Build up remote control between 2 Raspberry Pi's

SSH connection over the same Wi-Fi network

This procedure works with all kinds of linux PC. It is even possible to connect your Raspberry Pi (RPi) with your Linux Laptop or any other kind of Linux PC. The SSH Connection is a connection via IP address within the SAME!! Wi-Fi router.

Requirements

In this case we use two Raspberry Pi's. The "controller RPi" (RPi 1) should control the "executer RPi" (RPi 2) remotely. Here are the requirements before setting up the connection.

- A Wifi router with a valid IP-Address (most normal routers should work)
- **Raspberry Pi 1 (RPi 1)** as a "controller RPi" to control the other RPi by having access to the others filesystem/hardware/software and execute commands. It has the mini 3.5 inch Display installed and already configured (see other instruction).
- **Raspberry Pi 2 (RPi 2)** as a "executer RPi", which has all the motors physically connected and having the python code for the GUI&control within its filesystem.
- Both RPi's connected to the same Wi-Fi router

Setting up the SSH connection

1. **Activate SSH in Raspbian on the RPi 2**
   For security reasons, Secure Shell is not turned on by default in Raspbian. On your Raspberry Pi, choose Menu > Preferences > Raspberry Pi Configuration. Click on Interfaces and set SSH to Enabled. Click OK.
2. **On RPi2: Get your IP address**
   Connect your Raspberry Pi to a local network: open the Terminal enter the following command:

`hostname -I`
This will return your IP- address. The IP-address should look something like that: `192.168.0.41.` Write this number down. You'll need it shortly.

3. **On RPi1: Connect via SSH on your RPi 1**
   Open a Terminal window and enter this command with the RPi2's IP-address:

   ```
   ssh -X pi@[IP]
   ```

   Replace [IP] with the IP address of the executer Raspberry Pi (RPi2). It should look something like that: `ssh -X pi@192.168.0.41`. You will receive a response. Enter yes. You'll be asked to enter the password for your RPi 2. If you haven't set up a password, it will automatically set to: "raspberry".
4. **Now with this terminal on your RPi 1, all commands will affect only the RPi 2**
5. **Execute the python code**
   Go to your directory with this command:

   ```
   cd [directory]
   ```

   Replace the "[directory]" with the foldername, in which your code: GUI.py lies.
   Now execute:

   ```
   Python3 GUI.py
   ```

   Now you should see the GUI (Graphical User Interface) on your RPi 1