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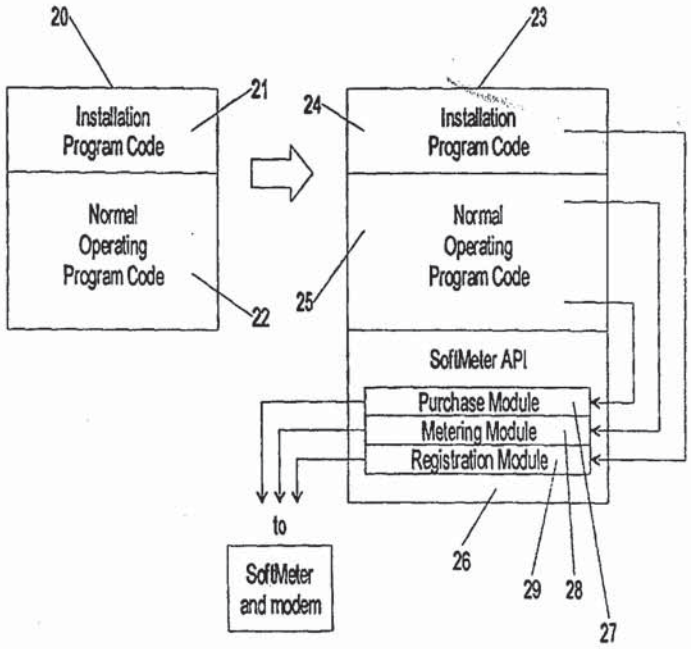
(54) Title: APPARATUS AND METHOD FOR CONTROLLING THE REGISTRATION, PAID LICENSING AND METERED USAGE OF SOFTWARE PRODUCTS

(57) Abstract

An apparatus and method for controlling the registration of installation, licensing and metered usage of software products is provided (23). The invention, called the "SoftMeter" system and process, requires the registration of a software product with the SoftMeter system clearinghouse prior to the installation of the software in the user's personal computing device and prior to any use by the user of that software (29). The invention further requires the purchase by the user of a specified amount of use according to predetermined units-of-use and requires the metering down to zero of the amount of the user's remaining use from the prepaid amount of use as the user uses the software (28). The SoftMeter system also has a device that notifies the user as his remaining prepaid use approaches or reaches zero. The registration and purchase processes are accomplished via a telephone transmission device, such as a data modem, and operate much like a standard credit card purchase. The SoftMeter system consists of elements including an Actualizing Device, Interchangeable Software, a tamperproof persistent Storage Device, an Interlock Device and a Purchase Transmission Device, all of which must be in the control and possession of the user.



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APPARATUS AND METHOD FOR CONTROLLING THE REGISTRATION, PAID LICENSING AND METERED USAGE OF SOFTWARE PRODUCTS

Field of the Invention

This invention relates to the use of software products. More particularly, this invention relates to an apparatus and method for controlling the registration, paid licensing and metered usage of software products. Both the apparatus and method are generic in nature; there are several ways in which they can be implemented with novel and non-obvious combinations of existing technology.

Background of the Invention

The technology of the compact disc (CD), used to distribute audio material to the consumer market, has been applied to the personal computer industry in the form of the CD-ROM, which is physically identical to its audio predecessor but contains data and software rather than music. The promise of this medium of distribution is overwhelming in its implications. One CD-ROM can hold 650 million characters of information -- about 30,000 typewritten pages -- and costs less than $5 to manufacture. However, the prices of these CD-ROMs are proportioned to suit the value placed on them only by their primary market. For example, a legal publisher may sell all the California legal forms for pleading and practice on a CD-ROM for $4000, and a medical publisher may sell a subscription of CD-ROMs containing copies of all cardiology journals printed since the beginning of modern medicine for $8000 per year. These prices, however, are too steep for most junior colleges and are totally out of the question for casual home or business users.

Thus, the problem is that publishers of CD-ROMs do not sell their products at prices proportional to the amount of use that their customers would make of them. For example, a lawyer would pay $4000 for his legal reference works on CD-ROM because he would use them every day of the week; however, a casual user would pay only $40 to use the CD-ROM five or six times a year. Then both users could have their own copies of the CD-ROMs available for use whenever needed.

The same basic problem has existed in the PC software industry for years, and the solution was simple: illegal copying. A User who wanted to have a $400 software package available merely for occasional use simply borrowed a legally purchased copy from a friend or from a place of work, took it home and made an illegal copy onto $5 worth of floppy disks. The user then went to a bookstore and purchased an after-market "how-to-use" book for $24 and, in total net effect, got his own copy of the $400 package for $29 -- a price that was reasonably proportional to his level of intended use. This "market solution," however, does not work for CD-ROMs simply because it would take some six-hundred floppy disks to copy one CD.

Thus, it is desirable to enable consumers to pay software license fees that are reasonably proportional to the value of the beneficial use of the software, rather than the present approach of paying either "full price" or nothing at all. It is also desirable to enable the consumer to have possession and control of the software such that the user can access any of the software at his own demand and convenience while paying for only the portion actually used.

Neither Pay-per-view Cable Television nor the much-discussed "data superhighway" fulfills the traditional consumer's need and desire for possession and control or provides the benefits of low-cost convenience and

accessibility. A user who desires a library of reference works, for example, movies on CD-ROM, would not be satisfied by using either Cable-TV or the data superhighway. Having a choice among 500 movies available for viewing between 8 and 10 p.m. Saturday night does not fulfill the desire to "watch any movie I want, whenever I want to watch it." In addition, the data superhighway will not allow the user to stop the movie at his convenience to allow for a food or rest room break. Pay-per-view also is not sufficient because the consumer does not have control and possession of all of the elements. He does not control and possess his own, personal copies of the reference materials or software. He can access only the programs piped into his home under the control of the cable operators and only at those times of day when the cable operators choose to offer them.

Another device thought to solve this problem is a software key, which is a small device built inside a 25-pin connector shell and which contains an integrated circuit chip that will respond only when a special serial number is written to it by the software. This device is plugged into the back of a personal computer, into one of the connectors used for attaching a printer. When software that is "locked" is loaded, the software writes its special serial number to the device and checks for a response. Receipt of a response indicates the presence of the key, such that the software can proceed to operate. If the key is absent, the software will not operate. Although the software may be copied (legally or illegally), because the key cannot be duplicated and because the software remains locked without it, the problem of software piracy is effectively eliminated. However, this "key" approach is deficient in two major areas. First, the software key does not lend itself to universal use because a different key is required for each software product. If this method were applied to

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