What is time?

Time is something we measure with a clock. If we want to specify properties of a system that involve real time, then our specification needs to describe a clock. For example, if we want to say that it takes 5 seconds for the system to do something, then we will have to add a variable whose value represents the time shown on the clock.

I like to write such real-time specifications in terms of a variable *now* that represents an ideal clock that keeps perfect time. In such specifications, the passage of time is represented by a step that increases the value of *now*. These specifications typically allow steps that leave *now* unchanged. A sequence of such steps represents a sequence of operations that are considered all to happen at the same time.

The word "time" in my explanation of the temporal operator $\Box$ is not what we usually mean by time.

CLOSE