**WHAT IS EMBEDDED TIMING AND TIMING ANALYSIS?**

Timing analysis is an important aspect of software development in the context of real-time systems. It involves the study and measurement of the time behavior of systems, particularly in terms of response times, deadlines, and resource usage. The goal is to ensure that the system meets its temporal requirements, which are crucial in many safety-critical applications such as automotive, aerospace, and medical devices.

**TIMING ANALYSIS TECHNIQUES**

- **Static code analysis**: This technique involves analyzing the code to estimate timing properties without executing the code. It is useful in early phases of development when the code is still being designed.
- **Dynamic code analysis**: This technique involves running the code under specific execution conditions and measuring the timing properties. It is useful in late phases of development when the code is already implemented.
- **Formal verification**: This technique involves using mathematical models to prove that a system meets its timing requirements. It is useful in early phases of development when the system is still being designed.

**STANDARDS**

- **Autosar Timing Extensions with AUTOSAR v4.4**: These extensions have been developed to support the definition of timing requirements in the context of automotive systems.
- **Safety Standards and WCET Analysis Tools**: These standards provide guidelines and tools for analyzing the worst-case execution times of software applications.

**LEGAL ASPECTS AND LIABILITY**

- **Liability for Timing Errors**: Liability in the context of timing errors can be complex and depends on factors such as the level of care taken during the design and implementation of the system.

**MULTICORE**

- **Multicore Development**: Multicore development involves the design and implementation of software applications that can run on multiple processors. It requires understanding the complexities of parallel processing and ensuring that the software is designed to take advantage of the available resources.

**REFERENCES**