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Editorial

A new project to create a safety system for Clearsy: the 'Comble Lacune' (Gap Filler) safety control system designed to equip the Place d'Italie station on line 5 of the Paris subway. The formal B-method is once again used to specify this system and produce the safety software.

We will also be providing you with an insight into the new Brama tool, based on the development of the Rodin Open Source, an Event-B development platform.

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ClearSy News...

CACoLac: Automatic Gap Filler Control Device

CACOLAC is the system, which controls the folding and unfolding of the gap filler, a sliding platform (a type of footboard), which enables the space between the platform and the subway train to be bridged when certain stations are not rectilinear.

This device is in the process of being installed at Place d'Italie, a station on line 5 of the Paris subway, for experimentation purposes. The reason for this particular location is the curve of the station, which leads to a large gap between the subway train and the platform.

Up to now, in a bid to resolve the problem, the station has been equipped with a fixed panel preventing travellers from accessing the door furthest to the rear of the train.

Once it is in perfect working order, the Gap Filler system will be implemented and the panel will be removed.

This system complies with the SIL3 safety objective for potentially dangerous events (10⁻⁷ potentially dangerous events per hour) concerning the folding or unfolding in error of the sliding part of the Gap Filler and it has a SIL2 reliability rating.

The system is totally automated and does not therefore call upon human and/or manual intervention. Moreover it is outside the train and comprises: an automaton, 2 telemeters (laser and ultra-high frequency), 3 presence sensors (triangular infra red devices) and 2 speed radars (Doppler effect).

CaColac safety is based on the redundancy of the sensors, the characteristic arrival and

departure sequences of the train, a SIL3 automaton, and the development of the software with the formal B-method.

The Gap Filler system is developed by the Bigorre Ingénierie company for RATP, and subcontracts the production of the CaCoLac safety system and the safety demonstration associated with Clearsy.

Implementation: 2nd half of 2007

[More news...](#)

Industrial Projects

Val de Roissy: recently implemented, safety software has been developed with the B-method in the Atelier B environment. Some information has been updated on the page: [Val de Roissy Project...](#)

Cleary Tools/Methods

Cleary réalise des outils d'ingénierie et distribue notamment l'Atelier B, B4free, Brama et CompoSys. D'autres outils sont en cours de développement. Dans cette lettre, nous détaillons un peu plus l'outil Brama actuellement en développement.

Brama: A tool to assist in the graphic animation of B-models realized in the context of the Rodin project. This tool will be distributed in a month's time as a Beta test and will operate within the Rodin Eclipse environment. All the B-models developed under Rodin can be animated and you can also import the models developed in the Atelier B and CompoSys environments.

A new example of animation, TERMINUS is available from the website: www.Brama.fr

It is the animation of a B-model for testing the routes a train takes on some tracks. The model is brought into play on a portion of a [plan from a real track on the Paris subway](#). It comprises a station at the end of the line and you can 'pilot' the train at the stage when it arrives at the station, completes a turnaround and leaves in particular. The management of the track circuit and the reservation of routes are such that the operator can never cause major risks: **catch-up**: 2 trains circulating in the same direction on the same track, **head-on**: 2 trains converging on each other, one closing in on the other, **broadside**: 2 trains circulating on converging routes.

This animation has been worked in such a way that the animation interface is more intuitive, and more convivial. She is available on the Web site Brama: [Terminus Animation](#).

Animation demonstrations are also available on Brama... [More informations...](#)

Atelier B: available in Test version, the Atelier B 3.7 will be available in June 2007

B4free is available to all on the new website: www.b4free.com

Our Products and Training



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