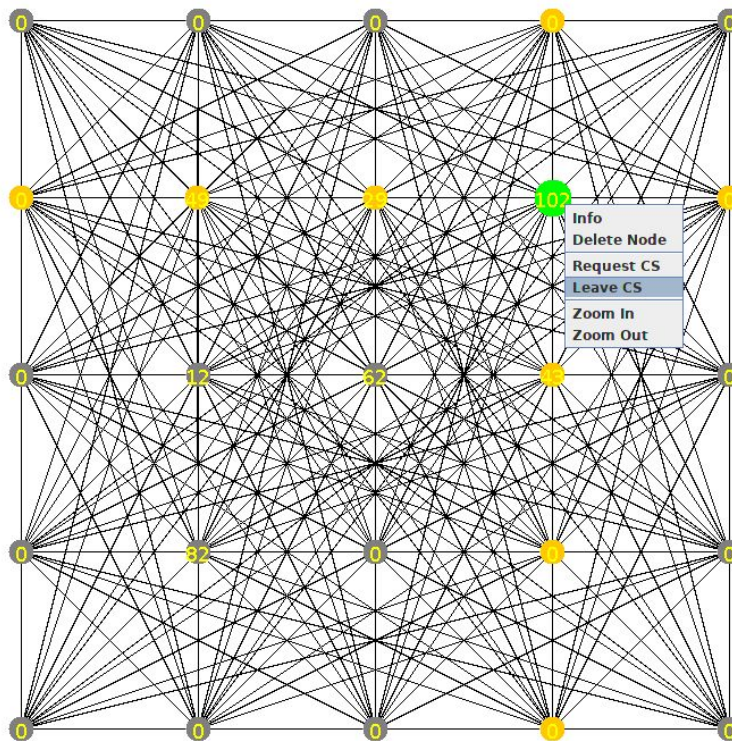




Sanders87 - Sinalgo

Marcelo Paulon




Implementation

- Heavy use of logging
 - Evolution of the node state over time
 - Debugging
- Control interface
 - Request/Leave CS
 - Probability controls (PIs, Pcs)
 - Coterie input file
 - State reset



Simulation Control
Round: 453
Rounds to do: 1
Refresh rate: 1
 

Project Control
IN RESET Pls AUTO Pcs

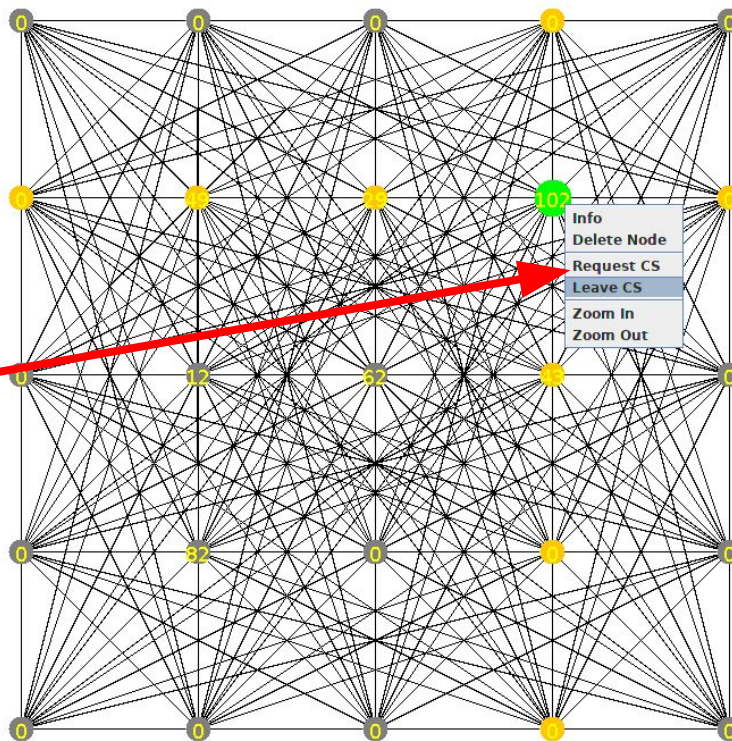
View
  

Output
Node 7 leaves CS
Node 13 leaves CS
[ERROR] Node 9 IS NOT IN C
S
Node 9 requests access to C
S
Node 17 requests access to
CS
Node 9 leaves CS
Node 17 leaves CS
Node 9 requests access to C
S

Clear

Implementation

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 - Evolution of the node states over time
 - Debugging
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Simulation Control
Round: 453
Rounds to do: 1
Refresh rate: 1
▶ ◻

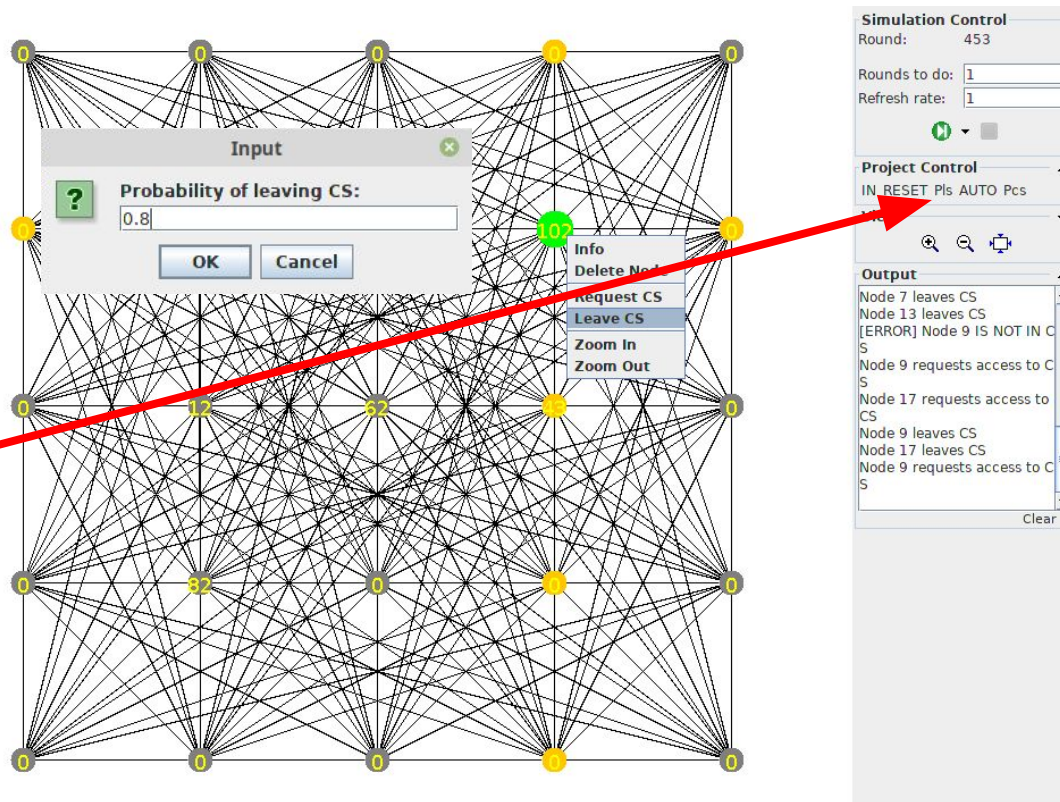
Project Control
IN RESET Pls AUTO Pcs

View
🔍 🔍 🔄

Output
Node 7 leaves CS
Node 13 leaves CS
[ERROR] Node 9 IS NOT IN C
S
Node 9 requests access to C
S
Node 17 requests access to
CS
Node 9 leaves CS
Node 17 leaves CS
Node 9 requests access to C
S
Clear

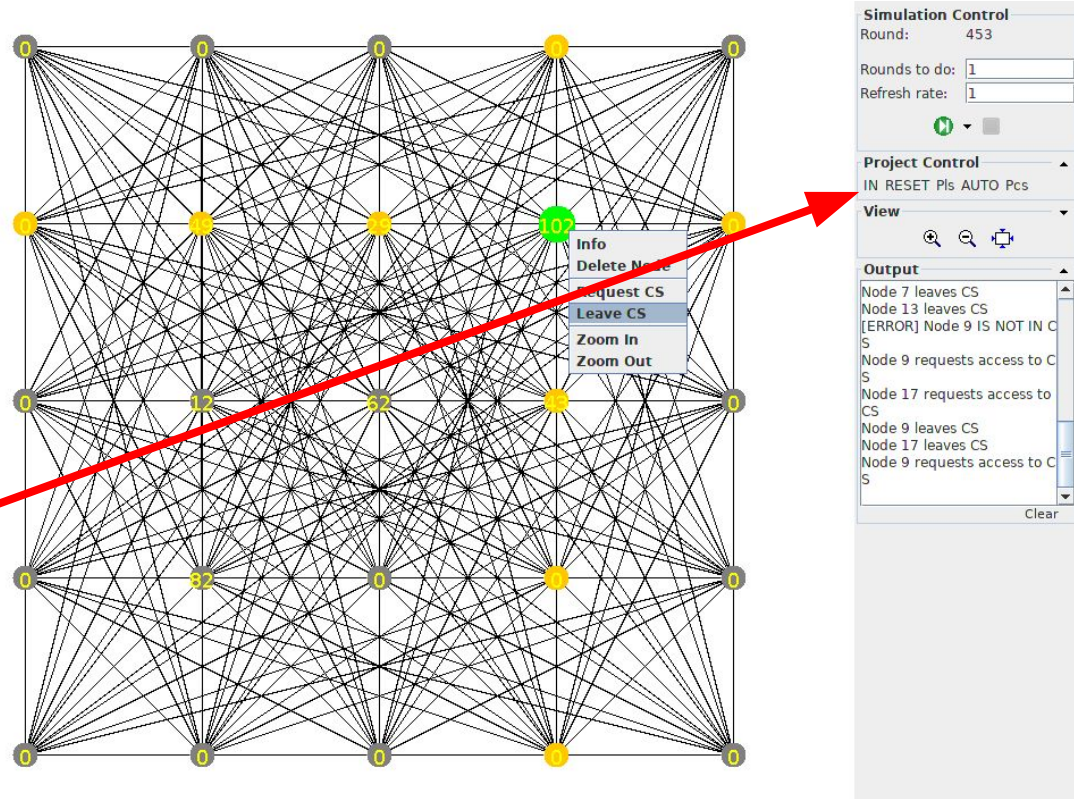
Implementation

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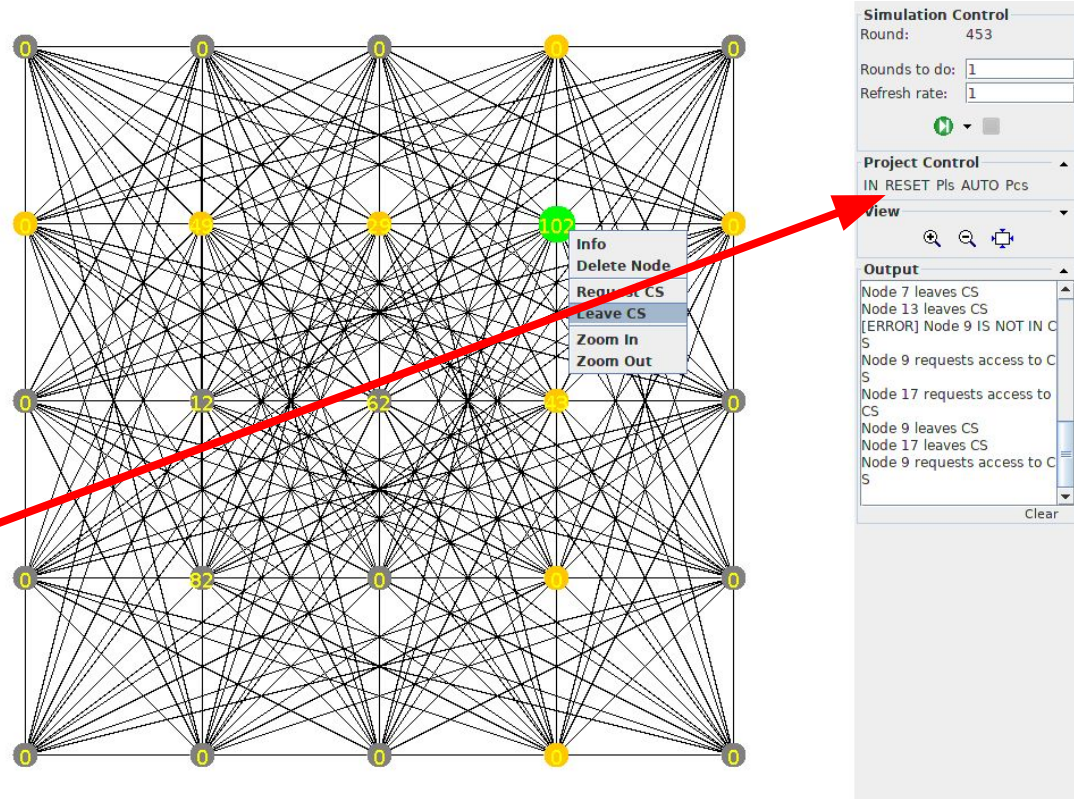
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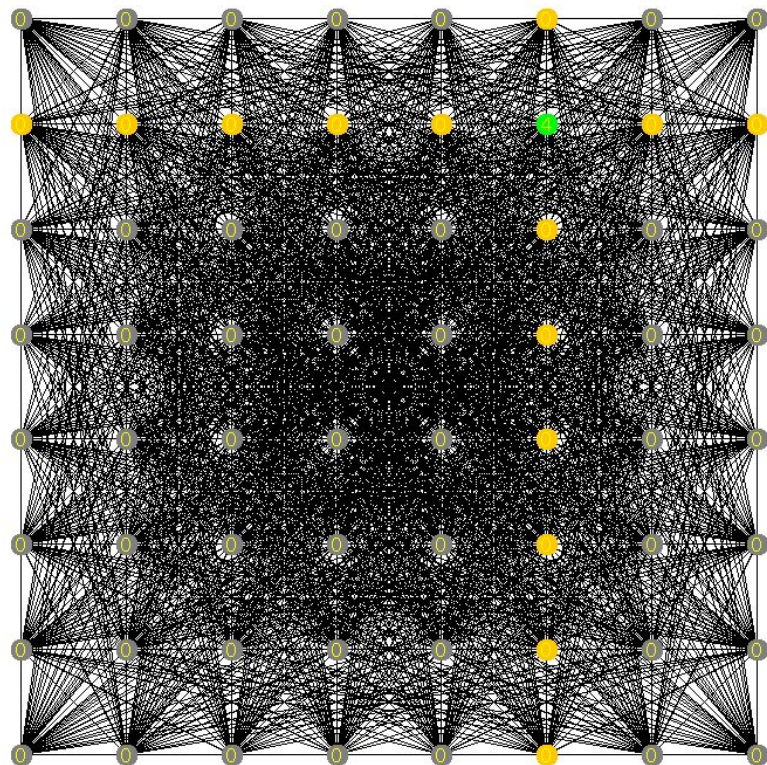


Connectivity Model

- Complete graph connectivity model made visualizing edges difficult
 - Simple implementation:

```
public class CompleteGraph extends ConnectivityModelHelper {  
    @Override  
    protected boolean isConnected(Node from, Node to) {  
        return true;  
    }  
}
```

- Message transmission model delays message delivery in 2 rounds in 50% of the cases



Coterie input file

- Each line contains the node id (1-indexed) and a comma separated list of the nodes in its coterie
 - Flexible to allow easy reconfiguration of the coterie
 - Very verbose; ideally should be generated using an automated script (as it was done for k=9 and k=15 same line/row distributions)

```
1=16,2,3,4,5,21,6,11
2=1,17,3,4,5,22,7,12
3=1,2,18,4,5,23,8,13
4=1,2,3,19,5,24,9,14
5=1,2,3,4,20,25,10,15
6=16,1,21,7,8,9,10,11
7=17,2,6,22,8,9,10,12
8=18,3,6,7,23,9,10,13
9=19,4,6,7,8,24,10,14
10=20,5,6,7,8,9,25,15
11=16,1,21,6,12,13,14,15
12=17,2,22,7,11,13,14,15
13=18,3,23,8,11,12,14,15
14=19,4,24,9,11,12,13,15
15=20,5,25,10,11,12,13,14
16=1,17,18,19,20,21,6,11
17=16,2,18,19,20,22,7,12
```

...

Results

	100 ROUNDS					
k	15	15	15	9	9	9
PSC	0.2	0.5	0.8	0.2	0.5	0.8
PLC	0.5	0.5	0.5	0.5	0.5	0.5
Relinquish 1	23	33	25	1	15	6
Relinquish 2	39	33	26	14	10	9
Relinquish 3	33	33	25	5	9	12
Relinquish 4	30	33	31	8	18	14
Relinquish 5	27	28	26	10	10	10
Relinquish avg	30.4	32	26.6	7.6	12.4	10.2

Results

	100 ROUNDS					
k	15	15	15	9	9	9
PSC	0.2	0.5	0.8	0.2	0.5	0.8
PLC	0.8	0.8	0.8	0.8	0.8	0.8
Relinquish 1	32	34	23	7	12	7
Relinquish 2	23	37	31	8	16	14
Relinquish 3	33	31	28	5	11	12
Relinquish 4	24	33	32	10	10	15
Relinquish 5	29	25	30	5	11	11
Relinquish avg	28.2	32	28.8	7	12	11.8