

user's selected options, the remote servers will authenticate the transmitting MSD and format all information to be exchanged to its specific technical capabilities. For example, the remoter server may customize the data sent in function of the display characteristics of the MSD's screen, such as partitioning it in one or more windows to display text, audio, still pictures, and/or video.

[0021] The ability of the remote servers to customize the display screen of the MSD is important because it may be used to send data in different formats, such as text, audio, still pictures, video, or a combination thereof, to different areas of the display screen. Furthermore, the ability to partition the display screen into separate windows enables the server to transmit independent data to each window. Some of these windows may be used to provide responses to the MSD user request, yet others may be used for displaying advertisement from the merchant or third parties, or to allow for other functions of the MSD.

[0022] In accordance with another aspect of the present invention, the MSD resident software program has the native ability to decipher a bar code label from an image captured by the video camera of the MSD. The MSD resident software program process the captured image according to a proprietary algorithm to match a pattern that corresponds to one of the standard bar code labels. When the resident software program deciphers the image and matches it to a bar code label standard it reports to the MSD user and sends the deciphered image's data to the remote server; when it fails to match the captured image with a standard bar code label, it reports to the user for a recapture operation.

[0023] In accordance with another aspect of the present invention the remote server may send unrequested data to the MSD for audiovisual display. The unrequested data may be one or more merchant advertisements. The sending of the unrequested data may be triggered by the physical location of the MSD in relation to a merchant's place of business, a particular time, date, or holiday, or a follow up on a previous purchase or inquiry. The MSD user may respond to the unrequested data by conducting an inquiry, a purchase, or nothing.

[0024] In accordance with another aspect of the present invention, the remote servers may have resident information, which may be updated from time to time or continuously, from one or more merchant's servers and may include in its transmission to the MSD helpful information related to the MSD inquiry. The remote servers may send the MSD formatting instructions customized to its technical specifications such that it can display on the MSD screen advertisement related to the inquired products or to different products related to the user's inquiry.

[0025] In accordance with another aspect of the present invention, the MSD resident software program may be customized for the processing capabilities of each MSD, such that it can carry out the tasks of activating the label acquiring means of the MSD, provide for the drafting and modification of user lists, operating transparently through the data channel of the MSD, and format the MSD display screen.

[0026] In accordance with another aspect of the present invention, the MSD resident software program may have the capability to decipher an image that it is not a standard bar code label but it is nevertheless a label designed by of for the merchant's sole use.

[0027] In accordance with another aspect of the present invention, the remote server may initiate contact with an active MSD. The remote server may utilize the data channel of a cellular network to send promotional information formatted to the technical capabilities of the MSD. The remote server contact may occur upon the triggering of certain parameters, such as, but not limited to, a particular date, time, or user related event, the proximity of the MSD to a merchant's place of business, a promotion or service accepted by the MSD user, and a recent transaction carried out by the MSD user. Upon remote server contact, an activated MSD with active resident software program may provide audiovisual communication to the user about a merchant promotion and may also provide an offer to purchase a product or service on the spot or at a later time. The merchant promotion may also be combined with a previously captured discount coupon or a similar promotion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] FIG. 1 is an embodiment of the system elements incorporating one or more MSD with label reading capabilities, a cellular network, an internet communications network, a remote dedicated server, and one or more interconnected merchant servers.

[0029] FIG. 2 is an embodiment of a MSD display screen presenting some initial user options.

[0030] FIG. 3 is an embodiment of a MSD display screen formatted by a remote server presenting multiple windows capabilities.

[0031] FIG. 4 is an embodiment of a MSD display screen formatted by a remote server into multiple windows depicting among other things streaming audiovisual messages, such as advertisements, another window streaming text messages, yet other window permitting user interface with a shopping list.

[0032] FIG. 5 is an embodiment of a MSD in the process of capturing a bar code label and its display screen presenting a captured bar code label.

[0033] FIG. 6 is a flowchart of one possible embodiment of the invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0034] FIG. 1 is one embodiment of the system elements of the invention. This particular embodiment incorporates one or more MSD 101 with label capturing and native processing capabilities; a MSD resident software program, not shown, that interfaces with the user and coordinates MSD's functions such as label capturing means operations, label deciphering, data communications, display screen formatting, audio and visual data channeling to the display screen and speakers, and facilitate I/O operations; a cellular network 103 through which data communication of the captured and decoded label takes place; an internet communications network 104 or other telecommunications means through which the data is channeled to one or more remote servers 105 capable of processing MSD 101 transmitted data and, and one or more interconnected merchant servers 107. In the exemplary embodiment, a MSD 101 with label capturing means, such as a video camera for bar code labels or a RF receiver for RF labels, is utilized to interface with