



# Extended Example

## Time Events

### FLEA experimental user interface Defining time-sensitive events

The FLEA experimental interaction window for definition of time-sensitive events is shown below, with the choices to define the event Speedy, which is to occur if a RequestLicense event occurs and is followed within the next 10 seconds by a GrantLicense event involving the same user:

The screenshot displays the FLEA experimental user interface. The main window is titled "Define Event: event A THEN (no) event B within time T". It contains the following fields and options:

- NAME for event:** Speedy
- event A:** (REQUESTLICENSE tA P1)
- event B:** (GRANTLICENSE tB P1)
- time limit (in seconds):** 10
- InTime or TooLate:**  In Time,  Too Late (NO event B within time limit)
- Parameters:**  Don't Care,  Shared,  Different

The "definition under construction" box shows the following code:

```
( defevent Speedy :definition
  [ (tB P1) s.t.
    [ E (tA)
      [ in-time
        (REQUESTLICENSE tA P1 )
        (GRANTLICENSE tB P1)
        10 ] ] ] )
```

Buttons for HELP, Clear, OK, and Exit are visible. To the right, a window titled "Defined Events, Relations and Predefine" lists various events such as ADDLICENSE, REMOVELICENSE, ADDUSER, REMOVEUSER, etc. Below this is a "Monitor Control Panel 3.0" window with buttons for Define, Notify, Set, Query, Exit, and HELP, along with two green circular indicators.

The definition of the event Tardy, which is to occur if a RequestLicense event occurs and is **not** followed by a GrantLicense event involving the same user within the next 10 seconds, is very similar, and show below. The only differences in user inputs are the name being give the event and the selection of the too-late option rather than in-time. (Of course, the event definition being automatically constructed in the large white box at the lower left is different too.)

**Define Event: event A THEN {no} event B within time T** [?] [X]

NAME for event:

event A:  <

event B:  <

time limit (in seconds):

InTime or TooLate

In Time

Too Late (NO event B within time limit)

Parameters

Don't Care

Shared

Different

definition under construction

```
( defevent Tardy :definition
  (( lim P1) s.t.
  ( E (tA)
    ( too-late
      (REQUESTLICENSE tA P1)
      (GRANTLICENSE $ P1)
      10
      lim )))
```

HELP

Clear

OK

Exit

**Defined Events, Relations and Pred**

Events	Relations
ADDLICENSE(TIMESTAMP)	
REMOVELICENSE(TIMESTAMP)	
ADDUSER(TIMESTAMP STRING)	
REMOVEUSER(TIMESTAMP STRING)	
ADDORREMOVELICENSE(TIMESTAMP)	
COUNTLICENSESCHANGEDTO(TIMESTAMP)	
COUNTUSERSCHANGEDTO(TIMESTAMP E)	
MORELICENSESTHANUSERS(TIMESTAMP)	
ADDTHENREMOVESAMEUSER(TIMESTAMP)	
REQUESTLICENSE(TIMESTAMP STRING)	
GRANTLICENSE(TIMESTAMP STRING)	
RETURNLICENSE(TIMESTAMP STRING)	
CANCELREQUEST(TIMESTAMP STRING)	
SPEEDY(TIMESTAMP STRING)	

**Monitor Control Panel 3.0** [ ] [X]

Define	Notify		
Set	Query		
Exit	HELP		