

Evolution of design specification

Make great visibility of state transition matrix

h
type. The type of the cell can be identified by the mark even in a monochrome print when printing as a document.

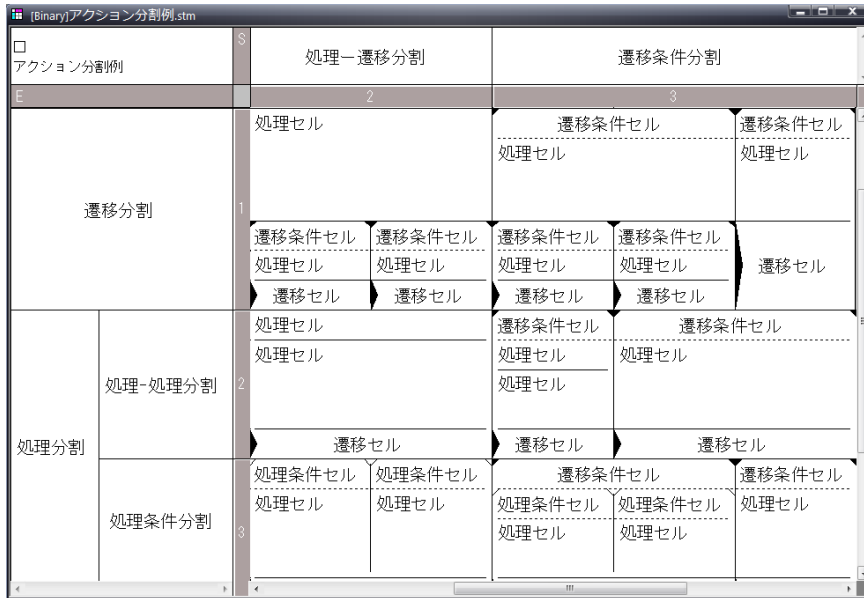


Fig1 Cell Mark display

Condition of Initial State

To change the initial state in the state transition matrix by the situation, the condition came to be applied in the default state. The initial state can be changed without changing the size of the state transition matrix compared with trigger event.



Fig2 Trigger event modeling



Fig3 Modeling with Initial State Condition

Evolution of Translator

It came to be able to describe space and the sign in sentences as specification, and it came to be able to describe it by natural language. The design sentences can be described in English.

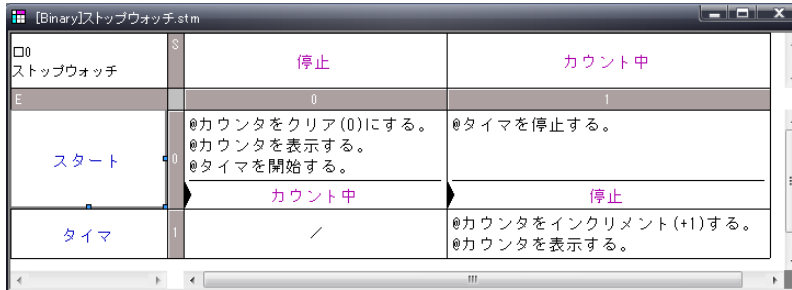


Fig4 Description of design sentences

```

13: #CHG "@カウンタをクリア(0)にする。"
14: Counter = 0;
15: #CHGEN
16:
17:
18: #CHG "@カウンタを表示する。"
19: Display( Counter );
20: #CHGEN
21:
22:
23: #CHG "@タイマを開始する。"
24: TimerStart();
25: #CHGEN
26:
27:
28: #CHG "@タイマを停止する。"
29: TimerStop();
30: #CHGEN
31:
32:
33: #CHG "@カウンタをインクリメント(+1)する"
34: Counter += 1;
35: #CHGEN
    
```

Fig5 Translator Definition

The conditional expression is defined at the implementation stage.

It came to be able to generate the condition branching of the generated code with the IF sentence or the SWITCH sentence without changing the mark of the condition branching of the cell in the state transition matrix. Also, do not have to consider implementation achievement at design phase.

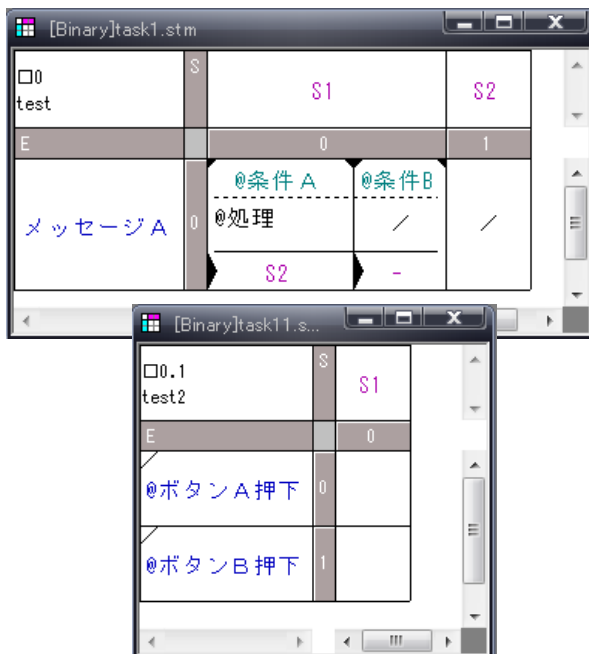


Fig6 Mark of specification of condition cell

```

13: #CHG "@条件A"
14: Condition == A
15: #CHGEN
16:
17:
18: #CHG "@条件B"
19: Condition == B
20: #CHGEN
21:
22:
23: #CHG "@処理"
24: □0.1;
25: #CHGEN
26:
27:
28: #CHG "@ボタンA押下"
29: Button == 1
30: #CHGEN
31:
32:
33: #CHG "@ボタンB押下"
34: Button == 2
35: #CHGEN
36:
37:
    
```

Fig7 IF Convert

```

12:
13: #CHG "@条件A"
14: Condition#A
15: #CHGEN
16:
17:
18: #CHG "@条件B"
19: Condition#B
20: #CHGEN
21:
22:
23: #CHG "@処理"
24: □0.1;
25: #CHGEN
26:
27:
28: #CHG "@ボタンA押下"
29: Button#1
30: #CHGEN
31:
32:
33: #CHG "@ボタンB押下"
34: Button#2
35: #CHGEN
36:
37:
    
```

Fig8 SWITCH Convert