Title (en)
SYSTEMS AND METHODS FOR GENERATING HAPTIC OUTPUT FOR ENHANCED USER EXPERIENCE

Title (de)
SYSTEME UND VERFAHREN ZUR ERZEUGUNG EINER HAPTISCHEN AUSGABE FÜR EINE VERBESSERTE BENUTZERERFAHRUNG

Title (fr)
SYSTÈMES ET PROCÉDÉS DE GÉNÉRATION DE SORTIE HAPTIQUE POUR UNE EXPÉRIENCE UTILISATEUR AMÉLIORÉE

Publication
EP 3803542 A1 20210414 (EN)

Application
EP 19730136 A 20190606

Priority
- EP 18176491 A 20180607
- EP 2019064876 W 20190606

Abstract (en)
[origin: EP3579081A1] Systems and methods for generating a haptic output from an audio signal having a continuous stream of sampled digital audio data are provided. A haptic processing system receives the digital audio data, analyses the digital audio data for processing and extracts haptic signals for generating a haptic effect through an actuator. The method includes passing the digital audio signal on through one or more dynamic processors, adjusting the dynamic range of the digital audio signal, extracting the signal envelope of the audio data, synthesising low-frequency signals from the extracted signal envelope, and enhancing the low-frequency content using a resonator. The haptic output is generated by mixing the digital audio signal with outputs from the different modules of the haptic processing system. An analytics module monitors, controls and adjusts the processing of the digital audio signal at the noise gate module, the compressor module and the envelope module to enhance the haptic output. The processed digital signal passes on through a low pass filter, a limiter, and a bell filter to remove unwanted frequencies, gain, and extend the frequency response respectively. The output signal is provided to a Digital-to-Analog (D/A) converter and finally fed to the actuator for producing haptic output. A detection module receives a first input from the output of the bell filter and the second input from the input audio signal, probes the signals at the first and the second inputs, and in the absence of the audio signal at both the inputs disables the haptic processing system and enters power saving mode.

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G06F 3/01 (2006.01); **G06F 3/16** (2006.01)

CPC (source: EP KR)
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