

Critical System Test

a1 a2 a3 a4



User-Centric System Test

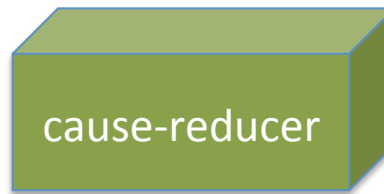
b1 b2 b3 b4

k = 2 Initial Composition

a1 a2 a3 a4 b1 b2 b3 b4 a1 a2 a3 a4 b1 b2 b3 b4

Due to interference (actions a2 and a3 interfere with b1 and b3 interferes with a1, etc.) this is a weak test

Cause-reducer relies on contiguous actions being related, uses binary-search like strategy (based on widely used delta-debugging algorithm)



validity properties

Composition with Maximal Coverage and Interaction

a1 a4 b1 b2 b4 a1 a2 a4 b1 b2 b3 b4

Removing the interfering actions produces an interleaving of actions with high test coverage

Safety-critical System

many interactions due to new test

User-Centric System