

The family of self-replicating cellular automata is interesting mainly for being able to demonstrate that even simple environments can make rise to structures capable of self-replication. Besides creating its own copy, a purposely designed automaton can produce additional side patterns during its lifetime. The aim of the work is to create a cellular automata simulation environment that is flexible and fast, as some cellular automata become interesting only after thousands or millions of steps. The second aim of the work is to design and implement a generalisation of the Tempesti's loop using this environment. The outcome of the work is a generalisation that allows for automatized creation of rules and patterns for a given side pattern.