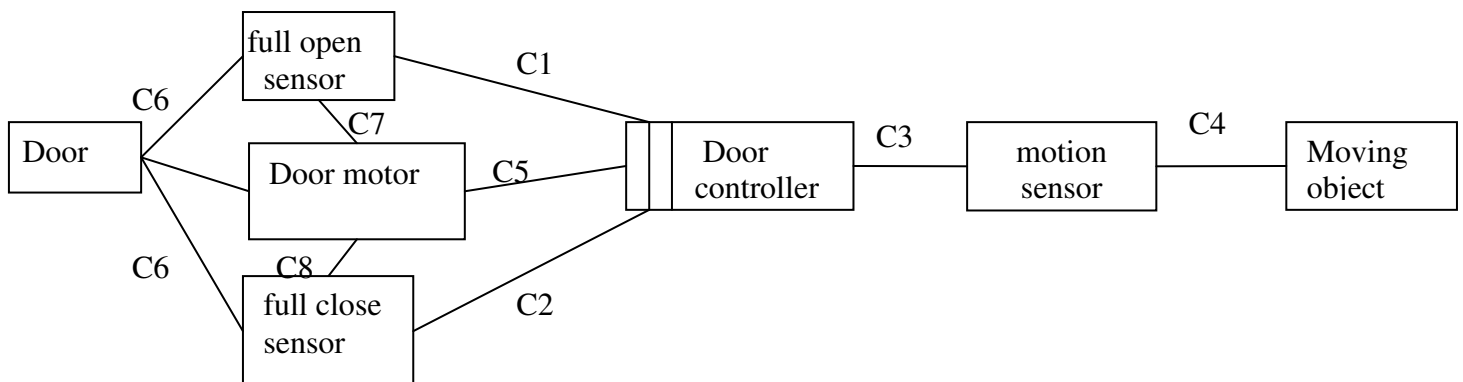


Automatic door.

We wish to specify a software system to control an automatic door. The automatic door contains a motor, which may either be ON or OFF and has a polarity, which is either OPEN (indicating that the door will move to the OPEN position if the motor is ON) or CLOSE (indicating that the door will move to the CLOSED position if the motor is ON). The door also contains two sensors: one registers OPEN, when the door reaches is within 3 cm. of being fully open; the other registers CLOSED, when the door is within 3 cm. of being fully closed. In addition, there is a motion sensor. It send signal to controller, if sensor detect motion 2 meters away from door. It isn't important how it works.



Events

C1 – fullopen(e) – event signal, that door is “practically” fully open

C2 – fullclose(e) – event signal, that door is “practically” fully close

C3 – motiondetect(e) – event signal, that sensor detect motion 2 meters away from door.

C4 – personcome(e) – event signal, that person come to door

C5 - {OPEN, CLOSE} – An OPEN command sets the door polarity to OPEN; a CLOSE command sets the door polarity to CLOSE.

C7, C8 – stop(e) – event signal, that door motor must stop
states:

{doorOPEN, doorCLOSED} – states of the DOOR indicating whether the door is in the OPEN or CLOSED position.

{motorOFF, motorOPEN, motorCLOSE} – states of the motor indicating whether the motor is ON or OFF and whether its polarity is OPEN or CLOSE.

C1!FOC

C2!FCS

C3!MS

C4!MO

C5!DC

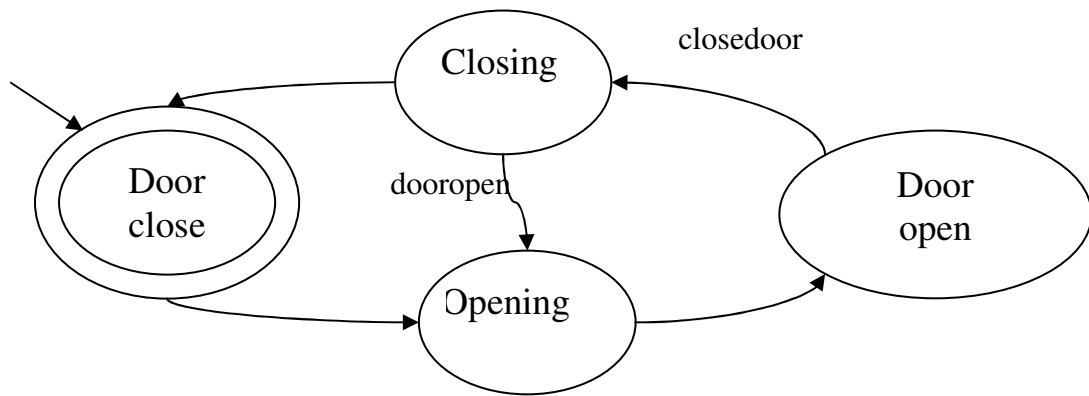
C6!D

C7!FOS

C8!FCS

Phenomenas:

Door's states



Motor states diagram

