Formalismes synchrones graphiques

SyncCharts

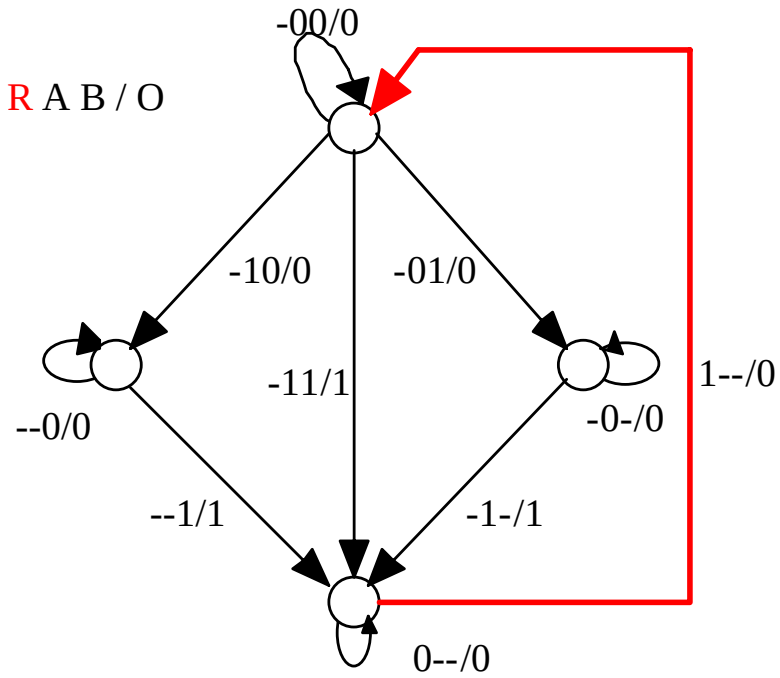
Retour sur ABRO

```
module ABRO2:
  input A,B,R;
  output O;
  loop
    {
     await A
     ||
     await B
    };
    emit O;
    await R
  end loop
end module
```

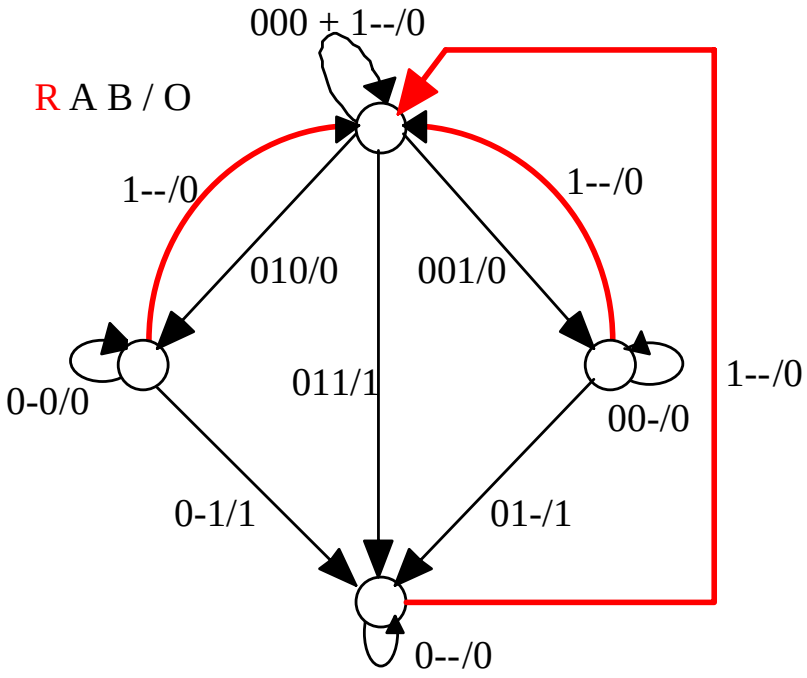
```
module ABRO:
  input A,B,R;
  output O;
  loop
    {
     await A
     ||
     await B
    };
    emit O
  each R
end module
```

Modèles non synchrones

Machine de Mealy



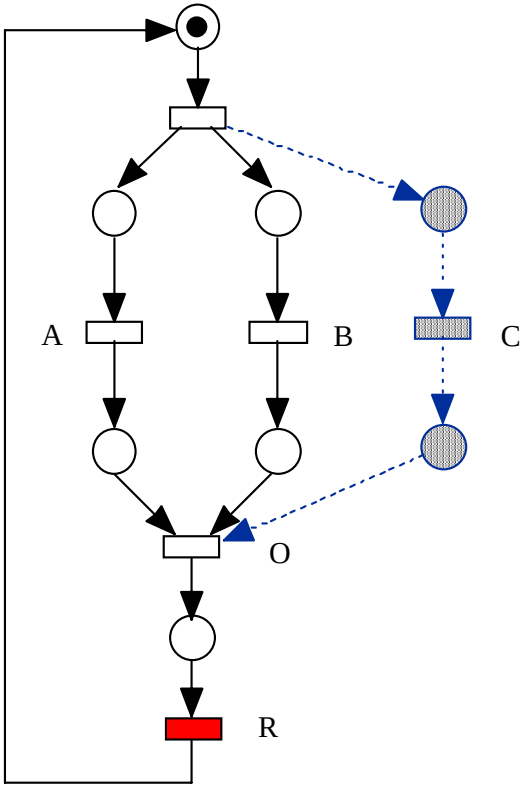
(ABRO2)



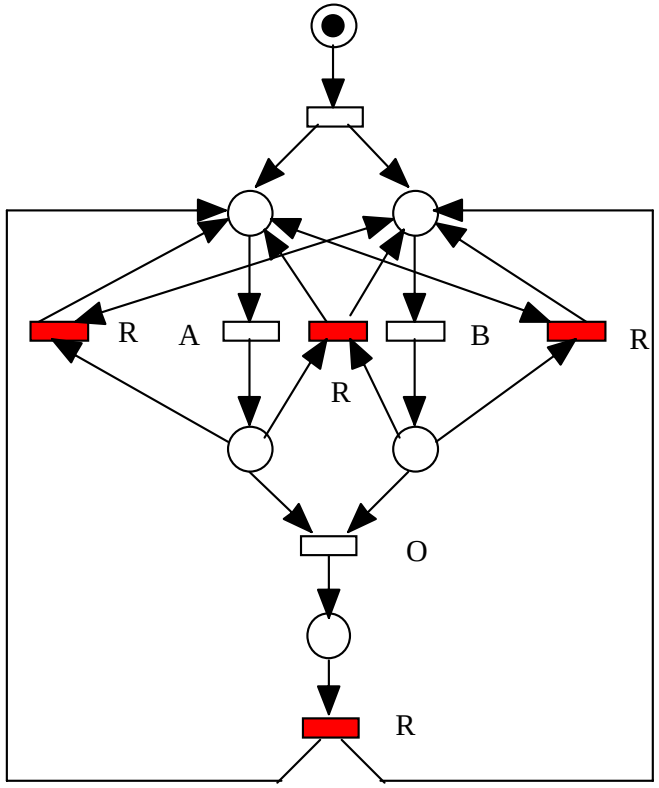
(ABRO)

Modèles non synchrones

Réseaux de Petri



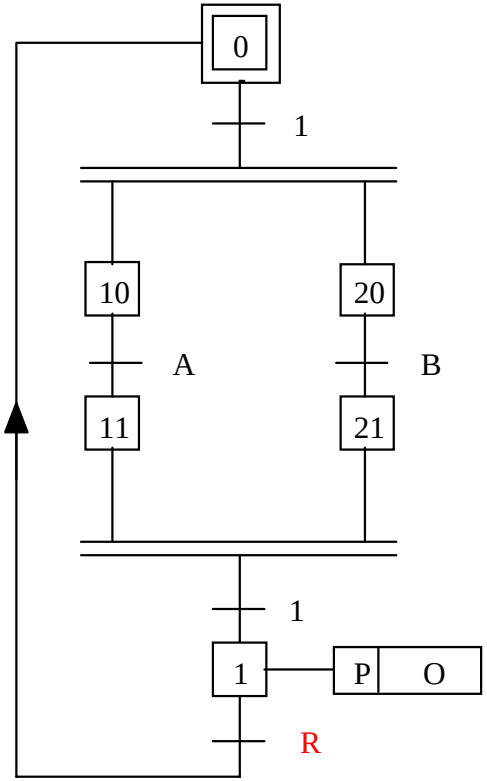
(ABRO2)



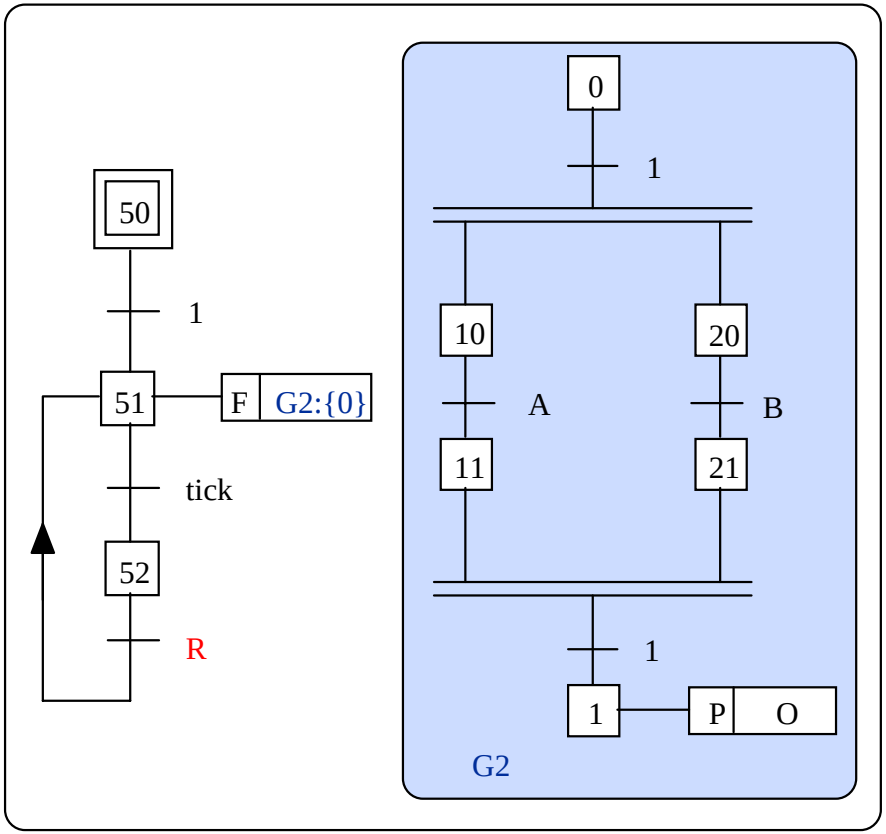
(ABRO)

Formalismes « quasi » synchrones

Grafcet



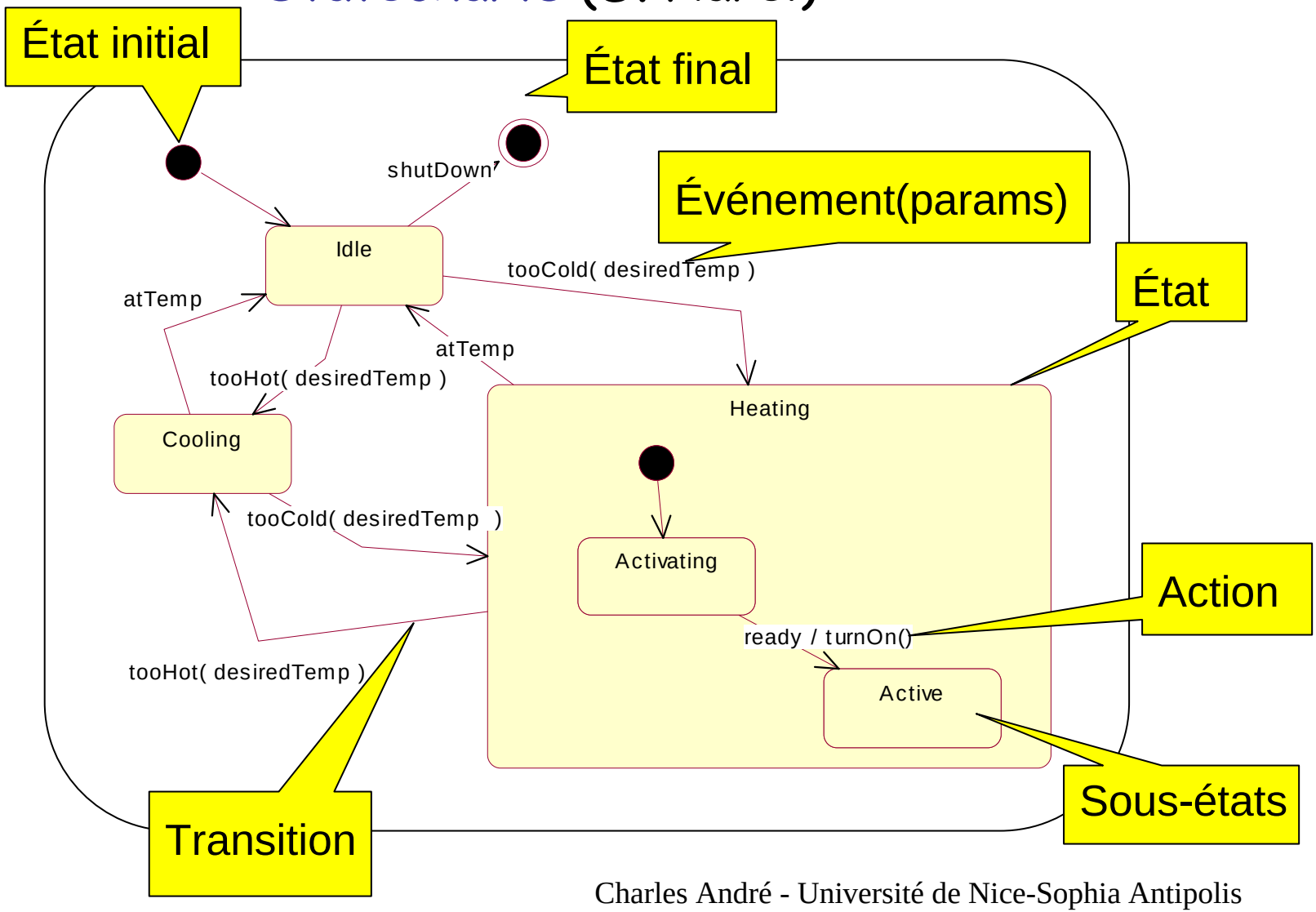
(ABRO2)



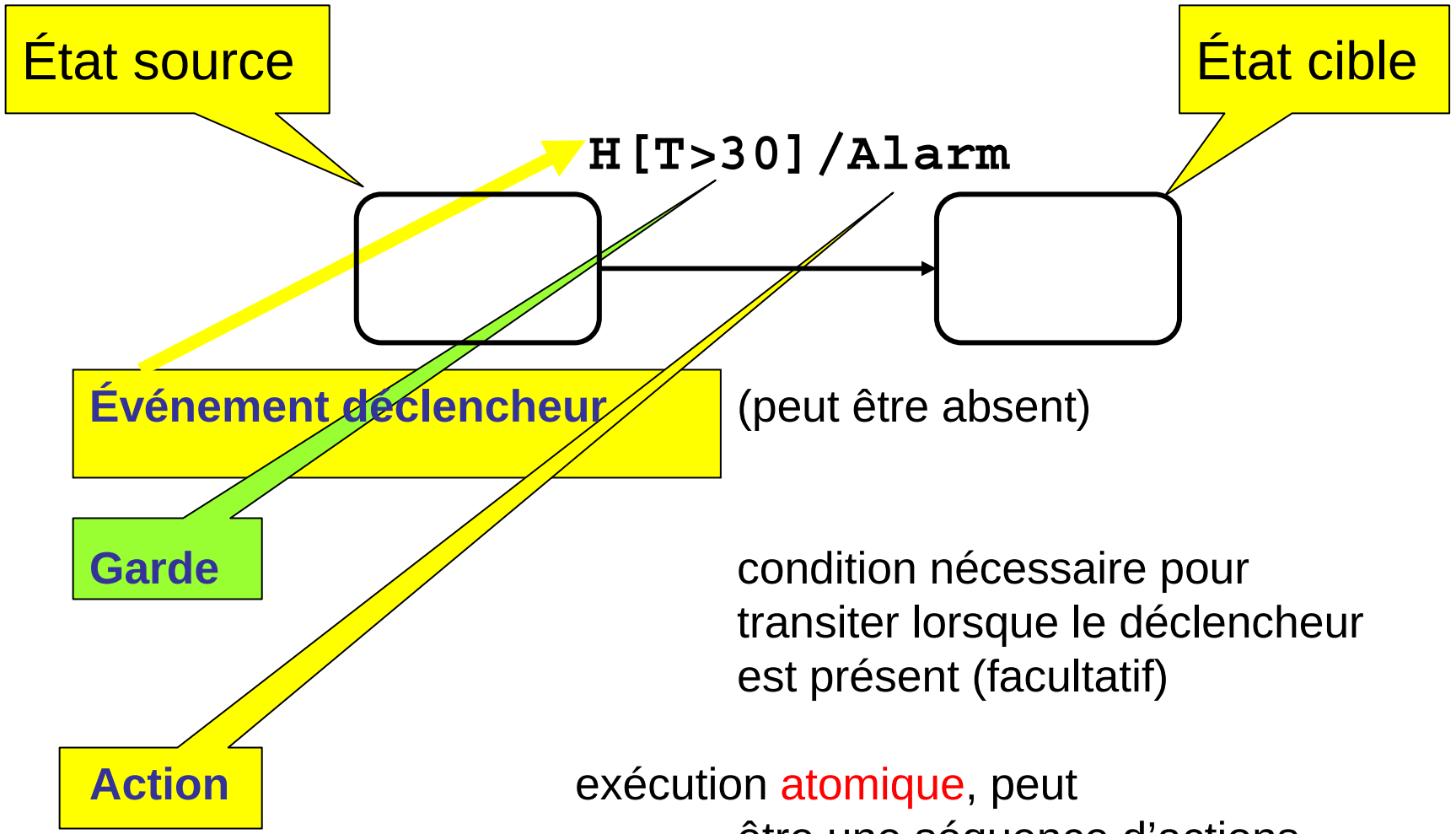
(ABRO)

Formalismes « quasi » synchrones

Statecharts (D. Harel)

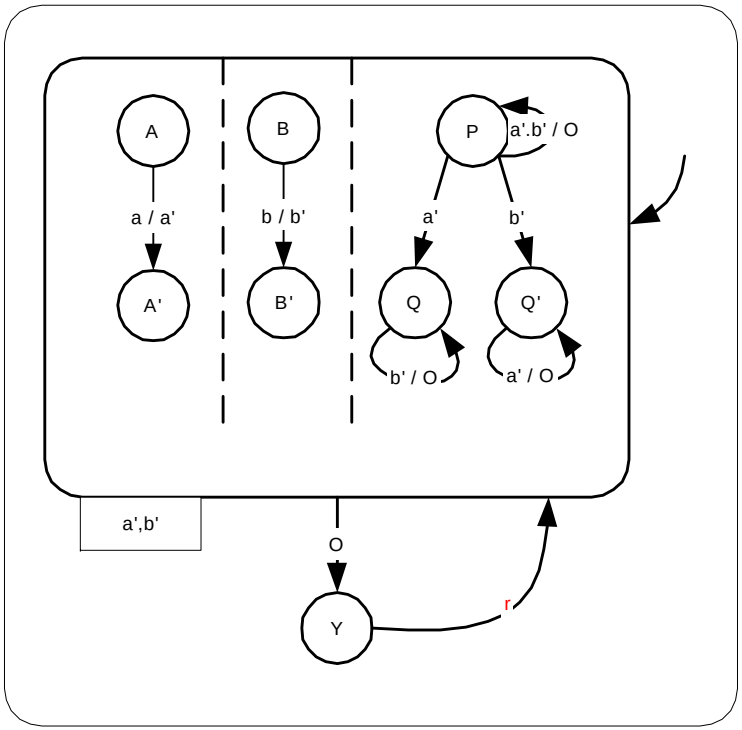


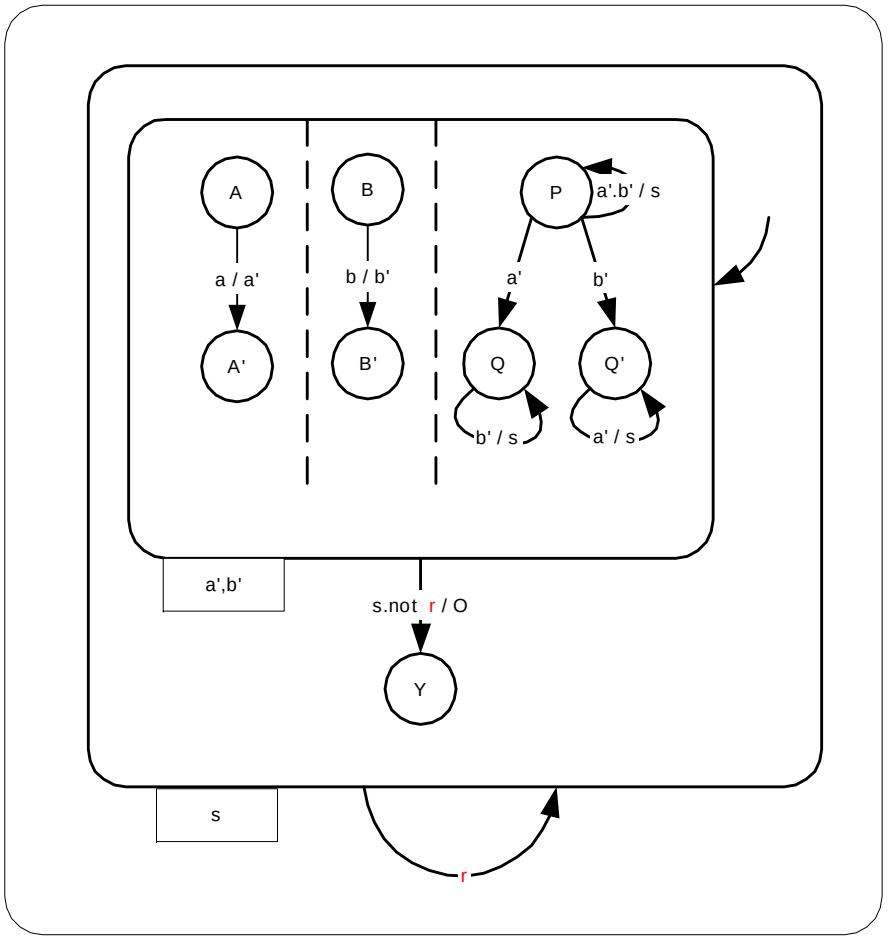
Statecharts (2)



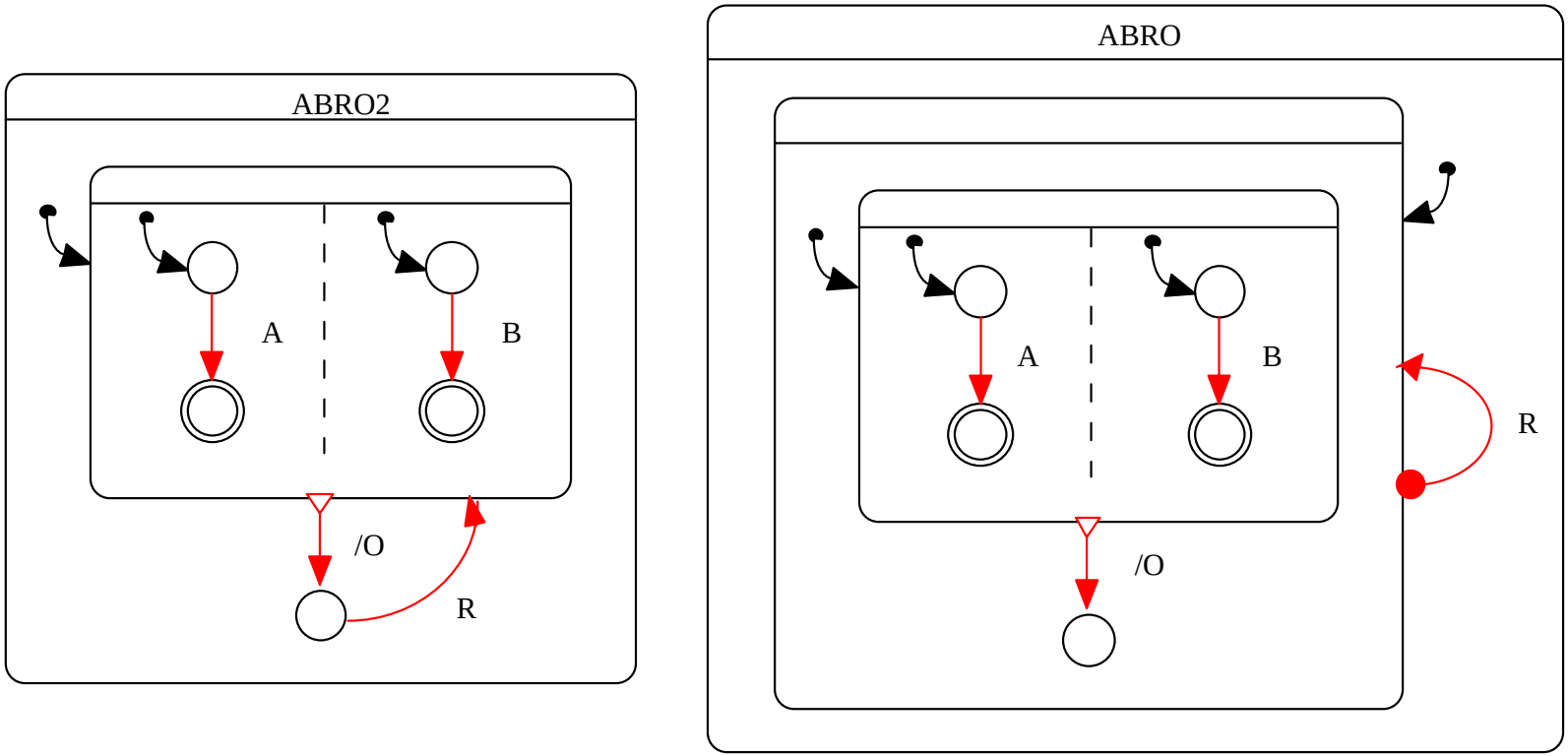
Formalismes synchrones

Argos (F. Maraninchi)





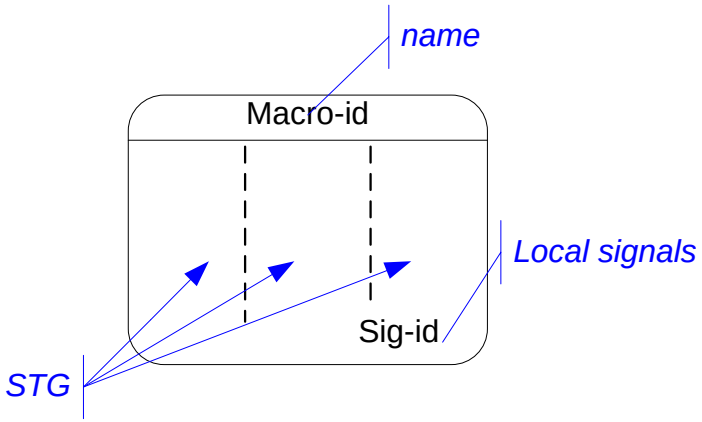
SyncCharts



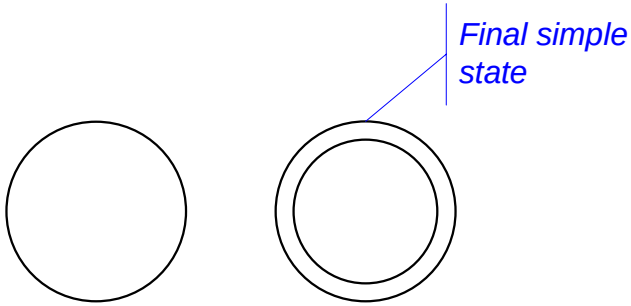
Technical report on the model and its semantics:

Available at //www.esterel-technologies.com,
Download>Scientific Papers>Semantics of S.S.M

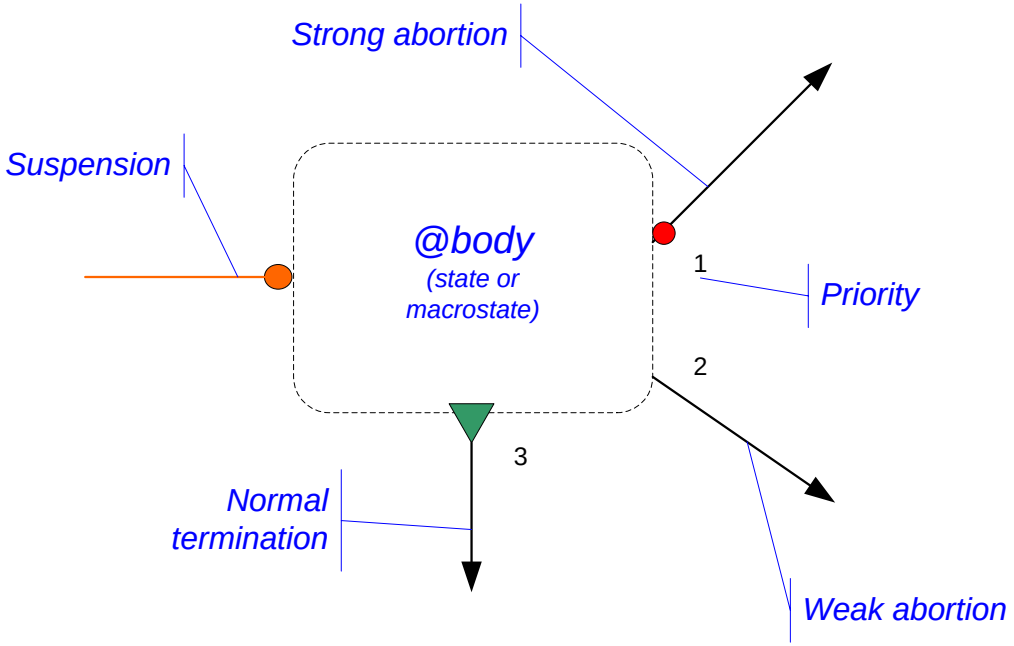
Syntaxe (1)



(A) Macrostate



(B) Simple states



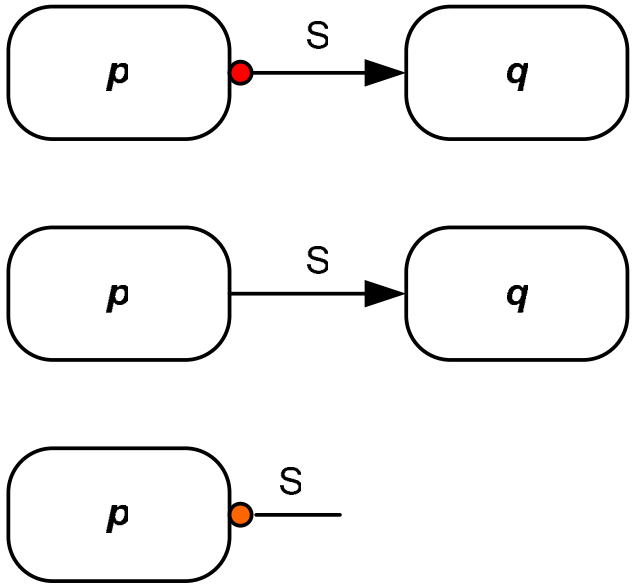
(C) Reactive Cell

Syntaxe (2)

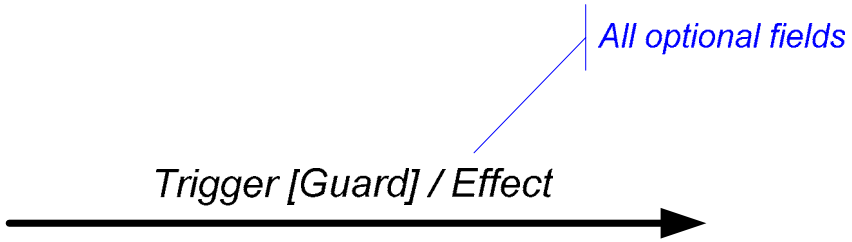
abort
p
when S;
q

weak abort
p
when S;
q

suspend
p
when S



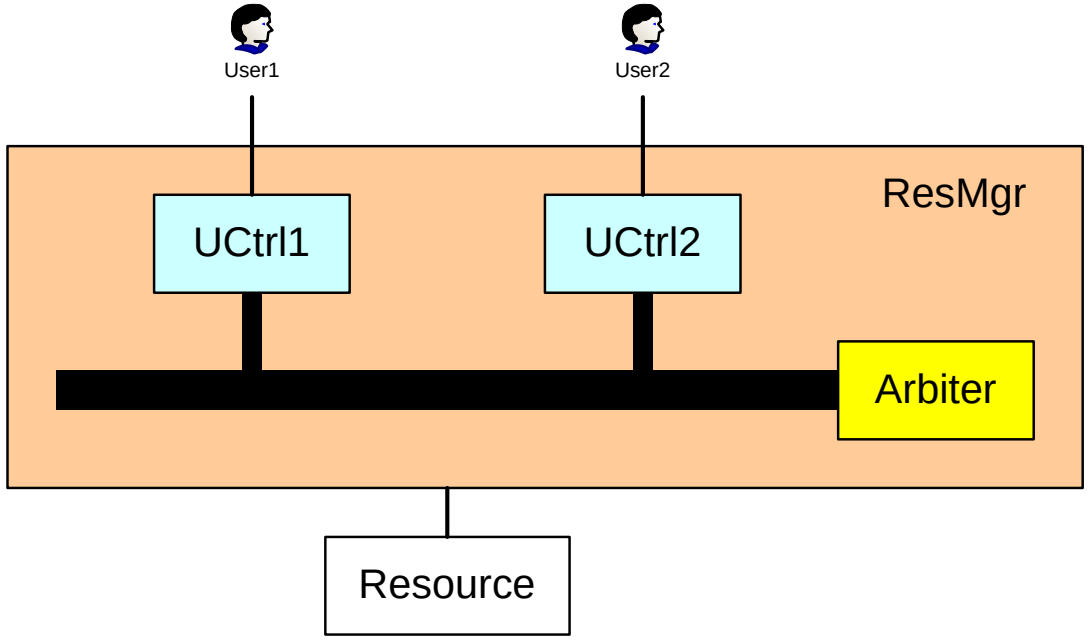
(A) Preemptions



(B) Transition

Example : A Simple System

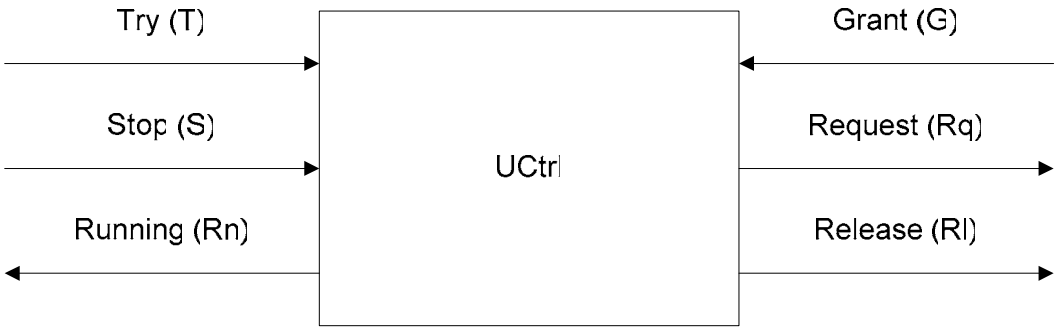
- The system consists of
  - A shared resource
  - Two users that compete to access the resource
  - An access controller (ResMgr)



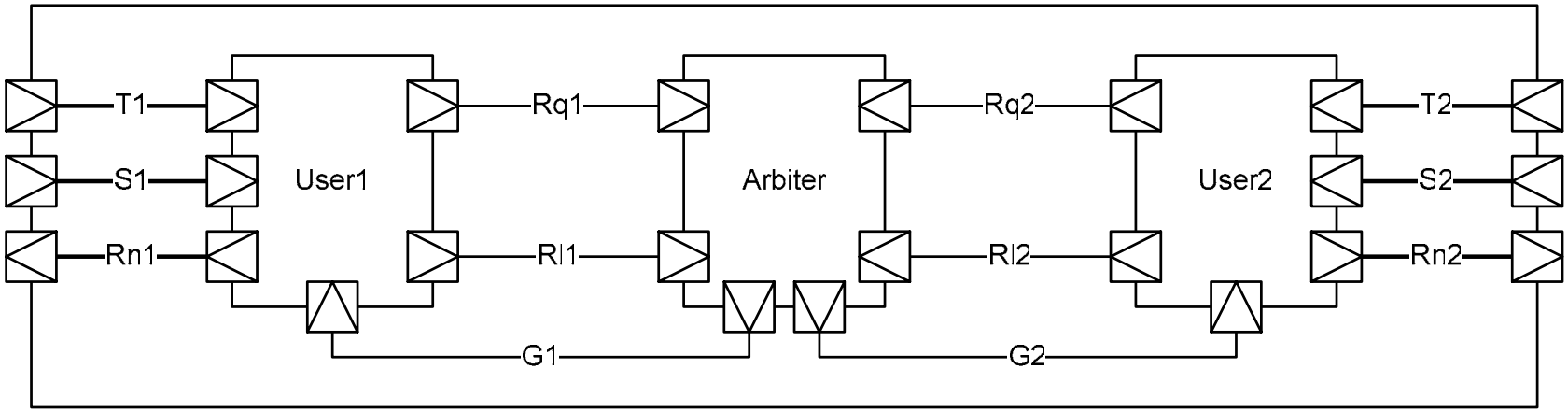
Black-Box View

Arbiter

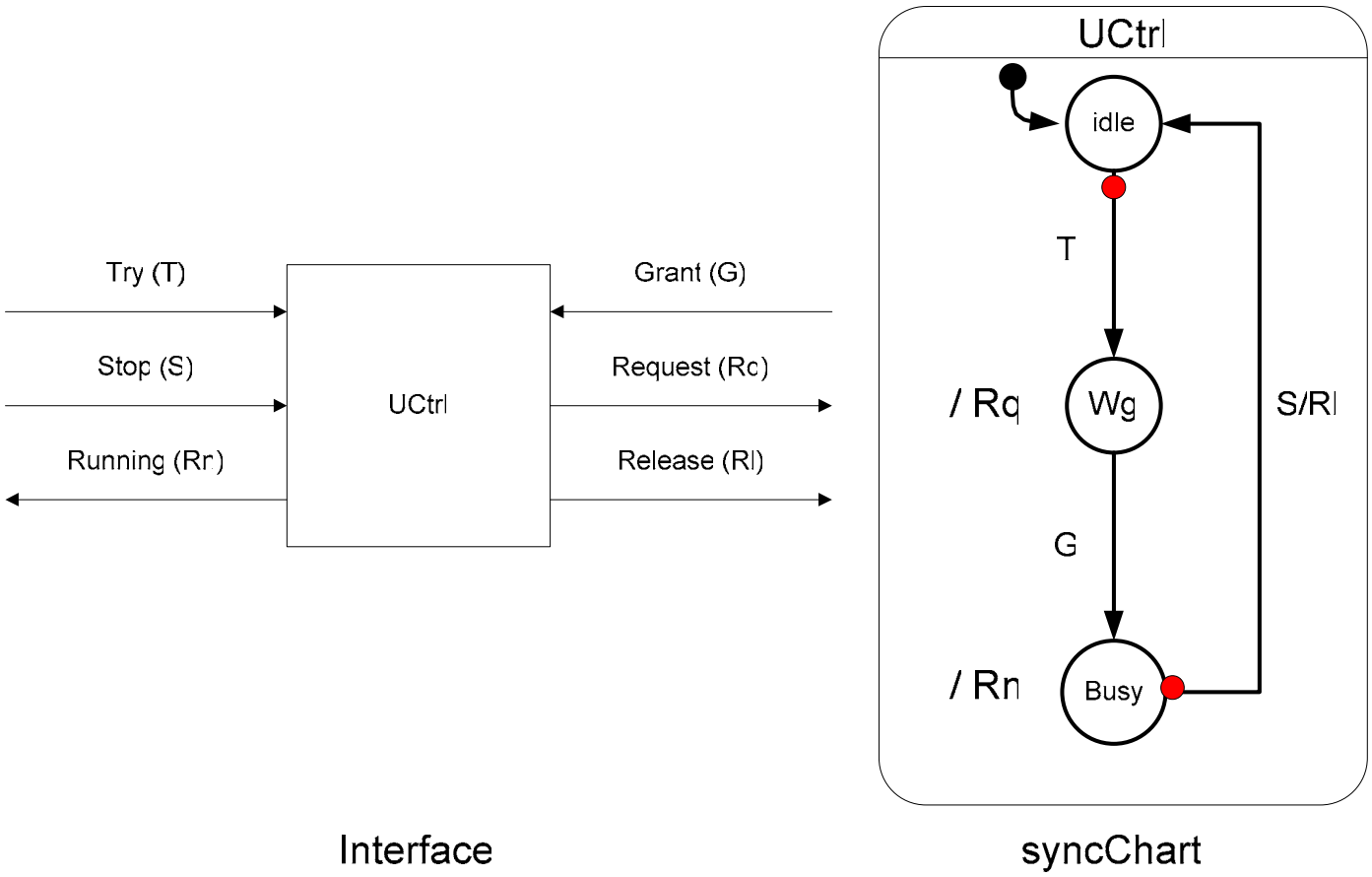
User Interface Controller



Structure



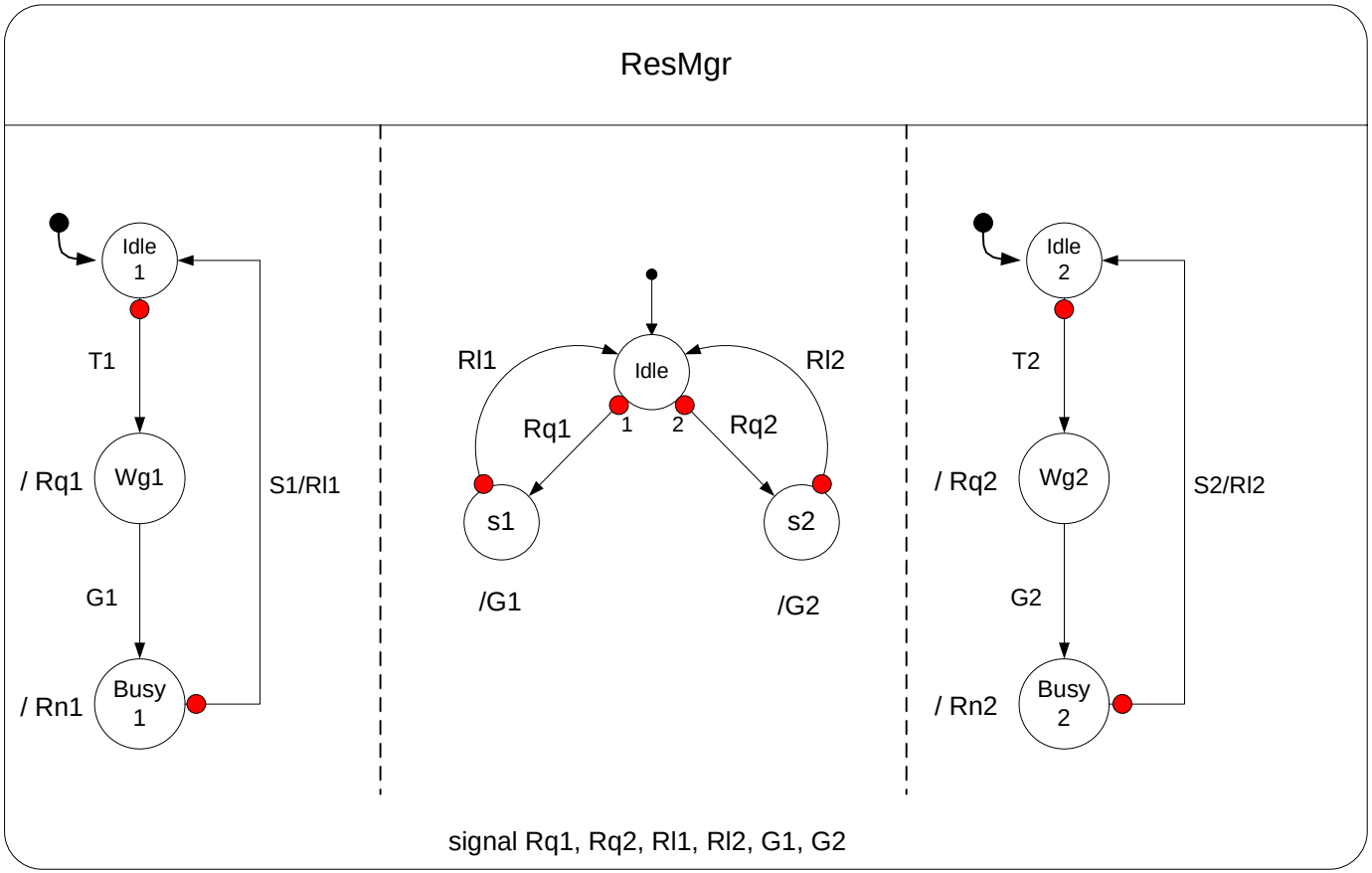
User's Dialog Controller



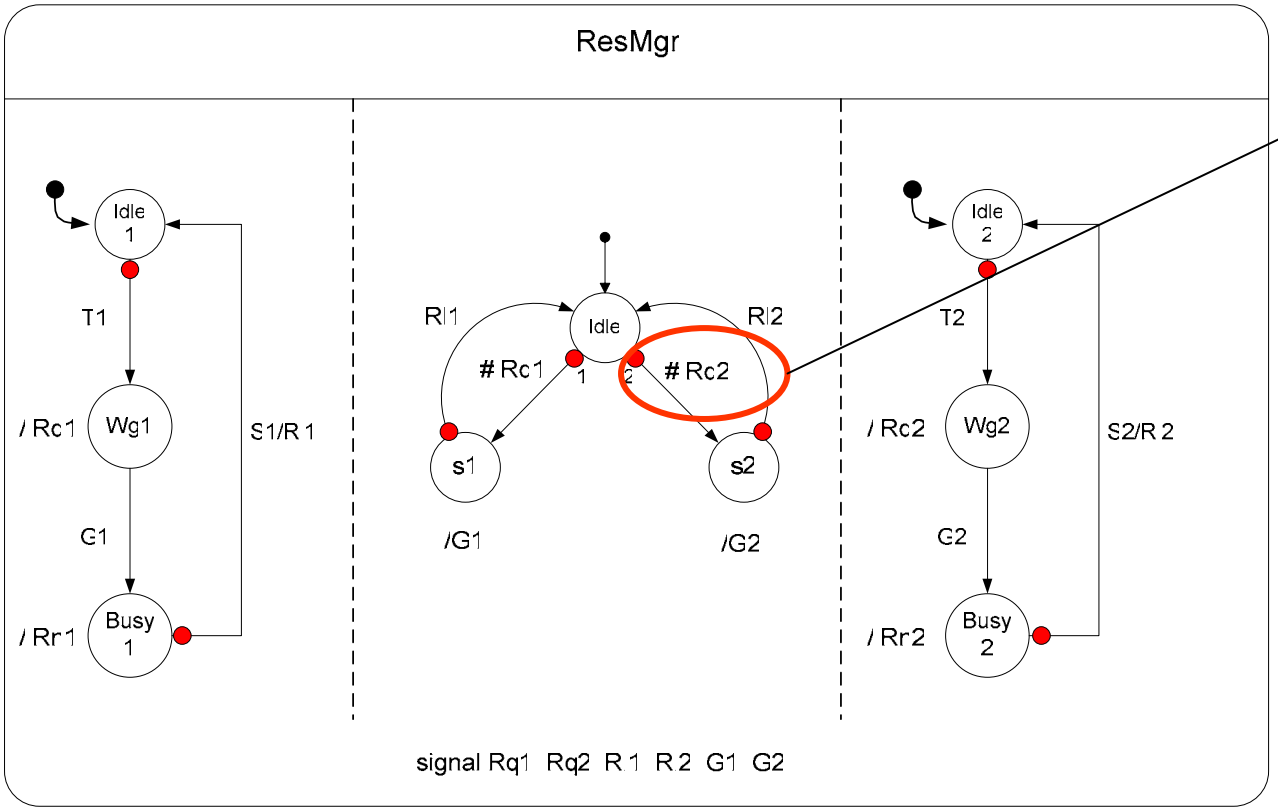
Interface

syncChart

Resource Manager Controller

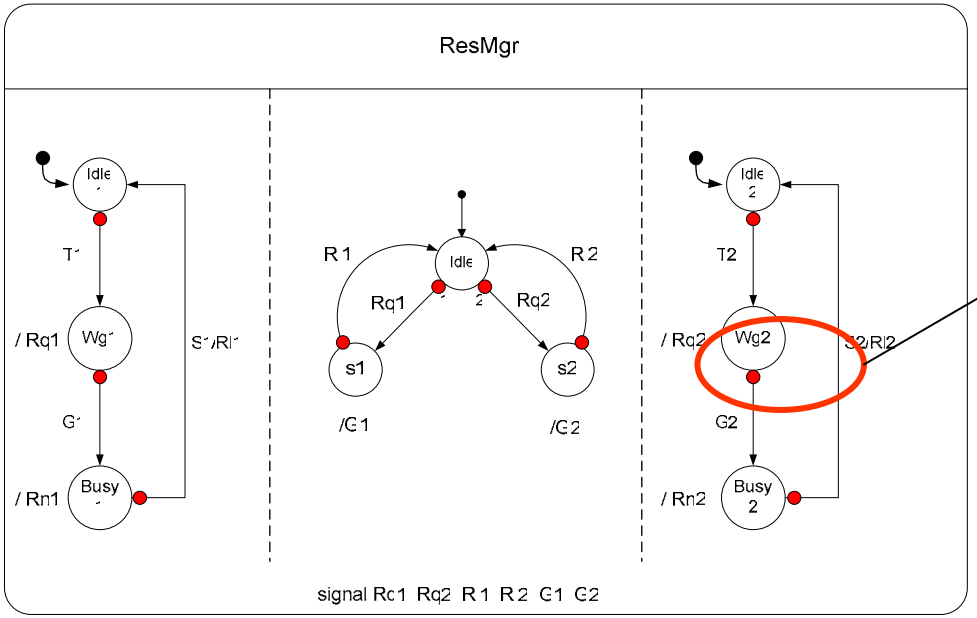


Improved ResMgr



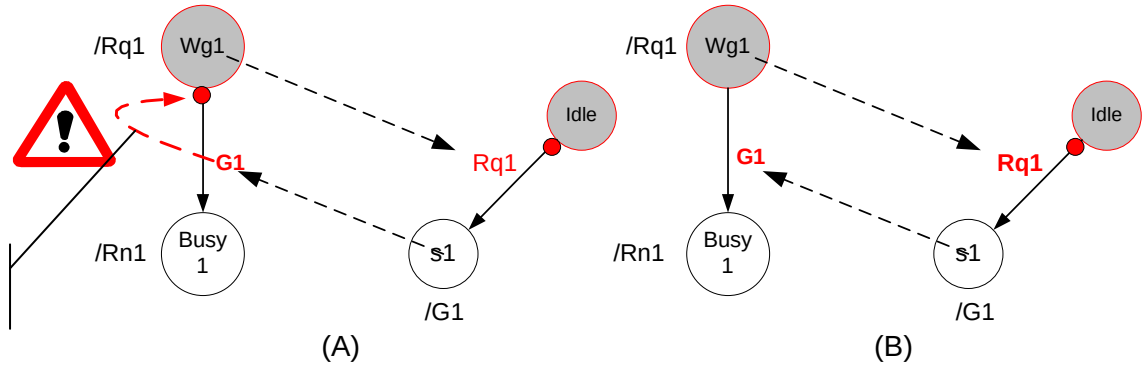
Immediate abortion

Incorrect Solution



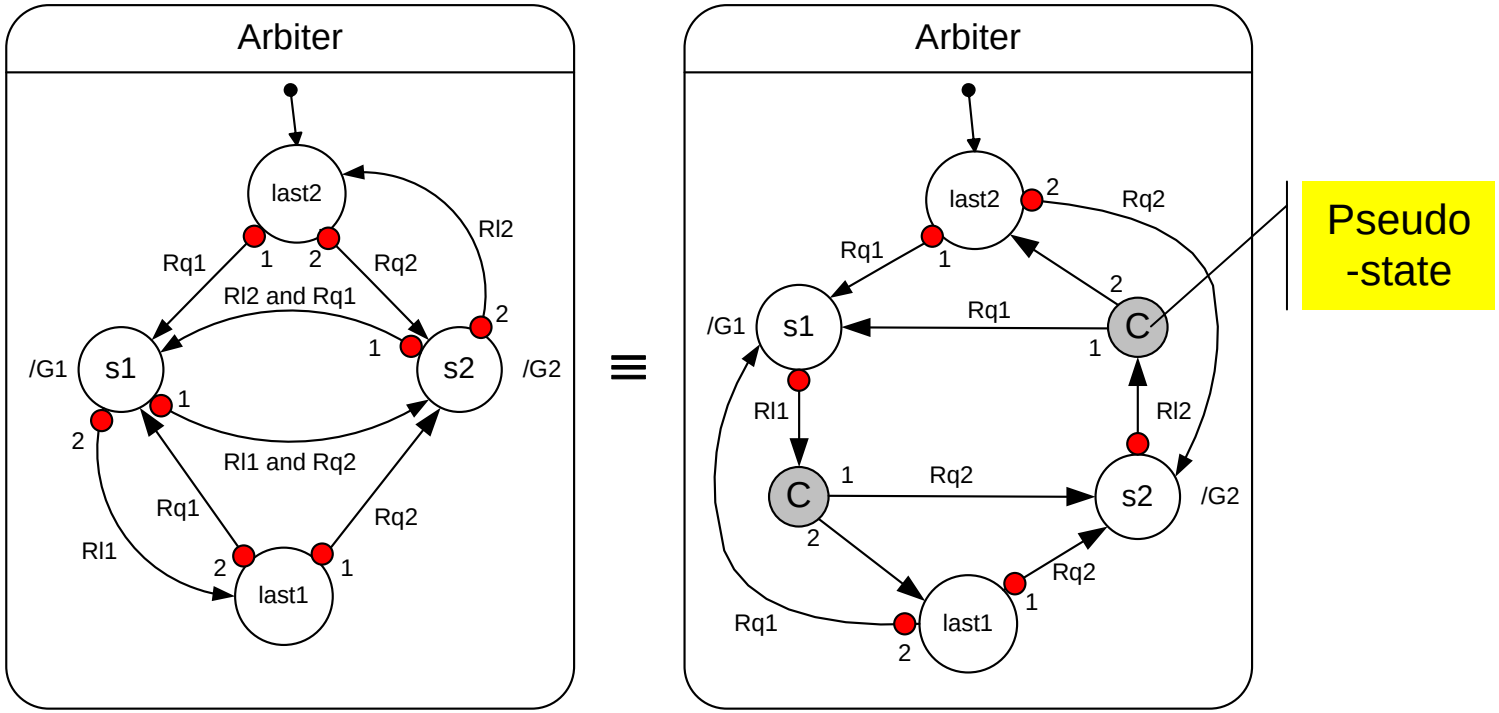
Strong abortion

Causality cycle



Additional Improvement

Turning Priority



(A) (B)