Abstract Title: A method of enabling a secondary user to control communication between a primary user and a third party

The mobile phone network comprises means for routing communication events between the primary user and the third party. The router receives the communication event and identifies the third party associated with it. It is then determined whether the communication event ought to proceed based on preferences specified by a secondary user and the communication event is terminated, stored, or routed accordingly.
Mobile Telephone Network and Method of Operation Thereof

The present invention relates to mobile phones and operation thereof. In particular, the use of mobile phones by children or other vulnerable users.

Parents would often like their children to be able to communicate with them and, therefore, often permit the child to have a mobile phone with this, in particular, in mind. However, conventional telephones and SIM cards enable the child to phone anybody (apart from, perhaps, abroad) and, more worryingly, anybody can not only telephone the child but can also send text messages, images and even video clips to the child.

One company (Omego) has developed a mobile hand set that allows parental control of call functionality. However, there are a number of disadvantages associated with this product. The known handset is aimed at young children and is designed accordingly as a toy. The child to whom this handset would appeal is unlikely to be in danger of abusive or potentially dangerous phone calls in the same way as an older child might. An older child is unlikely to want to use the toy type mobile phone. Further, the known handset operates with a normal SIM card on a standard network and an older child is likely to simply move the SIM card to another mobile phone hand set not having the same restrictions as the known device.
Parental control on the known device is provided within the functionality of the handset. The parent sets up the phone with a predetermined list of telephone numbers to which and from which calls may be made and accepted.

It is desirable to provide a mobile phone that can be used by a child having a more rigorous level of parental control.

According to a first aspect, the present invention provides a method of operation of a mobile phone network, for enabling a secondary user to control communication events between a primary user and a third party, the mobile phone network comprising routing means for routing communication events between the primary user and the third party, the method comprising the steps of:

- receiving a communication event between a primary user and a third party;
- identifying the third party associated with the communication event;
- determining whether the communication event ought to proceed based on preferences specified by a secondary user; and
- routing the communication event dependent on an outcome of the determining step.

By providing a controlling mechanism at network level a mobile phone can be provided to a child so that the SIM in the phone can be moved to an alternative handset whilst retaining protective functionality. In this way circumnavigation of the controlling mechanism can be avoided. Consequently, if the child wishes to
take advantage of the parent paying the telephone charges, the parent can be assured that the child’s use of the telephone is restricted to acceptable third parties and that the child cannot be contacted by unknown or unacceptable and potentially unidentifiable third parties.

The preferences set by the secondary user may comprise a list of permitted third parties. If so, the determining step may comprise the step of comparing the identified third party with said list.

The routing step may comprise an action in the group of terminating the communication event; permitting the communication event to proceed; storing the communication event; and diverting the communication event to the secondary user. The action performed by the routing step may be determined based on the preferences specified by the secondary user.

The method may comprise the step of alerting the secondary user of a status of the communication event.

The communication event may be one of the group of a telephone call, a text message, a photographic image, a video clip and an e-mail.

According to a second aspect, the present invention provides a mobile phone network, for controlling communication events between a primary user and a third party, the network comprising routing means for routing communication events between the primary user and the third party, wherein the routing means is configured to:
receive a communication event;
ascertain whether the communication event proceeds based on
preference data supplied to the network by a secondary user; and
route the communication accordingly.

The mobile phone network may comprise a control portal, e.g. a web based
control portal, which is configured to receive preference data from a secondary
user.

Preferred features of the present invention will now be described, by way of
example only, with reference to the accompanying drawings in which;

Figure 1 illustrates a flow diagram representing a mobile phone network;
and

Figure 2 shows more detail of a control portal of Figure 1.

A user is provided with a handset 5 which has a SIM card associated with a
particular mobile phone network 10. The network 10 is an intelligent telecoms
switching network comprising a routing device 15. The routing device 15
comprises information pertinent to the user such as phone numbers and/or e-
mail addresses of third parties appropriate for the user to be in contact with.
Decisions relating to the user’s incoming and outgoing phone calls, text
messages and images can be made based upon this information. The
information maintained within routing device 15 can be amended by a
secondary user of the device, say a parent or other authoritative figure, using a
web based control portal 20. A third party handset 25 is also represented in Figure 1.

In operation, when making an outbound call, the user dials a third party number. This dialling information is transferred to the routing device 15 which checks the dialled number against the predetermined 'permitted' third party telephone numbers. If the dialled number is listed then the call is routed to the third party. If the dialled number is not listed then the call is not permitted and is rejected. When a short message service (SMS) text message, a photo, video clip, or other data, such as an e-mail, is sent from the handset 5 the routing device 15 performs a check on the recipient telephone number/e-mail address. If this information corresponds to a permitted telephone number/e-mail address then the data is transferred to the third party. If the telephone number/e-mail address is not listed then the data transfer is rejected.

For inbound phone calls, the incoming call is received by the routing device 15 and the third party telephone number is checked against the permitted third party telephone numbers. If the third party number is on the list then the call is routed to the user 5. If, however, the third party telephone number is not on the list (including withheld or international numbers) then the call is not routed through to the user handset 5. Under these circumstances, a rejection message may be played to the third party caller and/or the call may be diverted to a parent's mobile and/or a voice mail may be saved for parental review. In
any event, a text message may be sent to the parent’s mobile alerting them of the disallowed call attempt.

When an inbound text message/photo/video clip/data is received by the routing device 15 from a third party handset 25, the routing device 15 checks the telephone number/e-mail address of the third party sender against the permitted telephone numbers/e-mail addresses. If the telephone number/e-mail address is listed then the file transfer is allowed. If the telephone number/e-mail address is not on the list or the telephone number is unavailable or international then the file is not permitted to be transferred to the user’s handset 5. In any event, the file is stored by the routing device 15 for subsequent parental review through the control portal 20 and a text message is sent to a parent's mobile phone to alert the parent of the disallowed file transmission attempt.

Figure 2 illustrates the control portal 20 shown in Figure 1 in more detail. The intelligent network 10 is linked to a web server 30 which, in turn, can be accessed from a computer 35 of the parent. Using this control portal 20, the parent, or other secondary user, may add or delete telephone numbers and e-mail addresses of permitted third parties, who may call, send text messages, photos, videos or e-mails to the user handset 5 for the child. The same telephone numbers may be used for inbound calls, i.e., those from which data and calls may be received by the child as for outbound calls, i.e., those to which data and messages may be sent by the child. Alternatively the inbound list may be different from the outbound list if necessary. Furthermore, preferences that
control the actions when a call is to be rejected can be set using the control portal 20. For example, these preferences can stipulate whether a call should be diverted to the parent’s mobile phone, to a voice mail service or simply be rejected and a message issued to the third party and/or the parent.

The above description discusses the main user of the phone being a child over which the parent would like to exert some protective control in their communications with third parties. However, the user may be a different type of vulnerable user such as an elderly person who may easily be confused. In these circumstances, it is desirable to have a mobile phone system which provides the elderly user with access to the telephone numbers of their carers or members of their family but which prevents other third parties, such as ‘junk calls’, from disturbing the user. The secondary user, in this case, may be the same person as the primary user so that they can control their own numbers and deny access to anybody who they do not wish to receive data or phone calls from.

The intelligent network 10 can also be used to provide a panic or emergency mode for the user. The handset 5 may be configured to have a particularly prominent button which causes, upon depression thereof, a signal to be sent to the router 15. Upon receipt of such a signal, the router 15 may automatically send a text message to the parent, or other secondary user, alerting them of a state of distress of the primary user. Information relating to the location of the
user's handset 5 when the emergency button was activated may also be acquired form the network 10 and contained within the text message.

Alternatively, the emergency mode may be activated by using a particular speed dial number pre-programmed into the handset 5 or by entering a particular sequence of buttons on the handset.

In summary a child user retains the ability to change handsets at will by transferring the SIM card and also retains the benefit of having the parent paying the charges, whilst the parent retains the protective functionality. An alternative user has the assurance of having a mobile phone to stay in contact with particular parties (or indeed any party if they so wish) whilst retaining the ability to restrict parties that can contact them in return.
CLAIMS

1. A method of operation of a mobile phone network, for enabling a secondary user to control communication events between a primary user and a third party, the mobile phone network comprising routing means for routing communication events between the primary user and the third party, the method comprising the steps of:

   receiving a communication event between a primary user and a third party;

   identifying the third party associated with the communication event;

   determining whether the communication event ought to proceed based on preferences specified by a secondary user; and

   routing the communication event dependent on an outcome of the determining step.

2. A method according to Claim 1, wherein the preferences set by the secondary user comprises a list of permitted third parties and the determining step comprises the step of comparing the identified third party with said list.

3. A method according to Claim 1 or Claim 2, wherein the routing step comprises an action in the group of:

   terminating the communication event;

   permitting the communication event to proceed;

   storing the communication event; and

   diverting the communication event to the secondary user.
4. A method according to Claim 3, wherein the action performed by the routing step is determined based on the preferences specified by the secondary user.

5. A method according to any preceding claim, wherein the method comprises the step of alerting the secondary user of a status of the communication event.

6. A method according to any preceding claim, wherein the communication event is one of the group of a telephone call, a text message, a photographic image, a video clip and an e-mail.

7. A mobile phone network, for controlling communication events between a primary user and a third party, the network comprising routing means for routing communication events between the primary user and the third party, wherein the routing means is configured to:
   
   receive a communication event;
   
   ascertain whether the communication event proceeds based on preference data supplied to the network by a secondary user; and route the communication accordingly.

8. A mobile phone network according to Claim 7, comprising a control portal configured to receive preference data from a secondary user.
Application No: GB0800248.7  
Examiner: Mr Nigel Hall  
Claims searched: 1-8  
Date of search: 25 February 2008

**Patents Act 1977: Search Report under Section 17**

**Documents considered to be relevant:**

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<th>Relevant to claims</th>
<th>Identity of document and passage or figure of particular relevance</th>
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**Categories:**

- **X** Document indicating lack of novelty or inventive step
- **Y** Document indicating lack of inventive step if combined with one or more other documents of same category
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- **A** Document indicating technological background and/or state of the art.
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**Field of Search:**

Search of GB, EP, WO & US patent documents classified in the following areas of the UK:

- H4L

Worldwide search of patent documents classified in the following areas of the IPC

- H04Q

The following online and other databases have been used in the preparation of this search report.
Online: EPODOC, WPI

International Classification:

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<th>Subclass</th>
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