

Video Descriptors

Editorial Process Guide

Version 1.0.1

Updated: 2022-04-26

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Document History

| Version | Publish Date | Updates Description |
|---------|--------------|---|
| 0.0a | 9/11/2019 | Initial Version- Draft PD - Added section for 4. Taxonomy Updates |
| 0.0b | 9/17/2019 | PD - Added sections for 3. Video Descriptor Taxonomy, 5. Editorial Tagging Process, and 7. Qualitative Terms |
| 0.0c | 09/18/2019 | Final Draft Version for Publishing. PD - Edited 6. Common Variations section for terminology consistency, etc. |
| 1.0 | 01/15/2020 | Draft Published to Customers |
| 1.0.1 | 04/26/2022 | Rebranded and reformatted version 1.0 |



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About this Document

The Gracenote Video Descriptors 'Customer Guide to Editorial Process' document is intended for Editorial, Content Strategy and Products teams responsible for evaluating and using the Gracenote Video Descriptors data set to power video content search, discovery and recommendation solutions. This document provides an in-depth understanding of the principles behind the creation and management of the classification scheme, standards used in the editorial expertise-based curation process and commonly observed variations in the output data due to the wide variety of video entertainment content covered and the richness of information captured.

Video Descriptor Taxonomy

To ensure the highest-quality Video Descriptors product, Gracenote utilizes a **global video descriptor taxonomy** to manage and control the set of descriptive terms used to annotate individual video works.

A taxonomy is a classification scheme consisting of a finite set of defined terms. The design of the video descriptor taxonomy is optimized to ensure that the set of descriptive terms used by our editors is articulate, precise, complete, and consistent. And in this case, optimized specifically to meet the needs of describing global movie, TV and video content.

The Gracenote Video Descriptors taxonomy has been designed and refined over more than a decade by the company's Content Architecture & Discovery team. Decisions as to which semantic concepts to include, how they are labeled, and how they are typed and hierarchically organized, are made based on a variety of considerations, all of which are guided by the ultimate goal of maximization of utility for discovery use cases. The taxonomy is a living system, and is regularly updated to reflect the continually evolving nature of both new video content itself, as well as society's cultural understanding of such.

Taxonomy Details

Each descriptor in the taxonomy has a **Type** (e.g. Scenario, Mood, Location, Activity, Specific Being) and is placed into a hierarchical structure which groups related terms together and formally links high-level concepts with their more fine-grained child concepts. This integrated semantic structure dramatically increases the video descriptors' value - both as an input to algorithmic processes "behind the scenes", and as well as for powering enduser visible UX - all using a unified system.

The video descriptor taxonomy includes both highly specific terms as well as more general terms, both of which are useful in different situations. Use of a taxonomy ensures that video works are not tagged with terms that are



completely or partially redundant, do not conform to style standards, or are either unnecessarily granular or overly broad so as to be not useful.

Describing video works using a richly descriptive taxonomy enables the creation of rigorous semantic connections between works, a capability critical for powering discovery use cases such as recommendation, search, playlisting, personalization, and social linking.

Currently, 16 Descriptor Types are used to annotate works for the Gracenote Video Descriptors solution:

| Video Work Properties | Descriptor Type Utilized & Definition |
|--|---|
| - Scenario | Scenario: A specific situation, often personal or interpersonal, that sets the plot into movement, or moves it forward. |
| - Video Mood | Video Mood: A tone of the work, as expressed through the combination of story, characters, setting, dialog, art direction, cinematography, music, effects, etc. |
| - Theme | Theme: An abstract concept of human experience or character that the work addresses. |
| - Character - Subject - Being or Group | Party: A type of actual or fictional being/group, encompassing species, occupation, personality, relationship, nationality, ethnicity, religion, cultural affinities, physical / mental condition, life stage, etc that is a character in, or subject of, a work. |
| - Setting - Time Period - Subject - Time Period | Time Period: A time period which is the setting for, or subject of, a work. |
| - Setting - Place - Subject - Place | Location: A type of physical environment which, is the setting for, or subject of, the work - e.g. realm, area, specific outdoor or indoor environment. |
| - Setting - Occasion - Subject - Occasion | Occasion: A type of occasion or event that is the setting for, or subject of, the work,. e.g. personal, family, social, public, military, political, sports events. |
| - Setting - Milieu - Subject - Milieu | Milieu: A well-known combination of place and time, usually with additional explicit or implicit historical or cultural context that is the setting for, or subject of, the work. |
| - Subject - Activity | Activity: A pursuit done for enjoyment, interest, or lifestyle outside of a professional context noted as a subject of the work. |
| - Subject - Issue | Issue: An issue in the public awareness, e.g. cultural, societal, life phase, sexuality, |



| | paranormal, or criminal noted as a subject of the work. |
|--|---|
| - Subject - Personal Issue | Personal Issue: A mental state, emotion, personal quality or mental or physical condition noted as a subject of the work. |
| - Subject - Practice | Practice: A professional, vocational, activist, scholarly, religious or artistic pursuit, or other committed endeavor noted as a subject of the work. |
| - Specific Character - Subject - Specific Being or Group | Party Object: A specific actual, fictional or spiritual person, group or organization noted as a character in, or subject of, the work. |
| - Setting - Specific Location - Subject - Specific Location | Location Object: A specific actual, fictional or spiritual realm, celestial object, continent, region, country, state, province, city, building etc. noted as the setting for, or subject of, the work. |
| - Setting - Specific Event - Subject - Specific Event | Event Object: A specific actual, fictional or spiritual event of the past, present or future noted as a setting for, or subject of, the work. |
| - Concept Source | Concept Source: The type of original source material that provides the inspiration or story for the work. |

Taxonomy Updates

Gracenote updates the Gracenote Video Descriptors taxonomy on a regular basis to ensure it is the most up-to-date, comprehensive and accurate descriptive system in the world for all global film, television, and other video content.

Drivers

There are several drivers that trigger updates. These include:

- The emergence of new concepts, topics, and issues relevant to the human experience, and in particular those most present within video works.
- Proactive Gracenote initiatives to expand and increase the descriptive resolution of vocabulary in targeted areas of high relevance to specific customer use cases.
- Evolution of perception or categorization of, or relationships between, concepts in popular culture.
- Evolution of popular sensibilities in terms of **appropriateness** of specific terms or categorical groupings.
- Evolution of language and labeling practices and standards.



- Gracenote initiatives to add new Video Descriptor Types to the taxonomy in order to capture a more complete picture of all the facets of video works.
- Need for tuning to support efficient and accurate mappings between Gracenote Video Descriptors and other internal and external controlled vocabularies and metadata standards.
 - Identification of situations where updates to the taxonomy will improve editor efficiency, accuracy, and consistency, for example by reducing ambiguity in which is the most appropriate term in a given situation.
 - Identification of gaps in the set of available terms, relative to peer terms.
 - Identification of basic labeling or structural errors, redundancies / near-redundancies or inconsistencies observed during review or implementation of the taxonomy.

Types of Updates

To address these needs, several different types of updates can be made. These include:

- Style, spelling, case & other formatting adjustments to descriptor, display category and Type labels
- Tuning of Video Descriptor labels for increased clarity
- Consistency tuning to ensure similar/related terms are presented in a consistent fashion
- Tuning of hierarchical mappings of Descriptor values into the Category Hierarchy and to the Category Hierarchy itself
- Reclassification of Video Descriptor terms from one Type to another
- Additions of new Video Descriptor terms
- Merges of existing Video Descriptor Terms
- **Deletions** of Video Descriptor Terms (very rare)
- Editorial Process (Tagging 101)

Editorial Team & Training

All Video Descriptor annotations are performed by the Gracenote Video Editorial team. The team is an international group of experts in film and television content. Members are selected specifically for their ability to critically analyze video works within a cultural context and then articulately document their understanding via precise and consistent selection of descriptor terms.

All editors complete comprehensive video descriptors training which ensures that all editors are following common thought processes and analytic approaches in their determination of the optimal descriptor set to assign to each work.



A quality assurance process and associated metrics allow the editorial management team to monitor editor performance and quickly identify if attention is needed to refine editor output. A variety of methods are used to monitor quality including internal cross-checks, checks for systematic bias or over/under usage of certain terms, and overall integrity / cohesiveness of the full complement of annotations for a given work, and as compared to related works.

Training is supplemented by a comprehensive set of governance documentation, such as standards, guidelines and definitions, which provide the framework within which the annotation work occurs.

Research & Tagging Process

For each program, editors use publicly available sources such as plot summaries, trailers, press kits / promotional content (for unreleased programs), user and critics review websites and internally available factual and curated Gracenote data sets to complete the research process.

Editors will always tag at the most granular level of description as is appropriate for the given case. By annotating using the most precise and specific term possible, we greatly increase the information content of the descriptors data as an input to discovery and other other algorithms. The hierarchical structure also then automatically infers that the broader, parent categories that contain the granular term are also valid - but without requiring the editor to redundantly tag at all hierarchy levels.

At the same time, to be clear, editors will not use a tag that is *more* specific than the information they have indicated is appropriate. Again, the hierarchical structure is of great benefit here to ensure that the descriptor annotations are as accurate as possible, as editors always have broader and more general terms available as options to tag with. This comes into play both in those cases where the broader term is actually the most accurate for describing the work as well as those where there is not sufficient information available to objectively drive the choice of a more fine-grained tag.

Editors also strive to maintain an objective and neutral voice in their tagging. Thus they tag films and television programs primarily from the perspective of the creative talent involved in making the program. While the research process does surface critics and fans points of view which enable additional enrichment of tags from a content consumption standpoint, they do so with caution so as to not allow subjective viewpoints to color the tagging process.

We continue to develop our editorial QC process to identify and address naturally occurring human biases in the tagging process using both qualitative and quantitative methods.



Narrative Films Versus Television

The same Descriptor Types will apply to narrative films and narrative television across linear, streaming and on-demand content. The difference between television and film is that television content is tagged at the series level. This means that a television series is looked at as a whole, and that the tags need to be relevant for most if not all of the series as a whole and not simply an important part of an episode or even a season. This especially applies to Character, Setting - Place, and any of the specific Subject tags. TV shows will often have characters or places that only appear in a few episodes or in one season and therefore those would not be tagged.

Example:

• In the series *Game of Thrones*, the Red Wedding is a very important event in season three, but since we are tagging at the series level, we would not tag "Weddings" because it is only important in one season.

On the other hand, something doesn't need to be present in every single episode or season to be worth tagging, it just needs to be important throughout the series as a whole.

Example:

 To use Game of Thrones as an example again, there are long stretches, such as most of season one, where the dragons do not appear. However, they are an important part of the story throughout the series, so "Dragons" should be tagged.

Narrative Films Versus Documentaries

Documentaries are approached in a different way than narrative works because some properties are primarily relevant for narrative works, such as Mood, Scenario, Theme and Settings. Also, just as with Subject properties for narrative content, when it comes to documentaries the content will dictate if a video descriptor property will be applied or not. Furthermore, Subjects tend to be even more relevant and thus more frequently tagged in documentaries because the topical subject of a documentary is typically the most important quality for describing the work.

With more conceptual documentaries, it is more likely that some property types will not apply. This includes documentaries on science, nature, politics, the economy, etc.

Example:

• For *An Inconvenient Truth*, Scenario would not apply because the work is addressing an issue rather than telling a story, and Subject - Place would not apply because the documentary is mostly a presentation mixed with small segments of footage from a variety of locations.

Documentaries that have more of a narrative element will usually have more tags that apply than documentaries that do not because it will more closely



align with narrative film standards. This includes documentaries on a specific person or event.

Example:

 For a documentary like Meru, about a team on a dangerous climbing expedition, there is a story, so Scenario and Theme do apply much as they would in a narrative program, using tags such as "Adventurous Expedition," "Teamwork," and "Partnership".

All of this means that documentaries will usually have fewer tags than narrative content because fewer of the properties are relevant vs. in narrative content.

Narrative Films Versus Reality TV

Reality TV has some similarities to both narrative television and documentaries. Like narrative television, reality TV is tagged at the series level, but like documentaries, reality programs will often be tagged more lightly than narrative content because not all of the properties will apply to all the content.

For "documentary style" reality shows that focus on peoples' day-to-day personal and professional lives, most properties will still apply but may be tagged more lightly than for narrative content.

Examples:

- While a show like The Real Housewives doesn't have a script, the fact that it follows people's lives means that some Scenarios and Themes related to personal relationships apply, such as "Personal Relationships," "Fights & Arguments," "Friendship," and "Dysfunction."
- Similarly, Deadliest Catch, which follows people in their daily work doing a dangerous job, has descriptors such as "Dangerous Job," "Harsh Conditions," and "Teamwork."

For structured reality shows, such as competitions, dating shows, cooking shows, home improvement shows, etc., it is more likely that some properties will either be skipped or will only have one or two tags.

For structured shows, you will find that some genres contain many shows that follow a similar core pattern of tags, with some variation on top of that.

Example:

 HGTV has an extensive lineup of house flipping shows that follow a very similar format, so many tags such as "Real Estate" and "Home Renovation" appear on many shows, with some additional tag variations on top of that, such as the Setting - Specific Location of the city where each show is set (if mentioned).



Narrative Film Versus Game Shows

Game shows are very similar to reality shows, but tend to have an even more limited set of annotations.

Scenario and Subject/Setting - Place will usually not apply, and there may not be any Themes besides competition.

There will usually only be a couple Subject tags. If the show features a specific type of game or is themed around a specific activity or subject area, those may be covered by Subject tags.

Example:

 Jeopardy does not need scenario tagged because it does not apply nor does it need a time period because none specifically apply as this is an ongoing show with no set time period. Meanwhile, most subjects won't apply except it can be tagged with "Trivia" under Activities to indicate that it is a trivia-based game show.

Narrative Film Versus News

News shows will usually not have a Scenario, Theme, or Setting - Place assigned.

Concept Source will be assigned as "Current Events".

If the news program focuses on a specific type of news (Politics, Finance, Social Issues, etc.), that may be documented under either Subject - Practice or Subject - Issue. Most other Subject categories will usually not apply for new programming.

Examples:

- Washington Week is a show that discusses news related to politics and government, so "Politics" and "Government" may be tagged under Subject - Practice.
- *Nightly Business Report* focuses on business and financial news, so "Business" and "Finance" can be tagged under Subject Practice.

Narrative Film Versus Live Sports

Live Sports will be lightly tagged in most properties. Scenario will usually not apply, and Theme may be limited to competition.

The type of sport and type of event can be covered under Subject - Activity and Setting - Occasion. Most other Subject properties will not apply.

Example:

 For a baseball broadcast, "Baseball" would be tagged under Subject -Activity, and "Baseball Games" would be tagged under Setting -Occasion. As part of the Gracenote core metadata, data on teams, venues, organizations are also already available

Narrative Film Versus Other Live Events

Like sports, other Live Events will be lightly tagged in most properties. Scenario will usually not apply while properties such as Setting - Place and Theme will be more limited if they do apply.

Subject tags can cover the subject of the event and the type of event.

Example:

• For the *Oscars*, "Filmmaking" would be included as a Subject - Practice, and "Awards Ceremonies" could be tagged as a Setting - Occasion.

For recurring Live Events, each instance will be tagged individually, but for the most part the tags will be similar other than a change in the year.

Example:

Continuing with the Oscars, we would tag both the 2012 and 2013
Oscars separately, but the tags would be similar other than each would
have a different time period.

Qualitative Terms

Data dictionaries are particularly important editor resources to ensure consistent and accurate tagging of video descriptor types which are strongly qualitative in nature, such as Video Mood and Theme. As any given term may have two, three or even more common "dictionary definitions", it is critical that the editors are always using a term in the same manner.

This specific usage is defined in the Gracenote Video Descriptors Data Dictionary. This defines in an objective manner the specific situations in which the editor should use the tag. By ensuring that all Gracenote editors are using a given term in a rigorously defined single definition / usage, data quality is maintained at a very high level, and the clear data integrity problems associated with alternative approaches such as crowdsourcing are avoided.

In addition to providing a written definition of the term, the Data Dictionary also provides a listing of common synonyms for the approved usage of each Mood and Theme term. Definitions and Synonyms for a subset of the qualitative descriptors (Video Mood and Theme) are available through your data delivery channels.

A final component of the data dictionary content underway is a listing of representative video works that have been tagged with the applicable term. By triangulating from these actual examples, any remaining ambiguity about which types of films or shows should be annotated with a given term is essentially eliminated.



Questions & Feedback

Please reach out to your Gracenote Account representative through Salesforce if you have any additional questions regarding the editorial process for Video Descriptors data set.

If you have specific feedback regarding the descriptors applied to a specific program, including the suggestion to add/delete/update descriptors applied to a program or the taxonomy in general, please provide the following details when you open a Salesforce case:

- 1. Program Title & Year
- 2. Root ID and TMS ID (if available)
- 3. Descriptor Type(s) and Descriptor(s) which need attention
- **4.** Details of your request (what you would like updated and why)

