



Paradigm Unifying System Specification Environments for proven Electronic design

Results in Brief

Exceeding expectations in software and systems development

The B Method is a formal technique aimed at the development of software and electronics systems with embedded software according to real needs.



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Software houses focus primarily on the development of systems and tools of increased reliability at reduced cost, capable of meeting real user demands. To date there are plenty of toolkits and methods available for assisting the industry, such as ISO, RAD Method and JAVA to name a few. In spite of a series of reported failures, the popularity of many commonly used systems appears high.

However, time-efficient development of reliable, fail-safe software at low costs is still an unmet challenge.

To answer this need, ClearSy has developed a formal method called 'B Method' and a related software toolkit, the Atelier B. The method has been proven very effective in many industrial systems as it allows easy specification of system requirements and functions. With the aid of a mathematically proven model, a system model is built and maintained under continuous improvement, finalised only when all specifications are covered. Employing the Atelier B toolkit, models are checked for syntax errors and automatically validated before further use.

The B Method and the Atelier B toolkit have already been used in two industrial domains, the railway and motor industries. After provision of training sessions to internal experts, capable of defining particular methodology for developed systems, they were able to assist engineer-users. Dissemination of the method could allow the delivery of innovative services, such as software and engineer toolkit development, as well as, studies and verifications of systems' specifications.

The formal modelling B Method and tools have been utilised for software development for the completely automatic control of the 14th line of the Paris underground. To date, the related critical software has not been reported to display any problems.

ClearSy is looking for collaborations with industries to experimentally or operationally use the B method in their domain. Partnerships for exploring new industrial domains for method adaptations are also sought.

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Project Information

PUSSEE

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