

is desirable to access data stored in special memory 43 during operation of a quick launch application.

One of the desired benefits from running quick launch applications using an operating system in special memory 43 is improved battery life. Unneeded resources within portable computer 10 are disabled. Depending on the quick launch application, unneeded resources include hard disk drive 34, display 11, DVD drives (not shown but connectable to memory bus 40), perhaps some graphics related resources and so on. Additionally, aggressive throttling of CPU 39 (e.g., by lowering clock speed) can be performed to effectively slow operation of CPU 39, resulting in reduced power requirements for portable computer 10 when running a quick launch application.

FIG. 3 is a simplified flowchart that illustrates operation of portable computer 10 at activation. In a step 51, portable computer 10 is activated. In a step 52, embedded controller 31 determines whether activation resulted from a selection of one of quick launch keys 14 through 17. If not, in a step 55, embedded controller 31 turns on all power supplies 32. In a step 56, embedded controller 31 triggers booting or awakening of the entire (full function) operating system stored in hard disk drive 34.

If, in step 52, embedded controller determines that activation resulted from a selection of one of quick launch keys 14 through 17, in a step 53, embedded controller 31 turns on the subsystems of portable computer 10 necessary to support the selected quick launch application program. In a step 54, embedded controller 31 triggers activation of the operating system stored in special memory 43. In the preferred embodiment, once the operating system stored in special memory 43 is activated, more than one of the quick launch applications can be simultaneously active. The number of programs that can run simultaneously is only limited by the resources available in the reduced operating mode.

A software setup allows the user to determine how the notebook will respond when a quick launch key is pressed during the normal operating mode. In one mode, if portable computer 10 is running under the normal operating system and one of quick launch keys 14 through 17 is selected, a suspend-to-disk operation is performed and portable computer 10 is restarted under the operating system stored in special memory 43. In another mode, if portable computer 10 is running under the normal operating system and one of quick launch keys 14 through 17 is selected, an operating system shut-down is performed and portable computer 10 is restarted under the operating system stored in special memory 43. In yet another mode, if portable computer 10 is running under the normal operating system and one of quick launch keys 14 through 17 is selected, the operating system will check to see if a full featured (e.g., PC) version of the application is available. If available, the operating system will start the full featured version of the application.

When data from a quick launch application program is stored in special memory 43, it may be necessary to reconcile the data with corresponding data stored in hard disk drive 34. For example, a contacts database stored in special memory 43 built and maintained by a quick launch contact program may need to be reconciled with a similar data base built by a contacts program running under the normal operating system of portable computer 10. For many popular operating systems, the necessary reconciliation (synchronization) software already exists. For example, when the normal operating system for portable computer 10 is Microsoft Windows, and the operating system within special memory 43 in Microsoft Windows CE, an off-the-shelf reconciliation program running under the normal operating system of portable computer 10 can perform the reconciliation the use with the addition of a special driver. The special driver accesses special memory 43, parses the file structure, and presents the data to the reconciliation

software. The special driver presents data from special memory 43 to the reconciliation program as if the data were being made available over a serial network or a USB network. In a preferred embodiment of the invention, the reconciliation program and the special driver are run every time the normal operating system is booted. This assures that the two databases are always in agreement and eliminates any requirements of user intervention. Alternatively, or in addition, the user is given the opportunity to run the reconciliation program from the normal operating system at any time.

In alternative embodiments of the present invention, reconciliation can be performed when running the operating system within special memory 43, however this entails accessing hard disk drive 34 and parsing the file structure stored therein. However, accessing hard disk drive 34 from the operating system within special memory 43 reduces the long battery life benefits of this mode of operation. Also, for quick launch application the require large amounts of storage space (e.g., a web browser performing a download) storage in hard disk driver 34 can be accomplished by brief powering up hard disk drive 34 while performing a store or access function.

The foregoing discussion discloses and describes merely exemplary methods and embodiments of the present invention. As will be understood by those familiar with the art, the invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. Accordingly, the disclosure of the present invention is intended to be illustrative, but not limiting, of the scope of the invention, which is set forth in the following claims.

We claim:

1. A method for operating a portable computer, the method comprising the following:

(a) upon activating the portable computer, checking to see if a user has selected any one of a plurality of quick launch keys, each of the plurality of quick launch keys being associated with a separate application program;

(b) if in (a) the user has selected one of the plurality of quick launch keys, performing the following:

(b.1) activating a reduced operating system stored within a special memory area within the portable computer, the reduced operating system using less system resources than a full function operating system for the portable computer, and,

(b.2) activating an application program associated with the selected one of the plurality of quick launch keys; and,

(c) if in (a) the user has not selected any of the plurality of quick launch keys, performing the following:

(c.1) activating the full function operating system within the portable computer.

2. A method as in claim 1 wherein in (b.1) the special memory area is a memory module implemented using flash memory.

3. A method as in claim 1 wherein in (b.1) the activated application is at least one of the following:

e-mail;  
web browser;  
mapping program;  
camera program;  
calendar;  
contacts;  
to do list;  
notes;  
video.

4. A method as in claim 1 wherein (b.1) includes running a central processing unit for the portable computer at a