computer network **70** through web browser **84**. Each computer **82** includes one or more operator input device(s) **50** and one or more operator output device(s) **52** as previously described for subsystem **40**, that are not shown to preserve clarity. Device(s) **50** and **52** at each site **80** selectively provide an operator input and output (I/O) capability via web browser **84**. Computer **82** can be in the form of a personal computer, computer workstation, another computer server, Personal Digital Assistant (PDA), and/or a different configuration as would occur to those skilled in the art. While only two user sites **80** are illustrated to preserve clarity, it should be understood that more or fewer can be coupled to computer network **70**.

Collectively, server **63**, computer network **70**, and sites **80** provide an arrangement to remotely access and/or control subsystem **40** or booth **30**. The interconnection of these components can be hardwired, wireless, or a combination of both. In other embodiments, an interconnection technique other than the internet could be alternatively or additionally utilized with the connection interfaces of server **63** and/or sites **80** adapted accordingly. For example, sites **80** and server **63** could be coupled by a LAN, dedicated cabling, and the like. In one alternative embodiment, server **63** is an integral part of subsystem **40**. For still other embodiments, server **63**, network **70** and sites **80** are absent. Indeed, removable memory device **48** can be used to alternatively or additionally transfer data between subsystem **40** and other computing/processing devices.

Referring additionally to FIG. **3**, one mode of operating system **20** is illustrated as procedure **120**. Procedure **120** is performed to provide a three-dimensional topographical representation of Body B with system **20**. Various body measurements can be determined from this representation with system **20**. Procedure **120** begins with initialization operation **122** that sets interrogation index "I" to one (I=1). From operation **122**, procedure **120** enters interrogation loop **124** beginning with interrogation subroutine **130**. Interrogation subroutine **130** interrogates a portion of body B within a field of view of array **36** as body B rotates on platform **32**. Index I is an integer index to the number of different interrogation subroutines **130** performed as part of procedure **120**.

Referring to FIG. **4**, interrogation subroutine **130** is further illustrated. Subroutine **130** begins with initialization operation **132** in which transmission index N is set to one (N=1). From operation **132**, element sequencing loop **134** is entered, beginning with transmission/reception operation **136**. Index N is an integer index to the number of transmission/reception operations **136** performed during subroutine **130**.

In operation **136**, a portion of the body in the field of view of a transmitting element number "N" of array **36** is irradiated with electromagnetic radiation and one or more corresponding reception elements collect the reflected electromagnetic radiation in response to the transmission. The transmitting and reception elements are selected by logic of transceiver **42** with switching tree **43** as previously described. From operation **136**, subroutine **130** proceeds to conditional **138**, which tests whether transmitting element number "N" is the last element needed to transmit (N=LAST?); where LAST is the total number of the transmitting elements to be activated by transceiver **42**. In one form, for each execution of subroutine **130**, transmitting element "N" sweeps through a selected frequency range twice, and the corresponding backscatter information for each of the two sweeps is received with a different reception element. The transmitting elements can be staggered relative to the reception elements such that transmitting element N aligns with a point between the two reception elements along a common axis of the array. U.S. Pat. No. 5,557,283 (incorporated by reference) describes an example of this arrangement of transmitting and reception elements. In other forms, a different technique can be utilized involving more or fewer sweeps, different types of sweeps, and/or different transmitting/reception orientations and numbers.

If the test of conditional **138** is negative (N<LAST), then increment operation **142** is performed, incrementing N by one (N=N+1). Loop **134** returns from operation **142** to transmission/reception operation **136** for execution with the transmitting/receiving subset of elements **38** corresponding to the new, incremented value of N from operation **142**. In this manner, elements **38** are activated in a vertical path along array **36** with transceiver **42** to provide data along a contiguous region of body B.

The resolution of interrogation information obtained with transceiver **42** can be enhanced by linearly sweeping through a selected ultrawide frequency range during each operation **136**. In one preferred form, transceiver **42** sweeps through a range of at least 10 GHz for each execution of operation **136**. This sweep can occur, for example, over a range of about 10 GHz to about 20 GHz. In a more preferred form, transceiver **42** and elements **38** are arranged for a sweep range of 16 GHz. This sweep can occur, for example, over a range of about 24 GHz to about 40 GHz. In one most preferred form, the ultrawide sweep range is selected such that the range resolution is generally the same as the lateral resolution. For these forms, elements **38** are selected to be of a type with a frequency response suitable for the selected sweep range, including, but not limited to the taper slot or end-fire antenna type. In another form, the transmitter can sweep through a given frequency range (such as 10 GHz to 20 GHz) in a pseudo-random order—sometimes known as frequency hopping.

Loop **134** is repeated LAST number of times, sequencing through the desired transmitting/receiving elements **38** of array **36** under the control of transceiver **42**. When the test of conditional **138** is true, the affirmative branch proceeds to data operation **144**. Data resulting from the execution of operation **136** is provided by transceiver **42** to processor(s) **44**. In data operation **144**, an interrogation data set is established for the information gathered through the repeated execution of operation **136** from N=1 through N=LAST. This data set corresponds to the current value of integer index I and the body portion illuminated during these executions. Initially, the interrogation data set can be accumulated and organized by transceiver **42**, processor(s) **44** or both; and then stored in memory **46** for further processing by processor(s) **44** as described in connection with the remainder of procedure **120**. From operation **144**, subroutine **130** returns to the next stage of procedure **120**.

Referring back to FIG. **3**, procedure **120** continues with conditional **152** that tests whether the final value of index I has been reached (I=TOTAL?); where TOTAL is the total number of desired executions of loop **124** (and subroutine **130**) for process **120**. If the test of conditional **152** is negative (I<TOTAL), process **120** proceeds to increment operation **154** to increment index I by one (I=I+1). Loop **124** then returns to subroutine **130** for the next execution until I is incremented to be equal to TOTAL.

With the execution of loop **124** TOTAL number of times, TOTAL number of interrogation data sets are stored in memory **46**. When the performance of subroutine **130** is relatively fast compared to the rotational speed of platform