THE INTELLIGENT INTEGRATION OF THE SOFTWARE COMPONENTS FOR THE EMBEDDED SYSTEM

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ABSTRACT

AT PRESENT, THE EMBEDDED SYSTEM IS MOSTLY DESIGNED FOR THE SPECIFIC EQUIPMENTS. THEREFORE ITS APPLICATION RESOURCE IS LIMITED. THE SOFTWARE WHICH IS EQUIPPED WITH THE EMBEDDED SYSTEM IS ALSO FACING DIFFICULTY IN EFFICIENCY DUE TO THE LIMITED CAPACITY OF THE HARDWARE. FOR EXAMPLE, PDA (PERSONAL DIGITAL ASSISTANT) HAS A PERFECT OPERATION SYSTEM AND CAN CREATE A VARIETY OF SPECIAL FUNCTIONALITY. HOWEVER, IT STILL CAN NOT OPERATE FREELY AS WE WORK ON THE PERSONAL COMPUTER. THE MAIN REASON IS THAT WE NEED TO CONSIDER WITH THE LIMITATION OF THE HARDWARE CAPACITY AND ITS SPECIFICATION. THEREFORE, THIS STUDY USES THE CHARACTERISTICS OF SOFTWARE REPETITION IN OBJECT-ORIENTED METHOD AND PROPOSES AN INTELLIGENT INTEGRATION APPROACH. IT CAN EFFECTIVELY MANAGE AND OPTIMIZE THE SOFTWARE COMPONENTS. THE IMPLEMENTATION OF THIS APPROACH IS DESCRIBED WITH AN EXAMPLE OF PDA, WHERE THE USER IS REMOTE FROM DATABASES AND COMMUNICATION IS CARRIED OUT OVER THE INTERNET. SOME RESULTS ON THE CONVERGENCE OF THE APPROACH ARE SHOWN.

Keywords : EMBEDDED SYSTEM, PERSONAL DIGITAL ASSISTANT, SOFTWARE COMPONENTS, INTERNET

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