eFinder install on 32bit Raspian OS

Install recommended standard 32bit Raspian OS (use Raspberry Pi Imager app). Use a SD card at least 16GB, A fast 32GB card is recommended from either Samsung or Sandisk.

Recommended to set the username as ‘efinder’

Insert SD card in Pi and boot. If using a previous build: (much better to start afresh though!)

```
sudo apt update
sudo apt upgrade
```

If a Mac user, install netatalk.....

```
sudo apt install netatalk
sudo nano /etc/netatalk/afp.conf
modify....
        [Homes]
        basedir regex = /home
```

If needed during installation of files, to enable a file manager with sudo privileges

```
sudo pcmanfm
```

Update numpy

```
sudo pip install numpy==1.22.0
sudo apt install libatlas3-base
```

Download astrometry.net-0.90 or later from the GitHub https://github.com/dstndstn/astrometry.net/releases/tag/0.90

Install all the dependencies first.

```
pip install fitsio
pip install astropy
pip install pyfits
```

'sudo apt-get install' the following

```
libcairo2-dev
libnetpbm10-dev
netpbm
libpng-dev
libjpeg-dev
python3-numpy maybe installed already
zlib1g-dev
libbz2-dev
swig
libcfitsio-dev
```

Edit profile to include new PATH
sudo nano /etc/profile
add to end of file
export PATH=/home/<username>/.local/bin:$PATH
save and close

Reboot the Pi

Build astrometry.net using default directory (/usr/local/astrometry/)
In a terminal session, move to the astrometry.net-0.90 folder.
exec sudo make
sudo make py
sudo make extra
sudo make install

Add some index files to
/usr/local/astrometry/data
Suggest: index-4109.fits thru index-4113.fits
(the default astrometry.cfg will point to these index files)

Add some catalog files to a new folder
/usr/local/astrometry/annotate_data
Suggest:
abell-all.fits
brightstars.fits
hd.fits
hip.fits

Edit profile to include new PATH
sudo nano /etc/profile
add to end of file
export PATH=/usr/local/astrometry/bin:$PATH
save and close

Reboot
remove need for password during code execution
sudo visudo
then add following line to end
<username> ALL = NOPASSWD: /bin/date
save & exit

install image viewer accessible to Python
sudo apt install imagemagick

pip install Skyfield

Install ASI camera support

Copy folder armv7 and contents to /lib/zwoasi/

Execute

sudo install asi.rules /lib/udev/rules.d from folder where asi.rules is.

pip install zwoasi

Set up a folder in ramdisk.

Sudo nano /etc/fstab

tmpfs /var/tmp tmpfs nodev,nosuid,size=100M 0 0

sudo mount -a

install gps drivers if GPS module needed (ie no Nexus DSC being used)

sudo -H pip install --ignore-installed gps3

sudo apt-get install gpsd gpsd-clients

make it auto start

execute crontab -e

add to end

PATH=<copy your default PATH into here>

@reboot sleep 10 && python /home/efinder/Solver/eFinder.py &

(if user is not ‘efinder’ then substitute)

Make sure the desired copy of eFinderXXX_YY.py is saved in /Solver and renamed eFinder.py

Plus the line starting os.system(‘pkill..... (about line 33) in eFinder.py is commented out.

Astrokeith

27/8/2023