Embedded Systems Innovation BY TNO

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Model Based System Architecting (MBSA)

The Design Framework

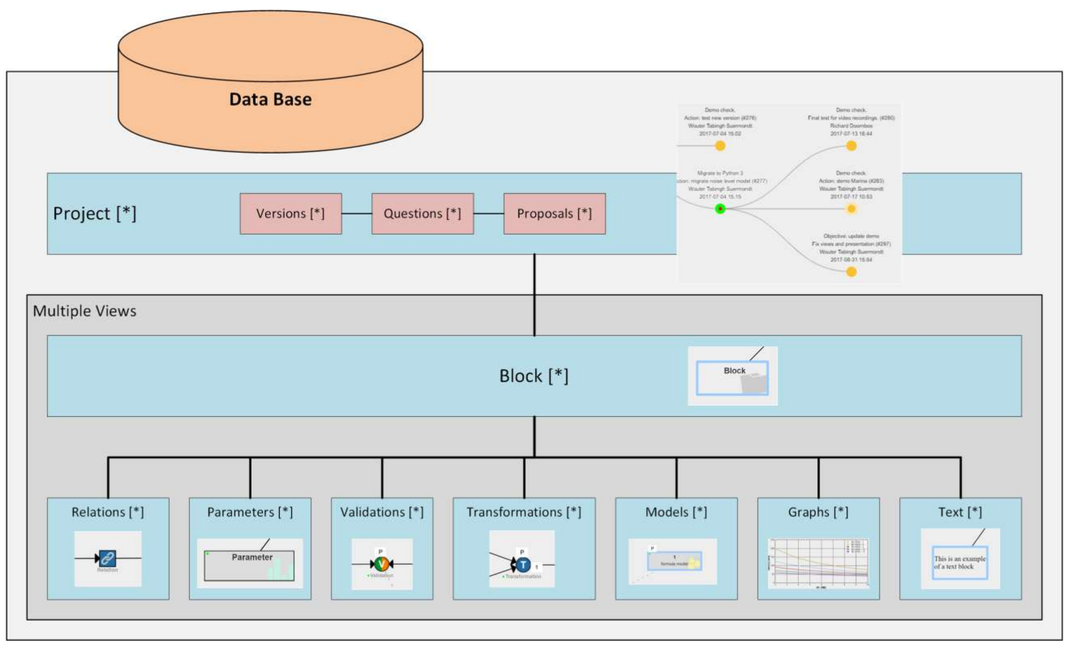
Conclusion

The Design Framework is a well constructed and scalable tool intended for multi-user purpose. Due to the combination of state of the art internet technology and a modular design, DF can support MBSA at an industrial scale.

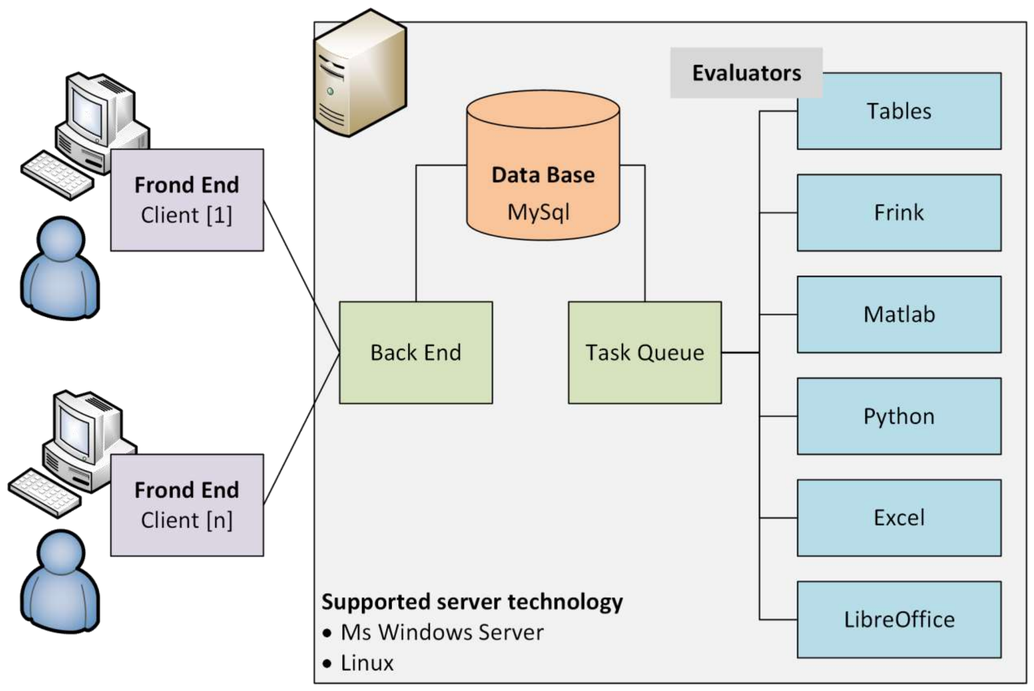
Easy to understand

The Design Framework language adds only a few basic concepts which are easy to understand by architects of all back-grounds.

- Multiple projects. Each project has tracking information and versioning, based on Questions and Proposals. The Flow Viewer provides a graphical overview.
- A project is organized by Views. Each view provides the same information in a customized way, providing consistency over all views.
- The basic structure of the project is based on entities called Blocks. Up to eight Specific Blocks with a clear meaning can be added.



The Design Framework has a limited number of powerful construction elements



The Design Framework execution architecture is modular and easy to expand

The execution architecture

The Design Framework execution architecture is based on state of the art internet technology.

- Deterministic behavior because Change Sets are handled in sequential order by the Task Queue.
- Currently 6 types of evaluators are supported. New types can be added when required.

Architecting with DF

The Design Framework provides System Architects flexibility by offering the following features:

- Multi-disciplinary system overview through multiple views and architectural viewpoints.
- Structuring (qualitative & quantitative) information.
- Relating models, and their associated analyses, to concrete architecting dilemma's and trade-offs.
- Guarding system consistency by validation of key design parameters over multiple domains and stakeholders.
- Capturing of the design rationale, the "why", throughout the system architecting phases.
- Stimulating effective communication by making knowledge explicit.

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