



# CoutomCountdown Development 8/26/24

Added Python code for bounce system. See *no\_rides4-1.py*.

## Latest versions:

*ride\_day9-3.py* and *no\_rides4-5-1.py* or *no\_trains4-6\_Pi-0*

## Revisions:

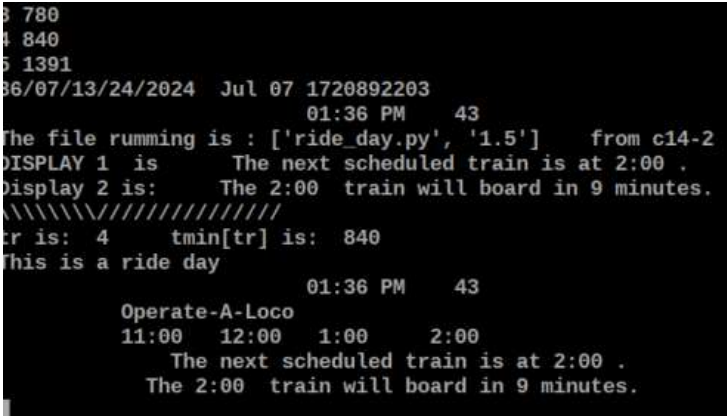
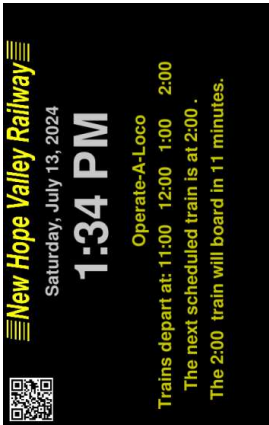
### To Do:

Add starting *at* or *starting at* to the displayxb column.

Center timee, line1 through line4 and “The next train rides are scheduled for:” in *ride\_day.py*  
(Take out spaces.)

After last train departs add a delay of one minute and display “*The last train for today has left the station*” before crashing and launching *no\_rides.py*.

There is a space in the line “the next scheduled train is at 2:00 .” before the period



≡ *New Hope Valley Railway* ≡





7/19/24 If no train.py is run after last train on a ride day, make display say “there are no more trains scheduled today.”

- a) Add function to *ride\_day.py* to save YES to file *more.txt* if there is a ride day.
- b) In *no\_rides.py* read file *more.txt*.
- c) If YES, make display with more.
- d) Write NO to *more.txt*.

Using ar.py and ano.py

Make bounce2.py work with the logo and add to the dimm mode





```
def days_out(a):  
    print('From make_date()')  
    print (a)  
    from datetime import date  
    yr = a[6:12]  
    mm=a[0:2]  
    dd = a[3:5]  
    b= yr+', '+mm+', '+dd  
    print(b)  
    d1 = date(*map(int,b.split(', ')))  
    d0 = date.today()  
    delta = d1-d0  
    print (delta.days)  
    days_out = delta.days  
    print (str(days_out))  
    return 'In ' +str(days_out) +' days'  
    print (days_out)
```

Also changed offc from 335 to 365.

Sunday, August 11, 2024

# 5:38 AM

**There are no trains scheduled today.  
The next train rides are scheduled for:**

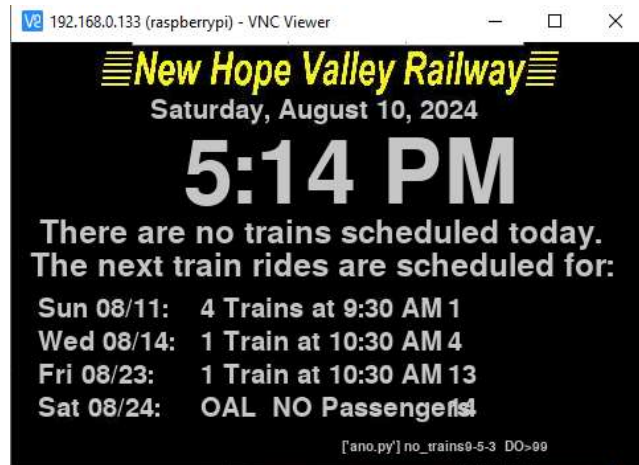
|            |                     |            |
|------------|---------------------|------------|
| Wed 08/14: | 1 Train at 10:30 AM | In 3 days  |
| Fri 08/23: | 1 Train at 10:30 AM | In 12 days |
| Sat 08/24: | OAL NO Passengers   | In 13 days |
| Sat 08/31: | 3 Trains at 3:00 PM | In 20 days |

[no\_trains.py] no\_trains9-8 New days\_out()

8/10/24

On the 3.5" display The error of the days\_out() function occurred. I change the function to the one that is in the no\_rides.py from the Pi-5. The temporary corrected file is ano.py

The results are:



The displayXc variable just has the days\_out value and not the “In , days”

8/8/24

The version *no\_rides4-5.py* added another elif for *display1b*, if ride day was cancelled:


```

451
452     if stheme[nexttrain] == 'Operate-A-Loco':
453
454         display1b = 'OAL '+'NO Passengers'
455         #display1c = ' '
456     elif stheme[nexttrain][-9:] == "CANCELLED":
457         display1b = ">> CANCELLED <<"
458
459     elif snot[nexttrain] == '1':
460         display1b = snot[nexttrain] + ' Train at ' +strain1[nexttrain]
461     else:
462         display1b = snot[nexttrain] + ' Trains at ' +strain1[nexttrain]
463     #

```

If the last 9 characters of the *stheme* == “CANCELLED”





**New Hope Valley Railway**  
Thursday, August 08, 2024  
**9:43 AM**

Welcome to the North Carolina Railway Museum  
Our special holiday trains sell out early  
Purchase your tickets NOW  
-- Have a nice day --

There are no trains scheduled today.  
The next train rides are scheduled for:

Fri 08/09: >> CANCELLED << TOMORROW  
Sat 08/10: OAL NO Passengers In 2 days  
Sun 08/11: 4 Trains at 9:30 AM In 3 days  
Wed 08/14: 1 Train at 10:30 AM In 6 days

The North Carolina Railway Museum, Inc. (NCRM) is an IRS registered, educationally focused 501(c)3 non-profit organization, incorporated in North Carolina. Our mission is to preserve and share North Carolina's railroad history with the public. We are especially proud of our work with school and children's groups, special needs groups, senior groups, and many others who visit us from North Carolina, across the US, and beyond. We are a 100% all volunteer operation. The NCRM is an "open-air" facility with exhibits that include a collection of historic and heritage railroad equipment dating back to the 1910s. One-hundred percent of NHVRy ticket fare revenues and donations received, go directly into our museum.

no\_rides4-4-1\_Pi-0.py: 1:13 NO\_RIDES4 CANCELLED

| Index | Date          | Trains | 1        | 2        | 3        | 4        | 5 Riders | Average | Theme                    |
|-------|---------------|--------|----------|----------|----------|----------|----------|---------|--------------------------|
| 24    | 7/15/2024 Mon | 4      | 9:30 AM  | 11:00 AM | 12:30 PM | 4:00 PM  |          |         | Test Slow Down Monday    |
| 24    | 7/16/2024 Mon | 4      | 1:45 PM  | 2:05 PM  | 2:25 PM  | 10:30 PM |          |         | Test Slow Down Monday    |
| 25    | 7/17/2024 Wed | 4      | 11:20 AM | 11:40 AM | 2:00 PM  | 2:20 PM  |          |         | Group Ride Wed           |
| 26    | 7/22/2024 Mon | 3      | 3:00 PM  | 4:15 PM  | 5:30 PM  |          |          |         | Test                     |
| 26    | 7/27/2024 Sat | 3      | 3:00 PM  | 4:15 PM  | 5:30 PM  |          |          |         | Brew & Choo              |
| 27    | 8/9/2024 Fri  | 1      | 10:30 AM |          |          |          |          |         | Group Ride Fri CANCELLED |
| 28    | 8/10/2024 Sat | 4      | 11:00 AM | 12:00 PM | 1:00 PM  | 2:00 PM  |          |         | Operate-A-Loco           |

8/3/24 This was made for the Pi-0 running the ONN monitor

The version *no\_rides4-4-1\_Pi-0.py* increases the character size:

The *timee* font 60 to 80

The *line1* through *line4* font from 20 to 30

The *display1a through display4c* font from 20 to 30


The offsets:

*offb* from 143 to 133

*offc* from 355 to 380



version *no\_rides4-2.py*



**New Hope Valley Railway**

Saturday, August 03, 2024

**1:11 PM**

Welcome to the North Carolina Railway Museum  
Our special holiday trains sell out early  
Purchase your tickets NOW  
-- Have a nice day --


There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Fri 08/09: | 1 Train at 10:30 AM | In 6 days  |
| Sat 08/10: | OAL NO Passengers   | In 7 days  |
| Sun 08/11: | 4 Trains at 9:30 AM | In 8 days  |
| Wed 08/14: | 1 Train at 10:30 AM | In 11 days |

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[no\_rides4-2.py, 1.8] no\_rides4-2 screen off

version *no\_rides4-4-1.py*



**New Hope Valley Railway**

Saturday, August 03, 2024

**1:06 PM**

Welcome to the North Carolina Railway Museum  
Our special holiday trains sell out early  
Purchase your tickets NOW  
-- Have a nice day --

There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Fri 08/09: | 1 Train at 10:30 AM | In 6 days  |
| Sat 08/10: | OAL NO Passengers   | In 7 days  |
| Sun 08/11: | 4 Trains at 9:30 AM | In 8 days  |
| Wed 08/14: | 1 Train at 10:30 AM | In 11 days |

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[no\_rides4-4-1.py, 1.8] no\_rides4-4-1 screen off



The version *no\_rides4-3.py* added clear screen and removed some print lines to make the terminal window stable.

```
544     os.system('clear')
545     print()
546     print()
547
548     print ( 'The time now is ',tnow, '      ', 't_on is : ',t_on,'t_off is: ',t_off)
549
550     print ('>>>>>>>>>>>>>>>>>>>>>>>>>>>><<<<<<<<<<<<<<<<<<<<<<')
551     print(timee_sec)
552
553     print ( ' This is line1 :',line1)
554     print (line2)
555     print (line3)
556     print (line4)
557
558
```

The version *no\_rides4-2.py* deleted the *sleep()* commands and changed the speed for the bouncing *logo2.jpg* to *[4,2]* to speed up the bounce mode.

The version *no\_rides4-1.py* adds the display-off with *logo2* bounce. It added two new variables *t\_on* and *t\_off* and the surface from the file *logo2.jpg*. The *bouce2.py* program was broken up into setup and an if loop. *T\_on* is set to 420, 7:00 am and *t\_off* is set to 1260, 9:00 pm.

```
105  ### no_rides4-1.py added display off with bounce
106      ## The setup for the bounce was separated from the bounce loop
107      ## added if command to run bounce
108      ## added variables t_on and t_off t_on = 420 # 7:00 AM t_off =1260 # 9:00 PM
```

The loop runs much slower than the *bounce2.py* program. Do not know why!



```
774         # Move the logo2
775
776     if tnow < t_on or tnow > t_off: # Screen off Run Bounce
777
778
779         logo2_rect = logo2_rect.move(speed)
780
781         # Bounce the logo2 off the edges
782         if logo2_rect.left < 0 or logo2_rect.right > m*height:
783             speed[0] = -speed[0]
784         if logo2_rect.top < 0 or logo2_rect.bottom > m*width:
785             speed[1] = -speed[1]
786
787         # Clear the screen
788         screen.fill((0, 0, 0))
789
790         # Draw the logo2
791         screen.blit(logo2, logo2_rect)
792
793         # Update the display
794         pygame.display.flip()
795
796         # Cap the frame rate
797         clock.tick(60*60)
798
799
800
```

7/29/24 The *dim\_bounce.py* added the bounce if *dim == True*.

Broke up the bounce.py to setup and loop

Setup part:



```
381 offb = int(m*143)
382 offc = int(m*330+25) # was 340
383
384 #####
385     ### setup for bounce dim setup
386 logo2 = pygame.image.load('logo2.jpg')
387 logo2 = pygame.transform.rotate(logo2,90)
388 logo2_rect = logo2.get_rect()
389
390 # Set initial position and speed
391 logo2_rect.topleft = (100, 100)
392 speed = [1,2 ]
393
394 # Set up the clock for a decent framerate
395 clock = pygame.time.Clock()
396
397
398
399 #####
400
```

Loop part. Swapped the height and width in bounce loop:

Added the logo2.jpg file to the countdown folder.

Must scale this file using m.

Add detection of dim = True

7/28/24

The file bounce.py will cause the logo2.jpg to bounce around the screen

# ≡≡New Hope Valley Railway≡≡



## ≡≡New Hope Valley Railway≡≡

Sunday, July 14, 2024

# 3:17 PM

Welcome to the North Carolina Railway Museum  
Our special holiday trains sell out early  
Purchase your tickets NOW  
-- Have a nice day --

**There are no trains scheduled today.  
The next train rides are scheduled for:**

|            |                     |            |
|------------|---------------------|------------|
| Mon 07/15: | 4 Trains at 9:30 AM | TOMORROW   |
| Wed 07/17: | 1 Train at 10:30 AM | In 3 days  |
| Sat 07/27: | 3 Trains at 3:00 PM | In 13 days |
| Fri 08/09: | 1 Train at 10:30 AM | In 26 days |

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[no\_rides.py] no\_rides3-1\_rdate29-2

logo\_1450X164.jpg

text (top\_date)

timee (textt)

line1

line2

line3

line4

display

displayb

display1a display1b display1c

display2a display2b display2c

display3a display3b display3c

display4a display4b display4c

info.png

textvx

# ≡ New Hope Valley Railway ≡



logo\_1450X164.jpg

text (top\_date)

timee

line1

line2

line3

line4

display

displayb

display1a

display1b

display1c

display2a

display2b

display2c

display3a

display3b

display3c

display4a

display4b

display4c

info.png

textvx

qr.jpg



## ≡ New Hope Valley Railway ≡

Sunday, July 14, 2024

# 3:08 PM

**Slow Down Sunday**

**Trains depart at: 9:30 11:00 12:30 4:00**

**The next scheduled train is at 4:00 .**

**The 4:00 train will board in 37 minutes.**

**The next train rides are scheduled for:**

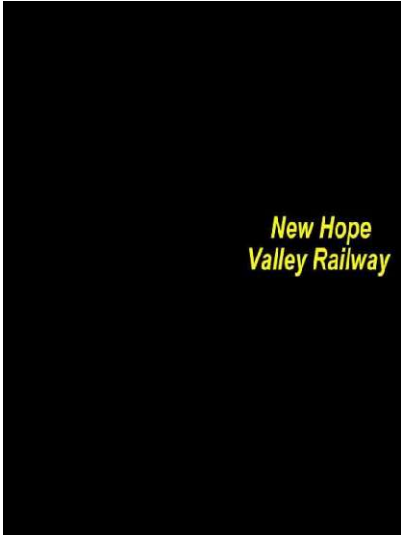
|                   |                            |                   |
|-------------------|----------------------------|-------------------|
| <b>Mon 07/15:</b> | <b>4 Trains at 9:30 AM</b> | <b>TOMORROW</b>   |
| <b>Wed 07/17:</b> | <b>1 Train at 10:30 AM</b> | <b>In 3 days</b>  |
| <b>Sat 07/27:</b> | <b>3 Trains at 3:00 PM</b> | <b>In 13 days</b> |
| <b>Fri 08/09:</b> | <b>1 Train at 10:30 AM</b> | <b>In 26 days</b> |

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[ride\_day.py] ride\_day8-1-4



7/24/24

Version no\_rides3-1-2.py dims the display before 6 AM and after 11 PM

The evening dim function works OK

The morning UN-dim not so good

Before 6 AM

After 6 AM

After re-Launch



Friday, July 26, 2024  
**8:38 AM**  
 Welcome to the North Carolina Railway Museum  
 Welcome to the North Carolina Railway Museum  
 Welcome to the North Carolina Railway Museum  
 There are no trains scheduled today.  
 The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sat 07/27: | 3 Trains at 3:00 PM | TOMORROW   |
| Fri 08/09: | 1 Train at 10:30 AM | In 14 days |
| Sat 08/10: | OAL NO Passengers   | In 15 days |
| Sun 08/11: | 4 Trains at 9:30 AM | In 16 days |

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Friday, July 26, 2024  
**8:35 AM**  
 Welcome to the North Carolina Railway Museum  
**Our special holiday trains sell out early**  
**Purchase your tickets NOW**  
 -- Have a nice day --  
 There are no trains scheduled today.  
 The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sat 07/27: | 3 Trains at 3:00 PM | TOMORROW   |
| Fri 08/09: | 1 Train at 10:30 AM | In 14 days |
| Sat 08/10: | OAL NO Passengers   | In 15 days |
| Sun 08/11: | 4 Trains at 9:30 AM | In 16 days |

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Friday, July 26, 2024  
**8:37 AM**  
 Welcome to the North Carolina Railway Museum  
**Our special holiday trains sell out early**  
**Purchase your tickets NOW**  
 -- Have a nice day --  
 There are no trains scheduled today.  
 The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sat 07/27: | 3 Trains at 3:00 PM | TOMORROW   |
| Fri 08/09: | 1 Train at 10:30 AM | In 14 days |
| Sat 08/10: | OAL NO Passengers   | In 15 days |
| Sun 08/11: | 4 Trains at 9:30 AM | In 16 days |

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Stilled dimmed:

- text (top\_date)
- timee
- display
- displayb
- display1a    display1b    display1c
- display2a    display2b    display2c
- display3a    display3b    display3c
- textvx



7/21/24 USB audio

USB Audio adapter for Pi-0

[https://www.perplexity.ai/search/how-do-i-use-a-usb-audio-adapt-p6NCCoweSa.jB\\_DG.xRQ4g](https://www.perplexity.ai/search/how-do-i-use-a-usb-audio-adapt-p6NCCoweSa.jB_DG.xRQ4g)

To use a USB audio adapter on a Raspberry Pi Zero, follow these steps:

### 1. Choose the Right USB Sound Card

Ensure that you have a compatible USB sound card. Most USB audio adapters with a 3.5mm headphone jack should work.

### 2. Connect the USB Sound Card

- Power down your Raspberry Pi Zero.
- Connect the USB sound card to the micro-USB data port using an appropriate OTG (On-The-Go) cable.
- Power up your Raspberry Pi Zero.

### 3. Verify Device Recognition

Once the Raspberry Pi Zero is powered up, open a terminal and run the following command to list all connected USB devices:

```
bash
```

```
lsusb
```

You should see an entry for your USB audio device. Next, list all sound cards detected by ALSA (Advanced Linux Sound Architecture):

```
bash
```

```
aplay -l
```

If the USB audio device is listed, it has been recognized by the system.

### 4. Configure the Audio Output

To set the USB audio device as the default audio output, you may need to edit the ALSA configuration file. Create or edit the `.asoundrc` file in your home directory:

```
bash
```

```
nano ~/.asoundrc
```

Add the following lines to set the USB audio device as the default:

```
text
```

```
16
```



```
pcm.!default {  
    type hw  
    card 1  
}
```

```
ctl.!default {  
    type hw  
    card 1  
}
```

Save the file and exit the editor.

## 5. Test the Audio Output

You can test the audio output using the speaker-test command:

```
bash
```

```
speaker-test -D plughw:1,0
```

This command should produce a test sound through the connected headphones or speakers.

## 6. Additional Configuration (Optional)

If you are using a desktop environment, you can select the USB audio device as the output device through the system's audio settings. Right-click the speaker icon in the taskbar, and select the USB audio device from the list of available output devices.

## Troubleshooting

- Ensure the USB sound card is connected to the data port, not the power port.
- If the device is not recognized, try using a different USB sound card or check for any hardware issues.
- Make sure the Raspberry Pi OS is up to date by running `sudo apt update` and `sudo apt upgrade`.

By following these steps, you should be able to use a USB audio adapter with your Raspberry Pi Zero for audio output

How do I configure a USB sound card on a Raspberry Pi-0

Sources





View 2 more

Answer

To configure a USB sound card on a Raspberry Pi Zero, follow these steps:

1. Connect the USB sound card to your Raspberry Pi Zero using an OTG cable and USB hub if needed

.

Power on your Raspberry Pi Zero and access the terminal.

Verify that the USB sound card is recognized by running:

text

lsusb

You should see your USB audio device listed

.

Check if the ALSA driver detected the sound card:

text

aplay -l

This should list your USB audio device

.

Install ALSA utilities if not already present:

text

sudo apt-get update

sudo apt-get install alsa-utils

Edit the ALSA configuration file:

text

sudo nano /usr/share/alsa/alsa.conf

Find and change these lines to set the USB sound card as default:

text

defaults.pcm.card 1

defaults.pcm.device 0

Replace "1" with the card number of your USB device if different

.

Save and exit the editor.



Optionally, disable the onboard audio to ensure the USB device is used: Create or edit `/etc/modprobe.d/raspi-blacklist.conf` and add:

text

```
blacklist snd_bcm2835
```

Reboot your Raspberry Pi Zero:

text

```
sudo reboot
```

Test the audio output:

text

```
speaker-test -c2 -twav
```

11.

This should configure your USB sound card as the default audio device on your Raspberry Pi Zero

.

Related

What are the steps to disable onboard audio on a Raspberry Pi-0

How can I verify that the USB sound card is working properly

Are there any specific ALSA commands to troubleshoot sound issues

How do I blacklist the onboard audio driver on Raspbian

Can I use alsamixer to control the volume of the USB sound card

```
pi@raspberrypi:~/countdown/audio_tracks $ lsusb
Bus 001 Device 003: ID 08bb:2902 Texas Instruments PCM2902 Audio Codec
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
pi@raspberrypi:~/countdown/audio_tracks $
```



```
pi@raspberrypi:~/countdown/audio_tracks $ aplay -l
**** List of PLAYBACK Hardware Devices ****
card 0: ALSA [bcm2835 ALSA], device 0: bcm2835 ALSA [bcm2835 ALSA]
  Subdevices: 6/7
  Subdevice #0: subdevice #0
  Subdevice #1: subdevice #1
  Subdevice #2: subdevice #2
  Subdevice #3: subdevice #3
  Subdevice #4: subdevice #4
  Subdevice #5: subdevice #5
  Subdevice #6: subdevice #6
card 0: ALSA [bcm2835 ALSA], device 1: bcm2835 IEC958/HDMI [bcm2835 IEC958/HDMI]
  Subdevices: 1/1
  Subdevice #0: subdevice #0
card 0: ALSA [bcm2835 ALSA], device 2: bcm2835 IEC958/HDMI1 [bcm2835 IEC958/HDMI1]
  Subdevices: 1/1
  Subdevice #0: subdevice #0
card 1: Device [USB PnP Sound Device], device 0: USB Audio [USB Audio]
  Subdevices: 1/1
  Subdevice #0: subdevice #0
pi@raspberrypi:~/countdown/audio_tracks $
```

To test the audio to the USB adapter, use the command:

***Speaker-test -D plughw:1,0***

Use Ctrl-c to exit.

(If you use Ctrl-z , the system will have to be re-booted to work again

```
pi@raspberrypi:~ $ speaker-test -D plughw:1,0
speaker-test 1.1.8

Playback device is plughw:1,0
Stream parameters are 48000Hz, S16_LE, 1 channels
Using 16 octaves of pink noise
Rate set to 48000Hz (requested 48000Hz)
Buffer size range from 96 to 262144
Period size range from 48 to 131072
Using max buffer size 262144
Periods = 4
was set period_size = 65536
was set buffer_size = 262144
 0 - Front Left
^Ctime per period = 1.962854
pi@raspberrypi:~ $
```



To play a clip to the USB audio module:

Replace `os.system('omxplayer audio_tracks/15.mp3')`

With: `os.system('omxplayer -o alsa:hw:1,0 audio?tracks/15.mp3')`

It is not possible to get HDMI audio and USB audio. It may be possible to get analogue audio and USB audio on a Pi-0 by routing audio to the GPIO pins.

See Appendix 3 in gps description

Appendix 3 Pi-Zero analog audio output

[https://dunn-itvideoservicesllc.yolasite.com/resources/gps\\_system\\_description.pdf](https://dunn-itvideoservicesllc.yolasite.com/resources/gps_system_description.pdf)

---

7/16/24

The version `ride_day9-3.py` activated the audio tracks. MUST be tested before it becomes `ride_day.py`. Need to remove “all aboard” from the audio tracks.

NOTE: this will not run on the Pi-5 because it does not have omxplayer. Need to try mplayer.

Check centering. Version `no_rides3-2-1.py` is better, but not perfect.

3-1-1 m= 1.8

3-1-2 m=1.8

3-2-1 m= 1.0

3-1-2 m= .75



**New Hope Valley Railway**  
 Tuesday, July 16, 2024  
**9:12 AM**  
 Welcome to the North Carolina Railway Museum  
 Our special holiday trains sell out early  
 Purchase your tickets NOW  
 -- Have a nice day --

**New Hope Valley Railway**  
 Tuesday, July 16, 2024  
**9:14 AM**  
 Welcome to the North Carolina Railway Museum  
 Our special holiday trains sell out early  
 Purchase your tickets NOW  
 -- Have a nice day --

**New Hope Valley Railway**  
 Tuesday, July 16, 2024  
**9:18 AM**  
 Welcome to the North Carolina Railway Museum  
 Our special holiday trains sell out early  
 Purchase your tickets NOW  
 -- Have a nice day --

**New Hope Valley Railway**  
 Tuesday, July 16, 2024  
**9:16 AM**  
 Welcome to the North Carolina Railway Museum  
 Our special holiday trains sell out early  
 Purchase your tickets NOW  
 -- Have a nice day --

For ride\_day.py, version 8-1-6 looks better than the newer version 8-1-7.

ride\_day8-1-6 m=1.8

ride\_day8-1-7 m=1.8


ride\_day8-1-7 m=.75

**New Hope Valley Railway**  
 Tuesday, July 16, 2024  
**10:18 AM**  
 Test Slow Down Monday  
 Trains depart at: 9:30 11:00 12:30 4:00  
 The next scheduled train is at 11:00.  
 The 11:00 train will board in 27 minutes.

**New Hope Valley Railway**  
 Tuesday, July 16, 2024  
**10:21 AM**  
 Test Slow Down Monday  
 Trains depart at: 9:30 11:00 12:30 4:00  
 The next scheduled train is at 11:00.  
 The 11:00 train will board in 24 minutes.

**New Hope Valley Railway**  
 Tuesday, July 16, 2024  
**10:24 AM**  
 Test Slow Down Monday  
 Trains depart at: 9:30 11:00 12:30 4:00  
 The next scheduled train is at 11:00.  
 The 11:00 train will board in 21 minutes.

7/15/24



**New Hope Valley Railway**  
Sunday, July 14, 2024  
**3:17 PM**

Welcome to the North Carolina Railway Museum  
Our special holiday trains sell out early  
Purchase your tickets NOW  
-- Have a nice day --

**There are no trains scheduled today.  
The next train rides are scheduled for:**

|            |                     |                 |
|------------|---------------------|-----------------|
| Mon 07/15: | 4 Trains at 9:30 AM | <b>TOMORROW</b> |
| Wed 07/17: | 1 Train at 10:30 AM | In 3 days       |
| Sat 07/27: | 3 Trains at 3:00 PM | In 13 days      |
| Fri 08/09: | 1 Train at 10:30 AM | In 26 days      |

The North Carolina Railway Museum, Inc. (NCRM) is an IRS registered, educationally focused 501(c)3 non-profit organization, incorporated in North Carolina. Our mission is to preserve and share North Carolina's railroad history with the public. We are especially proud of our work with school and children's groups, special needs groups, senior groups, and many others who visit us from North Carolina, across the US, and beyond. We are a 100% all volunteer operation. The NCRM is an "open-air" facility with exhibits that include a collection of historic and heritage railroad equipment dating back to the 1910s. One-hundred percent of NHVRy ticket fare revenues and donations received, go directly into our museum.

["no\_rides.py"] no\_rides3-1\_rotate20-2

logo\_1450X164.jpg

text (top\_date)

timee

line1

line2

line3

line4

display

displayb

display1a display1b display1c

display2a display2b display2c

display3a display3b display3c

display4a display4b display4c

info.png

textvx

7/14/24

Versions ride\_days8-1-4.py and no\_rides3-1-1py correct the TOMARROW error.

Was:

```
if days_out == 1:  
    display1c = 'TOMORROW'
```



Is:

```
if int(days_out(make_date(sdate[nexttrain]))) == 1:  
    displaylc = 'TOMORROW'  
    print (displaylc)
```

Version ride\_day8-1-2 added the text to displayxc. and 8-1-3 added 10 to offc to accommodate AOL NO PASSENGERS



**New Hope Valley Railway**  
Sunday, July 14, 2024  
**5:36 AM**  
Slow Down Sunday  
Trains depart at: 9:30 11:00 12:30 2:00  
The next scheduled train is at 9:30 .  
The 9:30 train will board in 219 minutes.

The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Wed 07/17: | 1 Train at 10:30 AM | In 3 days  |
| Sat 07/27: | 3 Trains at 3:00 PM | In 13 days |
| Fri 08/09: | 1 Train at 10:30 AM | In 26 days |
| Sat 08/10: | OAL NO Passengers   | In 27 days |

From:

```
displaylc = days_out(make_date(sdate[nexttrain]))
```

To:

```
displaylc = 'In ' + days_out(make_date(sdate[nexttrain])) + ' days'
```



7/13/24

7/10/24 The intermittent problem of crashing and then working seems to be caused by the timedelta function that is used in the days\_out() function. We will now have to wait for the next crash and see if we can find the error

Changed the days\_out() function in *ride\_day8-1.py* and *no\_rides3.py*.

From

```
def days_out(a):
    mo=int(a[0:2])
    da = int(a[3:5])
    ye = int(a[6:10])
    date1 = datetime.now()
    date2 = datetime(day = da,month =mo, year =ye)
    timedelta = date2 - date1
    comma = str(timedelta).find(',')
    days_out='In ' +str(timedelta)[0:comma]+' on '
    days_out = '      In ' +str(timedelta)[0:comma]
    ### we need to add 1 to days_out()
    kk1=days_out[0:8]
    ds = days_out[7:10] # was 7:10 but now it displ
    ## changed days_out[7:11] back to [7:10] system
    ddd =int(ds) +1

    days_out =kk1+str(ddd) +' days'
    time.sleep(2)

    if str(timedelta)[2:3] == ':': # detects zero d
        days_out = '      Tomorrow'
    return days_out
```

To:

```
def days_out(a):
    print('From make_date()')
    print (a)
    from datetime import date
    yr = a[6:12]
    mm=a[0:2]
    dd = a[3:5]
    b= yr+', '+mm+', '+dd
    print(b)
    d1 = date(*map(int,b.split(',')))
    d0 = date.today()
    delta = d1-d0
    days_out = delta.days
    print (str(days_out))
    return str(days_out)
    print (days_out)
```

— New Hope Valley Railway —

Sunday, July 14, 2024

# 5:53 AM

Slow Down Sunday

Trains depart at: 9:30 11:00 12:30 2:00

The next scheduled train is at 9:30 .

The 9:30 train will board in 202 minutes.

The next train rides are scheduled for:

|            |                     |    |
|------------|---------------------|----|
| Wed 07/17: | 1 Train at 10:30 AM | 3  |
| Sat 07/27: | 3 Trains at 3:00 PM | 13 |
| Fri 08/09: | 1 Train at 10:30 AM | 26 |
| Sat 08/10: | OAL NO Passengers   | 27 |



Also in ride\_day5-1, added the if clause:

```
834         print ('',line4)
835
836         if tmin[tr] ==1391:
837             quit()
838
839
```

This is needed incase the program is launched after the last train has departed and before 11:11 PM (1391 minutes from mid-night).

7/9/24

Added for testing in a2.py :

```
def days_out(a):
    mo=int(a[0:2])
    da = int(a[3:5])
    ye = int(a[6:10])
    date1 = datetime.now()
    date2 = datetime(day = da,month =mo, year =ye)
    timedelta = date2 - date1
    print('timedelta : ',timedelta)
    #sleep (2) # for testing
    comma = str(timedelta).find(',')
    days_out='In ' +str(timedelta)[0:comma]+' on '
    days_out = '      In ' +str(timedelta)[0:comma]
    ### we needd to add 1 to days_out()
    kk1=days_out[0:8]
    #ds = days_out[7:10] # was 7:10 but now it displasy days out >99
    ## changed days out[7:11] bck to [7:10] system crashed in jan 2024!!
    ds = days_out[8:9] # was 7:10 but now it displasy days out >99
    ddd =int(ds) +1

    days_out =kk1+str(ddd) +' days'
    #time.sleep(2)

    if str(timedelta)[2:3] == ':': # detects zero days ie tomorrow
        days_out = '      Tomorrow'
    print('days_out :', days_out)
    sleep(2)
    return days_out
```

Results





The resulting display in the terminal is:

```
The file running is : ['a.py'] from c14-2
days_out : <function days_out at 0x7fff2143f880>
days_out2 : <function days_out2 at 0x7fff2143f920>
DISPLAY 1 is The next scheduled train is at 10:50.
Display 2 is: The 10:50 train will board in 321 minutes
```

So, the days\_out function uses the imported time\_delta function(line 171)!

The file a.py is ride\_day7-1.py modified as below.

Have to make mins for boarding time.

The error in days\_out() which displays 8: was change at line 182.

```
179     ### we need to add 1 to days_out()
180     kk1=days_out[0:8]
181     #ds = days_out[7:10] # was 7:10 but now it display days out >99
182     ds = days_out[8:9] # was 7:10 but now it display days out >99
183     ## changed days_out[7:11] back to [7:10] system crashed in jan 2024!!
184     print ('>>>>>aaaa',a)
```

Fix “The xx:xx train will board in 1 minutes”

**New Hope Valley Railway**  
 Tuesday, July 09, 2024  
**7:34 AM**  
 Tues..^..Tues  
 Trains depart at: 6:30 6:50 7:10 7:30 7:50  
 The next scheduled train is at 7:50 .  
 The 7:50 train will board in 1 minutes.

The next train rides are scheduled for:

|            |                      |           |
|------------|----------------------|-----------|
| Wed 07/10: | 5 Trains at 10:50 AM | Tomorrow  |
| Thu 07/11: | 5 Trains at 10:50 AM | In 2 days |
| Fri 07/12: | 1 Train at 10:30 AM  | In 3 days |
| Sat 07/13: | OAL NO Passengers    | In 4 days |

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 is an IRS registered, educationally focused 501(c)3

Fixed in version *ride\_day7-1-1.py*.



784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795

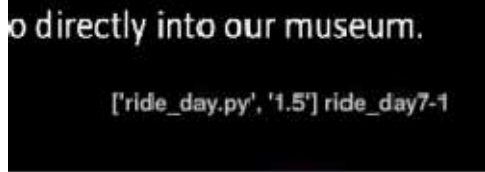
```

else:
    displayx = '    The next scheduled train is at ' + T[tr] + '.'
    #displaybx = ' The ' + T[tr] + ' train will board in '+str(tmin[tr]-tnow -15) + ' minutes.'
    if tmin[r]-tnow-15 ==1:
        mins = 'minute.'
    else:
        mins = 'minutes.'
    displaybx = ' The ' + T[tr] + ' train will board in '+str(tmin[tr]-tnow -15) + mins

```

On 7/9/34, the schedule.csv file did not work when used on 7/9/24 with the no\_trains.py program. It did work when the date cell was changed to 7/10/24. But it did work on the next day???

In the ride\_day.py program the version display



I cannot find this in the program!!!

7/8/24 ride\_day7-1 runs fine except when there are 5 trains. The system crashes. To “fix” this issue, run the program from a shell script.

Note: there is an issue with EXEL and Libre Calc when loading a .csv file. It attempts to format cells as time not text when data is entered into it.

7/1/24 The *days\_out2()* function causes error.

Things to do:

Center the lines in ride\_days6.py







This is the schedule from 3.5 folder

scheduleng.csv - LibreOffice Calc

File Edit View Insert Format Styles Sheet Data Tools Window Help

Liberation Sans 10 pt B I U A

|    | A     | B         | C                           | D      | E        | F        | G        | H               |  |
|----|-------|-----------|-----------------------------|--------|----------|----------|----------|-----------------|--|
| 1  |       |           | 2024 Schedule and Ridership |        |          |          |          |                 |  |
| 2  |       |           |                             |        |          |          |          | Total Ridership |  |
| 3  |       |           |                             |        |          |          |          |                 |  |
| 4  | Index | Date      |                             | Trains | 1        | 2        | 3        |                 |  |
| 5  |       |           |                             |        |          |          |          |                 |  |
| 6  |       | 103/20/24 | Wed                         | 1      | 10:30 AM |          |          |                 |  |
| 7  |       | 204/12/24 | Fri                         | 1      | 10:30 AM |          |          |                 |  |
| 8  |       | 304/13/24 | Sat                         | 4      | 11:00 AM | 12:00 PM | 1:00 PM  | 2:00 PM         |  |
| 9  |       | 404/14/24 | Sun                         | 3      | 1:00 PM  | 2:30 PM  | 4:00 PM  |                 |  |
| 10 |       | 504/17/24 | Wed                         | 1      | 10:30 AM |          |          |                 |  |
| 11 |       | 604/20/24 | Sat                         | 2      | 1:30 PM  | 3:00 PM  |          |                 |  |
| 12 |       | 704/21/24 | Sun                         | 3      | 11:00 AM | 12:30 PM | 2:00 PM  |                 |  |
| 13 |       | 804/27/24 | Sat                         | 4      | 11:00 AM | 12:00 PM | 1:00 PM  | 2:00 PM         |  |
| 14 |       | 905/05/24 | Sun                         | 4      | 9:30 AM  | 11:00 AM | 12:30 PM | 2:00 PM         |  |
| 15 | 10    |           |                             |        |          |          |          |                 |  |
| 16 | 11    |           |                             |        |          |          |          |                 |  |
| 17 | 12    |           |                             |        |          |          |          |                 |  |
| 18 | 13    |           |                             |        |          |          |          |                 |  |
| 19 | 14    |           |                             |        |          |          |          |                 |  |
| 20 | 15    |           |                             |        |          |          |          |                 |  |

This is the schedule for Pi-5 folder



schedule.csv - LibreOffice Calc

File Edit View Insert Format Styles Sheet Data Tools Window Help

Liberation Sans 10 pt B I U A

F12 fx Σ = 1:58 PM

|    | A     | B         | C   | D      | E        | F        | G        | H                   | I        | J         |
|----|-------|-----------|-----|--------|----------|----------|----------|---------------------|----------|-----------|
| 1  |       |           |     |        |          |          |          | Total Ridership YTD | 0        |           |
| 2  |       |           |     |        |          |          |          |                     |          |           |
| 3  | Index | Date      |     | Trains | 1        | 2        | 3        | 4                   | 5        | Riders Av |
| 4  |       |           |     |        |          |          |          |                     |          |           |
| 5  |       | 6/4/2024  | Tue | 4      | 3:00 PM  | 4:15 PM  | 5:30 PM  | 11:15 PM            |          |           |
| 6  |       | 6/5/2024  | Tue | 4      | 3:00 PM  | 4:15 PM  | 5:30 PM  | 11:15 PM            |          |           |
| 7  |       | 6/6/2024  | Tue | 4      | 3:00 PM  | 4:15 PM  | 5:30 PM  | 11:15 PM            |          |           |
| 8  | 16    | 6/7/2024  | Fri | 5      | 10:30 AM | 1:40 PM  | 3:00 PM  | 4:00 PM             | 11:15 PM |           |
| 9  | 17    | 6/8/2024  | Sat | 4      | 11:00 AM | 12:00 PM | 1:00 PM  | 2:00 PM             |          |           |
| 10 | 16    | 6/9/2024  | Sun | 1      | 11:40 AM |          |          |                     |          |           |
| 11 | 16    | 6/10/2024 | Sun | 5      | 4:15 PM  | 4:35 PM  | 5:00 PM  | 5:25 PM             | 11:15 PM |           |
| 12 | 16    | 6/11/2024 | Tue | 5      | 11:38 AM | 1:58 PM  | 5:00 PM  | 5:25 PM             | 6:15 PM  |           |
| 13 | 18    | 6/12/2024 | Wed | 5      | 1:55 PM  | 2:00 PM  | 2:05 PM  | 2:10 PM             | 11:00 PM |           |
| 14 |       | 6/13/2024 | Thu | 5      | 2:27 PM  | 2:30 PM  | 2:33 PM  | 2:47 PM             | 2:55 PM  |           |
| 15 |       | 6/14/2024 | Thu | 5      | 3:45 PM  | 3:48 PM  | 3:51 PM  | 3:54 PM             | 11:00 PM |           |
| 16 |       | 6/15/2024 | Sat | 4      | 10:00 AM | 10:20 AM | 10:40 AM | 11:00 PM            |          |           |
| 17 | 19    | 6/16/2024 | Sun | 4      | 11:00 AM | 12:00 PM | 1:00 PM  | 2:45 PM             |          |           |
| 18 | 20    | 6/21/2024 | Sat | 3      | 3:00 PM  | 4:15 PM  | 5:30 PM  |                     |          |           |
| 19 | 20    | 6/22/2024 | Sat | 3      | 3:00 PM  | 4:15 PM  | 5:30 PM  |                     |          |           |
| 20 |       | 7/3/2024  | Wed | 4      | 10:00 AM | 10:20 AM | 10:40 AM | 11:00 PM            |          |           |
| 21 | 21    | 7/6/2024  | Sat | 4      | 11:00 AM | 12:00 PM | 1:00 PM  | 2:00 PM             |          |           |

There is a one line difference at the top AND the date field is formatted differently!!!

Adding new line and inserted data in column B

Liberation Sans 10 pt B I U A

B1 fx Σ = 2024 Schedule and Ridership

|   | A | B | C                           | D | E | F | G | H               |
|---|---|---|-----------------------------|---|---|---|---|-----------------|
| 1 |   |   | 2024 Schedule and Ridership |   |   |   |   |                 |
| 2 |   |   |                             |   |   |   |   | Total Ridership |



7/2/24

Centering is now correct!!

```

screen.blit(line1xr,(int(m*(150)),m*width/2 + int(m*1)-.5*line1xr.get_size()[1])) #####
screen.blit(line2xr,(int(m*(180)),m*width/2 + int(m*1)-.5*line2xr.get_size()[1])) #####
screen.blit(line3xr,(int(m*(210)),m*width/2 + int(m*1)-.5*line3xr.get_size()[1])) #####
screen.blit(line4xr,(int(m*(240)),m*width/2 + int(m*1)-.5*line4xr.get_size()[1])) #####

```

surface ,
( vertical pos ,
center of window
½ of the length of the surface

In the countdown\_ONN\_system, the x7.py is the latest version of no\_trains.py, that displays the top four lines.

For the the x7.py file the font was 20. On the ONN system the file is named no\_riges.py and the font size was increase to 28

In rotate28-2.py change The xx:xx. will board in 1 minutes

Correct spelling of trians and move QR code in *a\_trains\_rotate28-3.py*

6/29/24

The file *ride\_day6.py* removes the function *find\_departures()* and incorporates the procedure within the *while* loop.

There is still an issue when the last train departs, but it does shutdown and run the *a\_no\_trains.py* file.

The *save\_to\_file()* function was not used to eliminate required *sleep(60)* command. It would be nice to set up the *save\_to\_file()* function without the *sleep(60)* command.



.In a2.py it looks like the indent is wrong at line 277

**6/26/2024**

The file c14-2 has indent correct. Saved as ax.py

In ax1.py, added **elif tmin[tr] == 1391:**

```
#if tnow >tmin[tr] -30 :  
  
if tnow > tmin[int(snot[i])] +1: ## The last train has departed  
    displayx ='    There are no more trains today.'  
    displaybx =' '  
elif tmin[tr] == 1391:  
    print('No more trains')  
    quit()  
  
elif tnow >tmin[tr] and tmin[tr] -tnow -15>0:  
    if tmin[tr] - tnow -15 ==1:  
        mins = ' minute.'  
    else:
```

This works. Now we have to add the routine that insert 11:11 PM into the blank cells

File ax2.py adds the 11:11 PM to the blank cells. HOORAY

If I run a\_trains.py it crashes on tmin[3]????

After I corrected the schedule.csv it crashed with error:

```
Traceback (most recent call last):  
  File "/home/pi/countdown/a_trains.py", line 1070, in <module>  
    find_departures()  
  File "/home/pi/countdown/a_trains.py", line 409, in find_departures  
    for j in range(1,int(snot[i])+1):  
        ^^^^^^^^^^^^^^^^^  
ValueError: invalid literal for int() with base 10: ''  
pi@raspberrypi:~/countdown $
```



It would be nice replace the sleep(60)!!!!  
And NOT show 11:11 on the display.

The file a2.py works for 5 trains but not for less.  
So if the int(snot[i]) is less than 5,:  
Version a6-2.py fixed indent issue  
Next error

```
abababababab____
The time now is 372
Train 1 350 -22
Train 2 353 -19
Train 1 05:50 -1:38
Train 2 05:53 -1:41
Traceback (most recent call last):
  File "/home/pi/countdown/a6-2.py", line 390, in <module>
    elif tnow > tmin[2] and tnow < tmin[3] +offset:
                                     ~~~~^^^
IndexError: list index out of range
pi@raspberrypi:~/countdown $
```

I opened another terminal and

make it 5  
add times to the remaining trains and set them to 3 minutes after last ride.  
The file a3 .py is in prprogress. Added print statements at line 268  
Added

**If the countdown file from the 3.5 inch display is moved to the P-3 unit and is run using the schedule.csv as was in the 3.5 inch unit it also crashes with less than 5 trains!**



This is a test!!!  
 6/26/24 File a5.py inserts the time 11:11 PM in blank time

```

aaaaa
330 344 450
abababababab____
The time now is 344
Train 1 360 16
Train 1 06:00 00:16
344
6/26/2024
6:00 AM
4:47 AM
11:11 PM
11:11 PM
File running: ['a5.py']      2024-06-26 05:44:11.445654
Theme is stheme[1]: Test
  is: 6:00    4:47    11:11    11:11    11:11
DISPLAY 1 is      The next scheduled train is at 6:00 .
Display 2 is:     The 6:00 train will board in 1 minutes.
This is a ride day
  Test          c11-1.py no audio
  6:00    4:47    11:11    11:11    11:11
              The next scheduled train is at 6:00 .
              The 6:00 train will board in 1 minutes.
  
```

|    |           |     |            |          |          |          |      |
|----|-----------|-----|------------|----------|----------|----------|------|
|    | 6/15/2024 | Sat | 4 10:00 AM | 10:20 AM | 10:40 AM | 11:00 PM |      |
| 19 | 6/16/2024 | Sun | 4 11:00 AM | 12:00 PM | 1:00 PM  | 2:45 PM  |      |
|    | 6/22/2024 | Sat | 3 3:00 PM  | 4:15 PM  | 5:30 PM  |          |      |
|    | 6/25/2024 | Sat | 5 4:10 PM  | 4:13 PM  | 4:16 PM  | 4:19 PM  | 4:2: |
|    | 6/26/2024 | Sat | 1 6:00 AM  | 4:47 AM  |          |          |      |
| 21 | 7/6/2024  | Sat | 4 11:00 AM | 12:00 PM | 1:00 PM  | 2:00 PM  |      |
| 22 | 7/12/2024 | Fri | 1 10:30 AM |          |          |          |      |

## ≡ New Hope Valley Railway ≡



```
aaaaa
330 344 450
abababababab____
The time now is 344
Train 1 360 16
Train 1 06:00 00:16
344
6/26/2024
6:00 AM
4:47 AM
11:11 PM
11:11 PM
File running: ['a5.py'] 2024-06-26 05:44:11.445654
Theme is stheme[1]: Test
  is: 6:00 4:47 11:11 11:11 11:11
DISPLAY 1 is The next scheduled train is at 6:00 .
Display 2 is: The 6:00 train will board in 1 minutes.
This is a ride day
Test c11-1.py no audio
6:00 4:47 11:11 11:11 11:11
The next scheduled train is at 6:00 .
The 6:00 train will board in 1 minutes.
```

C14-2.py

Saves to file log.txt

Does not show time

Pause for a minute

works for 5 trains

After last train displays



```
'The file running is :', ['c14-2.py'], ' ', 'from c112.py countdov
DISPLAY 1 is          The next scheduled train is at 7:43 .
'Display 2 is: ', ' The 7:43 train will board in -16 minutes.')
This is a ride day
', 'Tesst Mon          c11-1.py no audio')
', '7:30    7:33    7:36    7:39    7:43 ')
', '          The next scheduled train is at 7:43 .')
', '          The 7:43 train will board in -16 minutes.')
```

Then displays Need to replace 60 second pause

File ax4.py added time

File ax5.py added os.system('python no\_trains.py')

That worked. Have to add mag of 1.8 to no\_trains.py 1.8

Have to get rid of the 60 sec sleep.

Add a timer. Set time now t1 = now. Set nosave True. In loop if tnow is greater than t1 +50 sec set no save to False.

TrueAdd initial settings *nosave =R*

Change line 379 from:

```
elif tmin[tr] == 1391:
```

to:

```
elif tmin[tr] == 1391 and nosave == True:
```

Then get rid of the *sleep (5)* line at line 381





`os.system('python a_no_trains.py')`

For the time 11:11 PM, the number of minutes from last midnight are 1391.

This causes the system to run the *a\_no\_trains.py*.

NOTE: this will have to be changed to: *a\_no\_trainsfs.py 1.8*.

```
375
376 if tnow > tmin[int(snot[i])] +1:  ## The last train has departed
377     displayx = '          There are no more trains today.'
378     displaybx = ' '
379 elif tmin[tr] == 1391:
380     print('No more trains')
381     sleep (5)
382     os.system('python a_no_trains.py')
383     #quit()
384
385
386 elif tnow >tmin[tr] and tmin[tr] -tnow -15>0:
387     if tmin[tr] - tnow -15 ==1:
388         mins = ' minute.'
389     else:
390         mins = ' minutes.'
391     displayx = ' The ' + T[tr] +' train will board in '+str(tmin[tr]
392     displaybx=" "
```

6/23/24

Went back to *c14-2.py*.



```
File Edit Tabs Help
('Train ', 4, '08:12', '00:02')
('Train ', 5, '08:15', '00:05')
(4, 'sleeping')
490
pause 60 sec
6/23/2024
8:03 AM
8:07 AM
8:09 AM
8:12 AM
('Theme is stheme[1]: ', 'Test Sun')
('list of trains is: ', '8:03 8:07 8:09 8:12 8:15 ')
Ted Dunn
('The file running is:', ['c14-3-1.py'], ' ', 'from c112.py countdown8-1 audio
)
DISPLAY 1 is The 8:12 train is boarding now.
('Display 2 is: ', ' The 8:12 train will depart in 2 minutes.')
This is a ride day
(' ', datetime.datetime(2024, 6, 23, 8, 10, 38, 580649))
(' ', 'Test Sun c11-1.py no audio')
(' ', '8:03 8:07 8:09 8:12 8:15 ')
(' ', ' The 8:12 train is boarding now.')
(' ', ' The 8:12 train will depart in 2 minutes.')
```

In *c12-3-1.py* when the time equals the train departure time:

Saves the departure time to the file *log.txt*.

The system pauses for 61seconds so that it does not repeat saving to the *log.txt file*.

```
('Train ', 3, 489, -3)
aaaaa
(459, 492, 579)
('Train ', 4, 492, 0)
aaaaa
(462, 492, 582)
('Train ', 5, 495, 3)
aaaaa
(465, 492, 585)
abababababab
('The time now is ', 492)
('Train ', 1, 483, -9)
('Train ', 2, 487, -5)
('Train ', 3, 489, -3)
('Train ', 4, 492, 0)
('Train ', 5, 495, 3)
('Train ', 1, '08:03', '-1:51')
('Train ', 2, '08:07', '-1:55')
('Train ', 3, '08:09', '-1:57')
('Train ', 4, '08:12', '00:00')
('Train ', 5, '08:15', '00:03')
492
pause 60 sec
```

This works when number of trains (snot) equals 5.



One minute after the last train departs

```

8:12 AM
('Theme is stheme[1]: ', 'Test Sun')
('list of trains is: ', '8:03 8:07 8:09 8:12 8:15 ')
Ted Dunn
('The file running is :', ['c14-3-1.py'], ' ', 'from c112.py countdown8-1 audio
')
DISPLAY 1 is The next scheduled train is at 8:15 .
('Display 2 is: ', ' The 8:15 train will board in -16 minutes.')
This is a ride day
(' ', datetime.datetime(2024, 6, 23, 8, 16, 45, 252922))
(' ', 'Test Sun c11-1.py no audio')
(' ', '8:03 8:07 8:09 8:12 8:15 ')
(' ', ' The next scheduled train is at 8:15 .')
(' ', ' The 8:15 train will board in -16 minutes.')

```

Two minutes the display is

```

8:12 AM
('Theme is stheme[1]: ', 'Test Sun')
('list of trains is: ', '8:03 8:07 8:09 8:12 8:15 ')
Ted Dunn
('The file running is :', ['c14-3-1.py'], ' ', 'from c112.py countdown8-1 audio'
)
DISPLAY 1 is There are no more trains today.
('Display 2 is: ', ' ')
This is a ride day
(' ', datetime.datetime(2024, 6, 23, 8, 17, 22, 217129))
(' ', 'Test Sun c11-1.py no audio')
(' ', '8:03 8:07 8:09 8:12 8:15 ')
(' ', ' There are no more trains today.')
(' ', ' ')

```

The next step is to eliminate the one-minute message and save the There are no more trains day. This will be used in the no\_trains.py program.

When the displayx = ‘There are no more trains today’

In *c14-3-2.py* :



The display is stored on the log.txt file.

The program ends

Must check this with less than 5 trains!!! It does work!! After the 60 seconds delay for the last train, the program crashes.

At this time, the system needs to run the no\_trains.py file

So now the *c14-3-2.py* file must be compared to the *find\_departures()* function in *a\_trains.py* and replace it.

NOW 314-3-1 must b

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6/21/2024 Since I cannot get the centering correctly, no\_trains\_rotate29-3-3.py almost set the centering at magnification  $m = 1.8$ . The fudge factor is  $.75*.5*$ length of the surface. The  $.75$  was failed attempt take into account of the pixel size of 4:3.

```
('m =:', 1.8)
('tb =:', '123456_<|>_654321')
('size =:', 217)
('m*width =:', 950.4)
('texta =:', 454)
('textb =:', 445)
52
Have a nice day.
('magnification =:', 1.8)
('line1 =:', 'Welcome to the New Hope Valley Railway')
('length of line1 =:', 479)
('line2 =:', 'Please remember that our special ride event')
('length of line2 =:', 677)
('line3 =:', 'Reserve your seats NOW.')
('length of line3 =:', 295)
('line4 =:', 'Have a nice day.')
('length of line4 =:', 191)
```

```
screen.blit(line1xr,(int(m*(150)), 75*240+m*width-m*.5*width - m*aspect*.5*line1xr.get_size()[1]))
screen.blit(line2xr,(int(m*(180)), 75*339+m*width-m*.5*width - m*aspect*.5*line2xr.get_size()[1]))
screen.blit(line3xr,(int(m*(210)), 75*147+m*width-m*.5*width - m*aspect*.5*line3xr.get_size()[1]))
screen.blit(line4xr,(int(m*(240)), 75*85*m*width-m*.5*width - m*aspect*.5*line4xr.get_size()[1]))
```





6/19/24 Since the Pi-5 has to be returned because the WiFi stopped working, a P-3 was used. The centering function that did not work on the Pi-5 now WORKS on the Pi-3???

The file x5-1-1.py renamed no\_trains29-1.py.

The file no\_trains\_rotate29-2.py attempted to center the four lines.

6/18/24 the file a\_centered\_no\_trains.py ALMOST centers the theme display when  $m=1.8$ . The  $m*75$  is the fudge factor/

`screen.blit(tbxr,(m*150,int(m*75+(m*.5*width-.5*m*tbxr.get_size()[1])))` ##### Not quite centered.

6/15/24 In c14-2.py the system saves the time that train leaves the station. A sleep(60) was added so the time above is only saved once. Therefore the whole program stops for a minute.

In rotate 28-2.py, install:  
def save\_to\_file()

thfrom c14-2.py

In rotate 28-2.py, set ride = True and copy to a\_trains.py.

In rotate

From 28-2, I set ride\_day False and added if command at line 1076. Th system went ot the end of year display instead of next ride day.



In c12-2-2.py, why does the for loop centime after an elif are True?

Copied c12-2-2.py as cx.py

The file cxxx.py is the c12-2-2.py with indent se to 4 to match rotate29-1.py

In file rotate29-1.py, the find\_departure() function is from line 203 to line 644.

Fine rotate29-2.py is the completelfile. The variables notrains set to False and ride\_day is set to True.

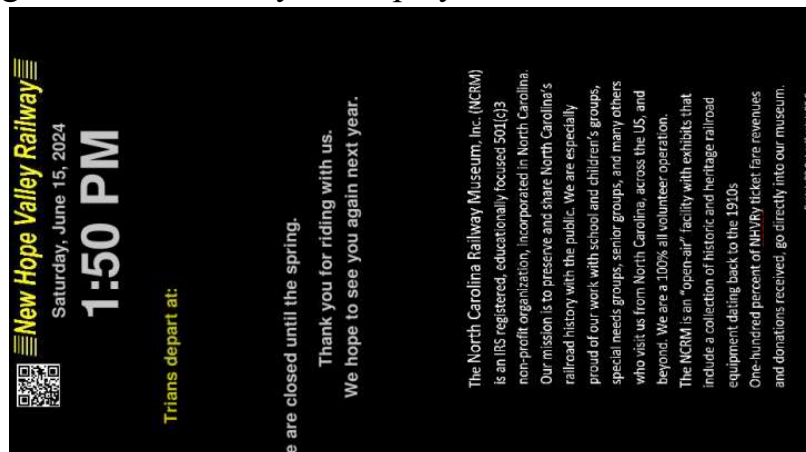
This configuration is rotate29-2tr.py

Fine rotate29-2.py is the completelfile. The variables notrains set to True and ride\_day is set to False.

This configuration is rotate29-2nt.py


In both files had to delete the imports within the function find\_departures()

The rotate29-2nt.py goes to the end of year display.



The rotate29-2tr.py seems to work.





**New Hope Valley Railway**  
 Saturday, June 15, 2024

# 1:51 PM

Test 6/13/24 c11-1-py no audio  
 Trians depart at: 10:00 10:20 10:40 11:00  
 The next scheduled train is at 11:00.  
 The 11:00 train will board in 534 minutes.

The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sun 06/16: | OAL NO Passengers   | Tomorrow   |
| Sat 06/22: | 3 Trains at 3:00 PM | In 7 days  |
| Sat 07/06: | OAL NO Passengers   | In 21 days |
| Fri 07/12: | 1 Train at 10:30 AM | In 27 days |

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Trains20240615000002

Moving no\_trains.py from ONN system to scan folder



```
for j in range(1,rnot+1):
    print('gggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggggg')
    print
    print (j,tnow,rnot)
    if tnow<tmin[1]:
        tr=1
        print( 'tr,j,tnow,rnot')
        print (tr,j,tnow,rnot)

    elif tnow > tmin[1] and tnow < tmin[2] +offset:
        print ('vvvvv')
        tr = 2
        print(tr)
    elif tnow > tmin[2] and tnow < tmin[3] +offset:
        tr = 3
        print(tr)
    elif tnow > tmin[3] and tnow < tmin[4] +offset:
        tr = 4
        print(tr)
    elif tnow > tmin[4] and tnow < tmin[5] +offset:
        tr = 5
        print(tr)
    else:
        print( 'there are no more trains today')
        print ('qqqqqqqqqqqq')
        #sleep(10)
        exit()
```

6/14/24 The *c12-2.py* does not work for number of trains less than 5.

In *c12-3.py* tried replacing the if loop with:



```
for j in range(1,rnot+1):
    print (rnot+1)
    print(j)
    print(tnow)
    print(tmin[j])
    print (tnow,j, tmin[j],tmin[j+1])
    if tnow > tmin[j] and tnow < tmin[j+1] +offset:
        print('_____')
        print (tnow,j, tmin[j],tmin[j+0])

    tr = j
    print ('tr is :',tr)
```

Not working YET!!

6/13/24 The c12-2.py added the for next loop to determine the current train.

```
345 offset = 0
346 for j in range(1,rnot+1):
347     if tnow<tmin[1]:
348         tr=1
349     elif tnow > tmin[1] and tnow < tmin[2] +offset:
350         tr = 2
351     elif tnow > tmin[2] and tnow < tmin[3] +offset:
352         tr = 3
353     elif tnow > tmin[3] and tnow < tmin[4] +offset:
354         tr = 4
355     elif tnow > tmin[4] and tnow < tmin[5] +offset:
356         tr = 5
357     else:
358         print( 'there are no more trains today')
359         print ('qqqqqqqqqqqq')
360         sleep(10)
361         exit()
362
```



This has to be incorporated into rotate28-2.py to complete the program

6/11/24 The *countdownx.py* **does not crash** after the last train!!

6/10/24 At 1:40 PM, which was the second train of the day the system crashed and ran the *a\_no\_trainsfs.py*!

The latest files are *a\_no\_trains2.py* and *a\_trains3-3.py*.

These files will be made full screen as *a\_no\_trainsfs.py* and *a\_trainsfs.py*.

These files are run from the autoexec.sh shell script as:

```
a_trainsfs.py 1.8  
a_no_trains.py 1.8
```

6/9/24

Changes from *a\_trains.py* to *a\_trains2.py*

Things to do:

Make 4 lines for `ride_day == False`

Center display and displayb lines.

Added the if command for `ride_day == True`

```
1068  
1069     print('xxxxxxxxxxxxx')  
1070     if ride_day == True:  
1071         find_departures()  
1072     print (line4)  
1073     #exit()  
1074
```



Added the if command for ride\_day == False

```
1145
1146     line2plus = 'Trains depart at: ' + line2
1147     if ride_day == False:
1148         line2plus = line2
1149     #line2x = font.render(line2, True, (200, 200, 0))
1150     line2x = font.render(line2plus, True, (200, 200, 0))
1151     line2xr = pygame.transform.rotate(line2x, 90)
```

Added 50 to the QR code position

```
1244
1245     screen.blit(logor, (1, int(m*65))) # Rotated LOGO
1246     screen.blit(qr, (int(m*10), int(m*(50+420)))) #Rotated LOGO
1247     screen.blit(text, (int(m*50), int(m*5*(leftoffset-len(Top date
```

6/8/24

The file rotate28-2.py will display the departing times on ride days.

The problem is that when the last train has departed, the system crashes. It is difficult to fix this issue because of the way the current train is determined:

```
if tnow < tmin[1] + offset:
    tr = 1
elif tnow > tmin[1] and tnow < tmin[2] + offset:
    tr = 2
elif tnow > tmin[2] and tnow < tmin[3] + offset:
    tr = 3
elif tnow > tmin[3] and tnow < tmin[4] + offset:
    tr = 4
elif tnow > tmin[4] and tnow < tmin[5] + offset:
    tr = 5

print ( tnow , tr)
```

The temporary solution is to have one file for ride days and another for non-ride days



The files are *a\_trains.py* and *a\_no\_trains.py*. The *autoexec.sh* script runs the first file . When it crashes, it runs the second file.

**New Hope Valley Railway**  
 Sunday, June 09, 2024  
**12:40 PM**  
 Test <<|>> Test  
 Trians depart at: 12:45  
 The 12:45 train is boarding now.  
 The 12:45 train will depart in 5 minutes.

The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Wed 06/12: | 1 Train at 10:30 AM | In 3 days  |
| Sun 06/16: | OAL NO Passengers   | In 7 days  |
| Sat 06/22: | 3 Trains at 3:00 PM | In 13 days |
| Sat 07/06: | OAL NO Passengers   | In 27 days |

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[a\_trains.py, 1.0] 10m18-2

6/3/24

Adding line3 and line4 displays. Added lines 391 through Lines 489.

6/2/24

The Pi-0 system is running pi-2-1-1fs.py as countdownfs.py

The file combo7.py from the Pi-5 will be copied as countdown.py and sent to the pi-0 system

As a test the combo7.py was copied as combe7fs.py and copied as countdown.py the Pi-5 will be loaded into the pi-0 system

The combo7.py program sort of centered the line1 through line4.



The system crashed on June 1, in the afternoon. Both systems, Pi5 and Pi-0. Back to normal on June 02!!!

Center text surfaces in combo6.py.

Lower “The next.....” and “There are no .....”

Add theme and scheduled departures.

Add proximity sensor to turn on the display.

The GRAY2 color can be changed BUT the info box, the QC code and the logo must be change

IE if gray=200 200 200 screen blitz below Have to hold blankscreen for 5 minutttes

Make a thread to hold dim\_screen.

```

334 #####
335 #Define Colours
336 WHITE = (255,255,255)
337 BLUE = (0,0,255)
338 BLACK = (0,0,0)
339 GRAY = (128, 128, 128)
340 GRAY2 = (200,200,200)
341 if people_near:
342     GRAY2 = (20,20,20)
343 MAROON = (128, 0, 0)
344 NAVYBLUE = (0, 0, 128)
345 OLIVE = (128, 128, 0)
346 PURPLE = (128, 0, 128)
347 TEAL = (0,128,128)
348 PINK = (226,132,164)
349 MUTEDBLUE = (155,182,203)
350 PLUM = (221,160,221)
351 #####
352

```

```

760     if GRAY2 == (200,200,200):
761         screen.blit(logor,(1,int(m*65))) # Rotated LOGO
762         screen.blit(qr,(int(m*10),int(m*420))) #Rotated LOGO
763         screen.blit(infor,(int((veroffset+410)*m),m*75)) # This works for the reduced size info bo
764     screen.blit(text, (int(m*(50)),int(m*.5*(leftoffset-len(Top_date)*(cpl)))) ## (H,V) TOP DATE
765     screen.blit(textb,(int(m*(150+veroffset)),int(m*.5*(leftoffset-len(display)*(cpl)))) ## (H
766     screen.blit(texta,(int(m*(170+veroffset)),int(m*.5*(leftoffset-len(display)*(cpl)))) ## (H,V)
767     # the -100 is a fudge!!

```

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5/28/24

Changed Pi-2 to Pi-0 W. This will run off of the USB port on the back of the Oon monitor.  
 The version *pi-2-1-1.py* moved the QR code to the left by 30 pixels

**New Hope Valley Railway**  
 Tuesday, May 28, 2024  
 12:20 PM

There are no trains scheduled today.  
 The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sun 06/02: | 4 Trains at 9:30 AM | In 5 days  |
| Fri 06/07: | 1 Train at 10:30 AM | In 10 days |
| Sat 06/08: | OAL NO Passengers   | In 11 days |
| Wed 06/12: | 1 Train at 10:30 AM | In 15 days |

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EP-5-1-16.py', '1.97100002714\_gh-5-1-16

5/27/24 Making image file, *kiosk\_image*. It appears that the sleep mode has been inhibited.  
 The kiosk\_image file ends with *pi-2-1.py*/ It does not have *pi-2-1-1.py*.

5/27/24 to prevent sleep mode, moved countdown folder from SD card of Pi-2 to SD card from broken Pi-0. Testing now

5/26/24 Revisions to countdown.py

Started with countdown8-1.py

Added variable no\_trains and set to zero. Line 41.



Added if command at line 176 :

```
for x in range(0,len(index)):    ####
    if x == len(index)-1: ## Looking for end of file
        no_trains = 1
    if today== sdate[x]:
        i=x
```

Added another if command at line 187

```
if no_trains == 0:
```

Indented through line 244.

Added another if command at line 357

```
if no_trains == 0:
```

Indented through line 547

Added

```
else:
```

```
    print ("There are no more trains today")
```

The program *countdown8-1x.py* DOES work.

5/26/24 the latest version is pi-2-1.py and the full screen version pi-2-1fs.py

It is run from the autoexec.sh at m at 1.8

```
python pi-2-1fs.py 1.8
```

The offset of the time display is fudged!

These settings work for the Onn 32" TV.

The blank space below the time display will show the current day's trains or another informational message.



# New Hope Valley Railway

Sunday, May 26, 2024

## 7:20 AM



There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sun 06/02: | 4 Trains at 9:30 AM | In 7 days  |
| Fri 06/07: | 1 Train at 10:30 AM | In 12 days |
| Sat 06/08: | OAL NO Passengers   | In 13 days |
| Wed 06/12: | 1 Train at 10:30 AM | In 17 days |

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[Pi-2-1te.py",-1.8] rotate27-1x\_p-2-1te

5/25/24 Ported rotate27-1.py to Pi-2

Running on the HP-27 monitor

Launched in full screen mode at m = 1.8



# New Hope Valley Railway

Saturday, May 25, 2024

## 7:02 AM



There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sun 06/02: | 4 Trains at 9:30 AM | In 8 days  |
| Fri 06/07: | 1 Train at 10:30 AM | In 13 days |
| Sat 06/08: | OAL NO Passengers   | In 14 days |
| Wed 06/12: | 1 Train at 10:30 AM | In 18 days |

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Expt. 1.01 Train271.h

Could increase the text size by .25  
Have to set offset of the tow top text lines.



This is from DesignCad show the difference in text size should be increase by 25%

# New Hope Valley Railway



4.210  
490

From Pi-5



Saturday, May 25, 2024

## 7:32 AM




There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sun 06:02: | 4 Trains at 9:30 AM | In 8 days  |
| Fri 06:07: | 1 Train at 10:30 AM | In 13 days |
| Sat 06:08: | OAL NO Passengers   | In 14 days |
| Wed 06:12: | 1 Train at 10:30 AM | In 18 days |

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Train #271, 4671, 1014037-16

From Pi-2



Saturday, May 25, 2024

## 7:34 AM



There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sun 06:02: | 4 Trains at 9:30 AM | In 8 days  |
| Fri 06:07: | 1 Train at 10:30 AM | In 13 days |
| Sat 06:08: | OAL NO Passengers   | In 14 days |
| Wed 06:12: | 1 Train at 10:30 AM | In 18 days |

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Train #271, 4671, 1014037-16

1.166 3.109

1.101

This is from launching `python pi-2.py 1.8`



# New Hope Valley Railway

Saturday, May 25, 2024

## 12:25 PM

There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sun 06/02: | 4 Trains at 9:30 AM | In 8 days  |
| Fri 06/07: | 1 Train at 10:30 AM | In 13 days |
| Sat 06/08: | OAL NO Passengers   | In 14 days |
| Wed 06/12: | 1 Train at 10:30 AM | In 18 days |

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19-2-2024 11:01 am new271x\_pl2

# New Hope Valley Railway





The variable  $mt = 1.5$

**New Hope Valley Railway**

Saturday, May 25, 2024

**12:40 PM**



There are no trains scheduled today.  
The next train rides are scheduled for:

- Sun 06/02: 4 Trains at 9:30 AM In 8 days
- Fri 06/07: 1 Train at 10:30 AM In 13 days
- Sat 06/08: OAL NO Passengers In 14 days
- Wed 06/12: 1 Train at 10:30 AM In 18 days

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 **New Hope Valley Railway**  
 Saturday, May 25, 2024  
**12:45 PM**

There are no trains scheduled today.  
 The next train rides are scheduled for:

Sun 06/02: 4 Trains at 9:30 AM In 8 days  
 Fri 06/07: 1 Train at 10:30 AM In 13 days  
 Sat 06/08: OAL NO Passengers In 14 days  
 Wed 06/12: 1 Train at 10:30 AM In 18 days

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[x:pyr,18] rounm27:rk\_p4.2

The variable  $mt = 1.25$  was added to increase the size of the text surfaces.  
 This made the page look closer to the Pi-5 display.  
 Still need to center the two text lines



5/18/24 Making preparation for ride days. Rotate27-1x.py

Added the veroffset = 120 to move displays down to make room for the countdown data:

```
screen.blit(textb,(int(m*(150+veroffset)),int(m*.5*(leftoffset-len(display)*(cpl)))) ## (H
```

and:

```
screen.blit(displaylcr,(int(m*(240+veroffset)),int(m*leftoffset)-offc-displaylcr.get_size()[1])) ## (H,V)
```

Reduced the size of the infor frame by 80%:

```
info = pygame.transform.scale(info,new_size_info) #scale to full screen
```

and shifted it to the left by 75 lines:

```
screen.blit(infor,(int((veroffset+410)*m),m*75)) # This works for the reduced size info box
```

**New Hope Valley Railway**  
Saturday, May 18, 2024  
**1:21 PM**

There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sat 05/25: | OAL NO Passengers   | In 7 days  |
| Sun 06/02: | 4 Trains at 9:30 AM | In 15 days |
| Fri 06/07: | 1 Train at 10:30 AM | In 20 days |
| Sat 06/08: | OAL NO Passengers   | In 21 days |

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[x.py] 10m06-3x

Things to do:

- 1- Add line for THEME
- 2- Add line for trains leaving today at
- 3- Add line for The next schedule trains is at X.XX Ym




4- The HH:MM train is boarding/leaving in HH:MM.


4/26/24 The days\_out variable does not work for AOL NO Passengers

Removed the space in NO Passengers

Changed TOMORROW to Tomorrow and added spaces

Not sure why this worked!!





Friday, April 26, 2024

# 9:35 AM

There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |  |
|------------|---------------------|------------|--|
| Sat 04/27: | OAL NO Passengers   | TOMORROW   |  |
| Sun 05/05: | 4 Trains at 9:30 AM | In 9 days  |  |
| Fri 05/10: | 1 Train at 10:30 AM | In 14 days |  |
| Sat 05/11: | OAL NO Passengers   | In 15 days |  |

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[route:36-14.ppy] route: 36-14



**New Hope Valley Railway**  
 Friday, April 26, 2024  
**9:09 AM**

There are no trains scheduled today.  
 The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sat 04/27: | OAL NO Passengers   | Tomorrow   |
| Sun 05/05: | 4 Trains at 9:30 AM | In 9 days  |
| Fri 05/10: | 1 Train at 10:30 AM | In 14 days |
| Sat 05/11: | OAL NO Passengers   | In 15 days |

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rotate.py - 21 rotate26-3x

4/22/24 The info text box uses the *info.png* file.  
 The *info4.png* file was generated in DesignCad  
 The *info5.png* file was generated in MS-Word using the text from the MS-Word file *info\_text.docx* file. The image was captured with the snippet tool, pasted into paint and saved as *info5.png*. The *info5.png* is 835x703

4/21/24 rotate26.py  
 Properly aligned the text of the rotated images.

Changed the offsets for the three field lines from the integer of the length of the text times the cpl, which was an approximation, to the size of the surface which was made from the text.  
 The *surface.get\_size()* function returns the width and height of the surface.  
 The *surface.get\_size()[1]* functions returns the height of the surface.

Approximation:  


```
screen.blit(display1ar,(int(m*(240)),int(m*leftoffset)-offa-int(m*len(display1a)*cpl))) ##### (H,V) NEXT RIDE
```

Actual  

```
screen.blit(display1ar,(int(m*(240)),int(m*leftoffset)-offa-display1ar.get_size()[1])) ##### (H,V) NEXT RID
```

Changed offc, the offset for the days out from 330 to 355.  
 69





**New Hope Valley Railway**  
 Sunday, April 21, 2024  
**7:37 AM**

There are no trains scheduled today.  
 The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Sat 04/27: | OAL NO Passengers   | In 6 days  |
| Sun 05/05: | 4 Trains at 9:30 AM | In 14 days |
| Fri 05/10: | 1 Train at 10:30 AM | In 19 days |
| Sat 05/11: | OAL NO Passengers   | In 20 days |

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[rotate26x.py, '2'] rotate 26x

4/9/24 rotate25.py

The *length* and *width* variables were created to set the screen size in pygame. They were set to 960 x 528. This made the full screen version fit into a 27-inch monitor when magnification equals 2. In the countdown folder, enter *python rotate25.py 2* to run the program.

The *cpl* variable was created to change the characters per line used in the next trains display. It was set to 10. It is used to determine the length of the surface created by the text. Since it is only an approximation there is an issue of the location of some of the text that still has not been resolved.

It also created the *leftoffset* variable and set it to 510, instead of 490 to center the display in full-screen mode. The *leftoffset* variable is used in the rotate section for example:

```
screen.blit(texta,(int(m*(170)),int(m*.5*(leftoffset-len(display)*(cpl)))) #### (H,V)
```



# New Hope Valley Railway

Tuesday, April 09, 2024

## 10:33 AM



There are no trains scheduled today.  
The next train rides are scheduled for:

- Fri 04/12: 1 Train at 10:30 AM In 3 days
- Sat 04/13:OAL NO Passengers In 4 days
- Wed 04/17: 1 Train at 10:30 AM In 8 days
- Sat 04/20: 2 Trains at 1:30 PM In 11 days

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The NCRM is an "open-air" facility with exhibits that include a collection of historic and heritage railroad equipment dating back to the 1910s.

[rotate25.py, '2'] rotate 25

4/7/24 rotate22.py

Added text. *Need to change size of version and fix offsets for next trains.*



 **New Hope Valley Railway**  
Monday, April 08, 2024  
**8:02 AM**

There are no trains scheduled today.  
The next train rides are scheduled for:

|               |                     |            |
|---------------|---------------------|------------|
| Fri 04/12:    | 1 Train at 10:30 AM | In 4 days  |
| Sat 04/13:OAL | NO Passengers       | In 5 days  |
| Wed 04/17:    | 1 Train at 10:30 AM | In 9 days  |
| Sat 04/20:    | 2 Trains at 1:30 PM | In 12 days |

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[rotate22.py, '1.9'] rotate 20

The text was taken from the [triangletrain.com](http://triangletrain.com) website.  
The text must be gray characters on a black background

- In MS-WORD make text 21 characters per line
- Copy text to DesignCad. Fix any spacing errors
- Make box around characters.
- Move box to new location.
- Use Draw, Hatch fill with Black.
- Make Text a Group
- Make Copy and move to new location
- Make Text Color 250,250,250
- Move over black background
- Zoom to full screen
- Copy this to MS-PAINT
- Save as info.png

Note: info is a surface from the first line below!

Program code added



```
info = pygame.image.load('info.png').convert() ##Makes surface
new_size_info = (int(m*470),int(m*470))      ## Makes full size
info = pygame.transform.scale(info,new_size_info) ##Scales the surface to full size
infor =pygame.transform.rotate(info,90)       ## Rotates Surface

screen.blit(infor,(int(410*m),1)) # Displays Surface
```

The display above was launched by *python rotate22.py 1.9*

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**The NCRM is an "open-air" facility with exhibits that include a collection of historic and heritage railroad equipment dating back to the 1910s.**



4/5/24 rotate20.py

To display a rotated surface on the screen:

1- A font must be defined:

```
font = pygame.font.SysFont('Calibri', int(m*20),  
True, False)
```

2- The text must first be converted to a surface:

```
display1ar = font.render(display1a, True, GRAY2)
```

3- The surface must be rotated:

```
display1ar = pygame.transform.rotate(display1ar, 90)
```

4- The surface must be located in the screen:

```
screen.blit(display2ar, (int(m*(270)), int(m*490) - offa -  
int(m*len(display2a)*10))) #### (
```

In 1- the font style is defined and the size is 20

In 2-, the surface is defined, based on the text and the color is set to GRAY2

In 3-, the surface is rotated 90 degrees.

In 4-, it is positioned 270 pixels from the left edge and 490 lines down from the top less the offa and the length of the text, times 10 pixels per letter.

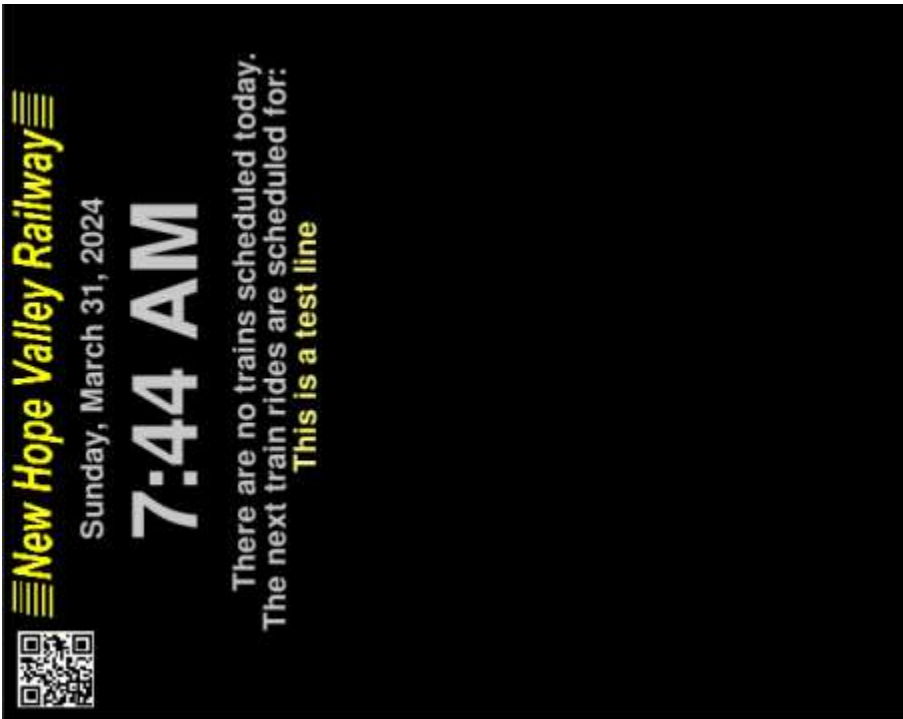
This version added the 4 next ride days. There is an error in the positions of the displayxbr. This is caused by the len(displayxb) function. The length was estimated as 10 pixels per letter. This is an approximation. What is needed is the exact length or size of the surface displayxbr.



This was not a problem with non rotated surface because the position is the top left corner of the surface,

3/31/24 Rotate 14

This is the display from *python rotate14.py*





This is the display from *python rotate14.py 2.1*



≡≡≡ **New Hope Valley Railway** ≡≡≡

Sunday, March 31, 2024

**7:46 AM**

There are no trains scheduled today.  
The next train rides are scheduled for:  
**This is a test line**



To rotate the text:



- 1- Define the textxx
- 2- Render the textx
- 3- Rotate the textx
- 4- Screen.blit the textx

For the timee display, the -100 is a fudge!

```

screen.blit(textt, (int(m*(80)), int(m*.5*(490-100-len(timee)*(10)))))) ##### (H,V)

textt = font.render(timee, True, GRAY2) ## textt is for timee
textt = pygame.transform.rotate(textt, 90)
font = pygame.font.SysFont('Calibri', int(m*20), True, False) #For other lines

textxx = 'This is a test line'
textx = font.render(textxx, True, TEAL)
textx = pygame.transform.rotate(textx, 90)

screen.blit(logor, (1, int(m*65))) # Rotated
screen.blit(qr, (int(m*10), int(m*420))) #Rotated
screen.blit(text, (int(m*(50)), int(m*.5*(490-len(Top_date)*(10)))))) ##### (H,V)
screen.blit(textb, (int(m*(150)), int(m*.5*(490-len(displayb)*(10)))))) ##### (H
screen.blit(texta, (int(m*(170)), int(m*.5*(490-len(display)*(10)))))) ##### (H,V)

screen.blit(textt, (int(m*(80)), int(m*.5*(490-100-len(timee)*(10)))))) ##### (H,V)

screen.blit(textx, (int(m*(190)), int(m*.5*(490-len(textxx)*(10)))))) ##### (H,V)

```

3/24/24

Rotate 10 began adding lines. Must do timee

3/23/24

For the rotated panel:

The screen is

3/22/24 Rotating the panel. rotate8.py



The screen size is: `pygame.display.set_mode((int(m*1800),int(m*490)),0,32) ## sets full screen`

1800X490 lines

With the character size, there are 48 characters per width.

So the offset to center the text is `0.5*(490-10*len(text))`

Or `.5*(width-Characters_per_width*len(text))`

`screen.blit(text, (int(m*(50)),int(m*.5*(490-len(Top_date)*(10)))))) ##### (H,V)`

`width = 490`

`characters_per_width = 10`

The maximum magnification is 2.2. That fills the screen of a 16:9 monitor

This is the display with a magnification of 1.





A system font was added `font = pygame.font.SysFont('Calibri', 20, True, False)`  
 to make : `text = font.render(Top_date, True, BLUE)` work.

3/22/24 Version `no_trains8-5-4x.py` added QR code to the display.

3/19/2024

Version `countdown8-1x.py` added variables *play1* through *play4* and plays the short audio tracks.

| Playback time | Audio track name |
|---------------|------------------|
| 16            | <i>1.mp3</i>     |
| 11            | <i>2.mp3</i>     |
| 6             | <i>3.mp3</i>     |
| 2             | <i>4.mp3</i>     |

These are initially set to *False*. As each audio track is played, they are set to True so that the tracks will play only once. When the time of departure is less than 1 minute, they are all set back to *False*.

```

if tmin[tr]-tnow == 16 and play1 == False:
    play1 = True
    os.system('omxplayer audio_tracks/1.mp3')
elif tmin[tr]-tnow == 11 and play2 == False:
    play2 = True
    os.system('omxplayer audio_tracks/2.mp3')
elif tmin[tr]-tnow == 6 and play3 == False:
    play3 = True
    os.system('omxplayer audio_tracks/3.mp3')
elif tmin[tr]-tnow == 2 and play4 == False:
    play4 = True
    os.system('omxplayer audio_tracks/4.mp3')
else:
    if tmin[tr]-tnow <2:

```



*play1 = play2 = play3 = play4 = False*

3/18/23

Version *countdown8-1x.py* added playing audio clips before the train departs. The audio clip must be greater than 60 seconds otherwise the clip will repeat. It also stops updating the clock during that time. A better solution is to not replay the clips.

The mp3 audio clips must be in the */home/pi/countdown/audio\_tracks* folder. They will be played at 16, 11, 6 and 2 minutes before scheduled departures so that they do not coincide with the same audio tracks played on the train.

| Playback time | Audio track name      |
|---------------|-----------------------|
| 16            | <i>1_1-minute.mp3</i> |
| 11            | <i>2_1-minute.mp3</i> |
| 6             | <i>3_1-minute.mp3</i> |
| 2             | <i>4_1-minute.mp3</i> |

3/16/23

Version *countdown7-3-2x.py* added military time. Variable *timeem* and *show\_timeem()*



3/15/23

Version *countdown7-3-1x.py* fixes problem with *theme* display.



The next version will add audio pre-departure clips. This will have to be developed on a Pi-3. The Pi-5 has no audio and does not support omxplayer.

3/12/24

The system will sort of run in windows. The format for the variable *timee* had to be changed to '%H:%M:%S' because windows did not support the strftime format.

```
#timee = ' '+now.strftime('%-I:%M %p')  
timee = ' '+now.strftime('%H:%M:%S')
```

The files are countdownwinx7-3.py and no\_trainswinx9-5-3.py

**BUT: It crashes if anything else is moved on the screen.**

3/9/24

For the monitor in the yard office, the magnification is 2.7.

The autoexec.sh file is

```
pi@raspberrypi:~ $ cat autoexec.sh  
cd countdown  
python countdownx.py 2.7  
python no_trainsx.py 2.7
```

Added magnification to countdown *cntdwn7-3x.py*.

This version does not display the theme and does not center the logo properly

Note that version *cntdwn7-3-1x.py* changed the logo file name to nhvrr\_logo.jpg which is installed in yard office.

2-20-24

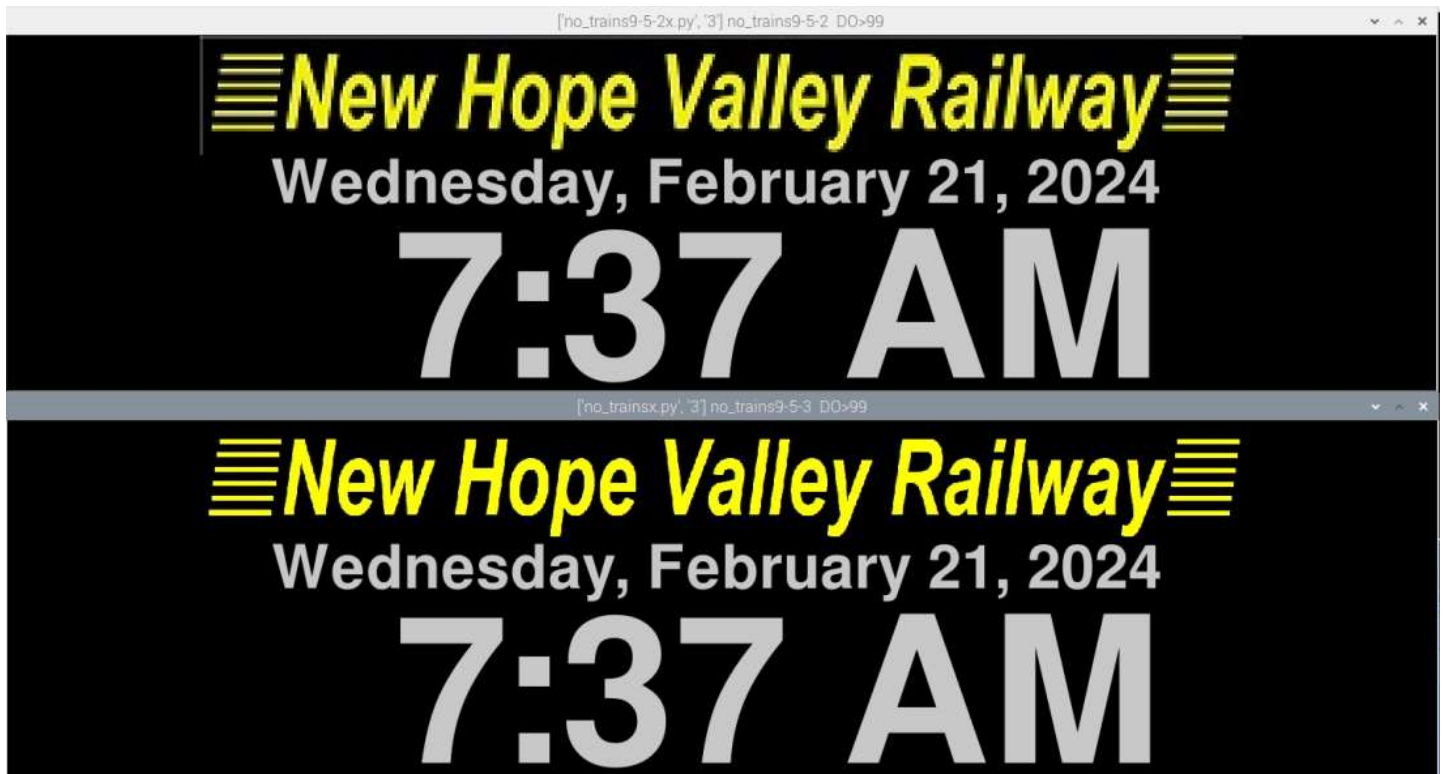
When the magnification was added, the graphic *nhvrr350.jpg* gets raggedy.

In version 9-5-3, the logo was changed from using the *nhvrr350.jpg* to *logo\_1450x164.jpg*.

82



This was then reduced by a factor of .241 to fit into the 480x320 3.5” display.  
 $350/1450 = 0.241$



The logo\_1450x164.jpg was created in DesignCad and copied to Draw where it was resized and saved as a jpg file.

```
pygame.display.set_caption(str(script)+' '+ ver) # Title of window
ball = pygame.image.load('logo_1450x164.jpg').convert()

new_size = (int(m*.241*1450),int(m*.241*164))
ball =pygame.transform.scale(ball,new_size)###
```



In version 9-5-2, the magnification variable was changed from an integer to floating point. This makes it possible to magnify the display to any desired size. It required that wherever  $m$  was used the  $\text{int}(m*x)$  had to be changed.

In version 9-5-1, the capability to magnify the display was added. The magnification can be changed by adding it when launching the program. To start the program, at the command line enter *python no\_trains9-5-1x.py m*. Where  $M$  is the magnification. If  $m$  is not added the default is 1, which is 480x320, for the 3.5" display.  $M$  must be an integer.

For example: To triple the size, at the command line, enter: *python no\_trains9-5-5x.py 3*.  
The function

The argument  $\text{argv}[0]$  is the name of the file. The first argument  $\text{argv}[1]$  is the first argument that is passed to the program.

In this case  $\text{argv}[1]$  is the magnification that is desired. Since it is formatted as text, the  $\text{int}(\text{argv}[1])$  converts it to an integer.

The code added is:

```
try: # Sets m = 1 if no data is available to pass  
    m=int(argv[1]) # Magnification of the images  
except:  
    m=1
```

Added variable  $m$  to magnify the images, *no\_trains9-5x.py*. The variable  $m$  must be an integer. If  $m = 1$ , the image size is correct for the 5.5" display ie. 480x320.

Offsets:  $\text{offa}$ ,  $\text{offb}$  and  $\text{offc}$  etc

The best way to do this is to add the variable to the program on boot up ie *no\_trains.py,m*.

Or, store the value of  $m$  in a text file *mag.txt* and have the program open this file if it exists and get the value.



This modification as only made for the no\_ *trains*, not *countdown*.



NOTE: The date format MUST be in the form *dd/mm/yyyy* and the time format must be capital *AM* and *PM*.

This can easily be changed in EXEL.

This file must be installed in the folder that contains the *countdown.py* program once a year and update if there are any changes.

The system requires a WiFi network in order to set the clock to real time.

A feature was added that will play announcements automatically to alert passengers of the status of the next train ride.

Other than the above conditions, the system runs autonomously.

Just apply power to the system. No other user interaction is required.

The system can run continuously. The startup script, *autoexec.sh*, runs the *countdown.py* program. This program searches the *schedule.csv* file for the days date. If there are no trains scheduled for the day, the program ends. The script then runs the *no\_trains.py* program. This program searches the *schedule.csv* file to find the next scheduled ride day. If this an Operate-A-Loco, it display both the Operate-A-Loco and the next ride days date and starting time.

When the time = 00:00:01, whichever program is running will cause the system to reboot to load the *schedule.csv* file and start the process again.

Each program will also write to the *bootlog.txt* file, the file name and the time the system was rebooted.

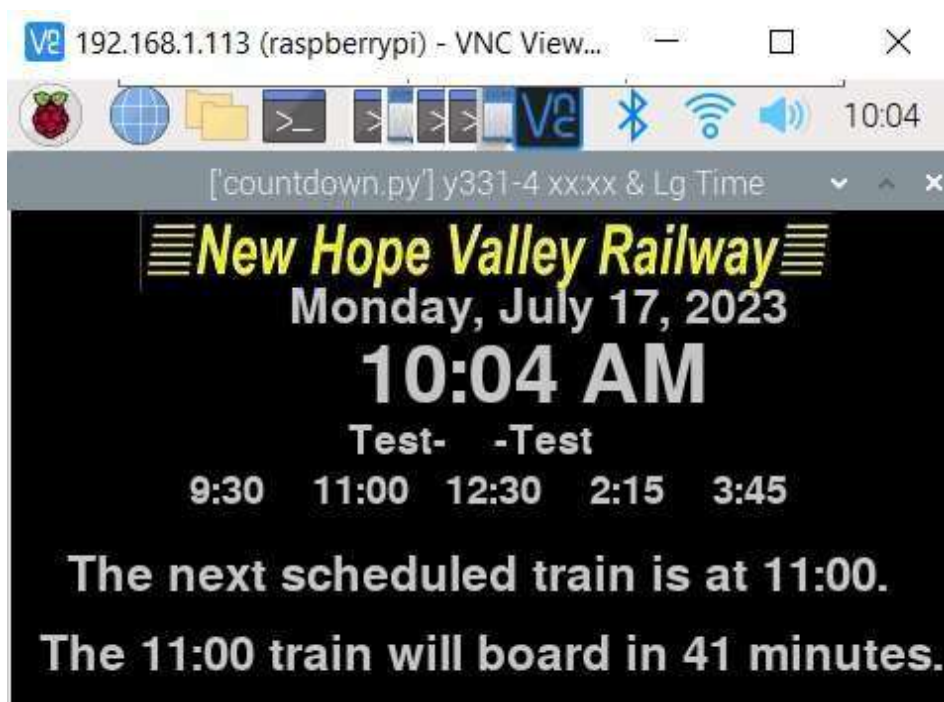
This is the *autoexec.sh* file:

```
cd countdown
```



```
python countdown.py  
python no_trains.py
```

When the autoexec.sh Linux shell script is launched on powering up the Rasp Pi, it runs the countdown.py and the display is shown below:



If there are no trains scheduled for the day, the program crashes and the autoexec.sh script runs the no\_trains.py program and the display is shown below:



**New Hope Valley Railway**  
Friday, February 09, 2024  
**3:50 PM**  
There are no trains scheduled today.  
The next train rides are scheduled for:

|            |                     |            |
|------------|---------------------|------------|
| Wed 03/20: | 1 Train at 10:30 AM | In 40 days |
| Fri 04/12: | 1 Train at 10:30 AM | In 63 days |
| Sat 04/13: | OAL NO Passengers   | In 64 days |
| Sun 04/14: | 3 Trains at 1:00 PM | In 65 days |

[no\_trains.py] no\_trains9-1-4 DO>99

At midnight the Rasp Pi is rebooted to reload the schedule and determine if there are train rides on that day.



```

pi@raspberrypi: ~/countdown3
File Edit Tabs Help
pi@raspberrypi:~ $ cd countdown3
pi@raspberrypi:~/countdown3 $ cat bootlog.txt
##### Boot Log File

Reboot from NO TRAINS Monday, May 15, 2023      8:26 AM
pi@raspberrypi:~/countdown3 $ cd countdown3
  
```

bootlog.txt



## 2023 Schedule and Ridership

Revised 4/17

Total Ridership YTD 1950

5/12/2023

| Index | Date     |     | Trains | 1        | 2        | 3        | 4       | 5       | Riders | Average | Theme             |
|-------|----------|-----|--------|----------|----------|----------|---------|---------|--------|---------|-------------------|
| 1     | 02/01/23 | Wed | 1      | 10:30 am |          |          |         |         | 1      | 1       | Photo shoot       |
| 2     | 03/31/23 | Fri | 1      | 11:00 am |          |          |         |         | 3      | 3       | VIP Train         |
| 3     | 04/01/23 | Sat | 5      | 9:30 am  | 11:00 am | 12:30 pm | 2:15 pm | 3:45 pm | 410    | 82      | Hop into Spring-1 |
| 4     | 04/02/23 | Sun | 5      | 9:30 am  | 11:00 am | 12:30 pm | 2:15 pm | 3:45 pm | 707    | 141     | Hop into Spring-2 |
| 5     | 04/12/23 | Wed | 1      | 10:30 am |          |          |         |         | 140    | 140     | Group ride        |
| 6     | 04/15/23 | Sat | 4      | 11:00 am | 12:00 pm | 1:00 pm  | 2:00 pm |         |        |         | Operate-A-Loco    |
| 7     | 04/21/23 | Fri | 1      | 10:30 am |          |          |         |         | 193    | 193     | Group ride        |
| 8     | 04/23/23 | Sun | 1      | 2:30 pm  |          |          |         |         | 121    | 121     | Charter           |
| 9     | 05/06/23 | Sat | 4      | 1:00 pm  | 2:30 pm  | 4:00 pm  | 5:30 pm |         | 375    | 94      | Brew & Choo       |
| 40    | 05/12/23 | Fri | 1      | 10:30 am |          |          |         |         |        |         | Group ride        |
| 44    | 05/13/23 | Sat | 4      | 11:00 am | 12:00 pm | 1:00 pm  | 2:00 pm |         |        |         | Operate-A-Loco    |
| 12    | 05/17/23 | Wed | 1      | 10:30 am |          |          |         |         |        |         | Group ride        |
| 13    | 05/20/23 | Sat | 1      | TBD      |          |          |         |         |        |         | Fuel train        |
| 14    | 05/21/23 | Sun | 3      | 1:00 am  | 2:30 pm  | 4:00 pm  |         |         |        |         | Slow Down Sunday  |
| 15    | 05/26/23 | Fri | 1      | 10:30 am |          |          |         |         |        |         | Group ride        |
| 16    | 06/03/23 | Sat | 4      | 1:00 pm  | 2:30 pm  | 4:00 pm  | 5:30 pm |         |        |         | Brew & Choo       |

schedule.csv



**NOTE:** The date format MUST be in the form *dd/mm/yyyy* and the time format must be capitol *AM* and *PM*.

This can easily be changed in EXCEL.

The system displays the boarding time. The trains will board 15 minutes before their departure time. The system will dis

The system displays the boarding time. The trains will board 15 minutes before their departure time. The system will dis

NOTE: The files that end in x, such as no\_trains7-5-3x.py are not FULLSCREEN versions. The line below is commented out to inhibit full screen.

```
##DISPLAYSURF = pygame.display.set_mode((480, 320), pygame.FULLSCREEN)
```

This is necessary during testing otherwise the Pi would have to be rebooted to make any changes.

no\_trains2.py adds bootlog.txt

Version 323 adds bootlog.txt

Version 322 repairs the issue at the departure time and the next train boarding time.

The countdown\_big.py version increases the display by a factor of 4.

The magnification variable m was added and set to 4.

The logo file nhvrr350.jpg was fuzzy when scaled up so a new logo was created to make the image sharper, nhvrr\_logo.jpg.

This was too large and had to be scaled down by half in the pygame window

```
#####  
image = pygame.image.load("nhvrr_logo.jpg") width  
= image.get_rect().width height =  
image.get_rect().height  
  
image = pygame.transform.scale(image, (int(width*.5), int(height*.5)))
```



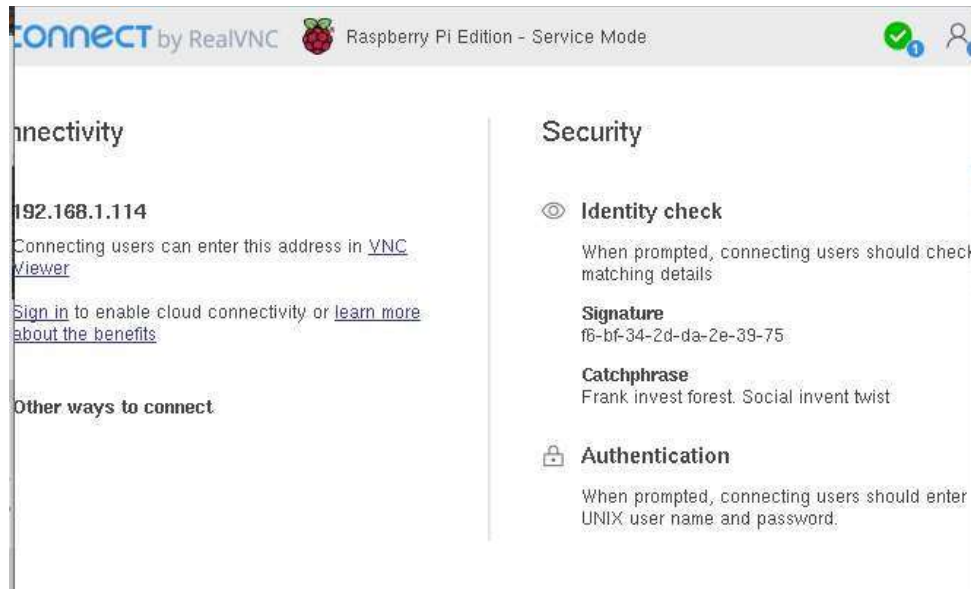
Test file in c:\Python27\cd1.py

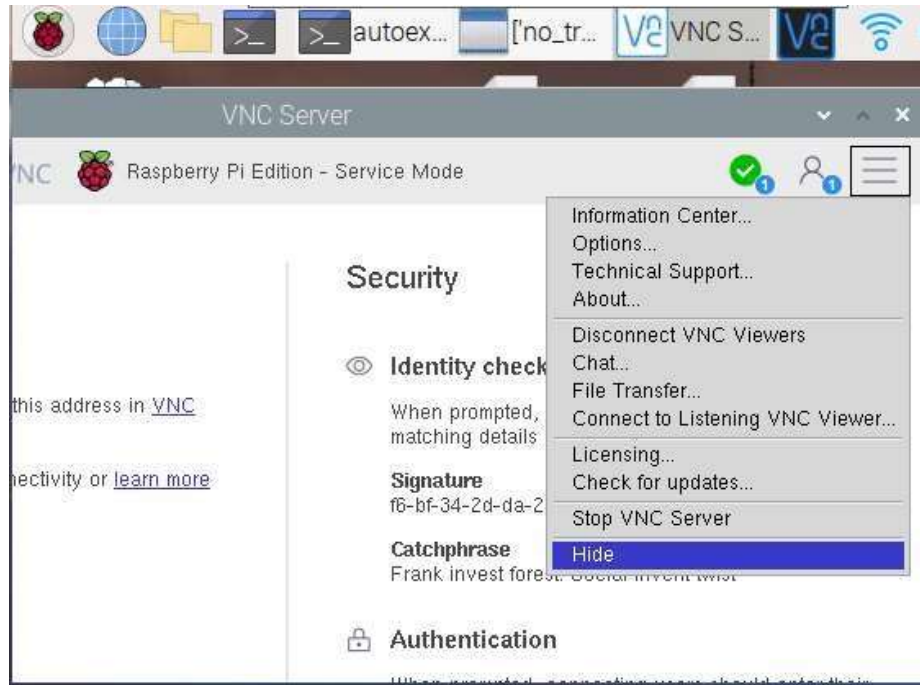
Shows train departure times in seconds from mid night

The file cd11.py displays all trains and there difference between time now and departures

Note: To transfer files from the Raspberry Pi with the 3.5 inch tft display you must reboot the system using `./hdmi`.

Otherwise, you cannot move the window to display the dropdown menu.





Then reboot the system using `./tft`

## Countdown system for the Ticket Office

The count down system displays the date, the current time and the times the trains will depart . It also displays the boarding time and the departure time of the next train leaving Bonsal

The system determines the date and time through its connection to the local area network through its Wi-Fi connection

Section 1: imports the necessary routines.

Section 2: Functions needed.:

1. `convert24()`

This converts the time in the form 9:30 AM or 9:30 PM to military time, ie 24hr time.  
 9:30 AM  $\square$  0900 and 9:30 PM  $\square$  2130



## 2. `convert_to_min()`

This converts the time in hh:mm:ss into minutes from midnights

Section 3: imports the data found in the 202X Trains EXEL file. The schedule work sheet is exported as a csv file. The file name is schedule.csv. The data is imported into the program as an array.

It also formats the time data to display on the monitor.

The next section searches the array for the current day's schedule and formats it for the display.

Section 4: Changes the string data from the array to seconds from midnight. Each of the train's departure times are converted to an integer which is number of seconds from midnight.

Section 5: Searches the imported array data for today's train schedule.

The next section sets up the video display using pygame

Section 6: The last section is the while loop that updates the screen.

Functions:

### `Convert24()`

This function converts the time information from the schedule.csv file military time. The .csv file has the departure time information in the form of:

9:15 AM or 3:30 PM

The output of this function is 0915 and 1530.

The first part finds the colon and adds a 0 if needed.

If meridian = AM and the hour is not 12



8/3/23 The no\_trains6.py program was modified to show the next schedule train ride day.



8/6/23

Since the Operate A Local ride days have no passengers, if that is the next ride day, I added the following ride day as the next ride. I also added OAL to the display.

no\_trains7-1.py This version added:

- The AOL line on display.

- The number of trains and time of first train



It moved the displayc down to make room for displayd.

```
def show_displayc(message):
```

```
    font = pygame.font.Font(None,30) text =
    font.render(message, 1,(200,200,200))
    screen.blit(text,(30,260)) ### Hor.Vert
```

```
def show_displayd(message):
```

```
    font = pygame.font.Font(None,30) text =
    font.render(message, 1,(200,200,200))
    screen.blit(text,(100,240)) ### Hor.Vert
```

The following code creates the OAL displayd, in version 7-1

```
display = " There are no trains scheduled today."    displayb =
' The next train rides are scheduled for'    print ('Theme for
nexttrain '+stheme[nexttrain])    if stheme[nexttrain]
=='Operate-A-Loco':
    displayd = sdow[nexttrain] +' '+sdate[nexttrain]+' '+stheme[nexttrain]
nexttrain = nexttrain+1    else:
    displayd = ''
    displayc = sdow[nexttrain] +' '+sdate[nexttrain]+' ' +snot[nexttrain]+' Trains starting at '
+strain1[nexttrain]
    if snot[nexttrain] == '1': ## if there is only one train    displayc = sdow[nexttrain] +'
'+sdate[nexttrain]+' ' +snot[nexttrain]+' Train at '+strain1[nexttrain]

    nexttrain = nexttrain -1 ## resets nexttrain Do not know why it is necessary!
```

8/12/23

This is the display from no\_trains7-5.py showing the names for the display variables.



  
 Saturday, August 12, 2023  
**3:15 PM**

**There are no trains scheduled today.**  
**The next train rides are scheduled for**  
**Wed 8/16: 1 Train at 10:30 AM**  
**Sat 8/19: Operate-A-Loco NO Passengers**

['no\_trains7-5x.py'] no\_trains7-5 next

Top\_date  
timee

display  
displayk  
displayc  
displayc  
str(scrip

```
timee = ' ' + now.strftime('%-I:%M %p')
display = " There are no trains scheduled today."
displayb = ' The next train rides are scheduled for'
print ("Theme for nexttrain " + stheme[nexttrain])
```

```
displayd = sdow[nexttrain] + ' ' + sdate[nexttrain] + ' ' + snot[nexttrain] + ' Trains starting at '
+ strain1[nexttrain]
if stheme[nexttrain] == 'Operate-A-Loco':
    displayd = sdow[nexttrain] + ': ' + stheme[nexttrain] + ' NO Passengers'
elif snot[nexttrain] == '1':
    displayd = sdow[nexttrain] + ' ' + sdate[nexttrain][0:4] + ': ' + snot[nexttrain] + ' Train at '
+ strain1[nexttrain]
else:
    displayd = sdow[nexttrain] + ' ' + sdate[nexttrain][0:4] + ': ' + snot[nexttrain] + ' Trains starting at '
+ strain1[nexttrain]
```

```
displayc = sdow[nexttrain+1] + ' ' + sdate[nexttrain+1][0:4] + ' ' + snot[nexttrain+1] + ' Trains starting at '
+ strain1[nexttrain+1]
if stheme[nexttrain+1] == 'Operate-A-Loco':
    displayc = sdow[nexttrain+1] + ' ' + sdate[nexttrain+1][0:4] + ': ' + stheme[nexttrain+1] + ' NO Passengers'
else:
    displayc = sdow[nexttrain+1] + ' ' + sdate[nexttrain+1][0:4] + ': ' + snot[nexttrain+1] + ' Trains at '
+ strain1[nexttrain+1]
```

8/15/23 no\_trains7-5-3.py makes the time display large.



**New Hope Valley Railway**  
Tuesday, August 15, 2023

# 11:58 PM

**There are no trains scheduled today.**  
**The next train rides are scheduled for**  
**Wed 8/16: 1 Train at 10:30 AM**  
**Sat 8/19: Operate-A-Loco NO Passengers**

[no\_trains.py] no\_trains7-5-3 next

To make changes to the program:

Make the changes in the Pi 3 countdown4 folder.

Copy the new file to the PC Desktop using VNC.

For example no\_trains7-5-3.py

Reboot the Pi Zero and stop the autoexec.sh using Ctrl-c.

Up load the new file using VNC. It automatically goes to the Desktop of the Pi Zero. Copy the file to the countdown4 folder

cd Desktop

cp no\_trains7-5-3.py /home/pi/countdown4/no\_trains7-5-3.py

Now copy the filename.py file to the main file cd

countdown4

cp no\_trains7-5-3.py no\_trains.py

Reboot the Pi Zero.