Budapest University of Technology and Economics
Faculty of Electrical Engineering and Informatics
Department of Measurement and Information Systems

Test generation

MSc Project Laboratory 1

Author
Gergő Ecsedi

Advisor
dr. Zoltán Micskei

November 18, 2016

Contents

Kivonat

Tesztgenerálásra alkalmas eszközök megismerése.

Abstract

In this semester we want to have a look at the test-generator idea and tools.

Chapter 1

Introduction

MSc Project Labor 1

Chapter 2

Garage Gate

2.1 State machine introduction

The system consists 4 elements, which are shown on the 2.1. figure. The *Gate* element stands for the physical representation of the Garage Gate itself, and can be in *Opened* and *Closed* states. We can open and close the *Gate* with a *Remote Controller*. If we start an action we can not pause or stop that. Nevertheless there is a *Movement Sensor* on the two pillars of the *Gate*, which stops the movement. When the *Gate* is opening and the *Movement Sensor* observes an object between the two pillars, it stops the movement (*Opening Blocked*), until the object is not there any more. In the other case, when the *Gate* is closing and the *Movement Sensor* sign appears, it stops the movement again (*Closing Blocked*). When the object is outside of the scope of the *Movement Sensor* a *Lamp*s on the pillars are *Lighting* for some seconds then the *Gate* is closing again. So the *Lighting* comes only in the closing interruption.

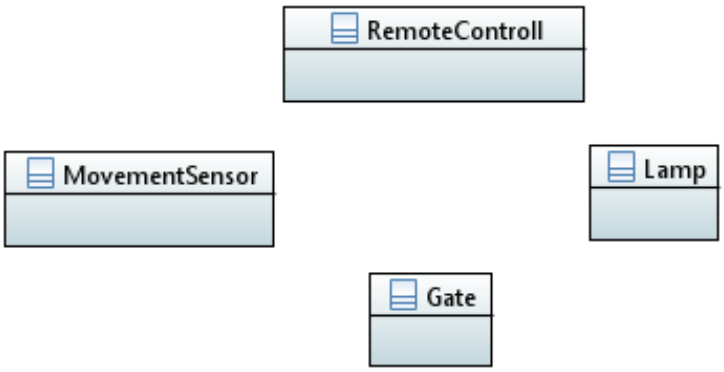

Figure 2.1: Garage gate components

These components can communicate to each other directly. The possible communication messages is shown on the 2.2..

A garage gate fundamentally have 2 main states, the *Opened* and *Closed* states, which is shown below on 2.3. figure, with orange colours. First of all we can start from the *Closed* state, where we can open the gate with an 'open' command. This command sets the state machine in an *Opening* state. While opening the gate, somebody or something can move into the way, so this becomes *Block Opening*. The gate is opening, if the blocking stops. After the *Opening* phase succeeded the gate is *Opened*. In this state we can 'close' the gate

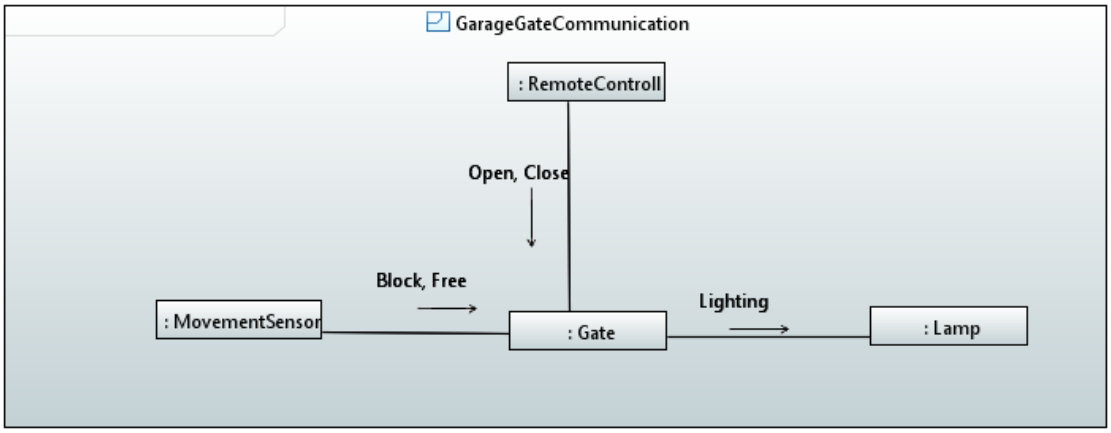

Figure 2.2: Garage gate communication diagram

with a simple command, and the state machine goes to the *Closing* state. There could be also a blocking action, which stops the closing movement. From this state the gate is starting the closing movement again after a few seconds *Lighting*. When the closing action finished the gate is *Closed*.

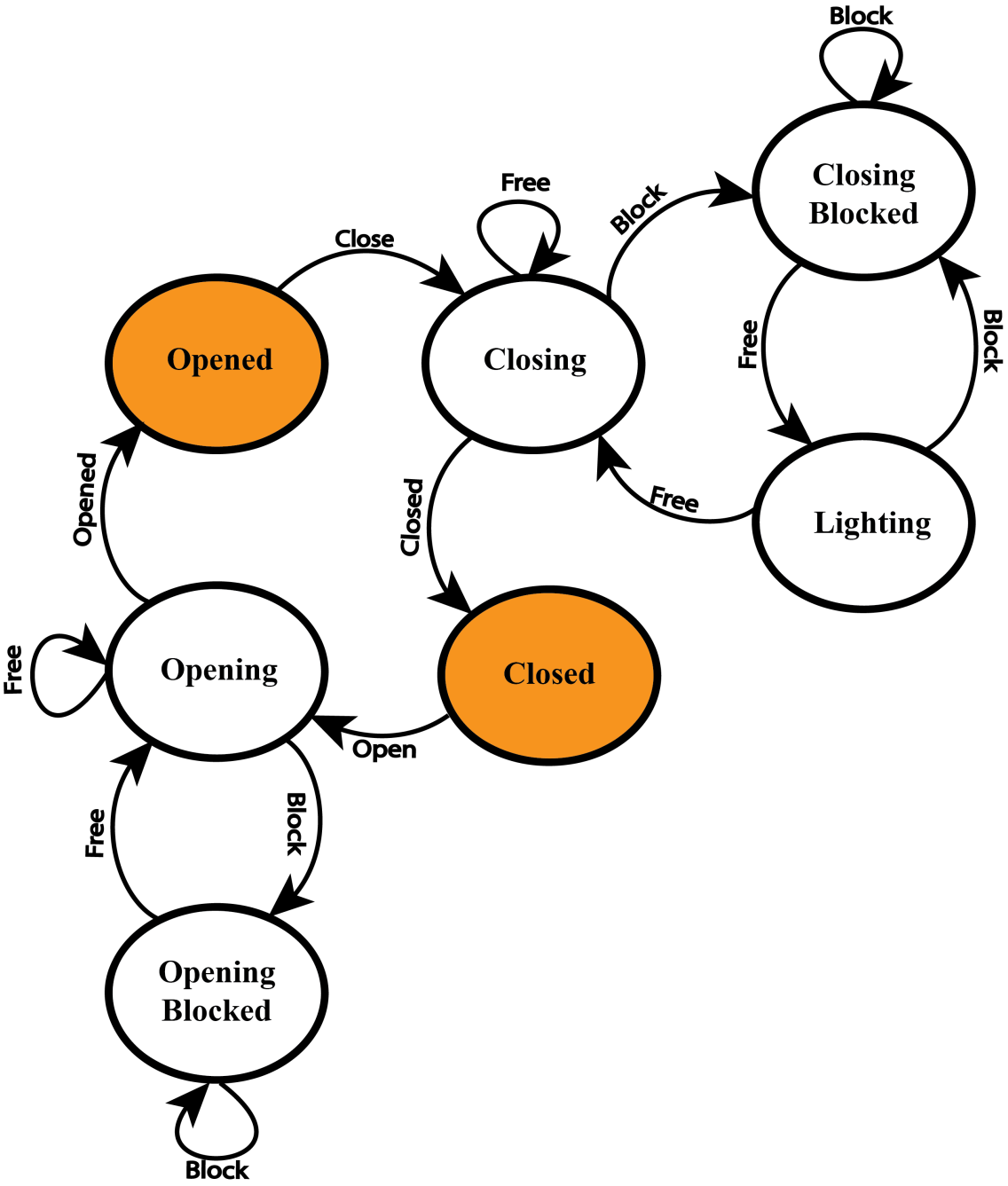

Figure 2.3: Garage gate state machine diagram

List of Figures

List of Tables

Appendix