

How does Mods in Table top simulator work

Acquiring the files

- In steam workshop, all of the mods are just txt and json files that contains the structure, script (not necessarily) and most importantly, links to the images that contains the files for the games.
- When a new mod is downloaded from steam workshop, all that happens is that the game acquires the txt and json files from steam to the following dir "...\\My Games\\Tabletop Simulator\\Mods\\Workshop".

\My Games\Tabletop Simulator\Mods\Workshop\WorkshopFileInfos.json

This is a file that contains which mods are downloaded on this machine, basically, it is just a list of dictionaries of which mods are downloaded, to which folder, and when was the last time they were updated:

```
[  
  {  
    "Directory": "C:\\Users\\2003i\\Documents//My Games//Tabletop Simulator//Mods//Workshop\\284554003.json",  
    "Name": "El Grande (english / español)",  
    "UpdateTime": 1703936808  
  },  
  {  
    "Directory": "C:\\Users\\2003i\\Documents//My Games//Tabletop Simulator//Mods//Workshop\\2506802885.json",  
    "Name": "Chinatown[Scripted]",  
    "UpdateTime": 1703937369  
  },  
  {  
    "Directory": "C:\\Users\\2003i\\Documents//My Games//Tabletop Simulator//Mods//Workshop\\852334368.json",  
    "Name": "Coup - With Expansions - Scripted",  
    "UpdateTime": 1703937369  
  },  
  {  
    "Directory": "C:\\Users\\2003i\\Documents//My Games//Tabletop Simulator//Mods//Workshop\\769697844.json",  
    "Name": "Twilight Imperium REX: Final Days of an Empire",  
    "UpdateTime": 1703940078  
  },  
  {  
    "Directory": "C:\\Users\\2003i\\Documents//My Games//Tabletop Simulator//Mods//Workshop\\863654196.json",  
    "Name": "6 Nimmt! [UPDATED 2022]",  
    "UpdateTime": 1703940078  
  },  
  {  
    "Directory": "C:\\Users\\2003i\\Documents//My Games//Tabletop Simulator//Mods//Workshop\\2878894306.json",  
    "Name": "Lost Cities",  
    "UpdateTime": 1703954231  
  }  
]
```

\My Games\Tabletop Simulator\Mods\Workshop\---.json

Each mod has ONE corresponding json file that serves as the main file for it, indexing all of its assets and scripts. By parsing this json, I will be able to reverse the structure of the mod.

How it works - It is a list of dictionaries of lists of dictionaries (and so on) the contains everything but also what is which.

Base of The object will contain a "**GUID**" and the "**Name**" (type) of it

```
{  
  "GUID": "b7f36f",  
  "Name": "Deck",  
}
```

The two most important values in this dictionary are "**DeckIDs**" and "**CustomDeck**"

"**DeckIDs**" contain an id for each card in the deck, practically how many cards are contained in the image.

```
"DeckIDs": [  
  906,  
  944,  
  901,  
  907,  
  904,  
  903,  
  902,  
  900,  
  905  
,
```

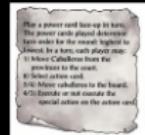
"**CustomDeck**" is the name of all dictionaries that contain cards of any type

```
"CustomDeck": {  
  "9": {  
    "FaceURL": "http://i.imgur.com/ChMb7Y1.jpg",  
    "BackURL": "http://i.imgur.com/m9A70yX.jpg",  
    "NumWidth": 10,  
    "NumHeight": 7,  
    "BackIsHidden": false,  
    "UniqueBack": false,  
    "Type": 0  
  }  
},
```

Lets Explain its values:

"**9**" is just an id for the deck, also a dictionary

"**FaceURL**" and "**BackURL**" and their values serve two purposes. They also point to a file that contains the image to serve as the front and the back of the card, but that file is a URL, meaning they point to what to download and not the file by itself. Lets Open "**FaceURL**" online to see its contents:



As we can see, this is one image that contains cards from the same deck, and sometimes, will also contain the back of the card for all cards from this deck (bottom right corner) but we will not use it. We know how many cards care contained within a single image from the properties:

"NumWidth" and **"NumHeight"**. These properties contain an int that tell us how to split the image so each different image will result in a single card. The **"BackURL"** serves as the image to past at the back of all the cards that are contained in the **"FaceURL"** dictionary. Lets open it:

Play a power card face-up in turn. The power cards played determine turn order for the round: highest to lowest. In a turn, each player may:

- 1) Move Caballeros from the provinces to the court.
- 2) Select action card.
- 3/4) Move caballeros to the board.
- 4/3) Execute or not execute the special action on the action card.

cool.

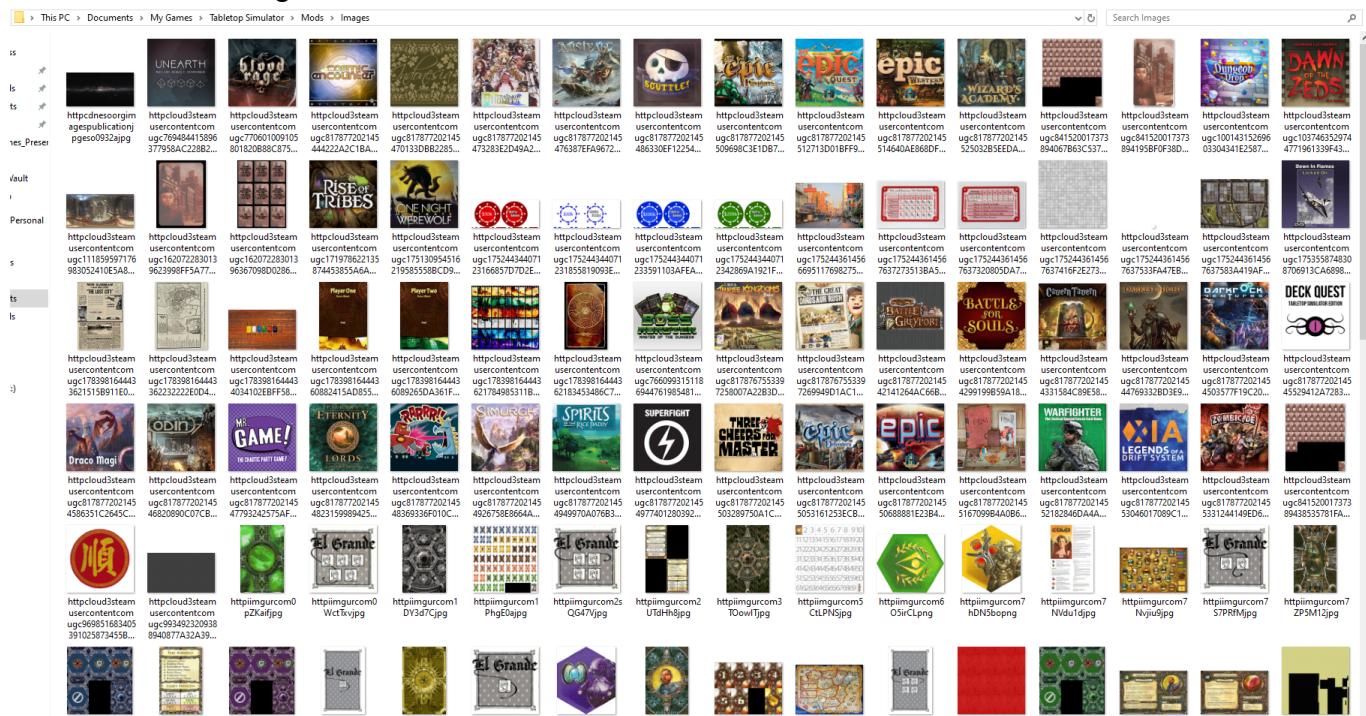
Downloading and managing files

After we "Install" a mod from the workshop, practically nothing happens except the json being added for the file and the WorkshopFileInfos.json belonging added the mod. ONLY when we load the mod in game, the files are actually downloaded. The files are then downloaded into the "Images" dir:

This PC > Documents > My Games > Tabletop Simulator > Mods >

Name	Date modified	Type	Size
Assetbundles	30/12/2023 18:37	File folder	
Audio	30/12/2023 13:56	File folder	
Images	30/12/2023 18:37	File folder	

Where the following mess is located:



These are ALL the images of all the games in the game, located in the same directory. kind of a mess but the mod doesn't name the files at random. Lets go through the process of finding the FaceURL file of El Grande from the previous example.

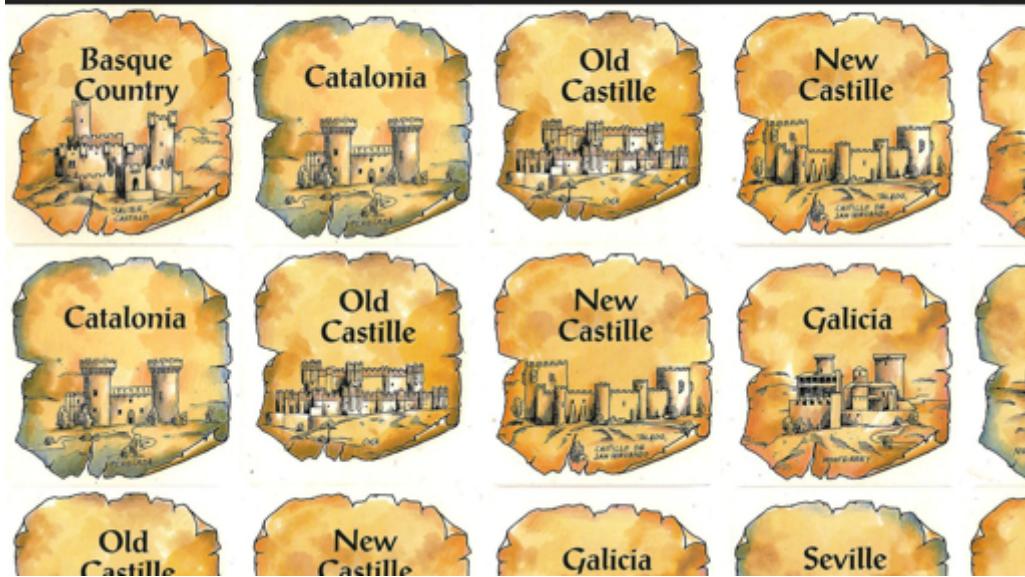
"FaceURL": "<http://i.imgur.com/ChMb7YI.jpg>",

The file is named: "ChMb7YI.jpg" but the game doesn't name it as such. The file is named as the whole "FaceURL" string, with ALL special characters removed. By following this process, the file should be named: httpiimgurcomChMb7YI.jpg, but is isn't! The game names it: httpiimgurcomChMb7YI.jpg :(





http://imgur.com/ChMb7Yl.jpg.jpg



Aight.