

Claim(s)

1. A processing method comprising:

~~processing, at a processing apparatus, at least one captured image of a subject to~~

~~generate at least one input signal;~~

~~processing the generated at least one input signal based on at least one database~~

~~signal, communicable from at least one database to the processing apparatus, to~~

~~generate a plurality of intermediate processor datasets; and~~

~~combining the plurality of intermediate processor datasets to produce at least one~~

~~output signal,~~

~~wherein the output signal corresponds to an audio response characteristic unique to~~

~~the subject, and~~

~~wherein the output signal is capable of being applied to input audio signals to~~

~~generate output audio signals audibly perceivable by the subject so as to provide the~~

~~subject with customized audio experience.~~

A processing method of a processing

apparatus, comprising:

processing at least one captured image of a subject to generate at least one

image-related input signal;

processing the at least one image-related input signal based on at least one

database signal, which is communicable from at least one database to the

processing apparatus, to generate a plurality of intermediate processor datasets; and

combining the plurality of intermediate processor datasets to produce at least

one output signal, the plurality of intermediate processor datasets being selected

from the group consisting of: BRIR, BRTF, HRIR, and HRTF datasets,

wherein the at least one output signal corresponds to an audio response

characteristic unique to the subject, and

wherein the at least one output signal is capable of being applied to input

audio signals to generate output audio signals audibly perceivable by the subject so

as to provide the subject with customized audio experience.

2. The processing method as in claim 1, wherein the processing apparatus is capable of being trained to operate as at least one type of recognizer of a plurality of recognizers.

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3. The processing method as in claim 1, wherein the processing apparatus is capable of being trained to operate as a multi-recognizer corresponding to at least a first type recognizer and a second type recognizer.

10 4. The processing method as in claim 3,

~~wherein the generated input signal corresponds to biometric data associated with the subject~~ wherein the at least one image-related input signal corresponds to biometric data associated with the subject, and

15 wherein the biometric data comprises a first biometric feature type and a second biometric feature type.

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5. The processing method as in claim 4,
wherein the processing apparatus is operable as the first type recognizer to generate a first set of intermediate processor datasets based on the first biometric feature type, and
5 wherein the processing apparatus is operable as the second type recognizer to generate a second set of intermediate processor datasets based on the second biometric feature type.
6. The processing method as in claim 5,
10 wherein the first and second sets of intermediate processor datasets are combined by the processing apparatus ~~by manner of~~using weighted sums.
7. The processing method as in claim 1,
15 wherein the database comprises a plurality of datasets communicable as corresponding plurality of database signals to the processing apparatus,
wherein the processing method further comprises grouping the plurality of dataset into a plurality of cluster groups, each cluster group corresponding to a cluster comprising at least one dataset, and
20 ~~wherein the processing apparatus is capable of being trained by manner of association in which a biometric feature type retrieved from a captured image is associated with a cluster~~ wherein the processing apparatus is configured to associate a biometric feature type retrieved from a captured image with a cluster.
- 25 8. The processing method as in claim 7,
~~wherein the processing apparatus is capable of being trained to operate as a multi-recognizer corresponding to at least a first type recognizer and a second type recognizer,~~
~~wherein the generated input signal corresponds to biometric data associated with the subject,~~
30 ~~wherein the biometric data comprises a first biometric feature type and a second biometric feature type,~~

~~wherein the second biometric feature type is the biometric feature type
associable with a cluster based on training of the processing apparatus by
manner of association,~~

~~wherein the processing apparatus is operable as the first type
recognizer to generate a first set of intermediate processor dataset based on
the first biometric feature type, and~~

~~wherein the processing apparatus is operable as the second type recognizer
to generate a second set of intermediate processor dataset based on the second
biometric feature type, wherein the processing apparatus is operable as a multi-
recognizer corresponding to at least a first type recognizer and a second type
recognizer.~~

~~wherein the at least one image-related input signal corresponds to biometric
data associated with the subject,~~

~~wherein the biometric data comprises a first biometric feature type and a
second biometric feature type,~~

~~wherein the second biometric feature type is the biometric feature type
associated with a cluster by the processing apparatus,~~

~~wherein the processing apparatus is operable as the first type recognizer to
generate a first set of intermediate processor datasets based on the first biometric
feature type, and~~

~~wherein the processing apparatus is operable as the second type recognizer
to generate a second set of intermediate processor datasets based on the second
biometric feature type.~~

9. The processing method as in claim 8,

wherein the first and second sets of intermediate processor datasets are
combined by the processing apparatus by ~~manner of~~ using weighted sums.

10. The processing method as in claim 1,

wherein the audio response characteristic is unique to the subject under a given environment and is one of an HRIR or BRIR.

11. The processing method as in claim 1,

wherein processing the at least one image-related input signal based on the at least one database signal to generate the plurality of intermediate processor datasets comprises implementing either a multiple-match processing based strategy, a multiple-recognizer based processing strategy, a cluster based processing strategy, or any combination thereof.

~~1012. A processing apparatus configurable to be communicable with at least one database containing at least one dataset corresponding to an audio response characteristic based on biometric data from at least one person, at least one dataset from the database being communicable as corresponding at least one database signal to the processing apparatus,~~
~~wherein the processing apparatus is operable in at least one processing mode of a plurality of processing modes, each processing mode corresponding to a recognizer type,~~
~~wherein the processing apparatus configurable to receive an image of a subject and generate at least one input signal based on the received image,~~
~~wherein the processing apparatus is configurable to process the input signal based on the database signal to generate at least one output signal,~~
~~wherein the processing apparatus is configurable to process the input signal based on the database signal to generate a plurality of intermediate processor datasets and the intermediate processor datasets are combined to generate the output signal, the output signal corresponding to an audio response characteristic unique to the subject, and~~

~~wherein the output signal is capable of being applied to input audio signals to generate output audio signals audibly perceivable by the subject so as to provide the subject with customized audio experience. A processing apparatus configurable to be communicable with at least one database containing at least one dataset~~
5 ~~corresponding to an audio response characteristic based on biometric data from at least one person, the at least one dataset from the at least one database being communicable as corresponding at least one database signal to the processing apparatus.~~

~~wherein the processing apparatus is operable in at least one processing mode of a plurality of processing modes, each processing mode corresponding to a recognizer type.~~
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~~wherein the processing apparatus is configurable to receive an image of a subject and generate at least one image-related input signal based on the received image,~~

~~wherein the processing apparatus is configurable to process the at least one image-related input signal based on the at least one database signal to generate a plurality of intermediate processor datasets and to combine the plurality of intermediate processor datasets to generate at least one output signal, the at least one output signal corresponding to an audio response characteristic unique to the subject, the plurality of intermediate processor datasets being selected from the group consisting of: BRIR, BRTE, HRIR, and HRTF datasets, and~~
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~~wherein the at least one output signal is capable of being applied to input audio signals to generate output audio signals audibly perceivable by the subject so as to provide the subject with customized audio experience.~~

25 13. The processing apparatus as in claim 12,

wherein the plurality of intermediate processor datasets is generated based on biometric feature types.

14. The processing apparatus as in claim 13,

30 wherein the plurality of intermediate processor datasets is combined by using

weighted sums.

15. The processing apparatus as in claim 12,

wherein the database comprises a plurality of datasets communicable as
5 corresponding plurality of database signals to the processing apparatus.

wherein the plurality of datasets are grouped into a plurality of cluster groups,
each cluster group corresponding to a cluster comprising at least one dataset, and

wherein the processing apparatus is configured to associate a biometric
feature type retrieved from a captured image with a cluster.

10 16. The processing apparatus as in claim 12,

wherein the processing apparatus is configured to process the at least one
image-related input signal based on the at least one database signal to generate the
plurality of intermediate processor datasets by implementing either a multiple-match
15 processing based strategy, a multiple-recognizer based processing strategy, a
cluster based processing strategy, or any combination thereof.

17. A system, comprising:

at least one database containing at least one dataset corresponding to an
20 audio response characteristic based on biometric data from at least one person; and

a processing apparatus configured to communicate with the at least one
database, the at least one dataset from the at least one database being
communicable as corresponding at least one database signal to the processing
apparatus.

25 wherein the processing apparatus is operable in at least one processing mode
of a plurality of processing modes, each processing mode corresponding to a

recognizer type,

wherein the processing apparatus is configurable to receive an image of a subject and generate at least one image-related input signal based on the received image,

5 wherein the processing apparatus is configurable to process the at least one image-related input signal based on the at least one database signal to generate a plurality of intermediate processor datasets and to combine the plurality of intermediate processor datasets to generate at least one output signal, the at least one output signal corresponding to an audio response characteristic unique to the
10 subject, the plurality of intermediate processor datasets being selected from the group consisting of: BRIR, BRTF, HRIR, and HRTF datasets, and

wherein the at least one output signal is capable of being applied to input audio signals to generate output audio signals audibly perceivable by the subject so as to provide the subject with customized audio experience.

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18. The system as in claim 17, further comprising:

a communication network for coupling the at least one database to the processing apparatus, wherein the at least one database is carried by at least one server external to the processing apparatus.

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19. The system as in claim 18,

wherein the plurality of intermediate processor datasets corresponds to the biometric data for at least two different biometric feature types.

25 20. The processing method as in claim 1, wherein combining the plurality of intermediate processor datasets comprises combining them under the same type of intermediate processor datasets.