ABSTRACT

In general, the process of design and implementation of digital signal processing application system is very complex and the cost is very expensive. Therefore, it is an important problem that how should we do to simplify the complexity. In this study, we design an Integrated Develop Environment (IDE). It is based on the software-hardware co-design method. And it could shorten the drop of development between conceptual system and physical system using by CAD tools and programmable components. The IDE can integrate all of ASIC, FPGA, DSP and RISC components and sets up a high efficient programmable hardware module. We integrate the hardware compiler and the programmable hardware module to execute a series of transformation from conceptual system down to programmable hardware module. Further, the IDE could complete all computing works with the advantage of convenience of traditional computer and high efficiency of hardware structure. Blackboard system is involved in the IDE. It can integrate all knowledge of compiling from conceptual level to physical level and reduces the drop of development between conceptual system and physical system. And we can carry out the work by strengthening the adaptability of knowledge and promoting the reasoning efficiency.

Keywords : Integrated Develop Environment ; software-hardware co-design ; blackboard system

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