

Roombee Manual

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Chapter 1

Disclaimer

This software has been developed to allow curious owners of a iRobot Roomba 500 series to gather some experience in the domain of mobile robotics. A serious help in the development was "The MATLAB Toolbox for the iRobot Create" which can be found [here](#). The author can not be held responsible for any damage caused directly or indirectly by the software.

Chapter 2

Prerequisites and Requirements

In order to use this software you need a few things. Apart from the robot (you can find cheap offers of used robots on ebay, or your local equivalent) and a laptop you will need:

- A working Matlab version (all above 2012b should work fine)
- A serial connection (USB to serial is sufficient, however you can find offers that provide a serial to blue-tooth connection)
- (optional) Some kind of small platform you can mount on the robot to provide a more reliable base for your laptop

Chapter 3

How to use the Code

Chapter 4

How to create the Light Graffiti Effect

The tool used for post processing the video material is Kdenlive. It should be accessible through the apt-get command. Once installed it handles much like any other video editing software. The effect you are looking for is called "Light Graffiti" and can be found under:

Effect List/Misc/ Light Graffiti

You have to choose your parameters so that the brightest point in the video is the light source in the center of the robot. A head lamp for camping should be sufficient.

Examples can be found at:

- Youtube video of a Roomba following a certain letter sequence indoors
- Youtube video of a Roomba following a certain letter sequence outdoors