Team Bionics

Steps to compile the project from an executable:
On macOS

1. Navigate to the macOS folder and open the line_robots.dmg OR Extract to "macOS.zip" folder.
2. Extract the folder.
3. **Right Click on line_robots.app file.
4. Select "Open"
5. Select "Cancel"
6. **Right Click on line_robots.app file.
7. Click "Open"

On Windows OS

(make sure you have Microsoft Visual C++ 2015 or higher installed.)
Link: https://support.microsoft.com/en-us/help/2977003/the-latest-supported-visual-c-downloads

8. Extract to "WindowsVersion.zip" folder.
9. Click on line_robots.exe file.
10. Select "Open"

Steps to compile the project from the source code

1. Download Qt from https://www.qt.io/download
2. Download the Qt where it states "Downloads for open source users"
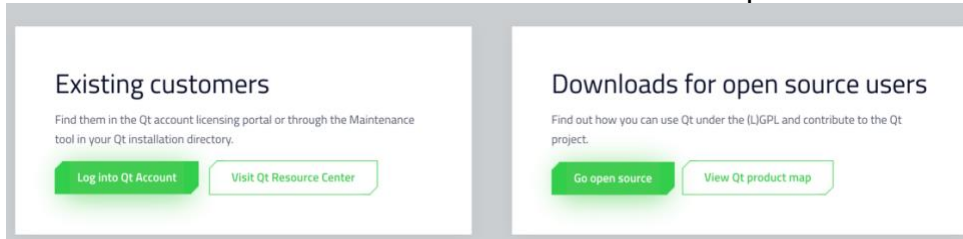
3. Scroll down and click on "Download the Qt Online Installer"

   A. The Browser will automatically detect the operating system.
   B. Click "Download" button.
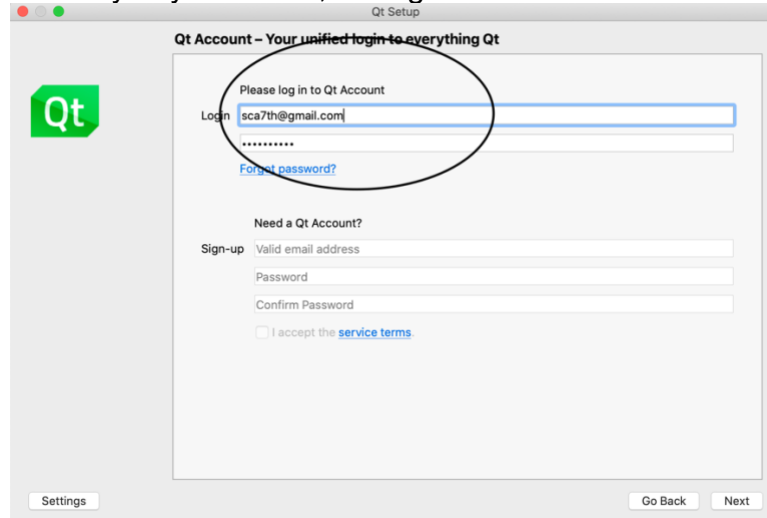

4. Installation
   A. On macOS/Windows (Prerequisites: Have latest version of XCode installed)

a. Download qt-unified-mac-x64-3.2.2-online.dmg or qt-unified-windows-x86-3.2.2-online.exe

b. Double Click to install

c. Create an account for Qt (program will ask this due to being open source.

d. Verify in your email, then go back to the installation and login.

e. Qt will authenticate the login, then will ask for user to agree to the terms. Place a checkmark and agree.

f. Press "continue" twice.

g. Choose if you want to contribute to Qt, "press continue"
    i. select Qt 5.14.2 then click next.
    ii. agree to the terms
    iii. Set shortcut and continue.

h. Choose an installation directory for Qt. Then press "Continue"

j. Finish the installation.

5. Download source from GitHub
    A. https://github.com/maslaral/line_robots
    B. Download source from GitHub, by clicking on the "Clone or Download",
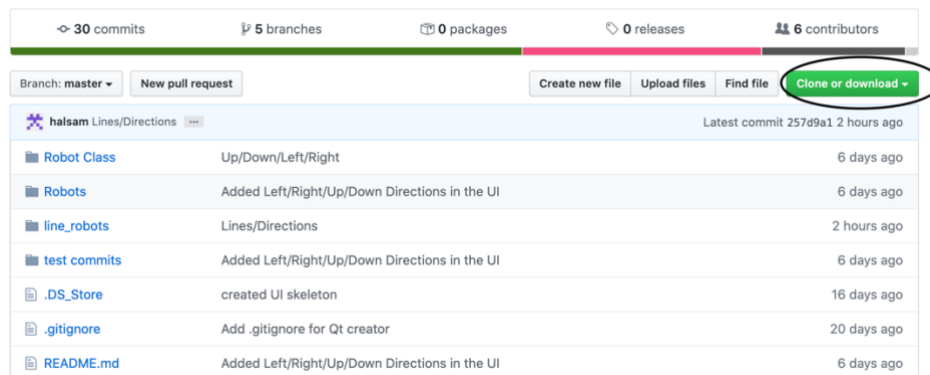
C. "Download Zip" the extract the zip to any directory which would be easily accessible. (have 7zip, WinRAR or any unarchiving software to extract the files. Built in software can be used also)
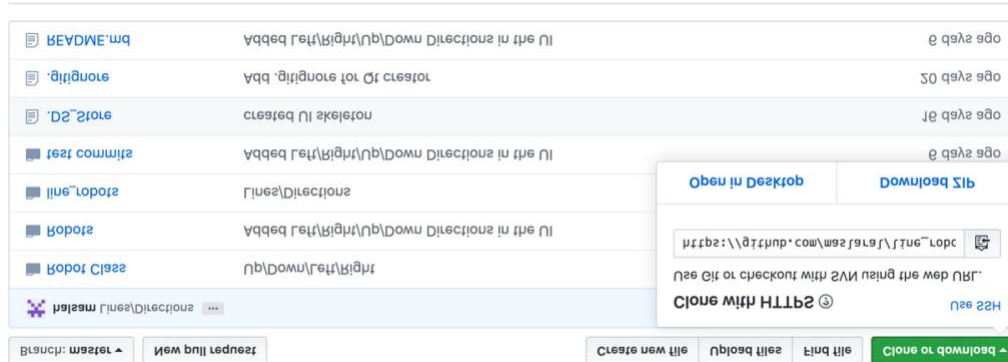
6. Running the Program
    A. Open Qt Creator
    B. Click "Open"
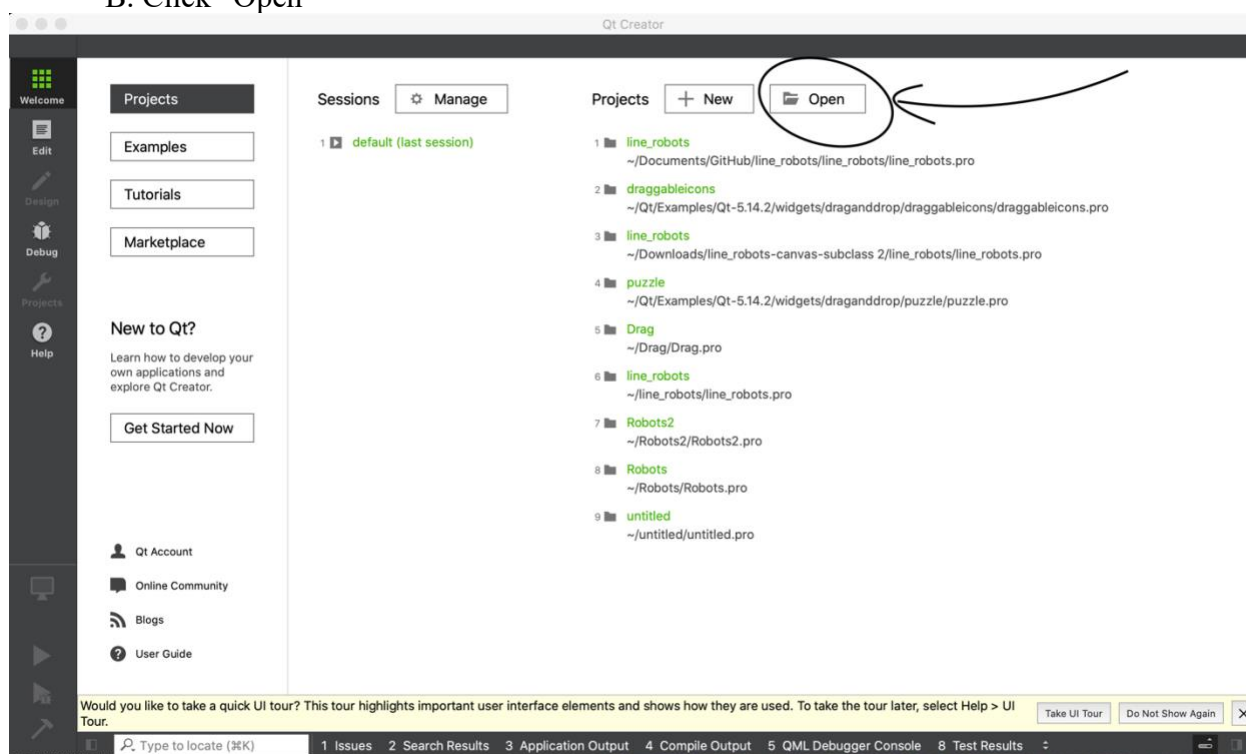
C. Navigate to the unarchived files to the folder and select "line_robots-master" →
"line_robots" → line_robots.pro file.

D. Click Open.
E. An error might occur, disregard it click "ok"
F. Make sure "Select all kits" is checked

Configure Project

The following kits can be used for project **line_robots**:

Type to filter kits by name...

☑ Select all kits

☑ 🖥 **Desktop Qt 5.14.2 clang 64bit**　　　　　　　　　　Manage...　Details ⌃

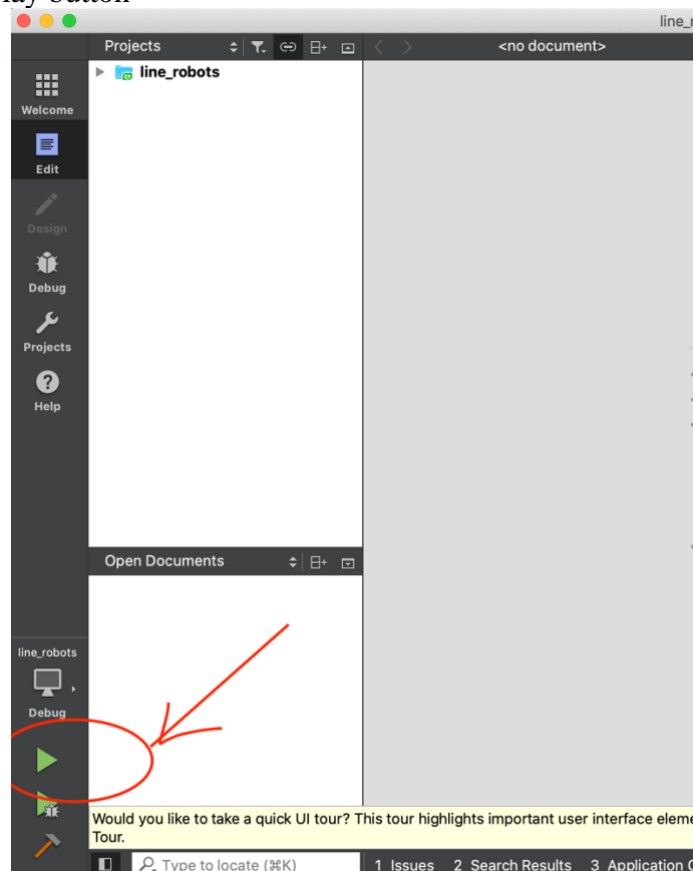☑ Debug　duleac/Downloads/line_robots-master/build-line_robots-Desktop_Qt_5_14_2_clang_64bit-Debug　Choose...

☑ Release　luleac/Downloads/line_robots-master/build-line_robots-Desktop_Qt_5_14_2_clang_64bit-Release　Choose...

☑ Profile　iduleac/Downloads/line_robots-master/build-line_robots-Desktop_Qt_5_14_2_clang_64bit-Profile　Choose...

Import Build From...　　　　　　　　　　　　　　　　　　　　Details ⌃

/Users/rubensanduleac/Downloads/line_robots-master　　　　　Choose...

Import

Configure Project

r highlights important user interface elements and shows how they are used. To take the tour later, select Help > UI　Take UI Tour　Do Not Show Again　✕

G. Press Configure Project

7. Running the program

A. Press the play button

B. The program will then run and will look like this:
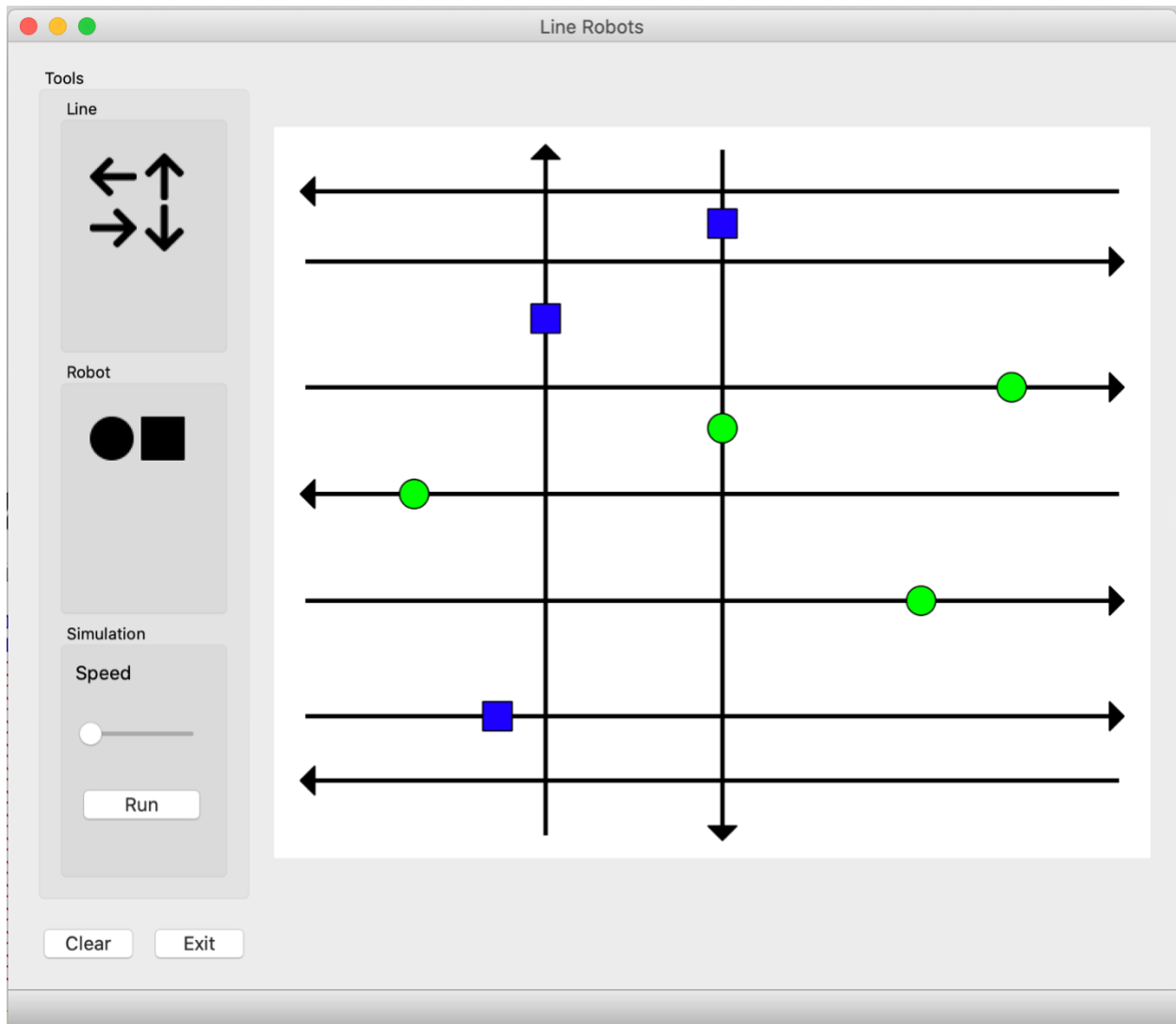
How to use the line_robots.app

1. Running the simulation:
    a. Drag a line anywhere on the canvas.
        i. Line can be dragged to the white canvas. Lines correspond to the direction where line faces. The movement of the robot will be in the direction the arrow points to.
    b. Drag a robot to be placed on top of the line
        i. A speed prompt will be asked for the user to input.
            1. (Range: 1 – 15)
        ii. Set the speed (cannot be changed after the robot is set on the line.)
            1. Type the integer or use the arrow keys.
        iii. Place any additional robot or lines. If not, move to the next step.
    c. Press the "**Run**" Button to start the simulation.
        i. Once the "**Run**" is pressed no edits can be made until the "Pause" button is pressed.
    d. The robot will move from the starting position of the line to end position

     i. The robot will loop infinitely on that line.
  e. Press the "**Pause**" button to temporarily pause the simulation, to place more lines or robots.
  f. Use the **slider** to adjust the speed of the whole simulation.
  g. To reset the canvas, press the "**Clear**" button.
2. Press the "exit button" to exit the program.

Bugs
1. Intersections are not turned on in this release, due to the program not function as expected.
2. When pressing the "**Clear**" button, you can't add robots. A work around is to press "**Run**" and "**Pause**" Buttons twice.