Abstract

The aim of this paper is to present a framework which helps in accessing and improving the specification especially for Safety Critical System. This proposed framework takes use case diagram as input and produces a formal model of functional requirements as output. This formalization allows the developer to document a correct and complete specification which is the ultimate need for the reliable software. The more accurately the functional requirements are mentioned, the more reliable system will be implemented. In case of the Safety Critical System, correct and complete specifications are indeed. This paper discusses such an integrated framework. We rely on Z Notation for formalization. The further verification and validation of specification is done with Z/EVES.

References


**Index Terms**

Computer Science  
Software Engineering

**Keywords**

Critical systems, Formal specification, functional requirements, UML, Z Notation, Use case Diagram.