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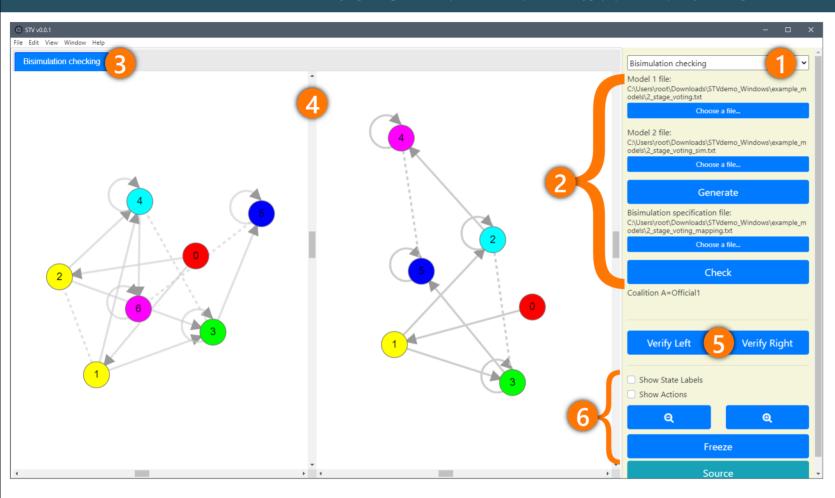
STV: Model Checking for Strategies under Imperfect Information (Demo)

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1 CHOOSE AN ACTION

STV is a tool for verification of Multi-Agent Systems. It does explicit-state model checking and addresses the state space explostion problem. STV offers:

- model verification,
- automated partial order reduction,
- bisimulation checking equivalence of models according to a defined relation of A-bisimulation.

2 GENERATE MODEL(S)

STV includes several parameterized example models:

- asynchronous: simple & two-stage voting, train-gate-controller;
- synchronous: bridge end-play, castles, drones, Tian Ji.

In a model specification file user can define:

- local automata for the agent(s),
- propositional variables,
- persistent propositions,
- agent names,
- ATL formula.

3 CHOOSE A MODEL TO VIEW:

- local automaton for each agent,
- generated global and reduced models for POR.
- side-by-side view of two (global) models for bisimuation-checking.

4 EXPLORE MODEL(S)

GUI provides an intuitive interface with color-highlights for:

- initial states,
- winning strategy (if exists),
- states satisfying given formula,
- reduced model fragment,
- pairs of bisimilar node subsets.

5 VERIFY MODEL(S)

Given formula can be verified both on global and reduced models using:

- fix-point approximation (upper/lower),
- dominance-based strategy search (DominoDFS).

6 ADJUST GRAPH SETTINGS

- ▶ The view can be panned and zoomed.
- Labels with state or transition details can be shown by hovering over the target node/edge or toggled for the whole graph.