Modular Software Architecture for a Remote Controlled Rasberry Pi Robot
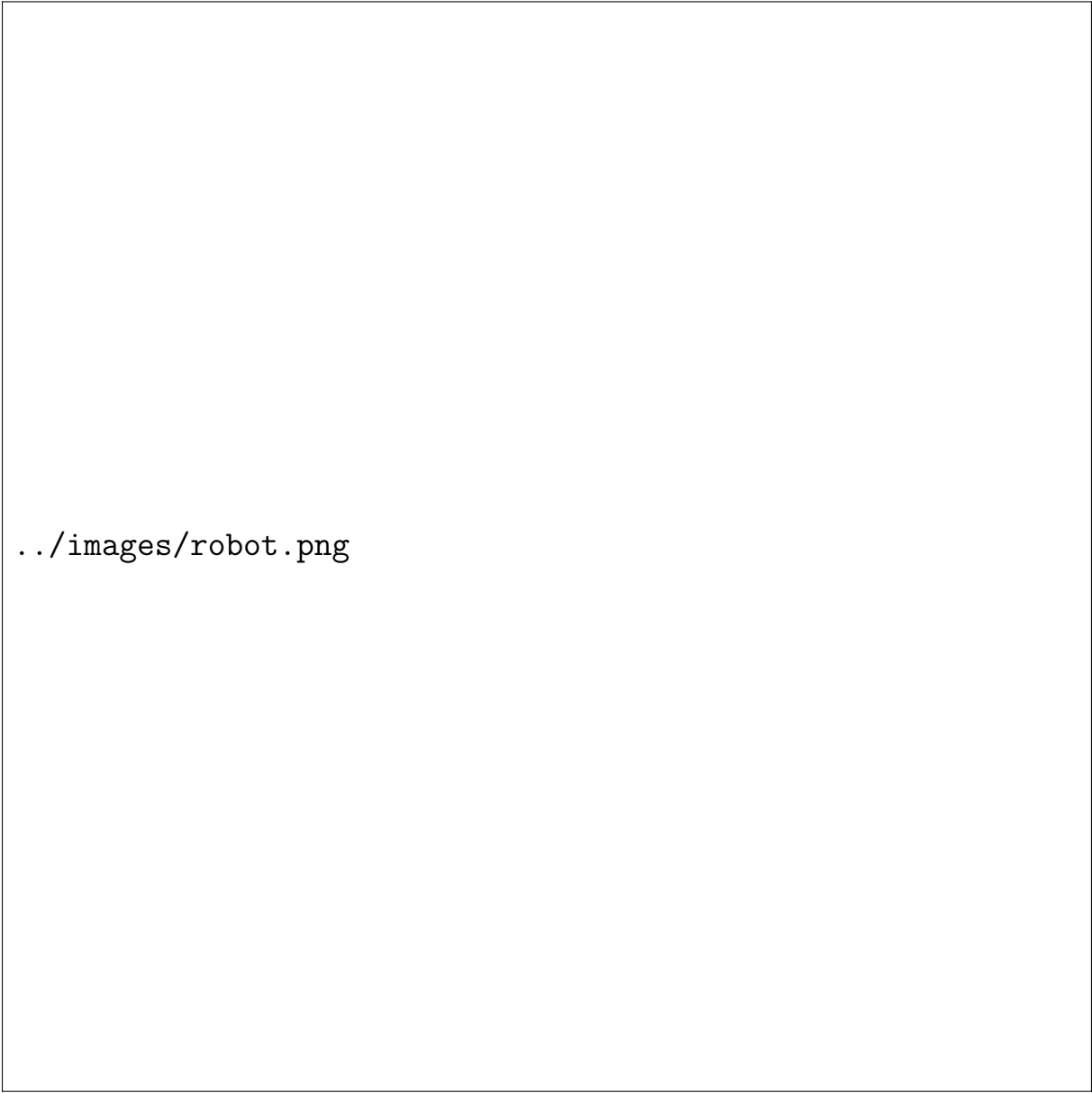
Documentation and Manual

../images/robot.png

Developed by Gjergji Shkurti

Contents

List of Figures
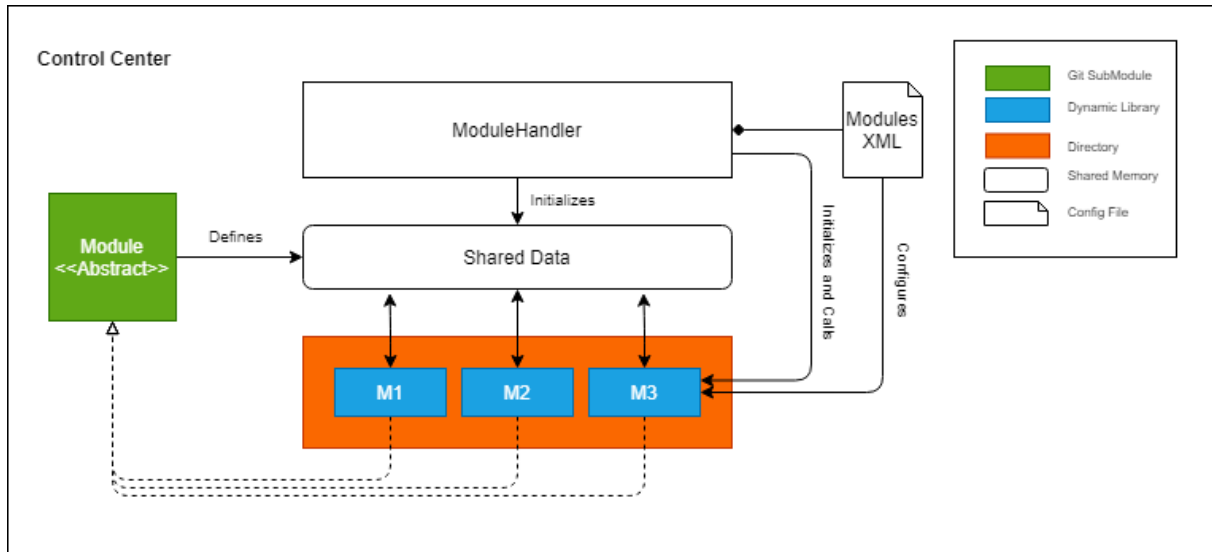
List of Tables

1 Introduction

Figure 1: Overview

2   User Manual

2.1   Getting Started

2.1.1   Installing Dependencies

2.1.2   Building the Control Center

2.2   Available Modules

2.2.1   Controller

2.2.2   ZMQ Pipeline

2.2.3   Video Pipeline

2.2.4   Object Detector

2.2.5   Python Bridge

2.3   External Python Modules

2.3.1   Gesture Control

2.3.2   Voice Control

2.4   Configuring and Running the Control Center

3   Architecture

3.1   Module Handler

3.2   Module Configuration

3.3   Module Interface

3.3.1   Initialization

3.3.2   Cycle Processing

3.3.3   Deinitialization

4   Developing Modules

4.1   Module Template Generator

4.2   Module Version Control