

### DUF trolleys install documentation:

**\*\*this is not secured in any way – it is made to work offline, hence no extraordinary security measures or secure installs.**

#### Hardware:

Granny trolleys x4  
Raspberry Pi 3 Model B x4  
Any old screen/monitor x4  
VGA cables x4  
VGA to HDMI x4  
Micro SD 32GB x4 (smaller will do too)  
Edimax WiFi dongle x1  
mini keyboard x1  
mouse x1  
RasPi power supply cables x4  
Power supply cables for monitors x4  
Cable-ties – many

#### Software/install sequence:

**\*\*some of these things do not necessarily need to follow the sequence, it was jut easier to line it up this way.**

- **DEVUAN install:** Flash SD card with devuan\_jessie\_1.0.0\_armhf\_raspi2.img.xz using Balena Etcher
- **Expand filesystem** following this tut: [https://www.youtube.com/watch?v=wTtLzbOEU\\_A](https://www.youtube.com/watch?v=wTtLzbOEU_A)
  - Check df -h
  - sudo fdisk /dev/mmcblk0 open main device to edit partitions
  - p To list partitions to get start and end sector for second partition Note these values down
  - d To delete partition
  - 2 To choose second Linux mmcblk0p2
  - n To create new partition
  - p Choose primary type
  - 2 Partition Number <check listing from first p command above> Set first sector Set end sector (default value is usually correct)
  - p To list partitions again
  - w To write new partition table
  - sudo reboot
  - Login again
  - Resize partition sudo resize2fs /dev/mmcblk0p2
  - Check df -h
- **Update&&upgrade**

- **GUI install:**
  - sudo apt install xserver-xorg
  - sudo apt install xfce4 xfce4-terminal
  - sudo apt install lightdm
  - reboot
- **Rotate display:**
  - sudo nano /boot/config.txt
    - hdmi\_force\_hotplug=1
    - display\_rotate=2
    - save&reboot
- **Install browser:**
  - from friends of devuan (bottom of the page):  
[https://friendsofdevuan.org/doku.php/community:installing\\_devuan\\_1.0\\_jessie](https://friendsofdevuan.org/doku.php/community:installing_devuan_1.0_jessie)
    - apt-get install firefox-esr ristretto xpdf
- **Install network manager:**
  - sudo apt install network-manager
- **WiFi setup (from devuan git repo):** <https://git.devuan.org/dev1fanboy/Upgrade-Install-Devuan/blob/master/network-configuration.md>
  - sudo nano /etc/network/interfaces
    - allow-hotplug wlan0
    - iface wlan0 inet dhcp
    - wpa-ssid myssid
    - wpa-psk mypassphrase
  - save&reboot
- **Screensaver:**
  - sudo nano /etc/lightdm/lightdm.conf
    - xserver-command=x -s 0 dpms
    - save&reboot

- 
- **Server stuff:**
    - from mario lurig's lamp install: <https://mariolurig.com/coding/install-lamp-debian-jessie-apache-mysql-php5-phpmyadmin/>
    - following step-by-step installs apache2, php, mysql && phpmyadmin
      - **Update Package Info**

sudo apt-get update

### Install LAMP Packages

sudo apt-get install apache2 apache2-utils mysql-server php5 php5-mysql php5-curl php5-cli libapache2-mod-php5

\* Choose a root password for MySQL

### Enable Useful Apache Modules

sudo a2enmod headers

sudo a2enmod rewrite

### Edit Apache Config for .htaccess Usage

sudo nano /etc/apache2/apache2.conf

Change **AllowOverride** under **<Directory /var/www/>** from **None** to **All**

<Directory /var/www/>

```
Options Indexes FollowSymLinks
AllowOverride All
Require all granted
</Directory>
```

### Change Server Timezone

```
sudo dpkg-reconfigure tzdata
```

### Restart Apache & MySQL

```
sudo service apache2 restart
sudo service mysql restart
```

### Adjust User/Group and Read/Write/Execute on Web Folder

```
sudo chown -R www-data:www-data /var/www/html
sudo chmod -R 775 /var/www/html
Also add the admin user to www-data group
sudo usermod -aG www-data admin
```

### Install PHPMyAdmin (Answer YES to use DBconfig)

```
sudo apt-get install phpmyadmin
* Make sure you set a password for the phpmyadmin user
```

### Add PHPMyAdmin to Apache2 Config

```
sudo nano /etc/apache2/apache2.conf
ADD TO FILE:

Include /etc/phpmyadmin/apache.conf
```

---

### Tip: How to Workaround No Password Set for User

```
sudo nano /etc/phpmyadmin/config.inc.php
UNCOMMENT IN FILE:

$config['Servers'][$i]['AllowNoPassword'] = true;
```

Restart Apache, then you will be able to login without a password at /phpmyadmin/ (**NOT RECOMMENDED**).

- **WIFI hotspot (access point) && captive portal:**
  - From here: <https://lb.raspberrypi.org/forums/viewtopic.php?t=138550&start=25#p1275429>
  - **IMPORTANT – all wlan0 below are in DUF install case wlan1**
  - First ensure you are up to date and have the required software installed -

Code: [Select all](#)

```
sudo apt-get update
sudo apt-get upgrade
sudo apt-get install hostapd dnsmasq
```

Do not edit /etc/dhcpd.conf, leave that as it is.

Edit /etc/hostapd/hostapd.conf to be -

Code: [Select all](#)

```
interface=wlan0
ssid=DataStrike
channel=6
hw_mode=g
ieee80211n=1
wmm_enabled=1
ht_capab=[HT40][SHORT-GI-20][DSSS_CCK-40]
macaddr_acl=0
auth_algs=1
ignore_broadcast_ssid=0
wpa=2
wpa_key_mgmt=WPA-PSK
wpa_passphrase=blueberry
rsn_pairwise=CCMP
```

It seems everything after channel can be left out if you want an open access point but that is not recommended for this particular set-up.

Edit /etc/init.d/hostapd to change DAEMON\_CONF= -

Code: [Select all](#)

```
DAEMON_CONF=/etc/hostapd/hostapd.conf
```

Edit the /etc/network/interfaces wlan0 configuration to -

Code: [Select all](#)

```
allow-hotplug wlan0
iface wlan0 inet static
    address 172.17.2.1
    netmask 255.255.255.0
    broadcast 255.0.0.0
```

The allow-hotplug line is essential

Edit /etc/dnsmasq.conf to be -

Code: [Select all](#)

```
address=/#/172.17.2.1
interface=wlan0
dhcp-range=172.17.2.100,172.17.2.250,12h
no-resolv
# log-facility=/var/log/dnsmasq.log
# log-queries
```

Uncomment the last two lines if you want to log dnsmasq activity.

Then finally -

Code: [Select all](#)

```
sudo update-rc.d hostapd defaults
sudo update-rc.d dnsmasq defaults
sudo reboot
```

- ***the rest of the work is about php tables, text ant other browser-based input&display and is mostly html/css/php combo – doc on a separate pages***
- 

Next bit is about static IP and connecting remaining 3 raspberry Pis to the main access point to display text input from people interacting with the installation:

Could not work out static IP – will update when I do.

In the meantime, a workaround:

ssh into [root@whatever](#) ip is the mama pi (that means then one with wifi hotspot and server) then open browser and go to [dataunion.fork/db/](#) && chose:

```
organise.php
mobilise.php
settarget.php
strike.php
```

one page per box/trolley combo.

Should there be a major breakdown. Every box has a corresponding html file:

```
organise.html
mobilise.html
settarget.html
strike.html
```

This is in worst case scenario - and this does not allow for audience participation. Will only play what older text input.

FOR INTERACTION:

Connect to WIFI >> DataStrike

Open browser >> goto >> [dataunion.fork](#)

In case browser is not connecting – ask artist or gallery staff what is the url for the mobile interaction.

\*\*\*IMPORTANT – mama crash:

<https://raspberrypi.stackexchange.com/questions/3289/checking-sdcard-for-errors-unmount-problem>

sudo touch /forcesck didn't work for me...

but I did the following and it checked errors:

force a manual fsck and reboot:

```
fsck -fy /dev/mmcblk0p2
```

```
reboot
```

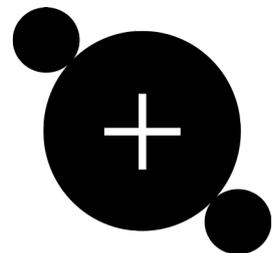
\*\*\* database back-up

```
crontab -e
```

```
0 */2 * * * mysqldump -uroot -pduFduF337 DUF > /root/duf-backups/$(date +%Y_%m_%d_%l_%M_%p)_duf.sql
```

# S + T + ARTS

## RESIDENCIES



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