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Buel0gKjaer {
  state humidityAlarm = false
  state fireAlarm = false

  policy TemperatureControlPolicy
  uses sensors TemperatureSensor
  uses actuators RadiatorActuator
  is-implemented-by {
    state localState = false

    if (TemperatureSensor <= 21) {
      RadiatorActuator = 1
    }
    else {
      if (TemperatureSensor >= 22) {
        RadiatorActuator = 0
      }
    }
  }
}

policy HumidityMonitoringPolicy
uses sensors HumiditySensor
uses rooms janitorOffice
is-implemented-by {
  timer audioAlarmTimer

  if (HumiditySensor < 50) {
    humidityAlarm = true

    if (audioAlarmTimer reaches 15 seconds) {
      reset audioAlarmTimer
      janitorOffice.audioAlarmActuator = 1
    }
  }
  else {
    humidityAlarm = false
  }
}

```

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policy LightMotionPolicy
uses sensors MotionSensor
uses actuators LightSwitchActuator
is-implemented-by {
    timer motionTimer

    if (MotionSensor = 1) {
        reset motionTimer
    }
    else {
        if (motionTimer reaches 20 seconds) {
            reset motionTimer

            LightSwitchActuator = 1
        }
    }
}

schedule WorkingWeekHours
days Monday, Tuesday, Wednesday, Thursday, Friday
from 06:00 to 18:00

schedule LateWorkingWeekHours
days Monday, Tuesday, Wednesday, Thursday, Friday
from 18:00 to 22:00

schedule LockdownWeekHours
days Monday, Tuesday, Wednesday, Thursday, Friday
from 22:00 to 06:00

schedule LockdownWeekendHours
days Saturday, Sunday
from 00:00 to 00:00

room-type TemperatureControlledRoom
is-governed-by TemperatureControlPolicy
during WorkingWeekHours, LateWorkingWeekHours {
    sensor officeTemperatureSensor is a TemperatureSensor
    actuator officeRadiatorActuator is a RadiatorActuator
}

room-type HumidityControlledRoom
is-governed-by HumidityMonitoringPolicy
during-always {
    sensor humidifierSensor is a HumiditySensor
    actuator humidifierActuator is a HumidifierActuator
}

room-type LightMotionControlledRoom
is-governed-by LightMotionPolicy
during-always {
    sensor motionSensor is a MotionSensor
    actuator lightSwitchActuator is a LightSwitchActuator
}

room-type HumidityAndTemperatureControlledRoom
is-of-type TemperatureControlledRoom, HumidityControlledRoom

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building mainBuilding {
  floor groundFloor {
    room groundToilet
    is-of-type TemperatureControlledRoom, LightMotionControlledRoom

    room janitorOffice
    is-of-type TemperatureControlledRoom {
      actuator audioAlarmActuator is a AudioAlarmActuator
      timer audioAlarmTimer
    }

    room calibrationRoom
    is-of-type HumidityAndTemperatureControlledRoom

    room cleanRoom
    is-of-type HumidityAndTemperatureControlledRoom
  }

  floor topFloor {
    room university is-of-type HumidityControlledRoom
  }
}

building repairBuilding {
  floor groundFloor {
    room repairRoom
    is-of-type HumidityControlledRoom
  }
}
}

```