About IAB Tech Lab
The IAB Technology Laboratory is a nonprofit research and development consortium charged with producing and helping companies implement global industry technical standards and solutions. The goal of the Tech Lab is to reduce friction associated with the digital advertising and marketing supply chain while contributing to the safe growth of an industry.

The IAB Tech Lab spearheads the development of technical standards, creates and maintains a code library to assist in rapid, cost-effective implementation of IAB standards, and establishes a test platform for companies to evaluate the compatibility of their technology solutions with IAB standards, which for 18 years have been the foundation for interoperability and profitable growth in the digital advertising supply chain. Further details about the IAB Technology Lab can be found at https://iabtechlab.com.

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- Browsi
- Cadent
- CBS Interactive
- Centro
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- Comscore
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- Conversant Media
- Crackle Plus
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- dentsu
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- Fiducia DLT Ltd
- Freestar
- Fyber
- Google
- Great Software Laboratory Private Limited
- GroupM
- GumGum
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- Outbrain
- Pandora
- Permutive
- Place Exchange
- Powerinbox
- Premion
- Protected Media
- Publicis Groupe
- Publicis Media
- PubMatic
- Samsung Ads
- Sharethrough
- Smaato
- socialcontext.ai
- Sovrn
- StackAdapt
- T-Mobile Marketing Solutions
- Taboola
- The Media Trust Company
- The New York Times Company
- TheViewPoint
- TikTok
- TripleLift
- Triton Digital
- Trustworthy Accountability Group
- Unity Technologies SF
- Verizon Media
- ViacomCBS
- VONWERSCH DIGITAL STRATEGIES GMBH
- VRTCAL
- WarnerMedia
- Xandr
- ZEFR
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1. Content Taxonomy Overview

The IAB Tech Lab Content Taxonomy provides a “common language” that all parties—publishers, Server-Side Providers (SSPs), Demand-Side Providers (DSPs), verification vendors, and advertisers—can use and understand when describing the content of a page, app, or other user environment. The content taxonomy is useful in two main use cases—addressability (or contextual targeting) and brand safety/suitability (introduced in 2.2).

In addition to the Content Taxonomy, the Taxonomy Working Group has also defined an “Ad Product Taxonomy” and an “Audience Taxonomy” (to describe the product being advertised and an audience segment, respectively). The relevant taxonomies should be used based on the use case.

The 3.0 version of the taxonomy does not introduce new concepts, but did result in breaking changes (not backwards compatible due to removal of parent categories) when updating to better support video, news, podcasts, games and app categories. It also included updates to the “vectors”.

2. Using the Content Taxonomy

The 2.x & 3.x content taxonomy includes two parts – a set of categories that describe the topic context or “aboutness”, and an additional set of orthogonal content attributes / “vectors” such as content language, format, language, source, media type, etc. These are all associated with IDs that are used when communicating information about a piece of content.

The IDs within the Taxonomy specs should be used when tagging content. The IDs are alphanumeric strings (though a large number are currently sequential numbers to maintain backwards compatibility) associated with each category or orthogonal attribute. The implementations involved may be different depending on the application—OpenRTB (real-time bidding) or digital video ad serving template (VAST) or proprietary application programming interfaces (APIs)—but the most common usage is to associate a piece of content with an array of IDs.

With OpenRTB / AdCOM (Advertising Common Object Model), the “cat” attribute should be used to transmit a list of categories associated with the content and the “cattax” attribute should be set to 2 (for Content Taxonomy version 2.x and higher). These attributes are available on Ad, Site, App, Publisher, Producer, and Content objects.

| cat | string array | Array of content categories describing the ad using IDs from the taxonomy indicated in cattax. Implementer should ensure compliance with regional legislation around data usage and sharing. |
| cattax | integer; default 2 | The taxonomy in use for the cat attribute. Refer to List: Category Taxonomies. |
To demonstrate how to tag content using the Content Taxonomy, we’ll work with the hypothetical automotive content provided in the example 1 image below.

![Example 1: Automotive Content](image)

Assuming the content taxonomy matches for example 1 are as follows:

- **Content Categories**: Automotive/Convertible (8), Auto Type/Performance Cars (16)
- **Content Channel**: Editorial/Professional (1001)
- **Content Type**: Review (1021)
- **Content Media Format**: Mixed (1026)
- **Content Language**: en (1068)
- **Content Source**: Professionally Produced (1215)
The OpenRTB/AdCOM snippet on the content object in example 1 would be:

```json
"content": {
  ...
  "cat": ["8", "16", "1001", "1021", "1026", "1068", "1215"],
  "cattax": "2",
  ...
}
```

Similarly, in VAST, the “CONTENTCAT” macro can be used to pass the relevant set of categories as follows:

```
CONTENTCAT = "8","16","1001","1021","1026","1068","1215"
```

**Note 1:** The above is just a sample set of categories that can be applied to this piece of content and intended solely as an example to explain the usage of the taxonomy.

**Note 2:** As in the example above, a piece of content can belong to multiple categories (Convertible, Performance Cars).

**Note 3:** The CONTENTCAT macro is currently being discussed in the Digital Video Technical Working Group, as a replacement for ADCATEGORIES (which was intended to request specific ads, but does not seem useful). We will update this document once the macro gets finalized, in case of changes.

**Note 4:** The SCD (“Special Category Data”) extension in the Taxonomy is an additional utility aimed at minimizing the risk that content categorization signals could be used to generate sensitive data points about things like race, politics, religion or other personal characteristics that could result in discrimination. While the Content Taxonomy itself doesn’t constitute sensitive data – it simply categorizes page content, and does not on its own reveal information about a user – there are few technical controls preventing taxonomy nodes being associated with individual IDs to build behavioral profiles over time based on content preferences. Content Taxonomy 2.1 helps to limit this possibility by introducing a “sensitive data” flag to taxonomy nodes that could be used to generate this data, and provides a clear signal to supply chain participants regarding the privacy implications of storing it.
2.1 Descriptions of the “Vectors”

Given the large number of items in the taxonomy, we are not providing descriptions for every item. However, we believe it is important to provide some basic guidance around the “Vectors” in the taxonomy, as part of this implementation guide.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content Environment</td>
<td>Describes the surrounding platform (distinct from device)</td>
</tr>
<tr>
<td>Email</td>
<td>Content delivered as email</td>
</tr>
<tr>
<td>Forum/Community</td>
<td>Content appearing in a forum / community tool/app/page.</td>
</tr>
<tr>
<td>Marketplace/eCommerce</td>
<td>Content appearing in a marketplace / ecommerce property.</td>
</tr>
<tr>
<td>Search Engine/Listings</td>
<td>Content appearing in a search engine listing.</td>
</tr>
<tr>
<td>Social</td>
<td>Content appearing in social media app/page</td>
</tr>
<tr>
<td>Utility/Online Tool</td>
<td>Content appearing in a utility/tool</td>
</tr>
<tr>
<td>Voice Activated Channels</td>
<td>Content appearing in voice activated channels (like Alexa, Google home etc)</td>
</tr>
<tr>
<td>General</td>
<td>Content delivered via the web, Includes free and paid content, and does not belong in any of the other environments above.</td>
</tr>
<tr>
<td>Content Purpose</td>
<td>Describes the purpose of the content (The reason the content was created)</td>
</tr>
<tr>
<td>Conversational</td>
<td>Purpose is to have an interactive exchange of questions, answers, back and forth. Examples - Chat/IM/Comments etc.</td>
</tr>
<tr>
<td>Entertainment</td>
<td>Content built for entertainment purposes.</td>
</tr>
<tr>
<td>Informational</td>
<td>Content that has the purpose of providing information at length, in depth or that provides background information</td>
</tr>
<tr>
<td>Informational -&gt; Academic/Research Content</td>
<td>Content that has the purpose of supporting specific fields of study and investigation</td>
</tr>
<tr>
<td>Informational -&gt; Educational Content</td>
<td>Content that has the purpose of supporting structured or formal instruction</td>
</tr>
<tr>
<td>Informational -&gt; Instructional Content</td>
<td>Content that has the purpose of describing how to do things or how things work</td>
</tr>
<tr>
<td>Informational → News</td>
<td>Content that has the purpose of providing previously unknown information (for the majority of the audience)</td>
</tr>
<tr>
<td>Informational → News -&gt; Opinions and Op Eds</td>
<td>Content that presents views or judgements about current events, world affairs or other topics as a part of a news publication.</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Informational -&gt; Review</td>
<td>Content that has the purpose of presenting a critical assessment of something, such as a movie, book, restaurant, product, a company, practitioner or consumer experience</td>
</tr>
<tr>
<td>Commerce</td>
<td>Content that supports or has the purpose of facilitating buying and selling goods or services</td>
</tr>
<tr>
<td>Content Source</td>
<td>Describes the origin of the content and the authority of its producer.</td>
</tr>
<tr>
<td>Professionally Produced</td>
<td>Content produced by professionals, with editorial oversight.</td>
</tr>
<tr>
<td>User Generated</td>
<td>Content produced by writers/producers without editorial oversight.</td>
</tr>
<tr>
<td>Aggregated/Curated</td>
<td>Content aggregated from third party sources.</td>
</tr>
<tr>
<td>Content Form Factor</td>
<td>Describes the data format of the content, or the nature of how the content will be experienced.</td>
</tr>
<tr>
<td>Audio</td>
<td>Content that is based entirely on sound that is recorded, transmitted or reproduced</td>
</tr>
<tr>
<td>Audio -&gt; Podcast</td>
<td>“A digital audio file made available on the Internet for downloading to a computer or mobile device, typically available as a series, new installments of which can be received by subscribers automatically.”</td>
</tr>
<tr>
<td>Audio -&gt; Radio</td>
<td>Audio content that is transmitted by radio waves for broadcast to a large audience.</td>
</tr>
<tr>
<td>Audio -&gt; Event</td>
<td>Audio content that covers important social occasions, activities, competitions, including sports competitions, or other significant happenings that are of interest to the general public, such as pageants, awards presentations or other major occurrences, occasions or activities that are news-worthy, notable or of some importance</td>
</tr>
<tr>
<td>Images/Galleries</td>
<td>Content that presents pictures and visual representations presented individually or as a group</td>
</tr>
<tr>
<td>Mixed</td>
<td>Content that combines multiple form factors where no single form factor is dominant</td>
</tr>
<tr>
<td>Textual</td>
<td>Content made up of text, i.e., written or printed words</td>
</tr>
<tr>
<td>Video</td>
<td>Content made up of moving visual images</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Video -&gt; Show</td>
<td>A show is the main body of any content produced for broadcast via over-the-air, satellite, cable, or internet, and does not include breaking news, advertisements, or trailers that are typically placed between shows</td>
</tr>
<tr>
<td>Video -&gt; Show -&gt; Episodic show</td>
<td>Two or more shows in a sequential series that together make up a single body of work.</td>
</tr>
<tr>
<td>Video -&gt; Event</td>
<td>Broadcasts and content that cover certain important social occasions, activities, competitions, including sports competitions, or other significant happenings that are of interest to the general public, such as pageants, sports matches, breaking news, awards presentations or other major occurrences, occasions or activities that are newsworthy or of some importance.</td>
</tr>
<tr>
<td>Video -&gt; Clip</td>
<td>A segment of a longer piece of video content, such as a movie, show or event coverage. television program / highlights.</td>
</tr>
<tr>
<td>Video -&gt; Movie</td>
<td>A motion picture, created with producer control and distributed on a television network, streaming service, inmovie theaters or via other distribution channels.</td>
</tr>
<tr>
<td>Game</td>
<td>A game on any delivery platform (app, console, etc).</td>
</tr>
<tr>
<td>VR/AR</td>
<td>Content that is virtual or augmented reality</td>
</tr>
<tr>
<td><strong>Brand Suitability and Risk</strong></td>
<td><em>Defined in the GARM / 4As/APB specs</em></td>
</tr>
<tr>
<td>Floor</td>
<td><em>Defined in the GARM / 4As/APB specs</em></td>
</tr>
<tr>
<td>High Risk</td>
<td><em>Defined in the GARM / 4As/APB specs</em></td>
</tr>
<tr>
<td>Medium Risk</td>
<td><em>Defined in the GARM / 4As/APB specs</em></td>
</tr>
<tr>
<td>Low Risk</td>
<td><em>Defined in the GARM / 4As/APB specs</em></td>
</tr>
</tbody>
</table>

3. Brand Safety: Floor & Suitability Support in 2.2+

The Brand Safety Floor & Suitability concepts introduced in the 2.2 version of the Content Taxonomy are based on the Brand Safety & Suitability Framework released in September 2020 by the Global Alliance for Responsible Media (GARM) in collaboration with the American Association of Advertising Agencies’ (4As) Advertiser Protection Bureau (APB). For the purposes of the Content Taxonomy v2.2, the descriptions for each category at each risk level, including the Floor, are described in the framework. The
goal of including these categories are twofold. First, to provide a mechanism to mark content that might
not be suitable for certain brands, but equally important, to allow content that might otherwise have
been blanket marked as unsafe to be monetized by allowing brands with the right risk tolerance to buy
such inventory.

The 11 Brand Safety categories identified in the framework are introduced in v2.2 of the Content
Taxonomy as topic categories under the parent category “Sensitive Topics” (id “v9i3On” in the Content
Taxonomy 2.2 spreadsheet). The 11 categories are:

1. Adult & Explicit Sexual Content
2. Arms & Ammunition
3. Crime & Harmful acts to individuals and Society and Human Right Violations
4. Death Injury, or Military Conflict
5. Online piracy
6. Hate speech & acts of aggression
7. Obscenity and Profanity
8. Illegal Drugs/Tobacco/eCigarettes/ Vaping/Alcohol
9. Spam or Harmful Content
10. Terrorism
11. Sensitive Social Issues

The risk levels in the Framework that identify the levels of suitability are treated as additional attributes
of the content. They are encoded in an orthogonal vector accordingly, allowing “risk” to be associated
with a “topic” dynamically. The levels are:

1. Floor
2. High Risk
3. Medium Risk
4. Low Risk

*Note 1: at the time of release (October 2020), the only topics in the Content Taxonomy that are expected
to carry risk associations are the 11 Brand Safety categories. The Tech Lab’s Taxonomy Working Group
will work with our members as well as with GARM and IAB to determine whether the risk associations
can be applied to other categories in the future.*

*Note 2: the orthogonal attributes supported by the taxonomy, like content type and source, could be
used as additional signals since they have implications to suitability (for example news).*
4. Content Taxonomy Usage Guidance for Buyers

*Brand safety:* 
Buyers should familiarize themselves with the GARM/4A’s APB Brand Safety & Suitability Framework and the Tech Lab Content Taxonomy. They should also understand the risk/tolerance levels they are comfortable with by looking at examples of the various suitability examples. They should then work with their DSPs and ad verification vendors to ensure that their goals are met by specifying the risk tolerance goals using the Content Taxonomy.

*Addressability/Targeting:* 
With the increased awareness of user privacy concerns, contextual targeting is becoming more important. The Content Taxonomy enables buyers to use a consistent language across all publishers and platforms. Buyers should also map any specific areas of interest to the Content Taxonomy categories so that the most relevant content can be targeted for their campaigns.

5. Implementation Guidance for Ad Verification Vendors

Ad verification vendors are likely to be the main implementers of the brand safety floor and suitability. As such, the recommendations provided here would also apply to any other audience implementing brand safety checks.

Recommendations:

- Ad verification vendors should apply any relevant Content Taxonomy categories to a given piece of content, and/or any of the 11 brand safety categories.
- Ad Verification vendors should apply a risk level whenever any of the 11 core brand safety category labels are applied to a piece of content.
- It is possible to have multiple brand safety category labels (and appropriate risk levels with each brand safety category label) associated with a given piece of content.
- As of v2.2, ad verification vendors are not required to apply risk levels to topic categories other than the 11 core Brand Safety categories in the Content Taxonomy.
- As indicated above, the descriptions for the categories at various risk levels are from the GARM/4As APB Framework.
- In addition to brand safety, ad verification vendors might also provide more information about the topic context using the other categories on the content taxonomy.
Since the integration between DSPs and verification vendors is done via proprietary APIs, OpenRTB or other standards are not relevant here, and the guidance provided below should be considered pseudo-code rather than actual samples.

The proprietary API would at a minimum have the following:

1. **Request**: pass in the URL to the content being analyzed.
2. **Response**: return an array of objects, each of which represent a category & suitability for that category. When suitability info is not available, such as when topic categories other than the 11 core brand safety categories are applied, the suitability field would be null.

For example, to describe a piece of content that belongs to 3 content categories (“Arms & Ammunition”, “Hate speech & acts of aggression”, and “Casual games”). Of these, the vendor has determined that the content is at “high risk” for “Arms & Ammunition” and “low risk” for “Hate speech & acts of aggression”, the response could look like the following:

```json
{
  ...
  "catswithsuitability": [
      {
        "category": "avbNf2",
        "suitability": "bsr002"
      },
      {
        "category": "HxqYV1",
        "suitability": "bsr004"
      },
      {
        "category": "693",
        "suitability": null
      }
  ]
  ...
}```
6. Implementation Guidance for DSPs

**Brand safety:**
DSPs would likely need to implement the following set of capabilities to support brand safety checks for buyers.

1. A user interface to allow buyers to define their acceptable “risk tolerance” levels (high/med/low) for the 11 core brand safety categories as they set up their campaigns.
2. A workflow where they accept the content URL from the publisher/SSP and pass it along to an ad verification vendor.
3. Use the response from the ad verification vendor (as described above) to decide which pieces of content match the buyer’s brand safety risk tolerance for that brand.

**Addressability/Targeting:**
In order to allow buyers to target campaigns based on interest, DSPs should make the categories from the Content Taxonomy available in their campaign creation workflows. DSPs might also have integrations with ad verification vendors to check the content and verify the categories for the content.

7. Implementation Guidance for Publishers & SSPs

**Brand safety:**
To support brand safety and suitability, there are two key areas publishers and server-side providers (SSPs) should be aware of and implement support for:

1. **Floor content**
The key guidance to publishers and SSPs is that they should strongly consider preventing the presence of content that would receive a “Floor” risk level in association with any of the 11 Brand Safety categories. Barring that, at a minimum they should consider not monetizing or allowing advertising on any such content.

2. **Providing context**
When making ad requests, publishers and SSPs should tag each piece of content with the relevant content categories from the Content Taxonomy and provide those in the OpenRTB or VAST bid request (as described in section 2). It is very likely that the buy side platforms will want to perform their own analysis using ad verification vendors of the content categories, as well as the floor & suitability checks. So, Publishers/SSPs should also provide the URL of the content, so that the ad verification vendors can perform their checks.
At this time OpenRTB does not support the ability to pass suitability information per category (a general suitability level can be passed now). We are working on an OpenRTB extensions to support that capability. The extension would allow an array of objects with brand safety category and associated risk tolerance levels - similar to the sample in the Section 5.

Note: We would like to solicit feedback during public comment on whether publishers/SSPs plan to send suitability information in ad requests, and also whether DSPs/buyers would use that signal if it comes from publishers/SSPs. At a minimum this information could be a starting point that can be verified by the buy side.

Addressability/Targeting:
Publishers and SSPs should populate ad requests in OpenRTB or VAST (or other integrations) with relevant Content Taxonomy categories for each piece of content, so that buyers can execute contextual targeting on the requests. In addition, the pageurl should be sent along so that ad verification vendors and DSPs can confirm the categorization themselves.

8. Using the Content Taxonomy for News use cases

We introduced a number of changes in 3.0 to better support News use cases.

First, we updated the “Content Purpose” vector with an “Informational” category, and child nodes including “News”, “Opinion & Op-Ed”, which are relevant to news.
Second, we removed the “News & Politics” aboutness category to avoid limiting news to only that tree.
Finally, we are recommending that any of the aboutness categories can be used along with the News related vectors.

This means, for any piece of content, at a minimum we recommend using:

1. “Content Purpose” vectors related to news - (News, Opinion & Op-Ed)
2. Any relevant aboutness categories
3. Any other vectors (like “Content Environment”, “Content Source”, “Content Form Factor”, etc.)
9. Using the Content Taxonomy for Video use cases

Similar to News, in Content Taxonomy 3.0 we have introduced some changes to better support Video genres.

1. Television and Movies are no longer parent categories whose children are the only supported genres. Now any aboutness category can be used to represent relevant genres. That said, added an “Entertainment Genres” group of categories to better support Genres in general. In addition, we have listed the most common video genres below - though other categories can be used too.

2. Television and Movies are now only intended to be used to mark content related to TV or Movies - not that they are TV shows or Movies themselves.

3. We have now introduced a set of “Content Form Factor” vector values (Video, Show, Event, Clip, Movie) that should be used for video content.

Common Video Genre categories recommended for Video (all under the “Genres” parent):

- Animation & Anime
- Soap Opera
- Special Interest (Indie/Art House)
- Family/Children
- Comedy
- Drama
- Factual
- Reality TV
- Science Fiction
- Action/Adventure
- Romance
- Mystery
- Documentary
- Horror

- History
- Lifestyle
- Talk Show
- Western
- Fantasy
- Musical
- Holiday
- Nature
- Sports Radio
- Talk Radio
- Public Radio
- Biographies
- Young Adult
- Music Video

“Content Form Factor” vector values:

- Video
- Show
- Episodic Show
- Event
- Clip
- Movie
10. Using the Content Taxonomy for Podcasts

1. Form factor Vector: Podcast
2. Aboutness - Any of the aboutness categories can be used, but recommendations for the most common podcast categories are listed below.
3. The list below is just the generic recommendation for the podcast categories, but if more intelligence about the podcast is available, a more accurate category should be used. In fact, we recommend that more intelligence should be applied since the generic categorization provided by Apple or other platforms may not be sufficiently accurate.
4. Also, as always, multiple categories can also be used if there is overlap across categories.

<table>
<thead>
<tr>
<th>Apple Podcasts Taxonomy</th>
<th>IABTL Content Taxonomy Aboutness categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>Fine Art</td>
</tr>
<tr>
<td>Business</td>
<td>Business and Finance</td>
</tr>
<tr>
<td>Comedy</td>
<td>Genres -&gt; Comedy</td>
</tr>
<tr>
<td>Education</td>
<td>Education</td>
</tr>
<tr>
<td>Fiction</td>
<td>Fiction</td>
</tr>
<tr>
<td>Government</td>
<td>Politics</td>
</tr>
<tr>
<td>Health &amp; Fitness</td>
<td><strong>Fitness and Exercise??</strong></td>
</tr>
<tr>
<td>History</td>
<td>Genres -&gt; History</td>
</tr>
<tr>
<td>Kids &amp; Family</td>
<td>Genres -&gt; Family/Children</td>
</tr>
<tr>
<td>Leisure</td>
<td>* Use most relevant aboutness depending on the podcast</td>
</tr>
<tr>
<td></td>
<td>Suggested options:</td>
</tr>
<tr>
<td></td>
<td>• Genres -&gt; Lifestyle</td>
</tr>
<tr>
<td></td>
<td>• Hobbies &amp; Interests</td>
</tr>
<tr>
<td>Music</td>
<td>Music</td>
</tr>
<tr>
<td>News</td>
<td>* The Aboutness category should be based on the type of news in the podcast.</td>
</tr>
<tr>
<td></td>
<td>If unavailable, just add the News vector in addition to the podcast vector.</td>
</tr>
<tr>
<td>Religion &amp; Spirituality</td>
<td>Religion &amp; Spirituality</td>
</tr>
<tr>
<td>Science</td>
<td>Science</td>
</tr>
<tr>
<td>Society &amp; Culture</td>
<td>Pop Culture</td>
</tr>
<tr>
<td>Sports</td>
<td>Sports</td>
</tr>
<tr>
<td>TV &amp; Film</td>
<td>Television + Movies</td>
</tr>
<tr>
<td>Technology</td>
<td>Technology &amp; Computing</td>
</tr>
<tr>
<td>True Crime</td>
<td>True Crime</td>
</tr>
</tbody>
</table>
11. Using the Content Taxonomy for Games

1. Form factor Vector: Game
2. Aboutness - Any of the aboutness categories can be used, but recommendations for the most common game categories are listed below.
3. The list below is just the generic recommendation for the game categories, but if more intelligence about the game is available, a more accurate category should be used. In fact, we recommend that more intelligence should be applied since the generic categorization provided by the platforms may not be sufficiently accurate.
4. Also, as always, multiple categories can also be used if there is overlap across categories.

<table>
<thead>
<tr>
<th>Apple</th>
<th>Google</th>
<th>Playstation</th>
<th>Xbox</th>
<th>PC/Steam</th>
<th>IABTL Content Taxonomy Aboutness categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>Action</td>
<td>Action</td>
<td>Action &amp; Adventure</td>
<td>Action</td>
<td>Action-Adventure Video Games</td>
</tr>
<tr>
<td>Adventure</td>
<td>Adventure</td>
<td>Adventure</td>
<td>Action &amp; Adventure</td>
<td>Adventure</td>
<td>Action-Adventure Video Games</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adult Video Games</td>
</tr>
<tr>
<td>Arcade</td>
<td>Arcade</td>
<td>Arcade</td>
<td>Arcade</td>
<td></td>
<td>Action Video Games</td>
</tr>
<tr>
<td>AR Games</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*Use most relevant aboutness depending on game And use the VR/AR form factor in addition to the Game form factor</td>
</tr>
<tr>
<td>Board</td>
<td>Board</td>
<td>Card &amp; Board</td>
<td>Card &amp; Board</td>
<td></td>
<td>Puzzle Video Games</td>
</tr>
<tr>
<td>Card</td>
<td>Card</td>
<td></td>
<td></td>
<td></td>
<td>Puzzle Video Games</td>
</tr>
<tr>
<td>Casino</td>
<td>Casino</td>
<td></td>
<td></td>
<td></td>
<td>Casino and Gambling Video Games</td>
</tr>
<tr>
<td>Casual</td>
<td>Casual</td>
<td>Casual</td>
<td>Casual</td>
<td></td>
<td>Casual Games</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Educational</td>
<td>Educational</td>
<td></td>
<td>Educational Video Games</td>
</tr>
<tr>
<td>Family</td>
<td></td>
<td>Family</td>
<td>Kids &amp; Family</td>
<td></td>
<td>Family Video Games</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fighting</td>
<td>Fighting &amp; Martial Arts</td>
<td></td>
<td>Action Video Games</td>
</tr>
<tr>
<td>Fitness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Exercise and Fitness Video Games</td>
</tr>
<tr>
<td>Horror</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Horror Video Games</td>
</tr>
<tr>
<td>Indie</td>
<td></td>
<td>Indie</td>
<td></td>
<td></td>
<td>*Use most relevant aboutness depending on game</td>
</tr>
</tbody>
</table>

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12. Using the Content Taxonomy for App store categories

Any of the aboutness categories can be used, but the most common ones are listed below, based on current app store categories on the most popular app stores (iOS and Google Play). The list below is just the generic recommendation for the app store categories, for any given app, if more intelligence about the app is available, a more accurate category should be used. In fact, we recommend that more intelligence should be applied since the generic categorization provided by the platforms may not be sufficiently accurate. As always, multiple categories can also be used if there is overlap across categories.
<table>
<thead>
<tr>
<th>iOS App store categories</th>
<th>Google Play categories</th>
<th>IABTL Content Taxonomy Aboutness categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td>Dating</td>
<td>Dating</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Entertainment</td>
<td>Entertainment</td>
<td></td>
</tr>
<tr>
<td>Events</td>
<td>Events</td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>Business and Finance</td>
<td></td>
</tr>
<tr>
<td>Food &amp; Drink</td>
<td>Food &amp; Drink</td>
<td></td>
</tr>
<tr>
<td>Games</td>
<td>Video Gaming</td>
<td></td>
</tr>
<tr>
<td>Health &amp; Fitness</td>
<td>Fitness and Exercise??</td>
<td></td>
</tr>
<tr>
<td>House &amp; Home</td>
<td>Home &amp; Garden</td>
<td></td>
</tr>
<tr>
<td>Kids</td>
<td>Genres -&gt; Family/Children</td>
<td></td>
</tr>
<tr>
<td>Developer Tools</td>
<td>Libraries &amp; Demo</td>
<td>Technology &amp; Computing (Or other relevant aboutness categories)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Also use the “Educational content” vector</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>Lifestyle</td>
<td>Genres -&gt; Lifestyle</td>
</tr>
<tr>
<td>Medical</td>
<td>Medical</td>
<td>Medical Health</td>
</tr>
<tr>
<td>Music</td>
<td>Music &amp; Audio</td>
<td>Music</td>
</tr>
<tr>
<td>Magazines &amp; Newspapers</td>
<td>News &amp; Magazines</td>
<td>*Use most relevant aboutness depending on the app Also use Entertainment and/or News vectors as relevant</td>
</tr>
<tr>
<td>News</td>
<td></td>
<td>*Use most relevant aboutness depending on the app And use the News vector</td>
</tr>
<tr>
<td>Parenting</td>
<td>Parenting</td>
<td></td>
</tr>
<tr>
<td>Personalisation</td>
<td>Software and Applications</td>
<td></td>
</tr>
<tr>
<td>Photo &amp; Video</td>
<td>Photography</td>
<td>Photo Editing Software</td>
</tr>
<tr>
<td>Productivity</td>
<td>Productivity</td>
<td>Productivity</td>
</tr>
<tr>
<td>Safari Extensions</td>
<td>Shopping</td>
<td>Shopping</td>
</tr>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Networking</td>
<td>Social</td>
<td>Social Networking</td>
</tr>
<tr>
<td>Sports</td>
<td>Sports</td>
<td>Sports</td>
</tr>
<tr>
<td>Stickers</td>
<td></td>
<td>*Use most relevant aboutness depending on the app</td>
</tr>
<tr>
<td>Utilities</td>
<td>Tools</td>
<td>Productivity</td>
</tr>
<tr>
<td>Travel</td>
<td>Travel and local</td>
<td>Travel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Video players and editors</td>
<td>Software and Applications</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weather</td>
<td>Weather</td>
</tr>
</tbody>
</table>
13. Using the Content Taxonomy for Radio use cases

1. Form factor Vector : Radio
2. Aboutness - Any of the aboutness categories can be used, but recommendations for the most common Radio related genres are listed below.
3. The list below is just the generic recommendation for the Radio categories, but if more intelligence about the content is available, a more accurate category should be used.
4. Also, as always, multiple categories can also be used if there is overlap across categories.

IABTL Content Taxonomy Aboutness categories

- Sports Radio
- Talk Radio
- Public Radio
- Adult Contemporary Music
- Soft AC Music
- Urban AC Music
- Adult Album Alternative
- Alternative Music
- Children’s Music
- Classic Hits
- Classical Music
- College Radio
- Comedy (Music and Audio)
- Contemporary Hits/Pop/Top 40
- Country Music
- Dance and Electronic Music
- World/International Music
- Songwriters/Folk
- Gospel Music
- Hip Hop Music
- Inspirational/New Age Music
- Jazz
- Oldies/Adult Standards
- Reggae
- Blues
- Religious (Music and Audio)
- R&B/Soul/Funk
- Rock Music
- Album-oriented Rock
- Alternative Rock
- Classic Rock
- Hard Rock
- Soft Rock
- Soundtracks, TV and Showtunes
- Urban Contemporary Music
- Variety (Music and Audio)

Note 1: For news, refer to the news section, and use the news related vectors, as well as any relevant aboutness categories - like “Business” to reflect Business News

Note 2: For Educational, use the “Educational Content” vector, along with any relevant aboutness categories.