

APPLY OBJECT-ORIENTED CONCEPT AND PETRI NET INTO THE DEVELOPMENT OF THE EMBEDDED SYSTEM

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ABSTRACT

IT IS DIFFICULT TO FIND OUT A DEFINED MODEL OF THE EMBEDDED SYSTEM DUE TO THE LARGE SCOPE OF THE APPLICATIONS. AS MOST DESIGNERS DESIGN THE SYSTEMS BY THE EXPERIENCES OR AD-HOC METHODS, THIS APPROACH IS CONSTRAINED BY LACKING OF THE DESIGNER'S ABILITY OR EXPERIENCES AND CANNOT EXPLORE ALL POSSIBLE IMPLEMENTATIONS. IN ORDER TO OBTAIN THE FULLY ANALYSIS AND DESIGN FUNCTIONS OF THE EMBEDDED SYSTEM, THIS STUDY USE THE INTEGRATION OF OBJECT-ORIENTED CONCEPT AND PETRI NET AS AN OPERATING METHOD TO DESCRIBE THE DEVELOPMENT PROCESSES. THE OBJECTS GENERATED BY MAPPING DIRECTLY FROM THE REAL WORLD COULD DECREASE THE SYSTEM DEVELOPMENT TIME AND RISK DUE TO THE MODULARIZATION AND STANDARDIZATION. THIS STUDY ALSO UTILIZES THE REACHABILITY TREE OF PETRI NET TO VERIFY THE PROPOSED DEVELOPMENT PROCESSES, PROVE IT WORKABLE AND MAKE SURE IT UNDEADLOCKED AND UNERRORED.

Keywords : EMBEDDED SYSTEM, OBJECT-ORIENTED PETRI NET, REACHABILITY, SOFTWARE / HARDWARE CODESIGN

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