

CONTINUOUS DEVELOPMENT AND ADAPTATION

Software architecture is fundamental for long-lasting, high-quality systems. It must cope with current problems, offer evolution potential and avoid "over-engineering". Agile development is therefore of essential importance in the early phases of software development, but must also be continuously developed and adapted. In addition, software architecture is essential for the testability and thus the robustness of a system.

A cornerstone of the testability and robustness of the overall systems

Ever faster changing requirements demand continuous adaptation and further development of products and systems. Even in hardware-related industries such as mechanical engineering, the software components are meanwhile decisive for competition.

Modern software systems are increasingly complex. Medium-sized and larger projects consume many employee-years. These systems must be able to be operated, modernized and expanded for many years (investment protection).

The software architecture is a central, quality-determining artifact that essentially determines the longevity of a system. The software architecture is therefore important in the agile development process. The work on the architecture is only completely finished when the system is no longer developing.





ITQ

We will create a prototype as soon as possible!

Workshop: Our consultants work with your employees in a workshop to develop storyboards, requirements and an architecture concept. We analyze existing systems and jointly decide whether to integrate new software components into the existing structures (brownfield development) or reuse parts. The further development of the architecture then takes place in the ongoing project.

Prototype: On this basis, we develop a prototype at an early stage. This serves as proof of feasibility and enables quick feedback.

Agile and iterativ: This rough concept will be further developed. If necessary, an adaptation is possible after each sprint.

SOFTWARE ARCHITECTURE BASIS FOR DURABLE AND HIGH QUALITY SYSTEMS

ITQ

APPROACH

Development is a team task

Every software architecture is decisively determined by the non-functional properties of the system to be developed. This includes properties such as maintainability, performance, security, and, in the modern cloud environment, operating costs and national and international regulations.

The development of these criteria is a team task. Scoping and use case workshops form the basis for developing the architecture. In these workshops, we develop the initial rough architecture together with your experts. At the same time, we carry out a reusability analysis of the existing systems. Together with your experts, we evaluate different solutions by taking into account the team structures and the existing technological expertise.

In the next step, we evaluate and demonstrate the feasibility of the chosen approach by using a technical breakthrough. The further development of the architecture then takes place in the ongoing project.



"The software architecture determines the functionality and longevity of a system."

Harald Weigold Member of Management ⊠ weigold@itq.de

BENEFITS What does a software architecture offer you?

- Development of the system properties in the team in order to create a holistic, cross-team understanding
- Differentiation from "neighboring" systems for a clear project focus
- Transparent development of the central system components with the involvement of team members and stakeholders
- Definition of the properties/tasks of the system components in order to be able to develop them in an agile and parallel manner
- Continuous, interactive further development of the architecture in order to incorporate new requirements
- Definition of relationships between the system components

SERVICES

We offer you experience in the fields

- Individually tailored holistic architectures
 - From the sensor to the cloud
 - Control systems and regulation technology
 - Machine operation/HMI
 - IoT solutions
 - Micro service architectures
 - Data acquisition and processing
- Machine learning in an industrial environment

- Teamwork with coaching
- Strong experience in operating systems and platforms
- Modular HMIs and modular distributed systems
- Documentation accompanying the project/visualization of the architecture
- DevOps

		SYSTEMS ENGINEERING				
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