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Chapter 1

Concurrent Programming

A concurrent program cannot communicate with an external entity or with a component running on another processor while executing speculatively. The Transactional Memory programming model does not offer a satisfactory solution to the problem of communicating with entities outside the program nor does it offer a way of avoiding the complexity inherent in coordinating concurrent actions. This chapter examines the aspects of the database programming and functional programming models that can be usefully incorporated into a concurrent programming model.

Section 2.1 identifies the choice of mechanism to support Input and Output (IO) and operating system interaction as one of the key decisions when designing a concurrent system.

Section 2.2 identifies uncertainty about the passage of time as the source of the complexity in a concurrent system.

Section 2.3 identifies the characteristics that a solution to the concurrency problem must have.

Bibliography