**AutoFOCUS** is a CASE-Tool prototype for the development of correct embedded systems. Similar to other CASE-Tools it allows to describe the developed systems graphically using several different views.

**AutoFOCUS** builds upon formal methods concepts. The available views are:

- **Interface and structure view:** By using System Structure Diagrams (SSDs) users define the components of the developed system and the interfaces between them and the environment.
- **Behaviour view:** State Transition Diagrams (STDs) describe the behaviour of a component in the system.
- **Interaction view:** Extended Event Traces (EETs) capture the dynamic interactions between components (and the environment). EETs are used to specify test cases or example runs of the systems.
- **Data view:** the (textual) Data Type Definition (DTD) defines the data types and basic operations used in structure, behaviour and interaction diagrams. We use functional datatypes similar to ML.

All views are hierarchic to support descriptions at different levels of detail. **AutoFOCUS** can check the consistency between different views using an integrated consistency mechanism.

**AutoFOCUS** offers a simulation facility to validate the specifications based on rapid prototyping.

**QUEST** offers several features to validate and verify the models of **AutoFOCUS**:

- Connection to the Verification Support Environment (VSE II) for interactive verification of arbitrary properties via translations from **AutoFOCUS** to VSE II and a retranslation from corrected specifications.
- Connection to SMV for model checking temporal properties of abstract (finite) models including an graphical animation of counter examples.
- Connection to SATO for bounded model checking to find finite counter examples.
- Generation of correctness conditions that ensure that properties can be proved in abstract systems and hold in concrete systems.
- Classification of data types using the Classification Tree Editor (CTE).
- Testcase generation out of specifications.
- Conformance tests for Java programmes.

The techniques and tools of the project Quest have been applied to several case studies (traffic light system, storm surge barrier, banking system). Quest has been developed for the German Bundesamt für Sicherheit in der Informationstechnik.

**Price of Correctness ...**

- **AutoFOCUS** prototype is free of charge,
- **Quest** tool set amounts to 10.200 Euro,
- **Support** (and integration of additional features) are charged on individual basis.