

A review: software safety requirement analysis model in critical software development

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ABSTRACT

The development and deployment of safety-critical software systems require a rigorous risk-free and secure approach to ensure the protection of users' safety. Hence, it is crucial to check the software requirement specifications before proceeding to the design phase. This study aims to investigate the Software Safety Requirement Analysis (SSRA) models utilized during the requirements phase of developing critical software. The research methodology applied in this investigation comprises three dimensions: process, action, and task. The study discusses various SSRA models and provides descriptions for each to enhance understanding. To prevent post-development issues, defining safe software behavior based on the selected model is imperative. By doing so, it becomes clear what features constitute a safety feature and what does not during the requirements phase, thereby improving the development process of safetycritical software systems.

KEYWORDS

Safety requirement analysis; Software safety; Critical software development; Safety characteristics; Safety property

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