

# Spassouno Installation Manual

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## 1 Installation and Setup

### 1.1 Materials

- Raspberry Pi (1,2,3 A/A+/B/B+)
- Camera (Raspberry Official or Linux Compatible USB)
- Spassouno Controller

### 1.2 Download an flash DietPi

Get a micro SD card with a minimum size of 4 GB (Class 10 UHS-I, A1 Recommended) and format it. Download the DietPi image from the official website.

Use Etcher or any method you prefer to flash the previously downloaded image to the microSD. It will take a couple of minutes to finish.

When it is done, plug it into the Raspberry Pi and connect the network cable (if you prefer, plug monitor, keyboard and mouse).

### 1.3 First Boot

At the first boot, the DietPi image will resize the filesystem and do some updates. Then it will display the login prompt (root/dietpi).

After you logged in, you have to change your password (spassouno); then you will be asked to do the first config via Dietpi-Software utility. Here you have to install LXDE (Graphical Environment), WiFi Hotspot, ProFTP (lightweight FTP server), Samba (Windows File Sharing Server) that you can find under DietPi-Optimized menu.

Next, select Git from the DietPi-Additional menu, choose OpenSSH as SSH server (as it enables scp commands) and Samba under File Server. Then click install, it will take quite some time to do all the stuff and also some reboots.

If you are configuring via SSH, the SHA key will change so you have to remove it from the known list and redo the matching (the terminal prompt will suggest what to do).

Open dietpi-config and enable the camera module under Display Options, if you are using a MIPI-CSI camera (Raspberry Official one); then reboot.

Now you are ready to install Spassouno software.

### 1.4 Installation

First, you have to install all the software dependencies that the software needs to work correctly.

```
$ sudo apt install python-pip python-dev python-setuptools
$ sudo apt install libjpeg8-dev libgstreamermm-1.0-dev python-pygame
$ sudo apt install lighttpd libwebp-dev imagemagick zlib1g-dev
```

```
$ sudo apt install libtiff5-dev libjpeg-dev libfreetype6-dev liblcms2-dev
$ sudo apt install gstreamer1.0-plugins-base gstreamer1.0-omx libav-tools
$ sudo apt install libjpeg62-turbo-dev gstreamer1.0-plugins-good
$ sudo apt install gstreamer1.0-tools gstreamer1.0-plugins-bad usbmount
$ sudo apt install zlibc build-essential tcl8.6-dev tk8.6-dev python-tk
$ sudo pip install setuptools pillow picamera
```

After the process is finished, change your working directory to `/opt` and clone the GitHub repository. Then open the folder of the repository and run `python spassouno.py`, in a few seconds the display will load the home screen and you can start using it.

## 1.5 Add features

Features that are nice to have are a shutdown button and autostart of the python script. For the shutdown, open `/DietPi/config.txt` in your favourite editor and add

```
dtoverlay=gpio-shutdown
```

To make the script start at boot, you can use cron or init.d. In the GitHub folder there is a script for cron, you can set it up with the next commands. Digit `crontab -e` to edit the cron file then add at the end of the file `@reboot sh /opt/spassouno-py/startspasso.sh`, save it and then digit the following commands:

```
$ sudo chmod +x /opt/spassouno-py/startspasso.sh
$ sudo systemctl enable cron
```

If you want to add WiFi Hotspot capabilities, under dietpi-config network settings you can set your ssid and password (SpassoUno-HotSpot / SpassoDue) then copy the `config/www` folder under `/var`. This folder contains all the webserver files. Change your directory to `/var/www` and then digit:

```
$ sudo ln -s /opt/spassouno-py/images/export ./download
```

This way all the videos exported will be available for download. For the FTP and Samba (windows) Shares change your directory to `/opt/spassouno-py/config` and digit

```
$ cp ./proftpd.conf /etc/proftpd/
$ cp ./smb.conf /etc/samba/
```

Then reboot. This will add anonymous access to the images folder.