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(54) Title: MULTITHREAD DATA PROCESSOR

(57) Abstract

In a first aspect, the present invention comprises an apparatus for processing digital audio-visual data, in particular, a receiver/decoder for a digital television system, comprising one or more hardware devices for transmission and reception of data, the hardware devices having at least one associated hardware operating system (4100), the decoder further comprising a data processing system including a multi-thread virtual machine (4250) adapted to, inter alia, receive event messages signalled by the hardware operating system and to assign corresponding event objects (4564) to one or more threads (4561), and in which a thread including an event object may be suspended during the course of its execution to permit the execution of another thread. Viewed from a second aspect, the present invention relates to an apparatus for processing digital audio-visual data comprising a data processing system including a first virtual machine adapted to, inter alia, receive code written in an interpretative language downloaded via one or more of the hardware devices, said virtual machine being adapted to distinguish between code written in at least two interpretative languages in dependence on the structure of the received code and to pass such code to a corresponding interpreter means for interpretation and execution in particular with reference to a common or specific function library. Viewed from a third aspect, the present invention comprises an apparatus for processing digital audio-visual data including a data processing system including a memory and a memory manager for allocating and storing objects in the memory, and in which a first set of objects are allocated by the memory manager with reference to a set of handles, each handle including a reference to the memory address of a corresponding object, and in which a second set of objects are allocated and stored directly in the memory without reference to a handle.

