMS is only supported for domestic users. International users can not be billed in this way. International users will be required to visit the site and make a payment via the chosen online payment provider, PayPal, Worldpay, etc, before the listing is made live.

Closed listings

The detail page for a closed listing will always be visible via bookmarks, links from user account tools and the price guide. The content displayed on the closed listing page will be identical to an open listing except that the place bid and pay fixed price elements will no longer be displayed.

Refunds

Listing closed by the seller within a 24 hour “cooling off” period should be issued a refund. Refunds can not be made via the premium rate SMS mechanism. There are several alternative possibilities;

• Credit note, the next listing fee is discounted by the value of this listing.

• Offer refund by cheque.

• Refund by PayPal or other payment system.

Seller Management Tools

The seller account management view will allow the seller to manage their listings quickly and easily. Sellers will be able to browse a complete history of their listings, ordered by listing date. For each listing, the seller will be able to:
• View the details of a listing, open or closed.

• Edit the title, description or condition of a listing.

• Close any open listing. The fee will be refunded if the listing is closed within 24 hours.

• Re-list an item which closed without selling – the seller will be charged the listing fee a second time, the re-list fee could potentially be lower than the original fee, except in the case where the original listing was closed early and the seller received a refund. Records will be kept of each re-listing.

• Manage the sales workflow for their items (see below).

• Enable and disable SMS notification for listings (see below).

• Replace assets with alternatives of the same type, e.g. video for video but not video for image.

• Rotate images.

• Enhance the brightness, sharpness or contrast of images.

Typically, a seller can upload up to five photographs or videos of an item they have in their possession. These photographs can be taken with either a mobile camera phone or a digital camera and uploaded, for example, via a desktop PC and internet connection.

**Seller notifications**

Sellers could be provided the option to request status notifications be sent to them by SMS, with the option to receive a notification whenever a new bid is placed or when the listing closes. Notifications will be sent by premium rate SMS. For this reason the seller will have a double opt-in:

1. Request notifications for the listing from the website

2. Receive an SMS containing the text e.g. "[Name of Hosting Auction Site]:"
confirm bid notification messages for listing 123. Pls reply ‘confirm messages 123’. Text ‘stop 123’ to stop all notifications.”

3. Send an SMS containing the text “confirm messages 123” to Hosting Auction Site

**Sales workflow**

Once the listing has closed, if at least one bid has been made or the buyer has opted to pay the fixed price, the seller and buyer enter the sales workflow – the steps which the seller and buyer are guided through in order to complete the transaction. The seller workflow has the following steps:

1. Contact buyer
2. Get payment
3. Send item
4. Leave feedback

The process will be illustrated by a simple flow diagram on the listing detail page for closed listings.

**Buying**

Potential buyers 104 will use the category navigation, the home page hot items list and the simple and advanced search functionality to locate items. The simple search form will be located on every page.

It is also possible for a user to watch a given item, i.e. to save a history of items that they are considering bidding on or that they are simply curious about. A user is able to add an item to a ‘watchlist’ by clicking a button (e.g. “Add to watchlist” button) that is located on every item’s details page. A user can remove the item from the watchlist at any point.
Sorting

Buyers will be able to control the sorting of lists of listings using a drop-down menu located between the page navigation control on list pages, e.g.:

Sorting options may be:

- Ending soon first
- Newly listed first
- Lowest price first
- Highest price first
- Best condition first
- Thumbnail sizing

Buyers will be able to select between two different thumbnail sizes:

- Normal view – thumbnails are displayed at 120 x 90 in a 4 x 3 grid; title, description, condition and price fields are displayed.
- Small view – thumbnails are displayed at 60 x 45 in an 8 x 6 grid; only title and price are displayed.

Buyers will be able to select the view by clicking a link in the same row as the page and sorting controls. The link title will be “Smaller pictures” when in normal view and “Larger pictures” when in small view. Alternatively icons could be used, e.g. +/- magnifying glass icons.

Advanced search

The advanced search form will allow buyers to specify the following parameters to control the listings displayed:

- Search phrase (same as simple search).
- Words to exclude.
• Category (default: all).
• Minimum and maximum prices (default: no minimum or maximum).
• Ending within one week, one day or one hour (default: one week).
• Only show listings with no bids or only show listings with at least one bid (default: show all regardless of bid status).
• Minimum seller rating (default: any rating).

Related items

Listing detail pages will display a list of five related items. A maximum of five items will be displayed.

The list will be created by searching the current category for items where the title or description contains keywords from the title of the current listing. Stop words ("the", "and", "new", etc) will be removed from the title before the search is performed. E.g. from a listing titled "Brand new Nokia N70," the keywords "Nokia" and "N70" would be extracted. Items containing either word in their title or description would then be displayed in the related items list.

Buyer management tools

The buyer account management view will allow buyers to view a history of the items they have bought and a watch list of items they are interested in. Whenever a buyer places a bid on an item it will automatically be added to their watch list. Buyers may also manually place an item on their watch list using a link on the item detail page.

Buyer notifications

Buyers will also be able to request notifications for items on their watch list. Notifications can either be sent whenever a bid is placed on an item, or when the item closes, notifying the user if they have won. The same doubt opt-in process used for seller notifications will be used here.
Buyer workflow

Once the listing has closed, if the buyer is the highest bidder, or if the buyer purchases an item via the fixed price process they will enter into a buying workflow, the process by which they negotiate fulfilment with the seller. This workflow has the following steps:

- Contact seller
- Send payment
- Get item
- Leave feedback

The process will be illustrated by a simple flow diagram on the listing detail page for successful listings.

Registration and account settings

Visitors will be required to register in order to place a bid, add an item to a watch list or list an item through their computer. Sellers who create a listing from their phone will have an account created for them. They will be able to claim this account for use online later. All users will be identified by username, as phone numbers can not be displayed on the site.

Online registration

If the current visitor is not logged in, the informational text above the search field will display “Log in to your account or register now.” The link structure of the site will not change for anonymous users, e.g. they will still be shown a link titled “add this to my watch list” on an item detail view. When attempting to access a feature provided for registered users only, anonymous visitors will be directed to a log in page with a “register now” link. This will direct the user to the same process as the primary navigation “register now” link.

New users will be asked to enter the following fields on registration:

- Mobile number (required)
• Username (required)
• First name (optional)
• Last name (optional)
• Email address (optional)
• House number (optional)
• Postcode (optional)

Additional optional fields may be collected at this point. Demographic information such as DOB (date of birth) and gender may be useful to provide an audience profile.

Security reminders

If any user loses the details of their account, they will be able to request a new claim message be sent to their phone. Their password will be reset and their username and new password sent to the phone.

The reminders may equally be sent by another suitable means, such as an email message (upon request). Alternatively, the user may be directed to a webpage which asks security questions that only the registered user will know. In this way, the auction website can authenticate the user and forward the missing information on to the user whilst still maintaining the security of the site.

Account management

Users will be able to change any account setting at any point, except username. Requiring username to be fixed allows other visitors to easily recognise trustworthy or disreputable users that they have dealt with before.

The user will be able to delete their account, and request that all personal information about them be removed from the system. This is to comply with standards laid down by Data Protection Registrar. Data about items listed, sold, bought and bids placed by the user will still be retained for internal consistency, but no longer linked to the real-world individual.
Mobile interface

The present invention provides a unique feature of a complete mobile experience. Users of WAP 2.0 (XHTML-MP/Basic) will be able to use all of the core features of the site:

- Create listings.
- Browse and search listings.
- View details and images etc of listings.
- Register for an account.
- Place bids.
- Check watch lists.
- Complete sales/purchases.

Mobile users will be able to access the category list, search functionality and a link to their account from the mobile home page. Through categories and search they can access sets of listings. Images will not be displayed on listings pages. Each listing will have a detail page containing the first asset, links to additional assets and the option to place a bid or buy it now. They will be able to complete sales/purchases as they will be able to access the phone number of the buyer/seller. WTAl or tel: links will be created to allow users to make calls easily. Item payment should be supported, depending on payment provider.

Caching

With both the mobile and web interfaces, care will be taken to ensure that caching by the intermediate network (such as a mobile operator’s internal systems) and the user-agent (the browser) is enabled where appropriate. When serving content to mobile devices, it is important to send as little data over the air as possible, as this leads to a better user experience and lower data charges for the visitor.
Price guide

The Hosting Auction site may optionally include a price guide created using information from closed listings. Visitors will be able to search for phrases, such as "Nokia N70." All matching items will be found and an average price calculated. This will be displayed as well as the complete set of listings ordered with the most recently closed listings first. As the price guide relies on phrases existing in titles or descriptions, results will not be completely accurate. Related items with potentially very different prices will match the query, e.g. "Nokia N70 charger" will match "Nokia N70." There is no clear solution to this problem, other than having a list of known products, which the user can select from. This list would be prohibitively time-consuming to maintain. To try to produce the best result set, items whose title exactly matches the search query will be preferred. Careful interface design can be used to manage the user's expectations for the price guide. We suggest splitting the results into items which are exact matches – "These listings were for 'Nokia N70'" – and those which are related – "These items may include 'Nokia N70' or may be related items".

The reverse auction mechanism

The method for conducting reverse auctions operates as follows.

1. The buyer takes a photo of the item they would like to buy with their mobile phone and sends it to the hosting Auction site as an MMS message.

2. A WAP push link directs the buyer to a form allowing them to supply details and an optional maximum price.

3. The list of items currently on sale on the hosting Auction site is search for matches. If items with similar titles or descriptions are found, these are displayed to the buyer. They may at this point abandon the listing process and choose to buy one of the on sale items.

4. The listing is published on the hosting Auction site's web and mobile (WAP) sites.
5. A potential seller finds listings for an item they possess and enters the lowest amount they will take in exchange for that item. The seller supplies a photograph of the item as proof.

6. The current price of the item is calculated using a modified version of the hosting Auction site buying price algorithm. Price increments are the same as in the buying process.

   if there are no offers:
      if there is a maximum price:
         price = maximum price
      otherwise:
         price = no price
   otherwise, if there is more than one offer:
      incremental price = second lowest offer – increment
      if lowest offer > incremental price:
         otherwise:
            price = lowest offer
      otherwise:
         price = incremental price
   otherwise:
      if there is a maximum price:
         price = maximum price – increment
      otherwise:
         price = lowest offer

price increments are the same as in the buying process.

7. Other sellers may make offers. The original seller may make additional offers in response.

8. The buyer may reject offers.
9. The listing is closed after 7 days.

10. If no offers have been received, they buyer may re-list the item.

11. If an offer has been received, the lowest offer is the winner

12. They buyer and seller are notified by text message and the phone numbers of the buyer and the seller are made available to one another.

13. Buyer and seller agree payment outside of the hosting Auction site system. This includes negotiating and agreeing the method of shipping and who pays for this.

14. Buyer and seller may optionally leave feedback about the other user.

Whilst the above refers to a 7 day auction period, it will be apparent that the exact length of auction is arbitrary. Typically the length of the auction will be set by the user who is creating the auction. However, minimum and maximum terms may be imposed by the hosting auction site, in order to prevent auction of unduly short or long times. This would be in order to, for example, ensure fair and reasonable auction terms.

Figure 7 illustrates the above described method for conducting reverse auctions according to an embodiment of the present invention 700 in more detail.

The buyer takes a photo of the item they would like to buy with their mobile camera phone 108 and sends 702 it to the server 100. Typically this is done via an MMS message, however an email message, or other message format that allows the attachment of a picture, video or sound may be equally used. A WAP push link is sent from the server 100 to the buyer 704. The link directs the buyer to a form which the buyer completes by supplying details and an optional maximum price for a given item 706.

The server 100 then searches the list of items currently on sale (i.e. items stored in the database 110) for matches 708.
If items with similar titles or descriptions are found, these are displayed to the buyer. The buyer may at this point abandon the listing process and choose to buy one of the on sale items 710. In the event that there are no on sale items or the buyer refuses the on sale items, the listing is published on the web and mobile sites 712. In the event that the buyer refuses to purchase on sale items, they will ideally provide a reason for their refusal, e.g. 'goods in damaged condition, 'wrong colour', etc. The reason will be passed to the seller who may be able to make subsequent offers, e.g. a reduction in price for an item in damaged condition.

Optionally, a potential seller may find listings for any item they possess 714 and enters the lowest amount they will take in exchange for that item 716. Typically, the seller will be required to supply a photograph of the item as proof of ownership. The current price of the item is calculated 718 using the buying price algorithm shown in figure 8, and described in more detail below.

The listing is typically closed after a predetermined length of time 720, e.g. 7 days, or alternatively may be automatically extended for a predetermined extra length of time. The server 100 determines whether or not offers have been made 722. If no offers have been received within the predetermined length of time, the buyer may re-list the item 724. If an offer has been received, the lowest offer is the winner 726. The buyer and seller are then notified by text message and/or email that the bidding has ended 728 and the phone numbers and/or other contact details of the buyer and the seller are made available to one another.

The Buyer and seller agree payment method 730. This may also include negotiating and agreeing the method of shipping and who is responsible for paying for shipping. The buyer then pays the seller the agreed amount 732. The seller then delivers the item to the buyer 734. The Buyer and seller may optionally leave feedback about the other user 736, such as “Positive” or “Negative”, along with a brief explanation or recommendation.

Figure 8 shows the buying price algorithm 800 according to an embodiment of the invention. The server 100 checks the an offer tally in order to ascertain how many offers have been placed for a given item 802. In the event that the if there are no
offers 804, the server further checks if the buyer has submitted a maximum price they are willing to pay for the item 806. If the buyer has submitted a maximum price 808, the price of the item corresponds to the maximum price 810. In the event that the buyer has not submitted a maximum price 812, there is no price for the item 814.

If the server 100, on the other hand, returns a result that there has been one offer for a given item 816, it further performs a check to ascertain whether the buyer has submitted a maximum price they are willing to pay for the item 818. If the buyer has submitted a maximum price 820, the price of the item is equal to the maximum price of the item submitted by the buyer minus the price increment 822. If the buyer has not submitted a maximum price 824, the price of the item is equal to the lowest offer made by the seller 826.

If the server 100 returns a result that there has been more than one offer for a given item 828, it fixes the “incremental price” equal to the second lowest offer price minus the price increment 830. The server 100 then performs a check to ascertain whether the lowest offer is greater or less than the incremental price 832. If the lowest offer price is greater than the incremental price 834, the server 100 fixes the price of the item at the lowest offer price 826 made by the seller. If, on the other hand, the lowest offer price is equal to or less than the incremental price 836, the server 100 fixes the price of the item at the incremental price 838.

**Listing an item**

Buyers who cannot find a specific item on the site will be able to take a picture and send it to either a dedicated MMS number or to the standard number with the word “want” in the body or subject of the message. The buyer will receive a WAP push message, directing them to a form to enter details about the item. The buyer will input the following information:

- Title.
- Description.
- Maximum price (optional).
• Category.

• Allow similar items.

After entering this information and confirming that they understand and are willing to abide by the site terms and conditions, the user's listing will be displayed on the site for any potential seller to view.

Matching items to sellers

On sale check
When an item is listed in the want it section, the set of current items on sale will be searched for potential matches. Any items with similar words in the title or description will be displayed to the buyer. The user may choose to cancel their want it listing and purchase one of the suggested items instead.

Sellers can browse items
Sellers will be able to browse want it listings using the same tools as normal listings, by category and by searching. They will be able to sort listings by price and time. A new button will be added to the home page allowing access to the want it section. The want it section will have a set of categories like the normal auctions. The want it section pages will be made distinct from the normal pages using colour and graphics. Otherwise they will be identical.

When making an offer online, the seller will be able to upload the photograph through the offer form or to place the offer pending a photograph which is subsequently sent by MMS. For offers placed from mobiles, the seller will send the photograph to the MMS number with the keyword "offer ID," where ID is unique to each listing. The seller will then receive a WAP push to a form which will allow them to complete the remaining details for the listing, as described in the specification above.
Matching items to sellers
When an item is listed by the buyer, sellers who may be able to sets the required item will be automatically discovered and notified. The following methods of discovery will be provided:

Categories. Sellers will be able to register to receive email or text notifications when new items are added to a category. In addition, they will be able to receive a digest email of all items posted to a category in the last 24 hours, sent each morning. They will be able to subscribe to an RSS feed for each category.

Saved searches. Sellers will be able to save search parameters and monitor those searches through both test messages, RSS and email. Sellers can create as many searches as required, matching categories, titles, descriptions, prices and other features. Text or email messages can be sent as soon as a new item matches a saved search. Email digests of items listed in the last 24 hours will be sent each morning and RSS feeds will be updated immediately.

Database upload. Sellers will be able to upload a database of all the items they have available in tab-separated or comma-separated format. These items may be marked as for listing on the site or not. Items marked for listing will have auctions created automatically and will be discovered in the on sale check phase of the want it process. Items marked as not for listing will be stored and checked whenever a new want it item is added by a buyer. The seller will receive a notification that a listing matching their database has been found.

Symmetric feature set
Category notifications and saved searches will also be made available for normal auction listings.

Offers
Once a seller has found a buyer for an item they have, they can make an offer. The seller must provide:
• The minimum amount they will accept as payment.

• A short description if the item is not identical to the required item.

• The condition of the item.

• The location of the item (their location).

• A photograph of the item as proof of possession.

Proof

To prove that the seller is in possession of the item they must post a photograph of it when placing an offer. This also helps the buyer to verify the correctness of the specification and the condition of the item.

When making an offer online, the seller will be able to upload the photograph through the offer form or to place the offer pending a photograph which is subsequently sent by MMS. For offers placed from mobiles, the seller will send the photograph to the MMS number with the keyword “offer ID,” where ID is unique to each listing. The seller will then receive a WAP push to a form which will allow them to complete the remaining details for the listing.

Rejection

The buyer may reject an offer as not sufficiently similar to the required item, as being in unsatisfactory condition or as too far away. They must provide a short description of their reason. This description will be passed to the seller, who may make subsequent offers.

Similar items

The buyer may allow sellers to offer similar items. For example, a buyer may create a want it listing titled "Sony Wega 32" TV. A seller could offer a 28" Sony Wega TV at a substantially lower price. The seller must provide a description of the similar item in order to highlight differences. Buyers will be able to reject offers as not sufficiently similar or in an unsatisfactory condition.
The item detail page will very closely follow the layout of the current detail page. The title text of the page will be changed in both cases, normal listing titles will be prefixed "For sale," want it listings will be prefixed "Wanted," so visitors will easily be able to distinguish between the two types. Colour will also be used to highlight this difference.

The want it listing detail page will display controls allow the user to place an offer, including information about making offer by MMS message.

The detail will display each offer to the buyer. The photo and key information will be listed below the item photograph and description in the main column. The normal detail page will be modified to display information about bids in the same way. The exact value of offers and bids will not be displayed if they are higher than the current item price.

**Account section**

The account page will display want it items in the buying column. The item image will be overlaid with a tag with the text “Want.” Closed want items will be displayed with the tag “Gone.” The entry for each listing will display the time left, the number of offers, and the value of the best offer. An extra link, “Wanted,” will be added to the buying section of the account local navigation. This will let buyers view just items they have listed to the want it section.

Similarly, want it items that sellers have made offers on will be displayed in the sell column. The item image tag will display the text “Offer.” The entry for each listing will display the time left, the number of offers and the value of the best offer. An extra link, “Offers,” will be added to the buying section of the account local navigation. This will let seller view just items in the want it section for which they’ve made an offer.

Buyers and sellers will be able to add want it items to their watch lists.

**Matching tools**

New sections will be added to the account page allowing users to create and manage category notifications and saved searches. A link will be added to each
category or search results page allowing the user to save the current view as a category notification or a saved search.

Pricing
Listing an item in the want it section of the site will be free for buyers. If a seller makes a successful offer to sell an item to a buyer, they will be required to pay a fee to the hosting auction site. The buyer's details will not be revealed to the seller until the fee has been paid. The fee will depend on the final value of the sale. Sellers will be able to pay by Luup, premium-rate text message or credit card.

- Listings that sell for less than £100 will cost £1.
- Listings less than £250 will cost £2.
- Listings less than £600 will cost £3.

Listings that sell for more than £600 will cost £4.

Creating listings in bulk

If the user is an established user, they may want to export listings of items to be auctioned from another auction website provider, or a local database program that keeps a stock list of items they have available, for example a spreadsheet program such as Excel. In this case, the user may upload a spreadsheet file, for example a CSV file, containing all the details to hosting auction website host. The spreadsheet file may contain the following columns: Title; Description; Condition (one of new, used, worn or broken); Minimum price; Fixed price (optional); Postage (to anywhere in the UK); Category.

Pictures, videos or sounds may be included for each item. These may need to be named in some way that allows the auction website server 100 to link the correct pictures to the relevant details in the CSV file. For example, by numbering the files according to the entry numbering in the spreadsheet: 1.jpg, 2.jpg, 3.jpg, etc.

It is another aspect of the server that notification messages can be sent to users. Generally these are in the form of text messages or emails and may contain information disclosing, for example, when a seller has made an offer on an item,
when the seller has been out-bid by another seller with a lower offer, when the item is nearing the closing time, or general news relating to features of the auction.

A user is able to configure notification options for each individual item they are buying or selling. When an option for an item is selected, the settings will be saved immediately in the user account.

It will be appreciated from the forgoing description that an advantage of embodiments of the invention is that it allows a user to quickly take a photo, video, sound or other audiovisual media representation of an item to be auctioned (for sale, or wanted to buy) and send a message, such as a MMS, containing only that representation to the server 100. The server then automatically extracts the audiovisual media representation to create a new auction record and automatically generates a further input form, linked by, for example, a WAP push message, so that the user can fill in the further information about the item to be auctioned subsequently. In this way, the invention provides a more streamlined way to create auction listing.

The principles, method and preferred embodiments and modes of operation of the present invention have been described in the foregoing specification. However, the invention which is intending to be protected is not to be construed as limited to the particular embodiments disclosed. Further embodiments described herein and in the Figures are to be regarded as illustrative rather than restrictive. Variations, changes and equivalents may be made by others without departing from the scope of the invention.
CLAIMS:

1. A computer system for controlling configuration of an auction website, comprising:

   a receiver adapted to receive a first message from a first user on a first mobile device, said first message including a user identification and at least one audiovisual media representation of an item to be auctioned; and

   an extraction processor adapted to automatically extract the user identification and at least one audiovisual media representation from said received first message responsive to receipt of the first message and to create an auction record for the item to be auctioned associated with said extracted user identification and at least one audiovisual media representation.

2. The computer system of claim 1, further comprising:

   a query processor adapted to automatically generate an information input form to prompt the first user to provide information on the item to be auctioned, said information input form being associated with said auction record for the item to be auctioned; and

   a transmitter adapted to send a second message from the server to the first user in response to receipt of said first message, said second message comprising said information input form or a link to the information input form.

3. The computer system of claim 1 or 2, further comprising:

   a database comprising a list of known users determinable from an user identification provided by a user and wherein the database further includes a set of data relating to each known user; and

   a determination processor adapted to determine from said database whether the first user is a known user.

4. The computer system of claim 3, wherein the query processor is further adapted to provide a user registration information input form for prompting the first user to provide registration information on the first user upon determination by the
determination processor that the first user is not a known user, said registration information input form being associated with a new record for the first user, such that the first user becomes a known user.

5. The computer system of claim 3 or 4, further comprising

   a processor adapted to predetermine a portion of the required information based upon the data relating to a determined known user, dependent upon the output of the determination processor.

6. The computer system of any of claims 2 to 5, wherein the information on the item to be auctioned is only about the item itself.

7. The computer system of any of claims 2 to 6, wherein the information on the item to be auctioned includes any one or more of: a title of the item to be auctioned; a description of the item to be auctioned; a condition of the item to be auctioned; associated desired prices for the item to be auctioned; and a category of the item to be auctioned.

8. The computer system of any of claims 1 to 7, further comprising a processor adapted to take payment from the first user upon completion of the auction record.

9. The computer system of claim 8, wherein the payment is taken by means of a premium rate SMS reverse charge upon confirmation of acceptance from the first user.

10. The computer system of any preceding claim, further comprising:

    a processor adapted to serve a website containing information on the item to be auctioned, based on data entered by the first user, for viewing by all users of the server.

11. The computer system of any preceding claim, wherein the at least one audiovisual media representation comprises a visual media representation, and wherein the server further comprises a visual media manipulator adapted to manipulate the received at least one visual media representation.
12. The computer system of claim 11, wherein the manipulation of said visual media representation is carried out automatically according to a predefined set of rules.

13. The computer system of claims 11, wherein the manipulation of said visual media representation is carried out under control of the first user.

14. The computer system of any of claims 11 to 13, wherein the visual media manipulator comprises a visual media representation rotator, adapted to rotate the at least one visual media representation of the item to be auctioned, such that the visual media representation appears upright to all users in use.

15. The computer system of any of claims 11 to 14, wherein the visual manipulator further comprises a visual media representation attribute enhancer, adapted to alter any one or more visual attribute of said visual media representation out of: brightness; sharpness; or contrast.

16. The computer system of any preceding claim wherein the first message only contains at least one audiovisual media representation of the item to be auctioned and no further information about the item to be auctioned.

17. The computer system of any preceding claim, wherein the first message is a Multimedia Message (MMS).

18. The computer system of any preceding claim, wherein the first message or second message is an email message.

19. The computer system of any preceding claim, wherein the second message is an SMS message.

20. The computer system of any of claims 3 to 19, wherein known users are previous sellers or buyers of items.

21. The computer system of any preceding claim, wherein said audiovisual media representation comprises: a picture; video; or sound.

22. The computer system of any preceding claim, wherein the first device is a mobile camera phone.
23. The computer system of any preceding claim, wherein the user identification is a mobile phone number.

24. The computer system of claim 23, wherein the extraction processor is further adapted to send the second message automatically back to the mobile phone number which sent the first message.

25. The computer system of any preceding claim, wherein an auction record comprises a new listing object within the server.

26. The computer system of any of claims 2 to 25 wherein the second message comprises a WAP push message including an URL configured to provide directions to a browser, to access the information input form.

27. The computer system of any preceding claim, wherein the item to be auctioned is either an item to be sold by the first user or an item to be bought by the first user.

28. The computer system of any preceding claim, wherein the server is adapted to operate with users that are using mobile devices to interact with the server.

29. A method of controlling configuration of an auction website, comprising:

   receiving a first message from a first user on a first mobile device, wherein said first message includes a user identification and at least one audiovisual media representation of an item to be auctioned;

   automatically extracting the user identification and the at least one audiovisual media representation from said first message responsive to receipt of the first message; and

   automatically creating an auction record from said extracted user identification and the at least one audiovisual media representation.

30. The method of claim 29, further comprising:

   automatically creating an information input form for prompting the first user to provide information on the item to be auctioned;
associating said information input form with said auction record; and

transmitting a second message from the server to the first user in response to receipt of said first message, said second message comprising said information input form or a link to said information input form.

31. The method of claim 29 or 30, further comprising:

providing a database comprising a list of known users determinable from an user identification provided by a user and a set of data relating to each known user; and

determining from said database whether the first user is a known user.

32. The method of claim 31, further comprising:

creating a user registration information input form for receiving registration information on the first user when the first user is determined to not be a known user, such that said first user becomes a known user, wherein said user registration information input form is associated with the information input form.

33. The method of claim 31 or 32, further comprising:

predetermining a portion of the required information based upon data relating to the known user dependent upon the output of the determination step.

34. The method of claim 30 to 33, wherein the information on the item to be purchased is only about the item itself.

35. The method of any of claims 30 to 33, further comprising:

requesting information about the item to be auctioned, wherein said information is any one or more out of: a title of the item to be auctioned; a description of the item to be auctioned; a condition of the item to be auctioned; associated desired prices for the item to be auctioned; and a category of the item to be auctioned.
36. The method of any of claims 29 to 35, further comprising taking payment from
the first user upon completion of the auction record, dependent upon receiving
confirmation of acceptance from the first user.

37. The method of claim 36, wherein the step of taking payment comprises taking
payment by means of a premium rate SMS reverse charge payment upon
confirmation of acceptance from the first user.

38. The method of any of claims 29 to 37, wherein the received audiovisual media
representation is a visual media representation, and the method further comprises
manipulating the received at least one visual media representation.

39. The method of claim 38, wherein the manipulation of the received visual media
representation is carried out automatically according to a predefined set of rules.

40. The method of claim 38, wherein the step of manipulating the received visual
media representation is carried out under control of the first user.

41. The method of any of claims 38 to 40, wherein the step of manipulating the
received visual media representation comprises rotating the received visual media
representation of the item to be auctioned, such that it appears upright to all users in
use.

42. The method of any of claims 38 to 40, wherein the step of manipulating the
received visual media representation comprises enhancing an attribute of the visual
media representation, said attribute of said visual media representation being any
one or more of: brightness; sharpness; or contrast.

43. The method of any of claims 29 to 42, wherein the first message is an
Multimedia Message (MMS).

44. The method of any of claims 29 to 43, wherein the first message or second
message is an email message.

45. The method of any of claims 30 to 44, wherein the second message is an
SMS message.
46. The method of any of claims 31 to 44, wherein known users are previous sellers or buyers of items.

47. The method of any of claims 29 to 46, wherein said audiovisual media representation is a picture, video or sound.

48. The method of any of claims 29 to 47, wherein the first device is a mobile camera phone.

49. The method of any of claims 29 to 48, wherein the user identification is a mobile phone number.

50. The method of claim 49 wherein the second message is automatically sent back to the mobile phone number which sent the first message.

51. The method of any of claims 29 to 50, wherein an auction record is a new listing object within a server.

52. The method of any of claims 30 to 50, wherein the second message is a WAP push message including an URL providing directions to a browser, to access the information input form.

53. A server for auctioning an item, comprising:

   a database of known users of the server, said database comprising a set of records for each known user, including an user identification associated with said known user;

   a receiver adapted to receive a first message from a first user, said first message including an user identification;

   a processor adapted to extract the user identification from said received first message and to determine from said database and extracted user identification whether the first user is a known user.

54. The server of claim 53, further comprising:

   a transmitter adapted to send a second message from the server to the first user in response to receipt of said first message when the first user is determined
not to be a known user, said second message providing a link to a registration information input form for providing registration information on the first user, said registration information input form being associated a new record for the first user, such that the first user becomes a known user.

55. A method of detecting prior use of an auction system by a user, comprising:

receiving a message from a user including data on an item to be auctioned and a user identification;

comparing said received user identification against a database of previously received user identifications associated with known users of the auction system.

56. A server for auctioning an item, comprising:

a management processor adapted to provide a suite of management tools for use in managing an auction of an item, wherein the management processor is adapted to operate dependent upon the user being determined to be known user of the server.

57. The server of claim 56, wherein the suite of management tools includes a visual representation manipulation tool, adapted to manipulate a received image of an item to be auctioned.

58. A method of listing an item to be auctioned on an auction website server, comprising:

receiving a multimedia message about an item to be auctioned from a user's mobile camera phone, said multimedia message containing an attachment comprising any one or more of: a picture, video or sound;

sending a WAP push message to the mobile camera phone of the user containing a link to an information input form; and

receiving further information on the item to be auctioned through the information input form.
59. A method of listing an item to be auctioned on an auction website server, comprising:

   receiving an email message from a user containing an attachment containing information on the item to be auctioned in the form of any one or more of: a picture, a video or a sound;

   sending a return email to the user containing a link to an input form; and

   receiving further information on the item to be auctioned through the information input form.

60. The method of claim 58 or 59, further comprising:

   extracting the one or more attachments from the message; and

   creating a new auction record containing said attachments.

61. The method of any of claims 58 to 60, further comprising

   confirming with the user that the further information on the item to be auctioned is correct; and

   posting a new auction website page based on the information provided, such that bidding on the auction may commence.

62. The method of any of claims 58 to 61, wherein the auction is a forward auction.

63. The method of any of claims 58 to 61, wherein the auction is a reverse auction.

64. The method of claim 63, further comprising comparing the item to be reverse auctioned with items already on sale on the website to find a suitable match, and the wherein the user is presented with an option to purchase a matched item.

65. A method for producing an auction listing, comprising:
receiving a first message from a user including a user identification and at least one audiovisual representation of an item to be auctioned;

extracting the user identification and the at least one audiovisual representation of the item to be auctioned from said received message;

creating an auction record associated with said user identification and said at least one audiovisual representation;

creating an information input form associated with said auction record;

comparing said user identification against a database of known users;

populating at least a portion of the information input form based on information from the database of known users when said comparison indicates the user is a known user; and

forwarding a second message to the user containing a link to said information input form, such that said user can input any remaining required further information.

66. The method of claim 65, wherein the first message is an email and the user identification is an email address, and wherein the method further comprises extracting data relevant to the item to be auctioned from either or both of: the email subject line and the email main body text.

67. A method of reverse auctioning an item on an auction website, comprising:

receiving a first message from a first user including an user identification and at least one audiovisual media representation of an item the first user wishes to purchase;

authenticating the user;

sending a second message to the first user requesting further information on the item the first user wishes to purchase, to define search criteria for searching items already on sale from other users;

receiving further information from the first user defining said search criteria; and
comparing the search criteria with information associated with each item for sale on the auction website and providing details of items matching said predefined criteria.

68. A method of listing an item to be auctioned comprising the steps shown in the flow chart of figure 2.

69. A method of auctioning an item comprising the steps shown in the flow chart of figure 3.

70. A method of listing an item to be reverse auctioned comprising the steps shown in the flow chart of figure 7.

71. A method of reverse auctioning an item comprising the steps shown in the flow chart of figure 8.

72. Computer program code comprising instructions executable by a computer, which, upon execution carry out the method according to any of claims 29 to 52.

73. A computer program product comprising instructions executable by a computer, recorded on a computer readable carrier, and which upon execution carries out the method of any of claims 29 to 52.

74. Any of preceding claim, wherein the computer system for controlling configuration of an auction website is a server.
200  Seller wants to list item

201  Seller captures a photo or video clip of the item they wish to sell with a mobile camera phone

202  Seller sends photo or video to server via MMS message

203  Server receives message, stores attached assets and creates a new listing object

204  Server sends a WAP push message to the seller's phone. The message contains the url of a web page containing a form

205  The message is processed by the mobile camera phone and the form is displayed to the seller

206  Seller enters details for the listing, title, description, condition, enters auction and fixed prices and chooses a category

207  If seller's phone is not recognised, they are asked to enter registration details

208  If seller's phone is recognised, registration is skipped

209  Seller enters registration details

210  Seller reviews input

211  Seller pays fee for listing

212  Listing is published on web site

FIG. 2
FIG. 3

1. Seller lists an item (301)

2. Buyer views the item (302)

- Optional: Buyer adds item to watchlist (303)

3. Buyer places bid (304)

4. Buyer chooses to pay fixed price straightaway rather than bid and wait (306)

5. Auction closes after fixed period (308)

6. The highest bidder becomes the winner (308)

7. Buyer pays seller required amount (external to system) (309)

8. Seller delivers item to buyer (external to system) (310)

9. Buyer and seller provide feedback on each other (311)
Thanks for your message!

1 of 7: Describe your item

Listing items cost just £1.00! The listing is shown for 7 days.

Fields marked * are required.

Title*

Ensure your title contains specific details about your item.

Description*

Describe your item's features and benefits. No HTML please.

Condition*

New ▼

Next>

Home / Help / About

FIG. 4
Auction site

Consumer electronics

1. Headphones
   £5.00, 3d, 10hr left

2. My TV
   £350.00, 11d, 20hr left

Ending soon ▼ Sort

<Categories

Home / Help / About

FIG. 5
Auction site

My TV

Price ... £350.00
Condition ... Used
Category ... Consumer electronics
Description ... Sony Widescreen.
Location ...
From ... beng (0)
Time left ... 11d, 20hr

1. Bid

Notifications

Sign in or register to get text notifications of bids and when this item closes.

Substitute Sheet (Rule 26)
Buyer takes picture of item with mobile phone and sends it to auction site

WAP push link sent to buyer

Buyer follows WAP push link and completes form

On sale items checked for matches

Listing published

Seller views the listing for an item they possess

Seller makes an offer to sell item for minimum amount

Auction closes after fixed period

New price is calculated for item (see figure 2)

At least 1 offer

Send notifications to seller, buyers, bidders and watchers

The seller with the lowest offer becomes the winner

Buyer may relist

Buyer pays seller required amount, calculated to be less than seller's minimum but greater than the next lowest offer (external to system)

Buyer / seller notified

Agree payment

Seller delivers item to buyer (external to system)

Buyer and seller provide feedback on each other

FIG. 7
How many offers have been placed?

- More than 1 → 828
  - Incremental price = second lowest offer + increment

- Maximum price submitted?
  - Yes → Price = maximum price
  - No → Maximum price submitted?
    - Yes → Price = maximum price - increment
    - No → 824

824

- Price = no price
- Price = maximum price - increment

Is lowest offer greater than incremental price?

- Greater than incremental price → Price = lowest offer
- Equal to or less than incremental price → Price = incremental price

FIG. 8
### FIG. 9

<table>
<thead>
<tr>
<th>Current price</th>
<th>Bid increment</th>
</tr>
</thead>
<tbody>
<tr>
<td>£0.01 - £1.00</td>
<td>£0.05</td>
</tr>
<tr>
<td>£1.01 - £5.00</td>
<td>£0.20</td>
</tr>
<tr>
<td>£5.01 - £15.00</td>
<td>£0.50</td>
</tr>
<tr>
<td>£15.01 - £60.00</td>
<td>£1.00</td>
</tr>
<tr>
<td>£60.01 - £150.00</td>
<td>£2.00</td>
</tr>
<tr>
<td>£150.01 - £300.00</td>
<td>£5.00</td>
</tr>
<tr>
<td>£300.01 - £600.00</td>
<td>£10.00</td>
</tr>
<tr>
<td>£600.01 - £1,500.00</td>
<td>£20.00</td>
</tr>
<tr>
<td>£1,500.01 - £3,000.00</td>
<td>£50.00</td>
</tr>
<tr>
<td>Greater than £3,000.01</td>
<td>£100.00</td>
</tr>
</tbody>
</table>

### FIG. 10

<table>
<thead>
<tr>
<th>Starting price</th>
<th>Increment</th>
</tr>
</thead>
<tbody>
<tr>
<td>£0.00</td>
<td>£0.05</td>
</tr>
<tr>
<td>£1.00</td>
<td>£0.20</td>
</tr>
<tr>
<td>£5.00</td>
<td>£0.50</td>
</tr>
<tr>
<td>£15.00</td>
<td>£1.00</td>
</tr>
<tr>
<td>£60.00</td>
<td>£2.00</td>
</tr>
<tr>
<td>£150.00</td>
<td>£5.00</td>
</tr>
<tr>
<td>£300.00</td>
<td>£10.00</td>
</tr>
<tr>
<td>£600.00</td>
<td>£20.00</td>
</tr>
<tr>
<td>£1,500.00</td>
<td>£50.00</td>
</tr>
<tr>
<td>£3,000.00</td>
<td>£100.00</td>
</tr>
</tbody>
</table>
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

**INV.** G06Q30/00

According to International Patent Classification (IPC) or to both national classification and IPC.

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

G06Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched.

Electronic database consulted during the international search (name of database and, where practical, search terms used)

EPO-Internal, WPI Data, INSPEC, IBM-TDB

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
</table>

进一步的文件在续编中。

**Further documents are listed in the continuation of Box C.**

**See patent family annex.**

**Date of the actual completion of the international search**

12 September 2007

**Date of mailing of the international search report**

18/10/2007

**Form PCT/ISA/10 (second sheet) (April 2009)**

Name and mailing address of the ISA/ PCT/GB2007/002499

European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk

Tel (+31-70) 340-2040, Tx. 31 651 epos.nl, Fax. (+31-70) 340-3016

Authorized officer

Bohner, Michael
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patent document cited in search report</td>
<td>Publication date</td>
<td>Patent family member(s)</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>WO 2006006310 A1</td>
<td>19-01-2006</td>
</tr>
<tr>
<td>US 2006080183 A1 13-04-2006</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>WO 03073217 A 04-09-2003</td>
<td>AU 2003213255 A1</td>
<td>09-09-2003</td>
</tr>
</tbody>
</table>