CLAIMS

1. A method comprising:

- generating haptic data configured as a haptic description file (300) comprising a hierarchical data structure, wherein the hierarchical data structure comprises a signal level (311) associated with a haptic signal category, the signal level (311) comprising information representative of:

a type of effect (321),

a library of haptic effects (330), wherein a haptic effect (331) of the library is identified by an identifier and comprises information representative of values of a signal to be applied to render the haptic effect, and

a list of haptic tracks (340), wherein a haptic track (342) comprises a timeline (370), the timeline comprising haptic effects each associated with a temporal reference, wherein a haptic effect of the timeline is either defined directly within the timeline or is a reference to a haptic effect of the library (330), the reference indicating the identifier of the referenced haptic effect, wherein the type of effect (321) indicates whether a haptic effect is a basis effect (331) defined by signal data, a timeline effect (371) defined as a succession of effects each associated with a timestamp, or a reference effect (373) that is a reference to an existing effect of the library (330) identified by an identifier.

2. The method of claim 1 wherein a plurality of signals are grouped according to a set of frequency bands.

3. The method of claim 1 wherein a plurality of timelines are grouped according to a set of frequency bands.

4. A method for rendering haptic data comprising:

- obtaining haptic data configured as a haptic description file (300) comprising a hierarchical data structure, wherein the hierarchical data structure comprises a signal level (311) associated with a haptic signal category, the signal level (311) comprising information representative of:

a type of effect (321),

a library of haptic effects (330), wherein a haptic effect (331) of the library is identified by an identifier reference and comprises information representative of values of a signal to be applied to render the haptic effect, and

a list of haptic tracks (340), wherein a haptic track (342) comprises a timeline (370), the timeline comprising a list of references of haptic effects of the library of haptic effects, and wherein a temporal reference is associated to a reference haptic effects each associated with a temporal reference, wherein a haptic effect of the timeline is either defined directly within the timeline or is a reference to a haptic effect of the library (330), the reference indicating the identifier of the referenced haptic effect, wherein the type of effect (321) indicates whether a haptic effect is a basis effect (331) defined by signal data, a timeline effect (371) defined as a succession of effects each

associated with a timestamp, or a reference effect (373) that is a reference to an existing effect of the library (330) identified by an identifier, and

- providing values of the signal to haptic actuators.

5. The method of claim 4 wherein a plurality of signals are grouped according to a set of frequency bands.

6. The method of claim 4 wherein a plurality of timelines are grouped according to a set of frequency bands.

7. A haptic rendering device comprising a processor configured to:

- obtain haptic data configured as a haptic description file (300) comprising a hierarchical data structure, wherein the hierarchical data structure comprises a signal level (311) associated with a haptic signal category, the signal level (311) comprising information representative of:

a type of effect (321),

a library of haptic effects (330), wherein a haptic effect (331) of the library is identified by an identifier reference and comprises information representative of values of a signal to be applied to render the haptic effect, and

a list of haptic tracks (340), wherein a haptic track (342) comprises a timeline (370), the timeline comprising a list of references of haptic effects of the library of haptic effects, and wherein a temporal reference is associated to a reference haptic effects each associated with a temporal reference, wherein a haptic effect of the timeline is either defined directly within the timeline or is a reference to a haptic effect of the library (330), the reference indicating the identifier of the referenced haptic effect, wherein the type of effect (321) indicates whether a haptic effect is a basis effect (331) defined by signal data, a timeline effect (371) defined as a succession of effects each associated with a timestamp, or a reference effect (373) that is a reference to an existing effect of the library (330) identified by an identifier, and

- provide values of the signal to haptic actuators.

8. A haptic data comprising information representative of:

a type of effect (321),

a library of haptic effects (330), wherein a haptic effect (331) of the library is identified by an identifier reference and comprises information representative of values of a signal to be applied to render the haptic effect, and

a list of haptic tracks (340), wherein a haptic track (342) comprises a timeline (370), the timeline comprising a list of references of haptic effects of the library of haptic effects, and wherein a temporal reference is associated to a reference haptic effects each associated with a temporal reference, wherein a haptic effect of the timeline is either defined directly within the timeline or is a reference to a haptic effect of the library (330), the reference indicating the identifier of the

referenced haptic effect, wherein the type of effect (321) indicates whether a haptic effect is a basis effect (331) defined by signal data, a timeline effect (371) defined as a succession of effects each associated with a timestamp, or a reference effect (373) that is a reference to an existing effect of the library (330) identified by an identifier.

9. A non-transitory computer readable medium storing haptic data comprising information representative of:

a type of effect (321),

a library of haptic effects (330), wherein a haptic effect (331) of the library is identified by an identifier reference and comprises information representative of values of a signal to be applied to render the haptic effect, and

a list of haptic tracks (340), wherein a haptic track (342) comprises a timeline (370), the timeline comprising a list of references of haptic effects of the library of haptic effects, and wherein a temporal reference is associated to a reference haptic effects each associated with a temporal reference, wherein a haptic effect of the timeline is either defined directly within the timeline or is a reference to a haptic effect of the library (330), the reference indicating the identifier of the referenced haptic effect, wherein the type of effect (321) indicates whether a haptic effect is a basis effect (331) defined by signal data, a timeline effect (371) defined as a succession of effects each associated with a timestamp, or a reference effect (373) that is a reference to an existing effect of the library (330) identified by an identifier.

10. The non-transitory computer readable medium of claim 9 wherein a plurality of signals are grouped according to a set of frequency bands.

11. The non-transitory computer readable medium of claim 9 wherein a plurality of timelines are grouped according to a set of frequency bands.

12. A computer program comprising program code instructions for implementing the method according to any of claims 1 to 6 when executed by a processor.

13. A non-transitory computer readable medium comprising program code instructions for implementing the method according to any of claims 1 to 6 when executed by a processor.