

Department of Mathematics, Computer Science and Physics, University of Udine

Run-time verification of web applications

Roberto Tonino
tonino.roberto@spes.uniud.it

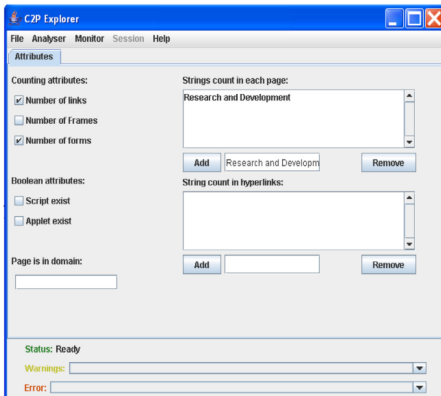
March 15, 2025



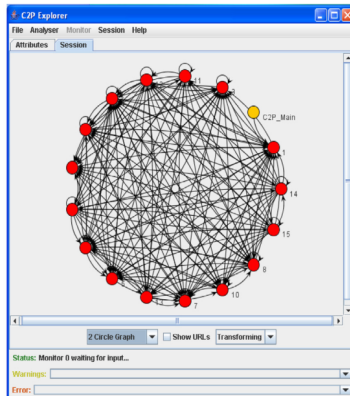
Let's start from the end

- Tool for automatic verification of web applications
- Empirical results
- Limited setting in my opinion: no JavaScript
- Paper from 2013

Let's start from the end



(a)



(b)

How?



How?

- Communicating automata model
- LTL with a new operator
- Spin



Single-display automata

- Automata that represent a browser session of an user
- States are the pages of the session
- Transitions are clicks to links and form submissions
- Don't take into account other frames and/or windows



Multi-display automata

- Automata that represent a browser session of an user
- Have links, form targets, frames
- Take into account multiple frames and/or browser windows