Tutorial: Auto Extracting from .ap archives for Reskins

By

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(This tutorial was posted by Dave on uktrainsim.com and is reproduced with his kind permission.)

Typical reskin of 'Flying Scotsman' to its sister loco 'Salmon Trout'

Original .html document converted to .pdf by Mike Simpson using 'AVS Document Converter' and 'Serif PagePlus X7'

1. Introduction

Since the introduction of .ap files by RSC at the launch of TS2014 the installation of reskins has become a bit more involved than just copying file A to location B.
The reskin blueprint is useful if just one texture needs replacing, and installing a texture to outside of the .ap file is OK if you don't want to create a new loco entry, but creating a whole new livery that exists alongside the archived original requires some extra effort.
Most reskinners include detailed instructions on how to get the files they are not able to include, out of the .ap file and into the correct location, other reskinners just include a one liner expecting the end user to be as tech savvy as they are. I've even recently seen a reskinner instructing the end user to place files into a .ap archive   🤓
The above methods , if the instructions are clear and they are followed correctly will work but if the user doesn't have the right software to open .ap files or they feel wary about rummaging around in areas they don't understand, they may be put off from installing your reskin.

I made a passing comment on a thread yesterday that an end user should never have to delve into a .ap file to install a mod, so I'm writing this tutorial so more reskinners can create better, easier one click installers for their reskins.

2. Files you will need
This set of files I have made with a sample engine so you can follow along.

Example files used in the Auto Extract from .ap files tutorial

Files for use with the Auto Extract from .ap files tutorial
Reskin_Tutorial_Files. 7z

RW_Tools available from http://www.rstools.info

7za.exe a freely distributable command line archiver available from
http://www.7-zip.org/download.html make sure to choose the 32 bit
Command line version (a copy is included in the RW_Tools zip
above.

A file called InstallMe.bat
To create a batch file right click on an empty section of your
desktop and choose new > text document.
If it looks like this, with the end of the name .txt then rename it to
InstallMe.bat
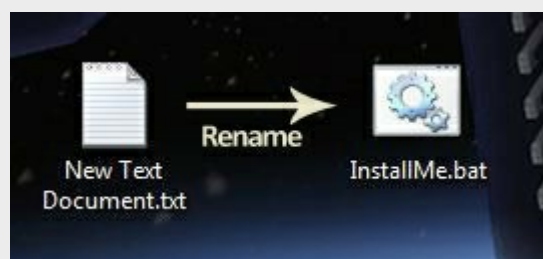
If it doesn't say .txt at the end then you first need to turn off "hide file
extensions for known file types" instructions to do his can be found
here.
http://windows.microsoft.com/en-gb/windows/show-hide-
file-name-extensions#show-hide-file-name-
extensions=windows-7

I also recommend you read the asset packaging tutorial for
RW_Tools on Mikes site here before you start if you are unfamiliar
with the process of using RW_Tools to make asset packages.
http://www.rstools.info/tutorials.html

3. Preparation
Once you have downloaded the above files, open the accompanying
tutorial file archive I made and inside you will find an .rwp. Use the
TS2014 package manager to install this example engine and check
that it appears in

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Once you have downloaded the above files, open the accompanying tutorial file archive I made and inside you will find an .rwp. Use the TS2014 package manager to install this example engine and check that it appears in game. It should have the Product/Provider name UKTS_Tutorial/APFileTutorial
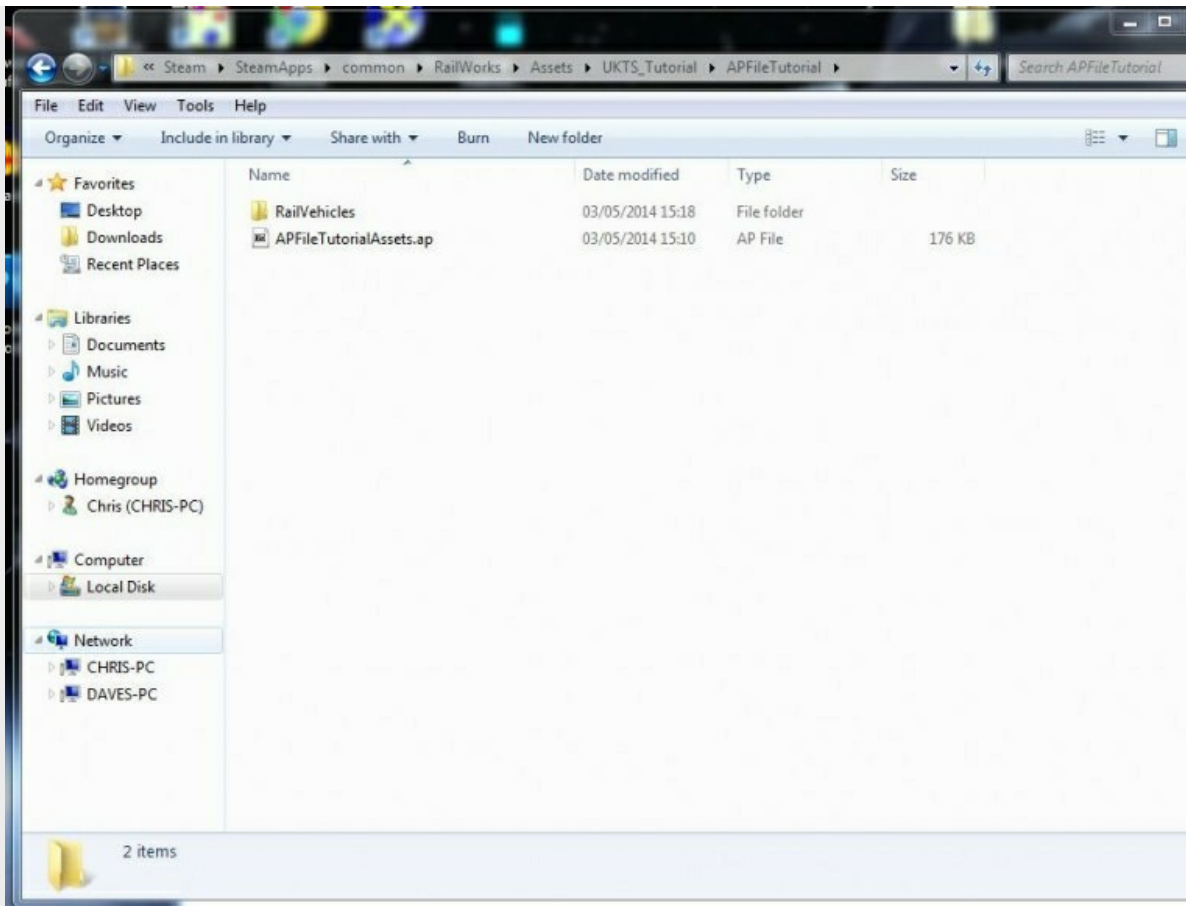and will appear as "AP File Tutorial Engine Orange".
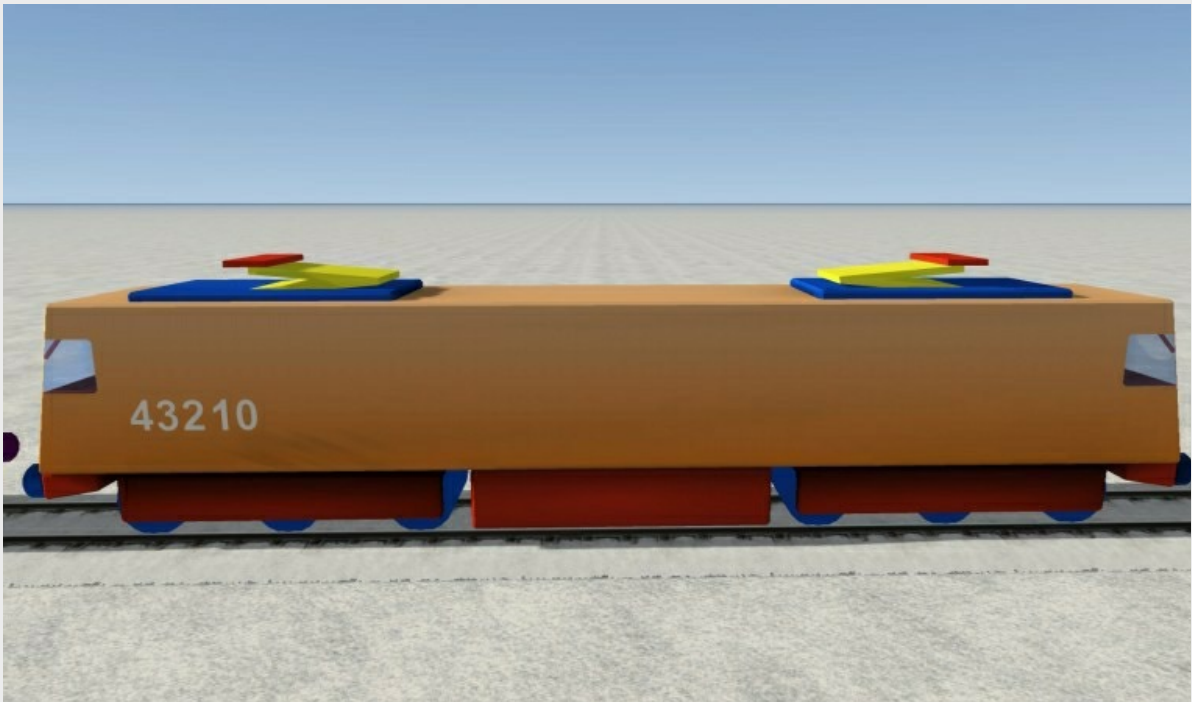
4. Getting the reskin to work

Now we have a working engine which is stored in a .ap file we need to make a reskin.

Inside the tutorial file archive I made you will find a further archive called "Tutorial_RESKIN.7z"

Extract this and place into the Assets\UKTS_Tutorial\APFileTutorial directory along side the .ap file

If you were to run the game now and try to place our green reskinned engine down, nothing would appear as the .GeoPcDx is missing.
We need to get this file and a few others out of the .ap file.

If you were doing this on your own you would need to find out which files were necessary to extract from the .ap to ensure none showed as "missing texture" in game but for ease I will list the ones you need below and where they need to be.

Sample_Engine.GeoPcDx needs to exist in ..\Assets\UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\
number_0.TgPcDx - number_9.TgPcDx need to exist in Assets\UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures\
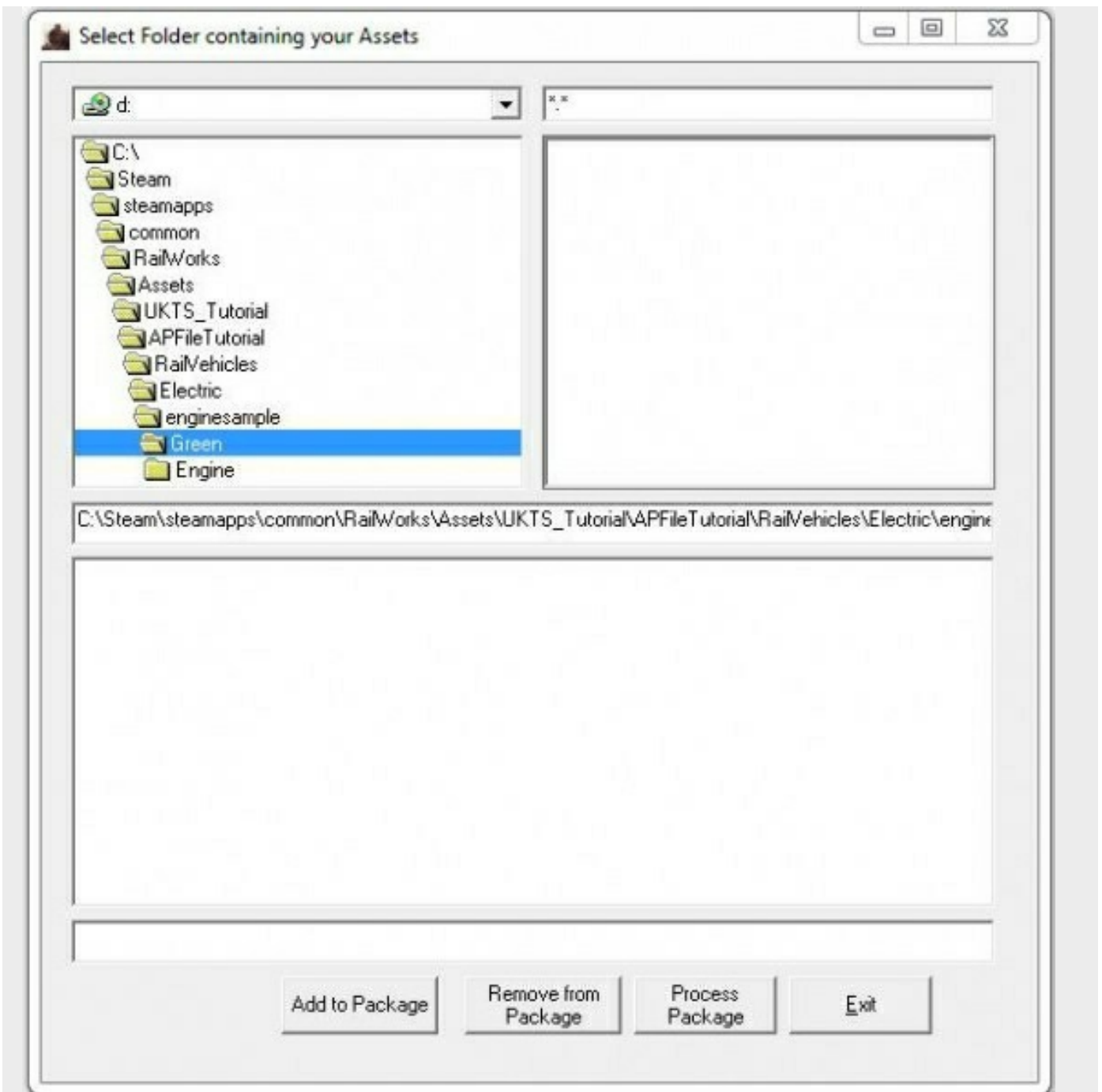
If you were to move these manually the reskin would display correctly.
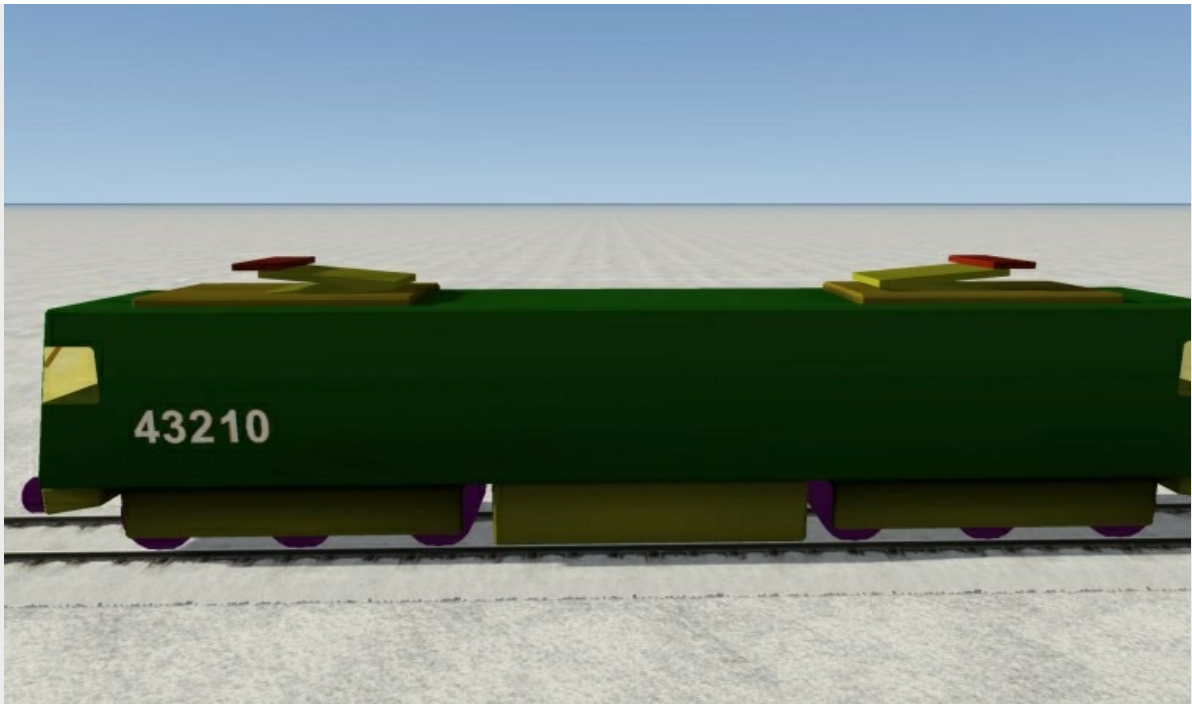
but we want this process to happen automatically

5. Creating the installer

Using RW_Tools create your asset package ensuring that you don't choose compress at the last step. When selecting the directories to package choose Green.

Navigate to where the package was saved and double check that no files remain that you do not have the right to distribute. You should only be left with the two .bin files and the three textures as they are the only files you created.
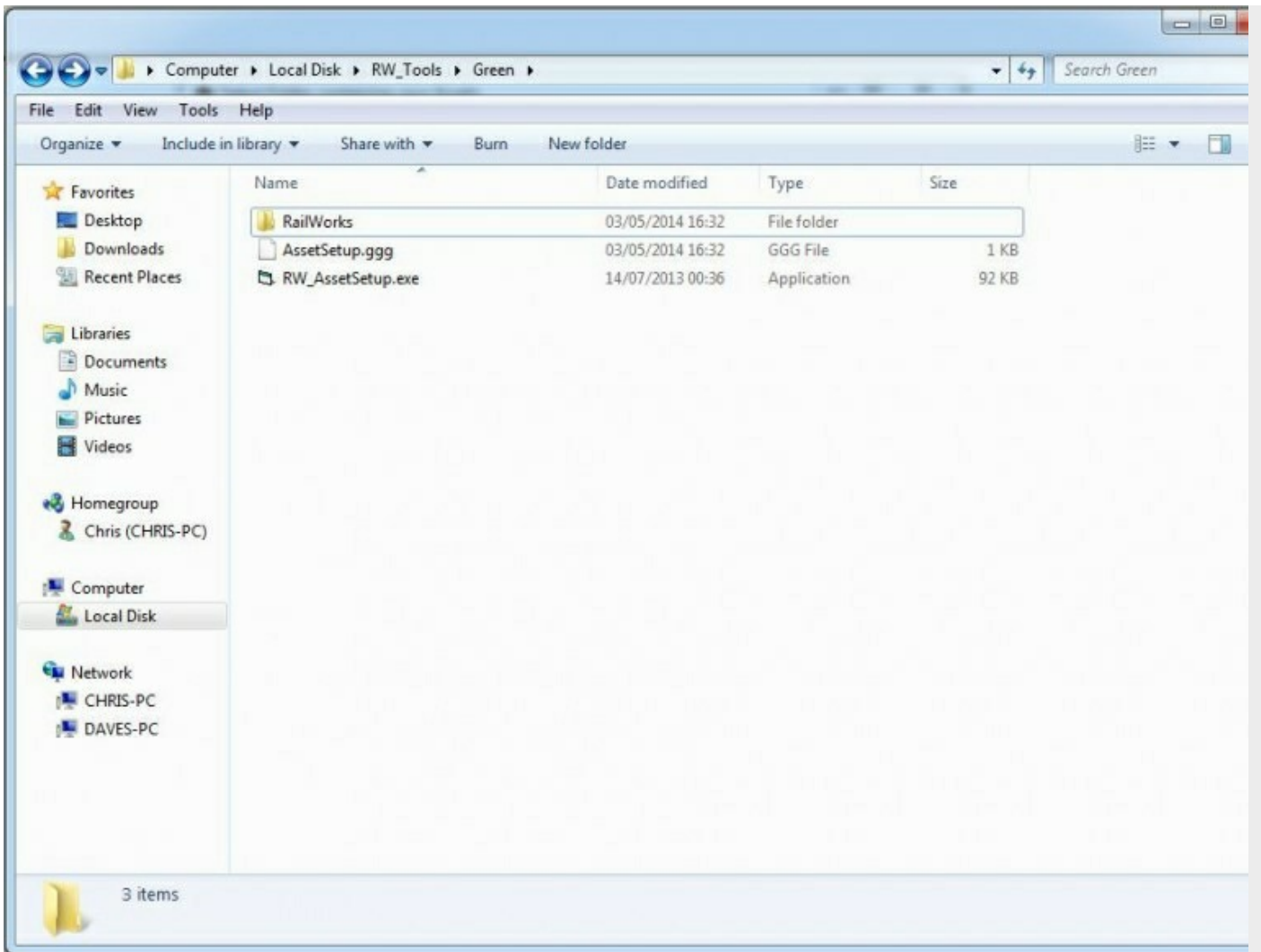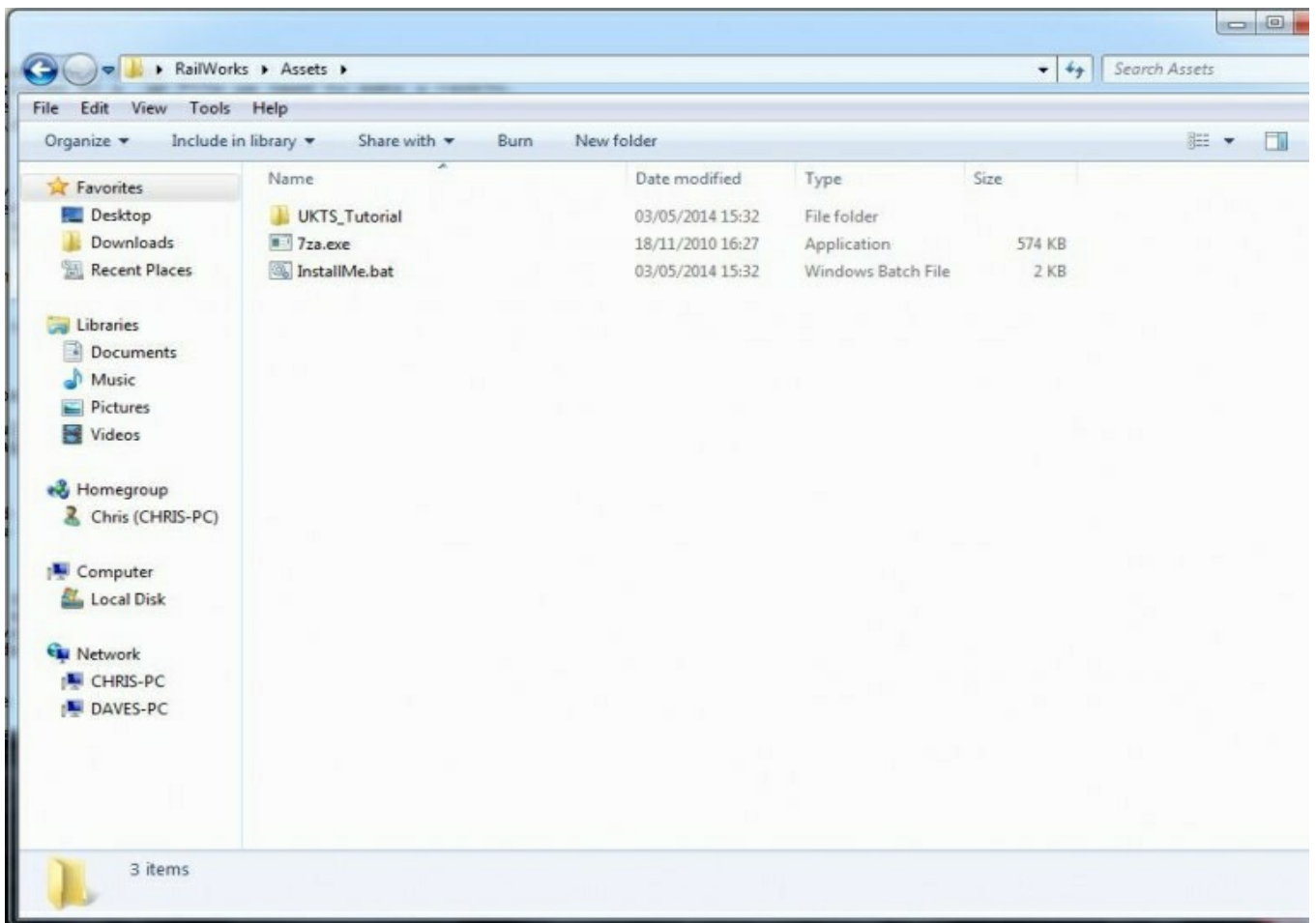
Grab the 2 files and 1 directory in the previous image and drag them to your desktop where you made the batch file in step 2.

Navigate to inside the folder you just moved called Railworks and again into the folder called Assets.

Move the InstallMe.bat file you made in Step 2 to here.

Also move the 7za.exe file you downloaded in step 2 here as well

6. Automating the extraction

Rightclick and choose edit on the InstallMe.bat file which is now in the same place as 7za.exe and a folder called UKTS_Tutorial
this should open a blank notepad window
When the end user installs the package this .bat file you are now editing, which you can think of as a list of commands executed sequentially, will be run automatically so we are going to tell it to use 7za.exe to extract the files we need from the .ap file.
The command we need to use looks like this

```
7za.exe e
"%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap"
RailVehicles\Electric\EngineSample\Default\Engine\Sample_Engine.GeoPcDx -
o"%~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine" -y
Del "%~dp07za.exe"
```

Although it looks complicated it can be broken down into understandable chunks

7za.exe = *this is the file we want to run*
e = *we want to extract a file*
"%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" = *this is the file we want 7zip to look in, the %~dp0 at the beginning means start looking from the directory I am currently in, this means it will work wherever TS2014 is installed.*

RailVehicles\Electric\EngineSample\Default\Engine\Sample_Engine.GeoPcDx = *this is the file we want extracted*

-o"%~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine" = *this is telling 7zip where we want the file to be place when it is extracted, the -o let's 7zip know we want it putting in a different path to where it came from inside the .ap file (Green instead of Default)*
-y *this means if 7zip finds a file already exists in the place it is trying to put one, overwrite it without asking, if we left this off and the user installed the reskin twice, the second time they would be asked if they wanted to overwrite every file one at a time.*

So using this one command we can extract one file of our choice from the .ap file of our choice to a location of our choice.

If we look at the list of files we need from Step 4 we need 11 lines that read as follows
(the following may display on more than 11 lines because of their length, when in the editor each command should not be split over separate lines)

```
7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Sample_Engine.GeoPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_0.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_1.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_2.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_3.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_4.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_5.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_6.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_7.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_8.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

7za.exe e "%~dp0UKTS_Tutorial\APFileTutorial\APFileTutorialAssets.ap" RailVehicles\Electric\EngineSample\Default\Engine\Textures\number_9.TgPcDx -o"%
~dp0UKTS_Tutorial\APFileTutorial\RailVehicles\Electric\EngineSample\Green\Engine\Textures" -y

Del "%~dp07za.exe"
```

I have also added as a final command an instruction to delete the 7za.exe file after we have finished with it. You can now save this file and exit the notepad editor.

Get back to your desktop and test the installer. If all is working correctly you should be able to use the green engine in game without issue. Remember to delete any files from your assets directory so you can test it as a clean install. If all is ok then you can zip up and upload your new
installer.

If you feel I have missed anything or glossed over anything, let me know and Ill go into more detail.

Thanks
Dave (Waggonz)