

# Simulasi Proses Evakuasi di Supermarket menggunakan Multi Thread Cellular Automata

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## Abstract

Cellular Automata (CA) can simulate system irregularities that are difficult to be modeled by differential equations. CA has been applied for modeling fluid flow, galaxy formation, landslides, traffic jams, forest fires, earthquakes and evacuation process simulations. Case studies raised for simulation in this study are supermarket fires. In simulating a fire using CA, the objects taken into account are the room size and the number of visitors. The more complexity of CA, the longer the computing time. Therefore, in this research, multithread architecture is used to overcome the problem of simulation computing time. After the simulation, there is a fluctuating run time between threads, but optimal results are obtained when using 8 threads.

Keywords: evacuation simulation, cellular automata, multithread, run time

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