

Fault Tree Analysis for the most demanding studies

Advanced Graphical User Interface

With OpenFTA's superior graphical user interface, fault trees may be constructed and modified with ease. Symbols may be added simply by clicking on the parent symbol and selecting an icon. The tree is automatically laid out by a highly optimised algorithm. Branches may be moved from one location to another with just a few mouse clicks. One click on a symbol in the tree overview window (which is always zoomed out to the full tree) will place that symbol in the centre of the editing window.

Full transferred-in tree functionality supports the construction of very large fault trees - nested to any level.

By implementing the user interface in Java, OpenFTA is potentially available on most platforms.

Powerful Analysis Capabilities

A design objective of OpenFTA was that it should not be hindered by artificial limitations such as a maximum number of gates or events. This design objective has been realised - OpenFTA has no inherent limitations. Events, for example, may appear in any number of transferred-in trees - during analysis, the tree is treated as one large fault tree.

Minimal cut set generation is very fast, and has been verified by the implementation of two independent cut set generators, and also by Monte Carlo simulation. Results of a lower order minimal cut sets generation may be reused if higher order qualitative analysis is later required.

Once minimal cut sets have been determined, the logically reduced tree may be quantitatively analysed. The algorithm determines the probability of system failure, and also the importance to the failure of each minimal cut set and event.

Fault trees can be analysed using Monte Carlo simulation to find not only the probability of a system failure, but also to statistically identify the minimal cut sets and their importance to the system failure. Systems failure probabilities and minimal cut sets assessed with Monte Carlo correspond closely with those obtained from the deterministic algorithms.

Event descriptions are separated from the tree and held in the Events Database. This enables one event to appear anywhere in the tree (or transferred-in trees), whilst maintaining mathematical correctness.

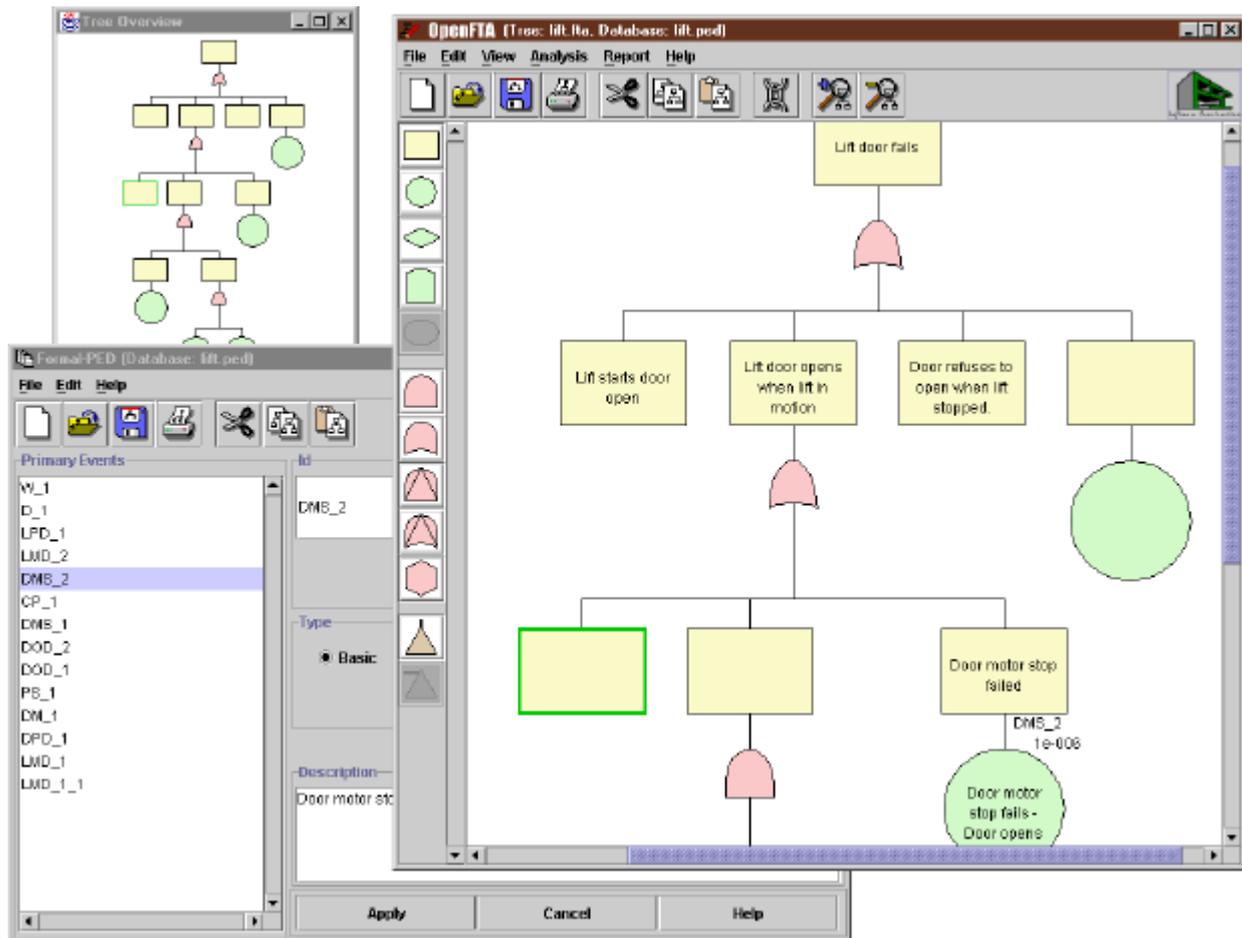
Product Information

OpenFTA currently exists as an open source product, free of charge from:

www.openfta.com

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Advanced User Interface

- Highly intuitive, point and click
- Automatic, optimised tree layout
- Global view
- Comprehensive transferred-in tree handling

Events Database

- Events can appear anywhere
- Database s can be shared

No limitations

- On number of events
- Where events can appear
- On number or nesting of transferred-in trees

Fast Qualitative Analysis

- Algebraic method for minimal cut set generation
- Reuse of lower order results

Quantitative Analysis

- I and R models
- Reuse of lower term results

Monte Carlo Simulation

- Fast quantitative analysis
- Identification of minimal cut sets

Multi-platform Support

- Unix systems (Sun, Linux etc.)
- Microsoft Windows (98, NT, 2000, XP)
- Others readily possible (e.g. Mac OS X)

Formal Software Construction Limited

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