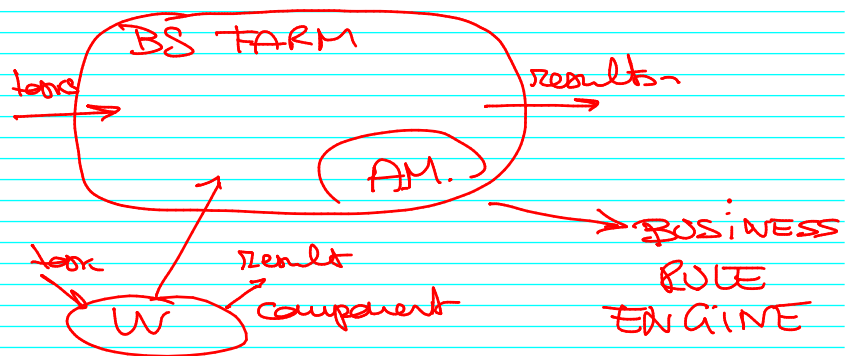


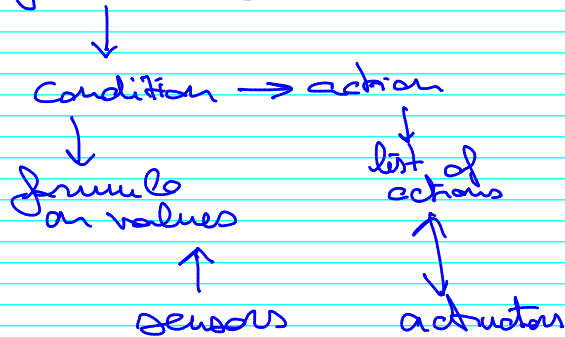
A.M → Main functional  
concerns (performance)  
↳ implements  
adaptation

PATTERN  
SKELETON → parallel  
implementation  
↳ provide sensors  
& actuator



## BUSINESS RULE ENGINE

{set of rules }



JBoss

Start the rule system:

- 1) eval all conditions
- 2) fire all rules with condition true (FIREABLE)
- 3) order the set 2) & I execute them

## BS FARM (AM)

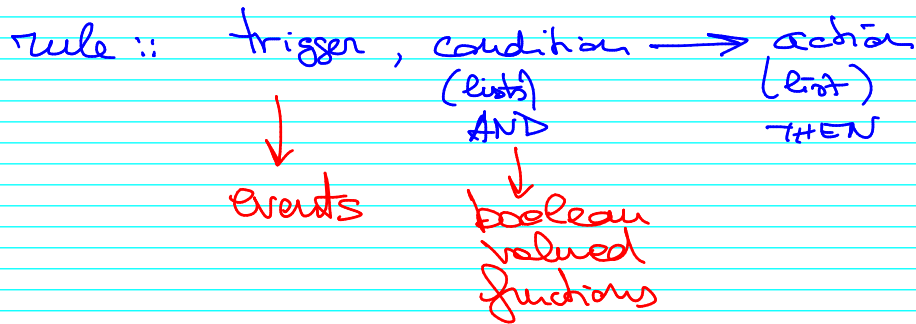
R1. observed ( $T_S$ ), predicted ( $T'_S$ ),  
 $T_S < T'_S \rightarrow$  increase (mw)

R2. observed ( $T_S$ ), predicted ( $T'_S$ ),  
 $T_S > T'_S \rightarrow$  decrease (mw)

Sensor  $\rightarrow$  observed service time  
"  $\rightarrow$  predicted " "

actuator  $\rightarrow$  increasing flow per. degree  
"  $\rightarrow$  decreasing " " "

# RULE SYSTEM



a rule can be executed  
(it is fireable) IFF

the trigger is verified  
& the condition is true

$R_1 ::$  <sup>Ts Changed</sup>  
~~changed(Ts)~~, observed(Ts),  
**TRIGGER** predicted(Ts'),  
Ts < Ts'  $\rightarrow$  increase per. degree

guard  $\nearrow$

AM ← PGM :: set of rules

AC ← PGM :: sensor + actuators  
+ trigger

SK

PGM :: PARALLEL PATTERN  
(PSIX PROCESSES + SOCKETS)  
MPF CODE