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Darryl Alvares <darryl.alvares@gmail.com>

Darryl & Netflix next steps homework

Igor Okulist <iokulist@netflix.com>   Tue, Feb 6, 2018 at 5:38 PM
To: darryl.alvares@gmail.com

Content Playlist Creation

Definitions

Content: This entity represents a piece of content (an asset that has been licensed by Netflix) that is either a movie or an episode of a TV show. A piece of content may have 0 or more ordered Pre-Rolls associated with it.

Pre-Roll: This represents an asset to be played before the content plays (e.g. a video clip that shows "Netflix Original Presentation"). A pre-roll may be associated with 0 or more pieces of content. When a Netflix customer chooses to play a piece of content, the pre-rolls associated with the content will be played in correct order followed by the content.

Video: This is the actual video file attached to a content or a pre-roll. Each content or pre-roll can have multiple videos attached to it. Each attached video is uniquely tagged with a language, a list of countries and an aspect ratio.

Playlist: A legal sequence of pre-rolls and content videos in correct order as instructions to a player. The included videos for content and all defined pre-rolls will all have matching attributes (at least one country and language in common and the same aspect ratio) to form a legal play sequence as defined when capturing the content to pre-roll relationship.

Assignment

- Design object models for these.
- Define and create models in memory from data defined in a file(in JSON format). Assume large file.
- Write a program that will take a content identifier and a country code as input and return matching valid playlists.
- We want to understand your thought process and decisions, write these as you go.
- Write code as if you are going to offer this as a library to be utilized by an API server, and describe what that means to you.
- Treat it as production code and describe what that means to you.
- Provide some convenient means to execute the code
- If you have made assumptions, include those in the comments.
- For purposes of the interview, please utilize concurrency in the solution even though this could be accomplished without.

Sample Input file:

```
{
  "content": [
    {
      "name": "MI3",
```

```
        "preroll": [{ "name": "WB1" }],
        "videos": [
          { "name": "V1", "attributes": {"countries": ["US", "CA"],
"language":"English", "aspect": "16:9"} },
          { "name": "V2", "attributes": {"countries": ["UK"], "language":
"English","aspect": "4:3"} },
          { "name": "V3", "attributes": {"countries": ["UK"], "language":
"English","aspect": "16:9"} }
        ]
      }
    ],
    "preroll": [
      {
        "name": "WB1",
        "videos": [
          { "name": "V4", "attributes": {"countries": ["US"], "language":
"English","aspect": "4:3"} },
          { "name": "V5", "attributes": {"countries": ["CA"], "language":
"English","aspect": "16:9"} },
          { "name": "V6", "attributes": {"countries": ["UK"], "language":
"English","aspect": "4:3"} },
          { "name": "V7", "attributes": {"countries": ["UK"], "language":
"English","aspect": "16:9"} }
        ]
      }
    ]
}
```

Sample Runs:

Input (MI3, US)
Output
```
  (No legal playlist possible because the Pre-Roll Video isn't compatible with the
aspect ratio of the Content Video for the US)
```

Input (MI3, CA)
Output
```
  Playlist1
  {V5, V1}
```

Input (MI3, UK)
Output
```
  Playlist1
  {V6, V2}
  Playlist2
  {V7, V3}
```