

What is Safety Testing?

Safety testing in software systems aims at optimizing system safety in the design, development, use, and maintenance of software systems and their integration with safety-critical hardware systems in a production environment.

Aspects of Software Safety:

- Functioning software should not generate hazards - Eg: Guiding the state of the art aircraft should NOT steer into the ocean
- Monitoring systems must perform flawlessly - Eg: Back-up computer Should start automatically when primary fails

Goals in Safety Testing:

- In complex systems where there are many interactions involved, the safety-critical functionality should be identified and thoroughly analyzed.
- Contributing factors and resultant hazards associated with the system are identified and eliminated.
- The number of safety critical interfaces are kept low to avoid injury or death.
- Safety attributes are to be addressed as part of all the levels of software testing.
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