Claims

1. A method for processing at least two signals produced by sensors, preferably by at least two sensors, the method comprising:

(i) receiving from sensors at least two signals, wherein at least one of said at least two signals is a temporal signal,

(ii) if the received temporal signal is not an asynchronous signal, the received temporal signal is converted into an asynchronous temporal signal comprising the events for said temporal signal, the said events being representative of each change of the said temporal signal,

(iii) analyzing each of said asynchronous signals received from one sensor, received in (i) and/or converted in (ii), and providing an activity profile of the said analyzed asynchronous signal, the activity profile comprising at least an activity value that varies as a function of the time (t) that has passed since the most recent event among the successive events of the said asynchronous signal,

(iv) at a given first time t:

a. determining of a first temporal context (tTC), said first temporal context being defined as a set of activity profiles at said given first time of the said asynchronous signals,

b. identifying a first meta-event (t ME)by associating the said first temporal context determined in step (a) with at least one

temporal reference context selected from among at least two predefined reference temporal contexts,

c. determining a first meta-context (t refMC) by determining the degree of correlation among the different first meta-events identified in step (b) and arising from the said at least two signals,

d. identify a first reference meta-context by association said meta-context determined in step (c) with at least one reference meta-context selected from at least two predefined reference meta-contexts.

2. The method of claim 1 wherein step (iii) consists in analyzing each of said asynchronous signals received from one sensor, received in (i) and/or converted in (ii), and providing an activity profile of the said analyzed asynchronous signal or sensor, the activity profile comprising at least an activity value that decreases as a function of the time (t) that has passed since the most recent event among the successive events of the said asynchronous signal.

3. The method of claim 1 or 2 wherein all the received signals from sensors are temporal signals.

4. The method of claim 1 to 3 wherein all the received temporal signals are asynchronous signals and step (ii) is absent.

5. The method of any of previous claim wherein a meta-context determined in step (c) can be correlated to a specific physiological condition of an individual.

6. The method of any of previous claim wherein at least two of the said received signals are of different scale, unit or system of measurement and/or are originating from different sensor types.

7. The method of any of previous claim wherein said received signals are selected in the group consisting of signals representative of electrocardiogram (ECG), electroencephalogram (EEG), respiration, blood pressure, body temperature, individual physical activity or the like.

8. The method of any of previous claim which comprises at least two temporal signals, preferably at least three temporal signals, even more preferably at least five temporal signals.

9. The method of any of previous claim wherein it further comprises the following step:

(i) at a given time t+n:

a'. determination of a temporal context (t+n TC), said context being defined as a set of activity profiles at said given time t+n of the said asynchronous signals,

b'. identifying a meta-event (t+n ME) by associating each of said temporal context determined in step (a') with at least one temporal reference context selected from among at least two predefined reference temporal contexts,

c'. determining of a meta-context (t+n MC) by determining the degree of correlation among the different meta-events identified in step (b') and arising from the said at least two signals,

d'. identifying a reference meta-context (t+n refMC) by association of said meta-context determined in step (c') with at least one reference meta-context selected from at least two predefined reference meta-contexts.

10. The method of claim 9 wherein t=t+n (n=0).

11. The method of claim 9 wherein t is different from t+n.

12. The method of any of previous claim wherein the said reference temporal context or/and reference meta-context is associated with an event signal, and, when a reference context is identified, the event signal associated with this reference context is adjusted at a value and varies, preferably decreases, subsequently over time.

13. The method of any of previous claim wherein the said method is recursive.

14. The method of any of previous claim, comprising obtaining a prediction comprising a second reference context which may be identified at t1+Δt, wherein Δt is a predefined duration.

15. The method of the previous claim wherein the prediction is associated with a probability value.

16. The method of claim 14 to 15 wherein the prediction is associated with an alert.