EyeSim & Robotics Lab 1 Preparation

EyeSim Installation

All relevant files are at http://robotics.ee.uwa.edu.au/eyesim/

Supported Operating Systems:

- Windows 8.1, 10 with Cygwin
- macOS 10, 10.x with xquartz
- Linux 64 bit (tested on Ubuntu 18.04) with libx11-dev

EyeSim Installation - Linux

Install X11 library using following command:

```
sudo apt-get install libx11-dev
```

Download the latest EyeSim
Unarchive the .tar.gz file and run the 'install.sh' script
Download and unzip eyesimX (EyeSim Examples)

EyeSim Installation - macOS

Download and install Xcode.

Download and install XQuartz.

Your system default XQuartz app may need to be removed and reinstalled from link to include X11

Run the following command in terminal to link the X11 library:

```
sudo ln -s /opt/X11/include/X11/usr/local/include/X11
```

Download and install EyeSim for macOS

Download and unzip eyesimX

EyeSim Installation - Windows

Download and install EyeSim for Windows

- The standard installer comes packaged with Cygwin

The default home directory in Cygwin will be:

- {Your Windows home directory}/EyeSim

Compiling Code - C

To compile code written in C use the following:

```
gccsim -o OUTPUT-FILENAME.x INPUT-FILENAME.c
```

Note that in Windows, the cygwin terminal needs to be used

Compiling Code - C++

To compile code written in C use the following:

```
g++sim -o OUTPUT-FILENAME.x INPUT-FILENAME.c
```

Note that in Windows, the cygwin terminal needs to be used

Running Your Code (C and C++)

Running compiled code on terminal

```
./FILENAME
```

Note that in Windows, the cygwin terminal needs to be used

Running Simulation Files using terminal

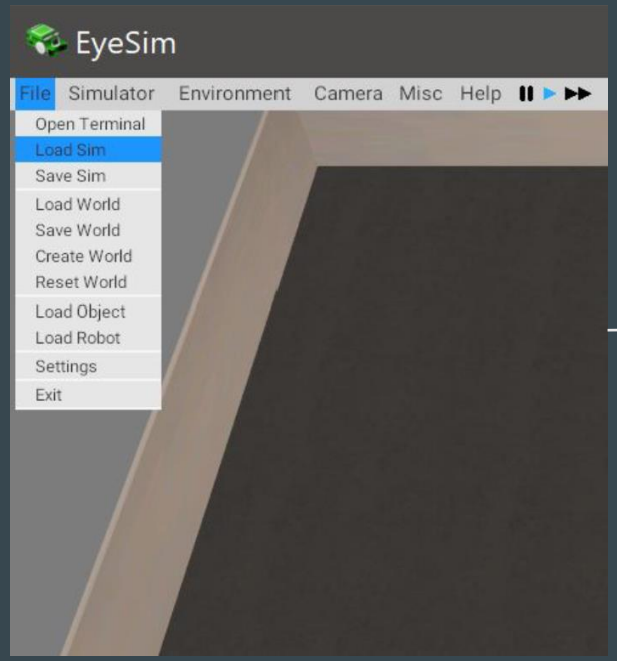
Run .sim files using:

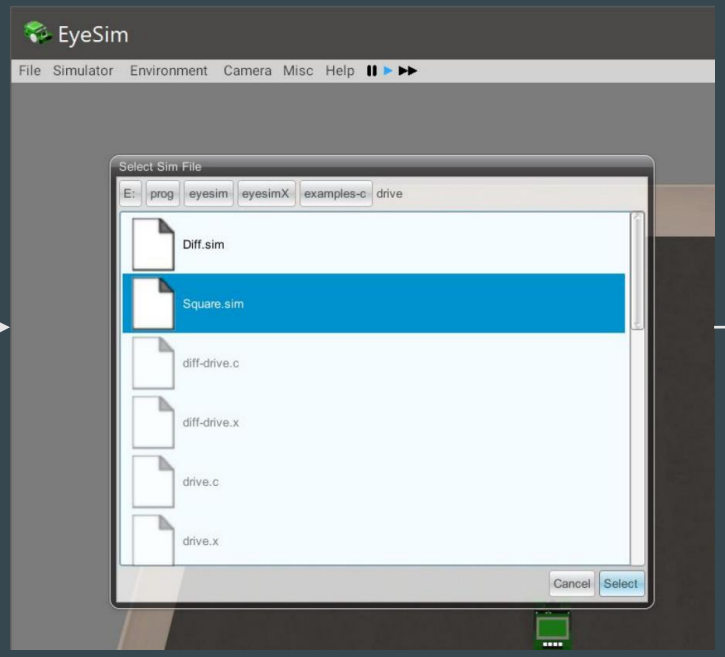
```
eyesim FILENAME.sim
```

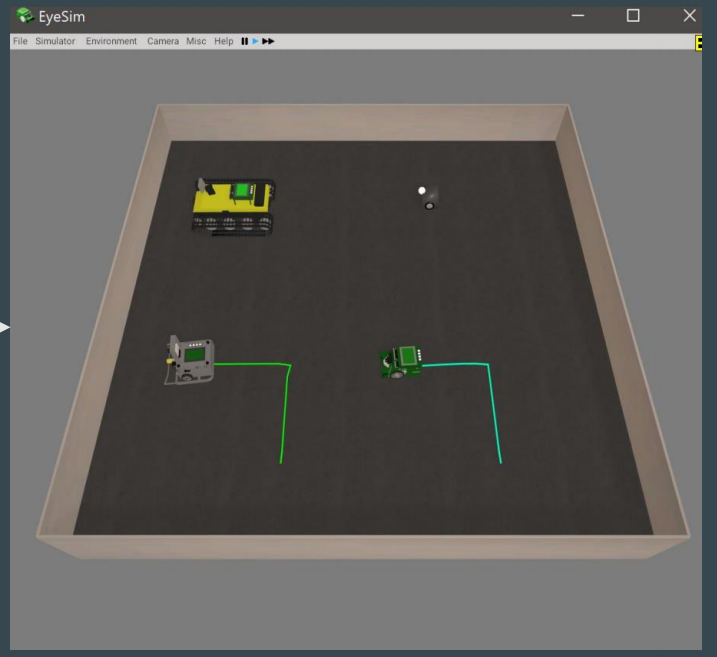
Note that in Windows, the ‘Add EyeSim to PATH’ option must have been checked during installation, and cygwin terminal must be used

Running Simulation Files using GUI

- File → Load Sim
- Click on the .sim file
- Press ‘Select’







Robotics Lab 1 - Lawnmower

Lab Sheet:

https://roblab.org/courses/mobrob/labs/lab1-lawnmower.pdf

To prepare go through some of the example files located in “eyesimX/Examples-X/drive”

Turning on trails and sensor visualisation can be very useful for debugging. This is located in the Tab:

File→Settings→Visualisation

For C/C++ the Library Functions are located here:

http://robotics.ee.uwa.edu.au/eyebot/Robios7.html

It is advised that you attempt the lab before coming to your respective lab sessions

Useful Resources

Unix terminal commands: http://mally.stanford.edu/~sr/computing/basic-unix.html

Courses:

- Python: https://www.codecademy.com/
- C: https://www.learn-c.org/ and https://alison.com/course/introduction-to-c-programming
- C++: https://www.codecademy.com/

EyeSim user manual: http://robotics.ee.uwa.edu.au/eyesim/ftp/EyeSim-UserManual.pdf

Lab Information and Sheets

https://roblab.org/courses/mobrob/labs/