

## **Distinguishing automata machine by using UPPAAL as a model checker**

### **ABSTRACT**

Upon to the evolvement of technologies, electronic commerce and other online businesses are exposed to vulnerability hence invoking damages and untraceable fraud to the end users. Software engineers in the moment by moment, tracks the design and the analysis so that they can ensure the safety of the overall process from the root itself. Besides that we have proposed model checking to check on the behavior of a design. Thus our research has identified and differentiate the best of two methods of model checking which is Finite State Automata and Non Deterministic Pushdown automata. For the purpose of simulation, UPPAAL tool has been used over a part of Online Shopping system case study.

**Keyword:** Model checking; Electronic payment; Finite State Automata; Non Deterministic Pushdown Automata; UPPAAL; Online Shopping system; Possible traces