

Tacon: A Tablet PC-based Tool for Teaching Concurrent Programming

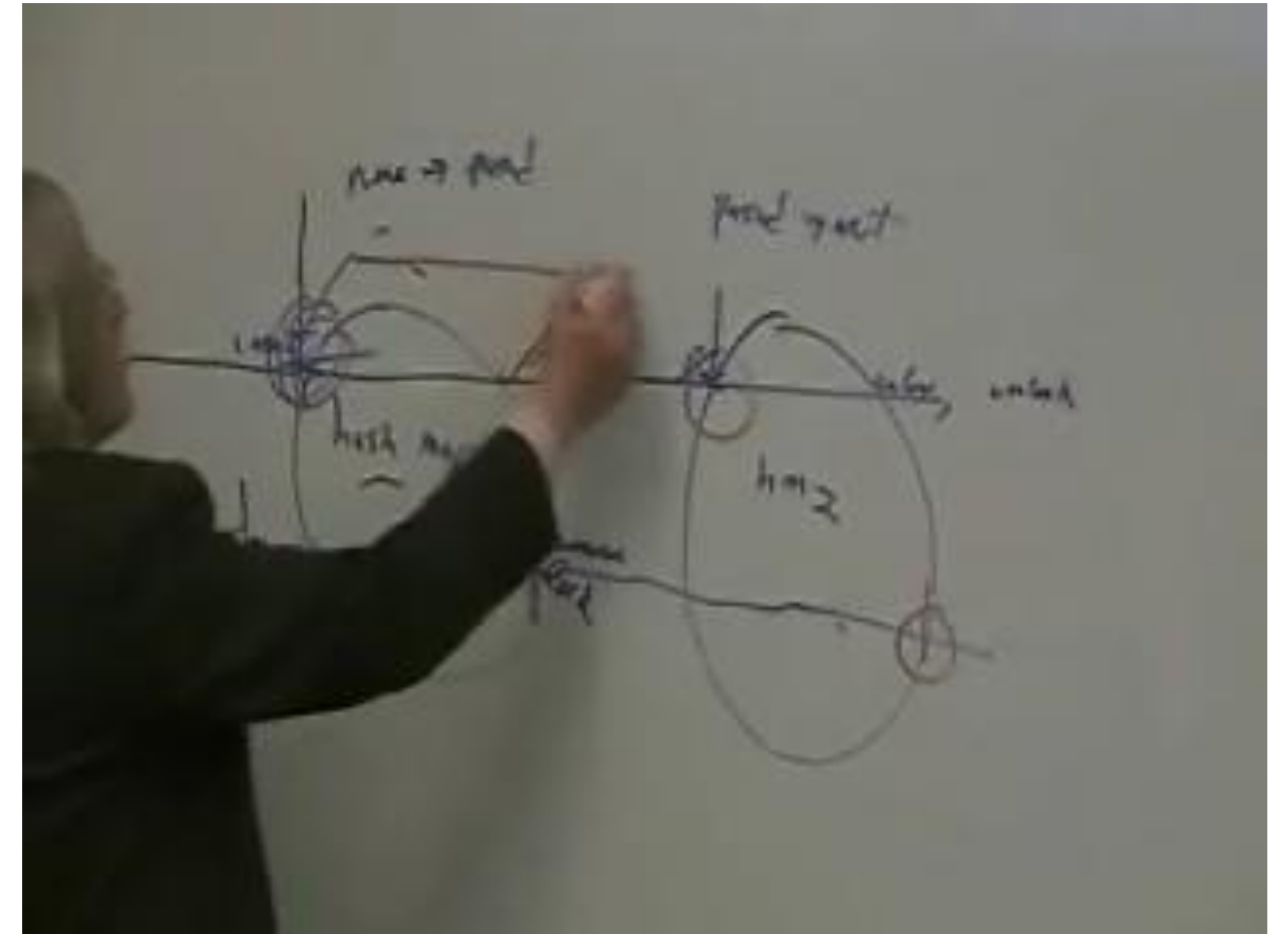
<http://www.cs.oswego.edu/~lqiu/tabcon>

State University of New York at Oswego

Lin Qiu, Dan Schlegel

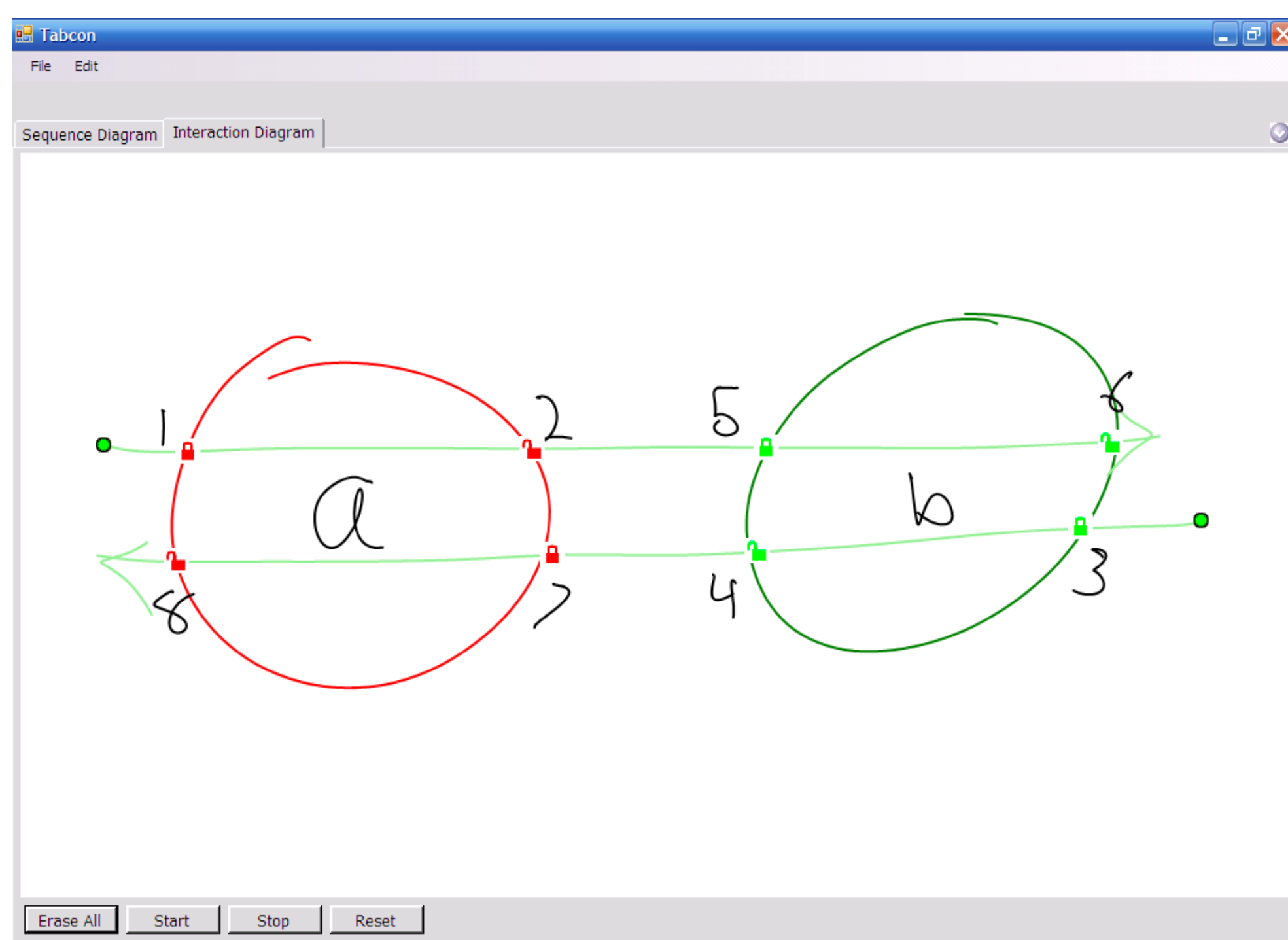
Challenges

- Concurrent programming is difficult to teach. It involves non-determinism and multi-thread interactions that are hard for students to learn.
- Code and diagrams created during class do not record the important ephemeral information conveyed by the instructor. It is difficult for students to recall the runtime behavior illustrated by the instructor.
- Simulation tools are not flexible enough to be used in a natural and just-in-time manner during class.

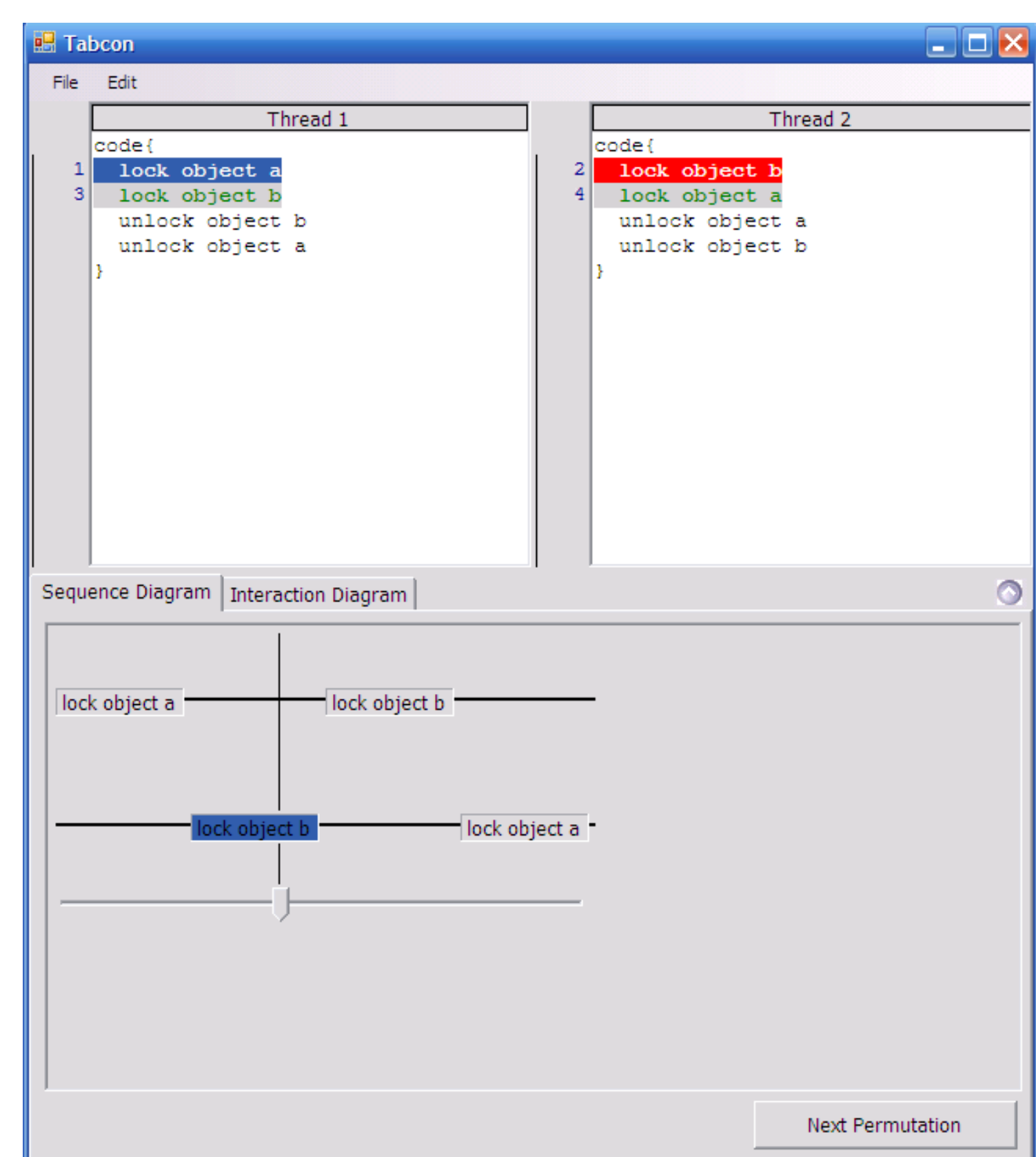


Solution: Use pen-based interfaces to integrate simulation authoring into teaching

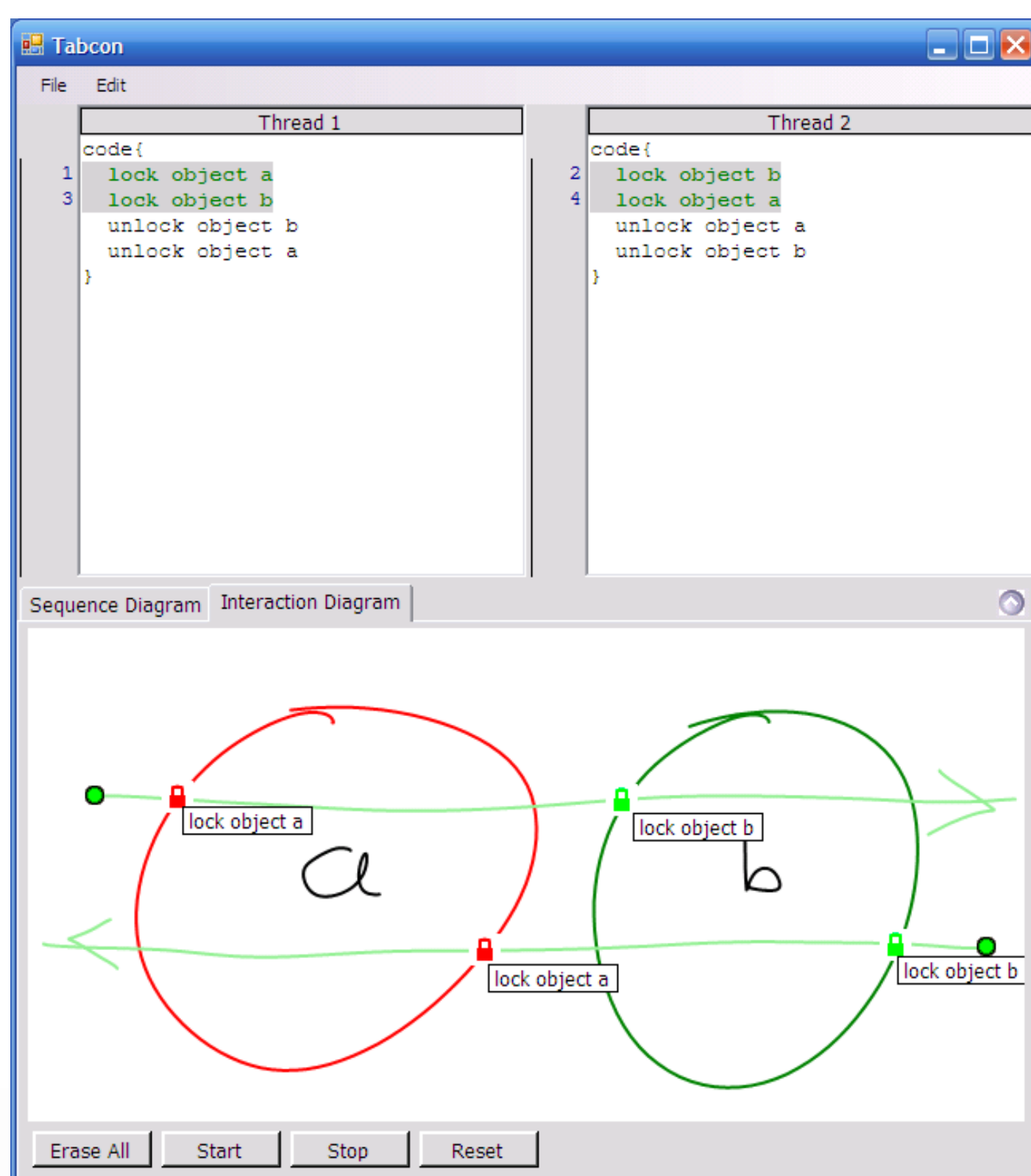
Allow teachers to draw naturally, and recognize teachers' sketches to turn them into simulations.



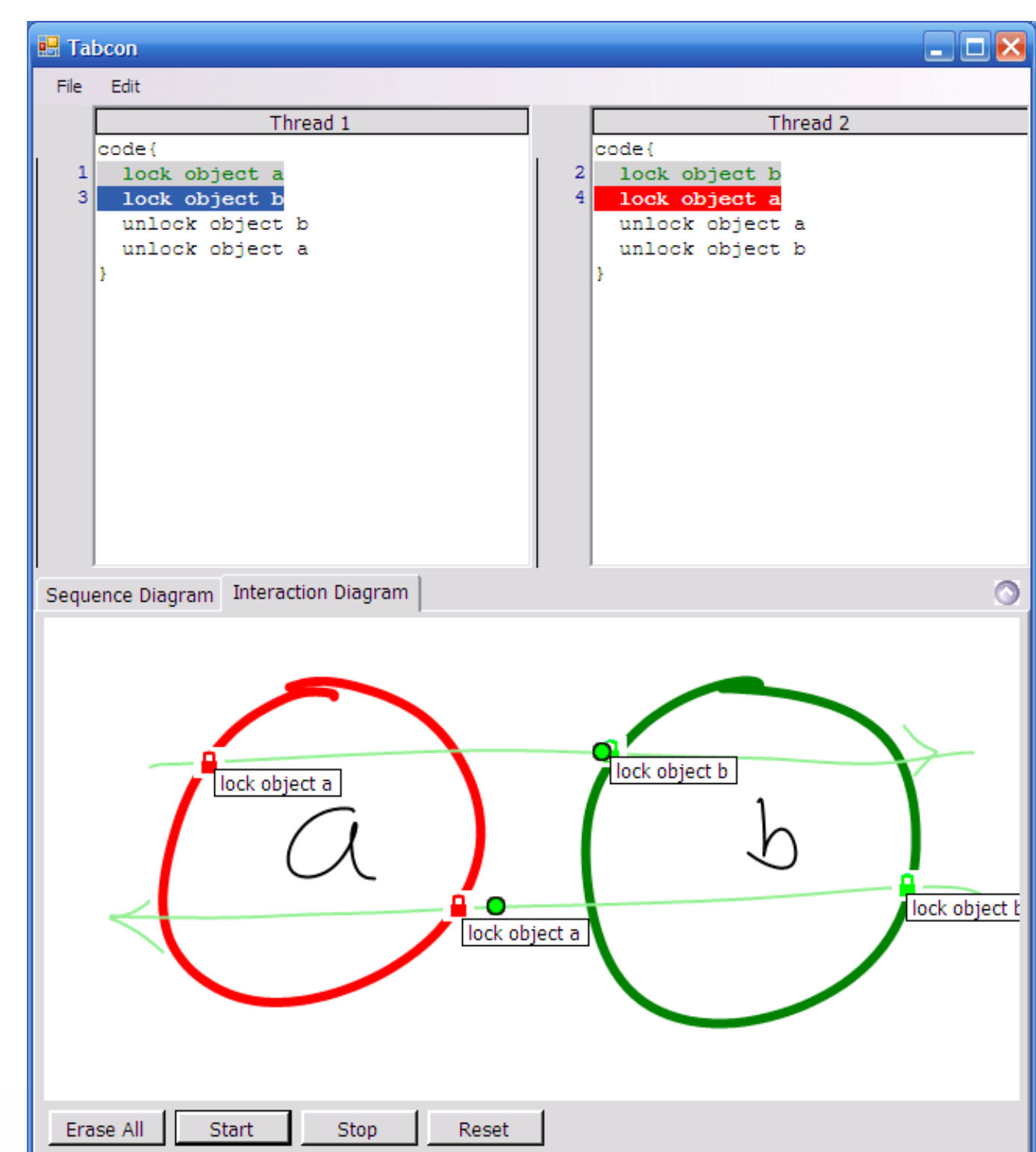
Authoring multithread simulation through sketching



Automatic generation of thread diagrams and runtime simulation based on annotation marks



deadlock problem



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