**Input/output automata give a formal paradigm that can be used to describe almost any type of asynchronous concurrent system. The I/O automaton model, on its own, has a relatively basic structure that allows it to describe numerous sorts of distributed systems. Additional structure must be added to this fundamental model in order to define certain sorts of asynchronous systems. The model provides an explicit mechanism for defining and reasoning about system components such as processes and message channels that interact at variable relative speeds. [1] Nancy A. Lynch and Mark R. Tuttle published the first I/O automata in "Hierarchical validity proofs for distributed algorithms" in 1987. [2]**

**"A distributed system component that may interact with other system components is represented by an I/O automaton. It is a simple sort of state system in which transitions are linked to specific actions." [1] Input, output, and internal actions are the three categories of actions. The automaton communicates with its environment through its input and output actions, while its internal actions are only visible to the automaton. Unlike internal and output actions, which the automaton selects and executes, input actions, which simply arrive from the environment, are not under the automaton's control. [1]**