

[0021] Referring now to FIG. 3, a block diagram of an exemplary embodiment of a portable electronic device 20 is shown. The portable electronic device 20 includes a number of components such as the processor 40 that controls the overall operation of the portable electronic device 20. Communication functions, including data and voice communications, are performed through a communication subsystem 42. Data received by the portable electronic device 20 can be decompressed and decrypted by decoder 44, operating according to any suitable decompression techniques (e.g. YK decompression, and other known techniques) and encryption techniques (e.g. using an encryption techniques such as Data Encryption Standard (DES), Triple DES, or Advanced Encryption Standard (AES)). The communication subsystem 42 receives messages from and sends messages to a wireless network 100. In this exemplary embodiment of the portable electronic device 20, the communication subsystem 42 is configured in accordance with the Global System for Mobile Communication (GSM) and General Packet Radio Services (GPRS) standards. The GSM/GPRS wireless network is used worldwide and it is expected that these standards will be superseded eventually by Enhanced Data GSM Environment (EDGE) and Universal Mobile Telecommunications Service (UMTS). New standards are still being defined, but it is believed that they will have similarities to the network behavior described herein, and it will also be understood by persons skilled in the art that the embodiments described herein are intended to use any other suitable standards that are developed in the future. The wireless link connecting the communication subsystem 42 with the wireless network 100 represents one or more different Radio Frequency (RF) channels, operating according to defined protocols specified for GSM/GPRS communications. With newer network protocols, these channels are capable of supporting both circuit switched voice communications and packet switched data communications.

[0022] Although the wireless network 100 associated with portable electronic device 20 is a GSM/GPRS wireless network in one exemplary implementation, other wireless networks may also be associated with the portable electronic device 20 in variant implementations. The different types of wireless networks that may be employed include, for example, data-centric wireless networks, voice-centric wireless networks, and dual-mode networks that can support both voice and data communications over the same physical base stations. Combined dual-mode networks include, but are not limited to, Code Division Multiple Access (CDMA) or CDMA1000 networks, GSM/GPRS networks (as mentioned above), and future third-generation (3G) networks like EDGE and UMTS. Some other examples of data-centric networks include WiFi 802.11, Mobitex™ and DataTAC™ network communication systems. Examples of other voice-centric data networks include Personal Communication Systems (PCS) networks like GSM and Time Division Multiple Access (TDMA) systems. The processor 40 also interacts with additional subsystems such as a Random Access Memory (RAM) 46, a flash memory 48, the display 26 with the input surface 28, an auxiliary input/output (I/O) subsystem 50, a data port 52, a speaker 54, a microphone 56, short-range communications 58 and other device subsystems 60.

[0023] Some of the subsystems of the portable electronic device 20 perform communication-related functions, whereas other subsystems may provide “resident” or on-

device functions. By way of example, the display device 26 and the touch-sensitive input surface 28 may be used for both communication-related functions, such as entering a text message for transmission over the network 100, and device-resident functions such as a calculator or task list.

[0024] The portable electronic device 20 can send and receive communication signals over the wireless network 100 after network registration or activation procedures have been completed. Network access is associated with a subscriber or user of the portable electronic device 20. To identify a subscriber according to the present embodiment, the portable electronic device 20 uses a SIM/RUIM card 62 (i.e. Subscriber Identity Module or a Removable User Identity Module) to be inserted into a SIM/RUIM interface 64 in order to communicate with a network. The SIM card or RUIM 62 is one type of a conventional “smart card” that can be used to identify a subscriber of the portable electronic device 20 and to personalize the portable electronic device 20, among other things. In the present embodiment the portable electronic device 20 is not fully operational for communication with the wireless network 100 without the SIM card 62. By inserting the SIM card/RUIM 62 into the SIM/RUIM interface 64, a subscriber can access all subscribed services. Services may include: web browsing and messaging such as e-mail, voice mail, Short Message Service (SMS), and Multimedia Messaging Services (MMS). More advanced services may include: point of sale, field service and sales force automation. The SIM card/RUIM 62 includes a processor and memory for storing information. Once the SIM card/RUIM 62 is inserted into the SIM/RUIM interface 64, it is coupled to the processor 40. In order to identify the subscriber, the SIM card/RUIM 62 can include some user parameters such as an International Mobile Subscriber Identity (IMSI). An advantage of using the SIM card/RUIM 62 is that a subscriber is not necessarily bound by any single physical portable electronic device. The SIM card/RUIM 62 may store additional subscriber information for a portable electronic device as well, including datebook (or calendar) information and recent call information. Alternatively, user identification information can also be programmed into the flash memory 48.

[0025] The portable electronic device 20 is a battery-powered device and includes a battery interface 66 for receiving one or more rechargeable batteries 68. In at least some embodiments, the battery 68 can be a smart battery with an embedded microprocessor. The battery interface 66 is coupled to a regulator (not shown), which assists the battery 68 in providing power V+ to the portable electronic device 20. Although current technology makes use of a battery, future technologies such as micro fuel cells may provide the power to the portable electronic device 20.

[0026] The portable electronic device 20 also includes an operating system 70 and software components 72 to 82 which are described in more detail below. The operating system 70 and the software components 72 to 82 that are executed by the processor 40 are typically stored in a persistent store such as the flash memory 48, which may alternatively be a read-only memory (ROM) or similar storage element (not shown). Those skilled in the art will appreciate that portions of the operating system 70 and the software components 72 to 82, such as specific device applications, or parts thereof, may be temporarily loaded into a volatile store such as the RAM 46. Other software components can also be included, as is well known to those skilled in the art.