OCERA

Information Society Technologies

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FT Design Build Tool : FTbuilder

FT builder has been designed to provide user support for the implementation of embedded real-time fault-tolerant applications. It is a major element in the Degraded Mode Management Framework developed in OCERA. It permits : the specification of application real-time constraints, different possible application modes along with related transition conditions and code generation facilities.

The FT builder permits the description of ft-applications in terms of :

❖ **Ft_tasks**. Acquisition of real-time parameters (period, ready-time,expected duration,deadline).
❖ **Ft_tasks behaviors**. Each ft_task has a normal and a degraded behavior.
❖**Application modes**. An application mode is a particular configuration of ft_tasks, i.e. the specification of the relevant behavior for each ft_task.
❖ **Application mode transitions.** An application mode transition is described by a triggering event (kill or deadline_miss), the faulty ft_task, the source mode, the destination mode.
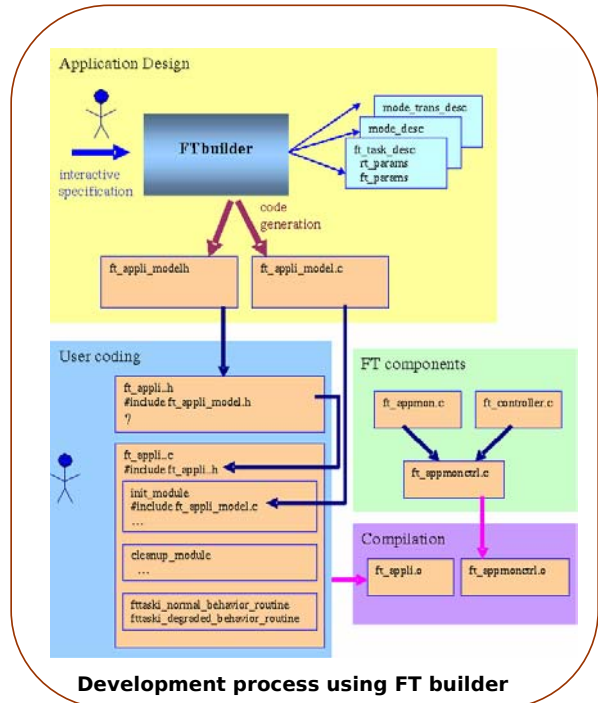
Development process using FT builder

From the specification, code generation is achieved in order to instantiate internal control data-bases of run-time components (**ftappmon** and **ftcontroller**) and to provide application model files.

Features

❖ Interactive definition of Application Model.
❖ Definition and control of real-time parameters
❖ Definition of Application modes and transition conditions
❖ Code generation of application model files that are used at compilation time to instanciate ft components.

FT builder : ft_tasks parameters and mode definitions

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