RENEE BY 5471

Version : 2.0

Date : ***20 April 2022 (05:25:22 UTC-5)***

Authors : - Belloui Lina - Cotargasanu Stefan - Rakotoarivony Faneva - Sauquet Justine

This project follows the requirements asked for the INF1900 class at Polytechnique Montreal University.

How to use

To use this project on your robot at home, or in the library, or in the Starbucks, you need to follow these five ***simple*** instructions :

1. Clean the library :
    - Inside **project/lib** folder, use the command :
        - `make clean`
2. Compile the library :
    - Inside the **project/lib** folder, use the command :
        - `make`
3. Clean the app folder :
    - Inside the **project/app** folder, use the command :
        - `make clean`
4. Compile and install the app executable file on the robot :
    - Inside the **project/app** folder, use the command :
        - `make install`
    - Or if you want to debug, use the following commands :
        - `make debug`
        - `make install`
5. Enjoy your coffe and have ***fun***.

Pro tip : You can use the following alias in the folder **project/app** to make things easier :

```
alias AllMake='clear && make -C ../lib clean && make -C ../lib && make clean && make && make install'
```

Or for debug :

```
alias AllDebug='clear && make -C ../lib clean && make -C ../lib && make clean && make debug && make install && serieViaUSB -l'
```

Lib Folder

This folder implements the library needed to make the Robot work completely.

App folder

This folder implements the main logic of the Robot inside the parkour.

Robot.cpp

This file implements the object Robot who controls the Robot inside all of his state and all of the journey he is going to take, going from the wall follower, who follows wall like my rumba, or following light.

State.h

This file describes all the states of the Finite State Machine of the Robot, following the following state table.

Curente State	Transition	Next State	Output
Init	Interupt	Start_Autonomous	Blinck Green
Start_Autonomous	3s. Elapsed	Start_Memorizing	Waiting
Start_Memorizing	Finish Memorazing Unit	Follow_Wall	Follow Wall
Follow_Wall	No Wall Detected	Follow_Light	Follow Light

Curente State	Transition	Next State	Output
Follow_Light	Interupt	End_Autonomous	Turn On DEL Green
Follow_Light	Bouton Breadboart	Stop_Memorizing	Stop Memorazing
Stop_Memorizing	Finish Memorazing	Start_U_Turn	Blinck Amber
Start_U_Turn	1s. Elapsed	U_Turn	Waiting
U_Turn	End U_Turn	Follow_Wall	Follow Wall
Follow_Light	Find a Wall	Follow_Wall	Follow Wall
Init	Bouton Breadboart	Start_Rerun	Blinck Red
Start_Rerun	3s. Elapsed	Rerun	Waiting
Rerun	Read end of rerun marker	End_Rerun	Turn On DEL Green

BY THE WAY C'EST QUOI LE STEP ?