

Scan code installation guide

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1. open the terminal and type(in the destination folder):
`git clone https://github.com/rbdlabhaifa/Autonomous-navigation.git`
2. write username and password (you must have access to the repository(ask tzuk for access))
3. go to Autonomous-navigation/Packages/orb_slam and copy: Map.cc, tello.cc and System.cc and paste it in ORB_SLAM2/src/
4. go to Autonomous-navigation/Packages/orb_slam and copy: Map.h and System.h and paste it in ORB_SLAM2/include/
5. go to Autonomous-navigation/Packages/orb_slam and copy: tello.yaml and tello.cc and paste it in ORB_SLAM2/Examples/Monocular/
6. go to ORB_SLAM2 and open file CmakeLists.txt, go to line 85 and delete the first three `add_executable(...)` function calls and first three `target_link_libraries(...)` function calls that come after every `add_executable(...)` function call
7. we will change the fourth `add_executable(...)` function call from:
`add_executable(mono_kitti`
`Examples/Monocular/mono_kitti.cc)`
to:
`add_executable(tello`
`Examples/Monocular/tello.cc)`
8. we will change the fourth `target_link_libraries(...)` function call from:
`target_link_libraries(mono_kitti ${PROJECT_NAME})`
to:
`target_link_libraries(tello ${PROJECT_NAME})`
9. open the terminal, go to ORB_SLAM2 path and run `./build.sh`
10. open new project in pycharm and copy all the python files from Autonomous-navigation into the project.
11. copy the **folder**: Autonomous-navigation/Packages/djitellopy/ into the pycharm project
12. go to `tello_tzuk_quaternion` file in pycharm and search for “gnome-terminal...” line in the first function of the file.
13. change every file path that in this string to the appropriate file path in your system (in the first path keep the file name `tello` and not `tello.yaml`)(in the last path (and in all other paths exclude the first) change the file name, if needed)
14. go to pycharm settings/project:”project_name”/python Interpreter and add every package that you didn’t installed for this project(don’t import the ones that already installed on your system(you’ll see error on each package that you didn’t install yet(numpy, matplotlib...))
15. connect to a tello drone and run `tello-tzuk-quaternion` file as main

problems and solutions

P: pycharm doesn't let you download package

S: try download the package from the error dialog

P: pycharm doesn't recognize cv2 (found and solved by Livne Benhemo)

S: go to pycharm's terminal and write: `pip install opencv-python`

P: ORB_SLAM2 build error: CMake error at CmakeLists(found and solved by Tzuk Polinsky)

S: copy ORB_SLAM2/Examples/Monocular/tello.cc to ORB_SLAM2/

P: ORB_SLAM2 build falls after the changes

S: do things in this order:

1. delete ORB_SLAM2 folder and clone it again
2. in ORB_SLAM2 folder open terminal and write: `chmod +x build.sh` and then `./build.sh`
3. do build.sh if build succeeded: continue. Else: start again from 1.
4. Do 6.-8. In this guide
5. do build.sh if build succeeded: continue. Else: start again from 1.
6. Do 3. In this guide
7. do build.sh if build succeeded: continue. Else: start again from 1.
8. Do 4. In this guide
9. do build.sh if build succeeded: continue. Else: start again from 1.
10. Do 5 in this guide
11. do build.sh if build succeeded: continue. Else: start again from 1.