

```
1 // UserFiniteStateMachine.h
2
3 /*=====
4 /* Application code
5 /*
6 /* Name: UserFSM()
7 /* Version:
8 /* Date:
9 /* Author:
10 /*
11 /* Short description:
12 /*
13 /*
14 /*=====
15 /*=====
16 /*===== START USER APPLICATION ===== START USER APPLICATION =====
17 /*=====
18 /*=====
19 //
20 // State machine
21 //
22 // Each phase exists of 2 parts, e.g. the phase actions and transition conditions.
23 // In the phase actions, all activated tags are mentioned. Deactivation is not needed, deactivation is
24 // done at the end of the main loop. In the conditions section, all conditions for the transitions to another
25 // phase are mentioned. When all condition are true, the new phase can be set. It is possible to programm
26 // more then 1 transition. In such a case it is necessary to keep the priority in mind.
27 //
28 /*=====
29
30
31 void UserFSM()
32 {
33     if (MachineState == FiniteState("START"))
34     {
35         TransitionToState("INIT");
```

```
36     };
37
38     if (MachineState == FiniteState("INIT"))
39     {
40         //Breng de lamp naar links (links is activeren van de relais voor de richting)
41         Activate("K1"); Activate("K2"); Activate("AAN");
42         HoekRixt = 0;
43         if (DigLow("LINKS")) TransitionToState("MOVEMENT");
44         if (Timer(20000, TimStoring)) TransitionToState("STORING");
45     };
46
47     if (MachineState == FiniteState("MOVEMENT"))
48     {
49         CancelTimer(TimStoring);
50         HoekRixt = 0;
51         Bellen = 0;
52         ting = false;
53         TimBelTijd = 500;
54         if (DigRising("PIR"))
55         {
56             TransitionToState("RUST");
57             TransitionToState("WACHT-BEL");
58         }
59     };
60
61     if (MachineState == FiniteState("RUST"))
62     {
63
64         if (Timer(8000, timRust))
65         {
66             TransitionToState("RECHTSOM");
67         }
68     }
69
70     if (MachineState == FiniteState("WACHT-BEL"))
```

```
71     {
72         if (Timer(1000, TimWachtBel)) TransitionToState("RING");
73     };
74
75
76     if (MachineState == FiniteState("RING"))
77     {
78         if (ting == true) UpdateServo("BEL", 90); else UpdateServo("BEL", 0);
79
80         if (Timer(TimBelTijd, TimBel))
81         {
82             if (!ting) TimBelTijd = 100; else TimBelTijd = 500;
83             Bellen = Bellen + 1;
84             ting = !ting;
85         }
86
87         if (Bellen == 17)
88         {
89             UpdateServo("BEL", 25);
90             TransitionToState("END");
91         }
92     }
93
94     if (MachineState == FiniteState("RECHTSOM"))
95     {
96         Activate("AAN");
97         Activate("LAMP");
98         if (DigLow("RECHTS")) TransitionToState("LAMP-COOL");
99         if (Timer(20000, TimStoring)) TransitionToState("STORING");
100    };
101
102    if (MachineState == FiniteState("WEK-RIXT"))
103    {
104        if (Timer(2000, TimRixt))
105        {
```

```
106     HoekRixt = 00;
107     UpdateServo("RIXT",HoekRixt);
108     Richting = 1;
109     TransitionToState("RIXT-DWAALT");
110 }
111 };
112
113 if (MachineState == FiniteState("RIXT-DWAALT"))
114 {
115     if (Timer(50, TimRixt))
116     {
117         if (Richting == 1)
118         {
119             HoekRixt = HoekRixt + 2;
120             UpdateServo("RIXT", HoekRixt);
121             if (HoekRixt >= 140) Richting = 0;
122         }
123         else
124         {
125             HoekRixt = HoekRixt - 2;
126             UpdateServo("RIXT", HoekRixt);
127             if (HoekRixt <= 5) TransitionToState("END");
128         }
129     }
130 }
131 if (DigLow("RECHTS")) TransitionToState("END");
132 };
133
134
135 if (MachineState == FiniteState("LINKSOM"))
136 {
137     Activate("K1"); Activate("K2"); Activate("AAN");
138     if (Timer(3000, TimTerug)) UpdateServo("RIXT", 0);
139     //TRANSITION CONDITIONS//
140     if (DigLow("LINKS")) TransitionToState("MOVEMENT");
```

```
141     if (Timer(20000, TimStoring)) TransitionToState("STORING");
142 };
143
144 if (MachineState == FiniteState("LAMP-COOL"))
145 {
146     if (Timer(1000, TimLampCool)) TransitionToState("LINKSOM");
147     CancelTimer(TimStoring);
148 };
149
150 if (MachineState == FiniteState("STORING"))
151 {
152
153 };
154
155 /*=====
156 /*=====
157 /*=====  END USER APPLICATION =====  END USER APPLICATION =====
158 /*=====
159 /*=====
160 }
161
```