scrolling" touch. Although it has been stated above, that a relatively long-term finger touch while scrolling motion is taking place serves as both a "selection" and a "stop motion" signal, it will be obvious that the method could be set up easily so that a finger touch during the scrolling process would act solely as a "stop motion" signal regardless of the length of the touch; this would protect against the possibility of unintended "selections" resulting from inadvertently long touches that were intended only to "stop" the scrolling.

In contrast to stationary touching in step **108**, if the system senses motion of the finger touch on the screen, the method reverts to step **104**, again converting the speed and direction of motion of the touch into scrolling motion of the displayed data and restarting the scrolling process. As before, step **104** then proceeds directly into step **106**.

In the embodiment of the system of this invention illustrated in FIG. **2**, the system is shown to comprise a simple personal computer apparatus having a display screen **10**, a central processing unit **12** and a keyboard **14** for inputting manual instruction to the processing unit **12**. In accordance with convention, it will be understood that processing unit **12** includes an internal electronic memory unit (not shown) of conventional design and capabilities. Accordingly, for the purposes of this disclosure, the internal memory unit may be assumed to be the source of a scrollable data display capable of appearing on display screen **10** which is accessible to a hand or stylus device, here stylistically represented by the outline of a hand **16**.

In use, the computer is set up in well-known manner to display the scrollable data on screen **10**, and a hand/finger or stylus **16** is touched to the screen and moved down along the screen to impart an initial downward "scrolling" motion to the data display. Software in the computer interactively responds to the contact with the screen to create the desired displacement motion of the display and the internal timer facility now inherent in such computer apparatus, in cooperation with the programming of processing unit **12** responds to the start of motion by gradually decreasing the speed of displacement, as explained previously herein. When a desired point in the display is seen or approached, the user may apply a hand or stylus **16** to the screen to terminate the scrolling motion. Because the scrolling motion does not involve any moving parts with real or simulated mass, it is possible to stop the motion of the display instantly, without any difficulty or concern for inertial force consequences.

Accordingly, it will now be understood that the system and method of this invention facilitates a rapid, convenient and natural-feeling approach to accessing a scroll-like display of data on a computer screen.

In the embodiment represented in FIG. **3**, the system of this invention is shown to comprise the essential elements of the computer apparatus of FIG. **2** without having the configuration of a computer. That is, the basic components of the system of this invention are here shown to comprise a microprocessor **42** which is in turn coupled to a keyboard **44**, a timer means **43** and a display screen **40**. Each of these components functions in the same manner as its counterparts in the embodiment of FIG. **2**, with microprocessor **42** and the associated timer means **43** together, here serving the same function as central processing unit **12** in FIG. **2**.

Although a preferred embodiment of the invention has been illustrated and described, those having skill in this art will recognize that various other forms and embodiments now may be visualized readily without departing significantly from the spirit and scope of the invention disclosed herein and set forth in the accompanying claims.

The invention claimed is:

1. An improved touch-screen image scrolling system, comprising:

an electronic image display screen;

a microprocessor coupled to said display screen to display information thereon and to receive interactive signals therefrom;

timer means associated with said microprocessor to provide timing capacity therefor;

a source of scroll format data capable of display on said display screen;

finger touch program instructions associated with said microprocessor for sensing the speed, direction and time duration of a finger touch contact with said display screen:

scrolling motion program instructions associated with said microprocessor responsive to said duration of said finger touch contact such that, when said duration exceeds a first given preset minimum time and is accompanied by motion along the surface of said screen followed by separation of said finger touch from said screen, a scroll format display on said screen is caused to begin to scroll in said sensed direction and at said sensed initial speed;

time decay program instructions associated with said microprocessor for reducing the rate of scrolling displacement on said display screen at a given rate until motion is terminated;

stopping motion program instructions associated with said microprocessor for terminating scrolling displacement of the image on said screen upon first occurrence of any signal in the group of signals comprising:

(a) a substantially stationary finger touch on the screen enduring for a period

longer than a preset minimum time, and

(b) an end-of-scroll signal received from said scroll format data source.

2. The improved touch-screen image scrolling system of claim **1**, wherein said scrolling motion program instructions further comprise instructions to move said display in correspondence with movement of the finger touch, in response to movement following a touch having a stationary duration greater than said first preset given minimum time and less than a second given preset minimum time.

3. The improved touch-screen image scrolling system of claim **1**, wherein said scrolling motion program instructions further comprise instructions to move a touch-selected item relative to the stationary display in correspondence with movement of said finger touch, in response to motion following a touch having a stationary duration greater than said second given preset minimum time.

4. The improved touch-screen image scrolling system of claim **1**, wherein

said group of signals for terminating scrolling displacement of the image on said display screen further comprises

(a) a signal indicating that the rate of scrolling displacement on said screen has decayed to a value below a predetermined given value.

5. The improved touch-screen image scrolling system of claim **1**, wherein said microprocessor, and said timer means together comprise a processing unit of a conventional computer.

6. The improved touch-screen image scrolling system of claim **5**, wherein said source of scroll format data capable of display on said display screen comprises part of the memory of said conventional computer.