

Analyzing anime users' online forum queries for recommendation using content analysis

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Abstract

Purpose – The purpose of this paper is to improve the understanding of relevant information features for users seeking anime recommendations.

Design/methodology/approach – The study uses content analysis of 396 recommendation request threads from the online forum at Anime News Network.

Findings – In total, 19 important anime information features were identified, including Work, Theme, Genre, Audience, Mood, while Artwork/Visual Style, Audio Style, and Language were mentioned less frequently. However, when mentioned, these codes were discussed with specificity and depth.

Research limitations/implications – This study analyzed a relatively small number of 396 forum records, without demographic information. Using content analysis of online forum threads written by real users provided both informational breadth and depth. Future studies would benefit from using content analysis to investigate unfamiliar multimedia information and user groups.

Practical implications – The findings of this study can be implemented in anime-related databases and information systems to enhance organization, browsing/retrieval, and recommendation of anime, which can be further utilized for other audiovisual materials.

Originality/value – This is one of the few studies that investigate what anime users need and want. This research examines an understudied cultural medium, underserved by current research, despite an expanding community of anime users.

Keywords Multimedia, Recommendation, Animation, Anime, Content analysis, Information needs, Query analysis

Paper type Research paper

Introduction

They can be seen on Japanese television morning, noon, or night, as well as on the movie screen and in video stores. Their viewers are male and female, grade schooler and graduate student, housewife and businessman. The content can include raucous humor or theological speculation or horrifying pornography – or all three at once. Their visual quality can be as amateurish as *South Park* or on the cutting edge of computer-generated imagery. (Drazen, 2003, p. 7).

Anime, a form of animated entertainment originating in Japan, continues to increase in global popularity. In 2015, the total market value of the anime industry was US\$18.1 billion, an increase of approximately 12 percent from 2014 (Anime News Network, 2016). A report from The Association of Japanese Animations (2016) also shows that the anime industry has been growing for five consecutive years due to the expansion of licensing sales and streaming rights. In addition to growing revenue, anime also has an increasing number of live events and digital communities, forums, blogs and websites.

Once a “minor” cultural phenomenon in the USA, anime has become mainstream (Exner, 2012). As anime and manga (Japanese comic books) have become hugely popular, they are an increasingly important part of cultural heritage, particularly in recent years (Exner, 2012). With increased commercial success, academic researchers now examine anime and manga from scholarly and artistic perspectives (Fennell *et al.*, 2013). Despite growth in popularity,



demand, and calls to provide anime materials to users in the library and information science domain, there are few studies that examine and define the users of anime.

Understanding what users want is a crucial step for information providers and specialists, especially when the information is relatively new. The fulfillment of anime users' needs can be improved in current information systems, especially in libraries. In Exner's (2012) study, participants expressed dissatisfaction with libraries' anime genre organization. Library of Congress Subject Headings (LCSH) show discrepancies between what users need and existing subject terms (further discussed in Relevant Research below). In a similar vein, libraries now provide community anime events and programs, yet are often uncertain how the community might best be served (Brehm-Heeger *et al.*, 2007; Kan and Fletcher-Spear, 2002; King and Keller, 2006; Kruse, 2013; Ries-Taggart, 2007). This reveals a serious problem: current searching and organization systems and relevant library services are not satisfying anime users' needs.

What we consistently observe is a pronounced gap between the functionality of institutional databases and recommendation systems and the robust information requests and sharing in anime fan communities. Institutional databases frequently lack descriptions and categories present in anime fan communities, known for actively sharing anime-related information and opinions online (e.g. Anime News Network, Anime-Planet, MyAnimeList). Investigating what these communities discuss and consider important provides an in-depth understanding of anime users and their information needs. These communities can be leveraged to create more robust taxonomies, organizing anime and related media (film, media arts, web comics, audio books, and video games) in a manner that truly reflect users' needs.

In the study, the authors investigate the information needs of anime fans in an online anime community. When focusing on anime recommendations, assessing the associated anime community is critical, as an examination of requests provides clarity regarding community needs and desires. To provide meaningful search experiences and recommendation services, it is necessary to understand what the anime community is looking for and how they are looking for it. Empirical understanding of anime users could be expanded to related media. The paper intends to address the following research questions:

- RQ1. What are the primary information needs of individuals in anime communities when they seek anime recommendations?
- RQ2. How are the information needs of individuals in anime communities implemented in currently available information systems? Which new features should be implemented to reflect these needs?

Empirical findings from the study may be implemented in any anime-related recommendation services, databases, and websites, as well as online public access catalogs.

Relevant research

Anime commonly refers to animation produced in Japan. Davis (2016) defined it as "Japanese limited-animation, which is a form of animation that utilizes fewer frames than the classic Disney animation and a variety of other cost-saving techniques" (p. 35). The term includes "feature films, television shows, and original video animation released to the home entertainment market" (Brenner, 2007, p. 29).

Anime is typically considered separate from western animation due to characteristics such as unique artistic styles and themes, including sadness, environmentalism, and terror (Levi, 2013). Its varied topics are a large part of its appeal, which made female audiences as their main, stable viewers, contrast to western comics. While these features differentiate anime from others, Ruh (2014) stated that it is the intersection of US and Japanese popular culture that seems to be driving anime's popularity, which can be described with the term *mukokuseki*.

This term was referred by both Napier and Iwabuchi to describe how Japanese popular culture flows transnationally (Ruh, 2014; Napier, 2005; Iwabuchi, 2002). It is either defined as statelessness or without national identity (Napier, 2005), indicating the mixing of elements from multiple cultures to erase ethnic and cultural characteristics (Iwabuchi, 2002).

Another unique characteristic contained within this medium is its comprehensive experience. To begin with, anime is typically based on existing manga stories, the contexts of one feeding into the other and making them difficult to separate. Some can even argue that anime and manga are the same work in different expressions, from the perspective of FRBR (Bennett *et al.*, 2003).

LaMarre (2009) explained that viewing anime is only part of a cross-media experience for most fans:

What happens between anime and its viewers is so dynamic that viewers seems a somewhat outdated and passive term to describe a situation in which “viewing” may cross into conventions, fanzines, amateur manga production (dōjinshi), cosplay (costume play), and fansubbing [(fan generation of cross-language subtitles)]. There is also the dynamism of a culture industry that entails crossover or tie-in productions in the form of manga, light novels, character franchises, toys, music, video games, and other merchandise. An anime series or film might thus be thought of as the nodal point in a transmedial network that entails proliferating series of narrative and nonnarrative forms across media interfaces and platforms, such as the computer, television, movie theater, and cell phone (p. xiii).

In an interview with Robert Napton, an American graphic novel writer and former employee at Bandai Entertainment, Davis (2016) asked what the appeals of anime are. Norton responded that plot and narrative style are still its main appeals:

[...] with anime you were engaged in [sic] a real level the way an adult is engaged in a TV series or movie. There was some story, some character, romance, death [...] I remember when *Robotech* aired, and the creators of that show – even though they altered the story lines, if a character died they tried to keep that intact, and in animation in American cartoons you don’t have characters dying, you know? (p. 37).

Drazen (2003) viewed the informal history of anime in the USA goes back to 1963, when *Astroboy* (Tezuka, 1963) reached American television not long after its premier on Japanese TV. Since *Astroboy*, there have been many successful anime in North America, such as *Sailor Moon* (Sato, 1992), *Pokémon* (Yuyama, 1997), *Naruto* (Date, 2002), *Attack on Titan* (Araki, 2013), and more.

With its diverse themes and storylines, more studies are needed to better understand the broad audiences that anime attracts. Prior studies provide some basic information about anime user needs. For instance, Lee *et al.* (2015) analyzed recommendation questions in a Korean online anime Q&A community to identify the primary features of anime described by users. The authors found 13 prominent features: genre, title, mood, story, series, style, character, audience, length, scene, temporal, character name, and format. Exner (2012) found high demand for anime materials in libraries while pointing out issues in current organizational systems. Participants mentioned being “categorically not interested in anime or manga through the library” (p. 34), because of the lack of depth in library’s genre cataloging. Anime and manga organization systems have similar browsing limitations. The LCSH have only one term, “Animation (Cinematography) – Japan” for anime, and “Comic books, strips, etc.” for manga. Having only one term creates problems for users who want to find specific anime resources. Information on different genres, styles, time periods, as well as more significant separation between animation styles and comic styles, is vital for providing meaningful results to patrons.

Anime websites tend to provide more varied searching and browsing options when compared to libraries. Crunchyroll has Popular, Simulcasts, Updated, Alphabetical, Genres, and Seasons as browsing options, and Anime-Planet allows users to browse using categories such as

Name, Average rating, Studio, Type, Tags, Episodes, and Year/Season. Anime News Network has an expansive genre and theme search feature, where visitors can choose several genre or theme tags they want to browse. Despite the large scale of these tagging systems, communally generated organization systems tend to be messy and inconsistent. For example, Anime-Planet includes hundreds of tags, but a single-tier alphabetical listing makes the search difficult.

Existing studies and organizational systems present issues with the search and retrieval of anime. A high school teacher might struggle to find an episode to use in class, or a parent may have difficulty assessing the violence in specific anime. Many searchers depend on online forums and websites which are known for having deeply embedded and knowledgeable fan communities (Hills, 2002; Chandler-Olcott, 2015). Thus, investigating anime information as it is shared and discussed in online forums should provide valuable insight when attempting to understand anime community needs.

Research methods

Given the limited anime-related studies specific to user perspectives, the authors decided to seek data from online anime communities using content analysis. Skalski *et al.* (2016) stated that media users are not passive, but an active audience. This characterization is especially relevant in the Web 2.0 era, and explains why analyzing user content is appropriate for studies that investigate interactive media:

In order to content analyze interactive media content, it's important to understand that interactive media users are more than just receivers or consumers, as they were with earlier media. They have an active role in adapting, altering, and even producing content. The interactive media revolution that began with video games in the 1970s, continuing with home computers in the 1980s and the Internet in the 1990s, has grown and evolved in the early 21st century into what has been dubbed the Web 2.0 revolution (p. 202).

This view also corresponds to uses and gratifications (U&G) theories which provided a foundation for our research. U&G theories conceptualize audiences as having an active role in their media selection, capable of self-reporting their media-related needs (Katz *et al.*, 1974; Oliver, 2009). Therefore, to understand anime users' information needs for recommendation, the authors read and analyzed forum threads written by real users to address our research questions.

Data gathering was performed through a series of *Ruby* scripts which scraped data from the "General: Anime" forum on the online message boards of the Anime News Network. These scripts used XPath queries on retrieved HTML to identify and record key information. The initial script recorded basic components of all threads, including topic (subject), URL, ID, author screen name, number of recorded views, and posted date and time. After an initial examination and analysis of the material retrieved, a second script was run to filter the original set for occurrences of the terms "recommend" or "suggest" in the topic or body of each thread. The second record set was manually screened to eliminate threads in which recommendation strings occurred but did not actually focus on an anime recommendation requests.

The resulting list of URLs was used in a preliminary coding pass. The list threads were divided among three coding researchers, and open coding techniques were used to identify predominant themes in the threads. The identified codes were compared, contrasted, and merged into a single list. Analysis showed some identified codes had similarities with previous studies by Lee *et al.* (2015, 2017). Where appropriate, codes representing concepts analogous to those studies were labeled the same way for consistency.

Criteria for including threads in the sample were revised after an initial coding pass. Threads in which the author asked for simple A/B recommendations were excluded. The decision was made to include each authors' follow-up posts as well as their original posts

to capture any re-factoring of requests. The revised script collected each desired thread, and then a copy of the coding dictionary was created in Dedoose, analytical software for qualitative research. One final test pass was completed, and each researcher was given a sample of 20 HTML files to load into Dedoose and analyze. This resulted in slight revisions to the script before a final data gathering scrape of the site. Final coding on the 396 identified threads was performed in Dedoose. Results of the coding were examined by excerpt counts. When additional statistical analysis was necessary, Microsoft Excel was used.

Findings

Distribution and definitions of features

Overall, 19 features were identified from threads searched for anime recommendations (Table I). The Characters code had two sub-codes, Character Types (47 excerpts) and Specific Characters (33). Creators had sub-codes including Individual Creators (17) and Corporate Body Creators (16). Besides the 19 features identified, the authors also included auxiliary codes to explain different types of relationships among different features, which were +Don't Like (204), +Similar to (78), and +Related to (4). The codes are defined as:

- +Don't Like: when a response presents dislike or even hostility toward a feature, researchers use this code to show its relationship to other codes.
- +Similar to: when a response seeks anime with similar elements to a particular anime (e.g. similar character personality, similar trope, similar artistic style, etc.), researchers use this code to show its relationship to the other codes.
- +Related to: when a response wants to identify influences or relationships among anime, works, or elements, researchers use this code.

Feature	Description	No.
Work	Title of anime or other-related media based on the anime (e.g. video games based on anime, related manga, etc.)	638
Theme	Frequently recurring anime structures	250
Genre	Categories of anime characterized by similarities in form, style, or subject matter, including typical genre labels that are commonly used by anime users	223
Audience	Intended audience and rating information regarding anime, including descriptions about the audience	154
Mood	The feeling and overall atmosphere of an anime	140
Plot/Narrative	How the main events of anime are presented as interrelated sequence, including types of endings	134
Characters	Specific characters (a character from an anime mentioned by name) or types of characters (personality, appearance, occupation, age, etc.)	101
Tropes	Significant or recurrent motifs, relating or described by anime scenes or events	94
Package	Price, different versions, region code, special features	53
Artwork/Visual Style	The visual features and artistic design of an anime	50
Source/Platform	Sources of anime and different types of platforms for viewing (e.g. DVD, streaming)	44
Creators	Individuals and corporate bodies responsible for creating anime	34
Audio Style	The sound effects, music, or voices in anime	30
Language	Language of anime, including whether the anime is dubbed or has subtitles	29
Release Date	The timeframe of an anime's release	27
Length	Running time, number of episodes	26
Popularity	Popularity of anime at certain time	9
Completeness	Whether anime has an ending or ongoing episodes	5
Other	Miscellaneous	23

Table I.
Identified Anime
information features

Findings show *Work* (638), *Theme* (250), *Genre* (223), *Audience* (154), and *Mood* (140) as most represented by those seeking anime recommendations. Compared to a prior study by Lee *et al.* (2015) – where they investigated anime-related questions from the online Q&A service of the Korean web portal NAVER – our research identified six additional important features for anime: Theme, Tropes, Package, Creators, Audio Style, Language, Popularity, and Completeness. Work, Theme, Genre, and Mood were important features in both studies, which suggest significant impacts when these features are implemented to current organizational and recommendation systems.

Features are further discussed in the following sections, with direct quotes from the aforementioned forum users. Statements from the forum are represented without corrections, and contain any capitalization, spelling, grammar, or formatting irregularities present in the original.

Work

Work was by far the most common descriptive term; with 638 excerpts, it was roughly a third of all codes. For example, T20245 asked, “Does someone got recommendations on what to start off with? My favorite series are: Ghost in the Shell, Trigun, Cowboy Bebop, Outlaw Star, Fooly Cooly, and Samurai Champloo.”

The focus on references to other works was expected by the research team and is common with media recommendations. In fact, it is so common on Anime News Network’s forum that moderators publicly discourage the posting of recommendation threads based largely on lists of works, due to high redundancy.

Services often create recommendations based on works and user ratings of works. Those works function as either explicit or implicit proxies for metadata on those works. Explicitly, some systems look for similarities in the metadata for “liked” works and search for other works with similar traits. A similar expectation was present in requests, as T58882 desired something “more disturbing than Higurashi, Elfen Lied, or Shadow Star Narutaru,” and T114192 listed works and traits for comparison as well when seeking information on romantic comedies: “Suzuka (mostly romance, small amount of comedy), Shuffle (balance of both), or School Rumble (mostly comedy, small amount of romance).”

Movies have used recommendation systems based on both interest in works and qualities of works for some time, as with Netflix or MovieLens (Ji *et al.*, 2013; Gonçalves *et al.*, 2016). However, these systems provide limited personalized results that are meaningful to each user, because results are often limited to a dimensional analysis based on the work and associated terminologies (Themes, Tropes, etc.) specific to the work.

Theme, Genre, and Trope

These features are linked to 567 excerpts, making them nearly as prominent as Work in our analysis. Distinction between the three can be highly dependent on cultural contexts, making analysis difficult when dealing with non-Japanese perspectives on Japanese media, often due to terminological use. It is important to understand that academic distinctions between these concepts may not relate to user search behavior. Where one user may believe “zombie” is a media genre, another might believe it to be a theme or trope, and even mix categorical concepts in the course of a conversation. For the study, we have attempted to use definitions of theme, genre, and trope from academic literature and to understand the differences of fan use in our data.

Theme

Theme seems to engender a broad interpretation, even among academics. Woods (2015) presents, among others, themes of “how love triumphs by overcoming obstacles” or “a hero

fighting to protect”. The feature occurs frequently, with 250 excerpts, but exact classifications of theme are difficult, as mentioned above. For instance, “vampire” was identified as a theme, but other themes included “super violence,” “girl positive,” and “space pirate.” The body of potential theme terms seems to expand in all directions, without clear limits or constraining characteristics. Theme often co-occurred with the code +Don’t Like and described themes requesters did not want to see in the anime (e.g. “no religious imagery, period” (T28370); “I hate lots of mindless shouting” (T19385)).

Anime were frequently used to contextualize major themes requesters were interested in. For example, in Hellsing, vampires are a major theme. These occurred in comments such as, “I like vampire animes like Hellsing and D, but a vampire theme is not important at all” (T15587) or, “I just saw Hellsing, a really sweet vampire anime” (T10432). However, because themes seem to cover such a broad spectrum, the actual requests were sometimes generic. As such, themes are likely best used in association with other features, as they capture a highly specific interest and help narrow down requester interests but are often insufficient to gauge user interests by themselves. In anime, Theme also seems to indicate a set of common signifiers relating to Genre and Trope.

Genre

Genre was a common descriptive term with 223 excerpts, used to describe both general and specific requests. While many requests included basic entertainment genre information (e.g. action, comedy, romance, fantasy, historical, sci-fi, drama, slice of life), the world of manga and anime also includes genres specific to the Japanese cultural classifications of manga and anime. Strong sexual themes and imagery earn genre classifications as either ecchi (“naughty”) or hentai (“pervert”) anime. Recommendation requests use these distinctions, and one acknowledged the cultural differences in genre classification: “[...] she’s probably going to be turned off by anything ‘perverted,’ which is not always the same as what we as anime fans consider perverted (we actually have a distinction between ecchi and hentai, she probably doesn’t)” (T35644).

With anime, the intended audience is often a part of the genre classification, with terms like *kodomo*muke (“targeted towards children”), *shōnen* (“boys”), *shōjo* (“girls”), *josei* (“women,” usually aimed toward late teens to forties), and *seinen* (“youth,” adult manga/anime for men, typically aimed toward 18-40-year-old men) (Odell and Le Blanc, 2013): “I’m interested in anime and manga that stand on the fine line between action packed shonen and romantically inclined shojo” (T7914). This appreciation of *shōjo* shares similar qualities with the evolution of *shōjo* in Japan, where stories of a “private world of girls that [...] embraced female friendships” (Shamoon, 2007, p. 4) evolved into stories of women who are “powerful and active as they lead the fight against the forces of evil” (Orbaugh, 2003, p. 217) and a “combination of femininity and masculinity” (Yoshida, 2002, p. 12).

Some tropes are so popular within anime that portions of the fandom use them as genre terms. Mecha, magical girl, and harem anime, among others are themes represented as genres by requesters on Anime News Network.

A successful anime recommendation system must afford searches by film genres as well as an extensive array of specific and nuanced anime and manga genres, often with no definitive source for classification. Since genres overlap, multiple terms should be allowed in searches involving genre to ensure the best results, and terms with more consistency or description should also be allowed.

Tropes

Tropes tend to occur with specific descriptors related to anime. With 92 excerpts, it is a frequent feature, yet still occurs less often than Theme. This is likely because tropes are much more focused, targeting well-documented and frequently used themes. A common

trope in fight sequences in anime included, “big blasts of doom” (T20360). Tropes might be generalized as common to shows relying heavily on cliché, including sexual characters or definite goods and evils. More specifically, these are concepts which are both “easily identifiable [...] [and] tend to fall into predictable patterns,” as presented by iconic shows such as *Sailor Moon* (Hemmann *et al.*, 2013).

Audience

Audience is a common feature with 154 excerpts, often including locational information that relates to a specific individual and an intended recipient or self-interest. Ages and ranges of audiences are often used, such as anime for those over 18, children, or mothers.

Many posts included biographical information on the intended audience for the recommended anime. Sometimes, this was autobiographical: “My name is [name], I live in [city in Canada], 22 years old and I work a stressful, depressing job as a network admin for a transports company” (T23241). Other times, the author claimed that the recommendations were for others: “I have an 8 year old daughter. I am an avid anime fan and was actually introduced to anime by her” (T25171). Whole groups were sometimes specified as well: “My mother is the sixth-to-eight grade Language Arts teacher at a [school], and she is thinking of starting up an anime club [...]. These kids collectively tend to be shy, introverted, and lonely children, and she’s hoping that by starting up an anime club she’ll push them in the right direction to make a friend” (T28370).

As mentioned above, some concepts of audience may be included in genre. While this serves as an indication of the intended audience on the part of anime creators, it is not the same as the intended audience in an anime recommendation request, which the authors capture as Audience, rather than Genre. For example, a middle-aged woman may prefer *shōnen* (“boys”) anime and ask for recommendations in that genre. The authors made no presumption that requests for these sorts of anime genres were an indication of the prescribed audience. While recommendation engines may choose to restrict suggestions for youth to titles intended for young audiences, the practice is far less helpful for adults, whose tastes often break with age or gender genre designations so common in anime.

Mood

Mood was a common term with 140 excerpts, often used as a way of describing certain feelings evoked by an anime. On Anime News Network, mood-based requests were also the fifth most common, indicating that they are typically a significant factor in anime seeking behavior. Because mood encompasses the entirety of human emotion, what qualifies as a mood is often difficult to describe. Mood lacks the distinctiveness of other descriptive terms, such as Trope.

Variations of “light,” “dark,” “happy,” and “sad” dominated mood-related terms (e.g. “[The work] fluctuates between lighthearted ecchi comedy and incredibly dark, graphic horror; probably the most extreme example of bipolarity” (T22193)). Terms such as “emo,” “confusing,” “energetic,” and “uneasy” also act as more specific iterations of broader terms for basic emotions. Altogether the implication is a wide variety of terms based on feelings that lack consistency outside of their expression. As such, despite their frequent appearance, it is difficult to assess what mood a requester might be looking for without co-occurring codes to provide specificity.

Our study shows that mood indicators are popular but found no expressions of mood unique to anime or manga (as with Genre, where terms like *shoujo* emerge). Thus, the code should be relatively similar to other mood-controlled vocabularies, making it easier to implement within an anime recommendation system than most codes discussed in the research.

Plot/Narrative

Within the Plot/Narrative code, at 134 excerpts, there is a significant desire for a good storyline with varying needs. For example, some requesters want cliffhangers in the story

“I want an anime that will not let her stop watching until she is done with [sic] it [...] or one with great cliffhangers?” (T23758)), and many expressed their desire to avoid long battles in the storyline (“Now I am going to explain why I hated Dragonball Z and Dragonball. First off, the show is just plain stupid!! The battle sequences are long, dragging, and repetitive. Sure, the battles are cool for a while, but they get boring when the entire show consists of one long battle” (T1202)). However, a high number of requests included a desire for action in the storyline, typically involving fighting or some other form of conflict. With many of the most frequent and desired recommendations, it is clear that when descriptions become more verbose they tend toward being obtuse. A requester, “enjoyed the way that the [Boogiepop Phantom] story came together with non-linear episodes that skip around in time, and other confusing things like that” (T20348). These descriptive phrases such as non-linear or word-driven may be important as indicators of Plot/Narrative in future work.

Characters

Character was a frequently described feature with 101 excerpts. Among these excerpts, Character Types were mentioned 47 times, and Specific Characters were mentioned 33 times. The remaining 21 excerpts related to Character, but not Specific Characters or Character Types (i.e. “The characters don’t feel real enough to me” (T23154), “good characters and plot as well” (T27962)). Character Types include personality, occupation, age, appearance, and other features of the character. “Female superheros kicking ass” (T17788) and “Does anyone know of a decent/good/whatever anime that has to do with Onmyoji[1], or has an Onmyoji as a main character?” (T13469) are examples of types of character. Specific Character was described when forum users discussed specific named character from anime: “I like the co-stars from the Cowboy Bebop and the cast of Outlaw Star, where they all are a part of the action, instead of complaining and crying all the time” (T7579).

Character often co-occurred with other elements, particularly the plot: “I’d prefer something with good characters and a nice plotline” (T14819), “main characters in orchestra classes or playing the instruments” (T16762), or “fantasy setting, interesting characters, and an involving plot” (T27504). On occasion, there were also mentions of characters the requester would prefer to not have included the story: “I couldn’t stand the main character at all, he reminded me of that annoying kid from Zone of Enders, always whining and complaining” (T6970) or, “I’m waiting for the Wolf’s Rain, and Gundam Seed dvds right now But one thing that gets on my nerves are those annoying sidekicks that tell the main character they shouldn’t fight or whatever, but you know the main character’s fight anyway” (T7579). The findings suggest the usefulness of having a controlled vocabulary of characters, especially its types. If users can browse anime based on different types of characters, it would considerably improve the quality of search.

Package and Source/Platform

Package, with 53 excerpts, tended toward two requester groups. One group sought deals or cheap videos that either became more affordable or were always reasonably priced for their quality, exemplified by statements like: “I also do not want to spend tons of money on DVDs and stuff like that if I do not know that I will like it” (T1202). This quality of “knowing what’s worth it” is common when making purchasing decisions but is perhaps most exemplified in the package code. The other group, more influential and significant, is collectors. Many discussed available packaging alternatives (e.g. “Eureka 7 had 3 or 4 different collector’s boxes” (T30890)), where to buy them, and what made them significant. The collector group is also greatly concerned with extras and quality of the viewing materials. Both groups not only retained interests specific to works but also related them to the qualities of Box Sets and Complete or Special Editions.

With 44 excerpts, Source/Platform was typically discussed with regards to the quality of entertainment on specific platforms, such as Netflix, Crunchyroll, or other online streaming services. DVDs, TV, and other sources were also commonly discussed. There were also location-oriented responses, such as wanting something from Japan or the UK: “I would like to know where you American citizens get your Manga/Anime, how much of it is readily available in shops (heh heh, was about to say high street there) and how much it costs” (T16167). There was also a sort of lament about the difficulty of assessing location-specific materials (e.g. “recommendations to people in light of what’s actually available in their countries” (T1081770)), and a request based on finding anime in South Korea (e.g. “Can anyone here recommend any good bookstores or anime stores as well as havens, place or streets that an Otaku should visit while in Busan or Seoul in Korea?” (T2744345)).

In some ways, this illustrates the existence of “otaku tourism,” where those interested in anime may go to specific areas to peruse materials specific to a region. It also presents the concept of platform being region specific and the qualities within different regions specializing in different materials.

Artwork/Visual Style

With only 50 excerpts, Artwork/Visual Style requests occur less frequently than most features. About half of the requests were generic, and the other half were somewhat or very specific. Generic requests often included descriptions such as “beautiful” or “cool,” as follows: “good animation” (T1129016), “beautiful animation” (T57152), and “well-animated” (T125843). These all refer to desirable qualities, but it was also the case that some attributes were specific to animation, such as, “fluidity” (T28613).

When the requests regarding Artwork/Visual Style were more specific, they were more interested in styles that closely evaluate specific visual traits, such as, “things which are more real-looking than overly cute” (T14858), “cleaner more perfect looking animation” (T57152), “Similar to Ghost in the Shell, where the scenery was almost a character” (T6117), “Rahxephon (loved the design of the enemies, felt so so about rahxephons look though, enjoyed the support fighters and other suits to me that made it realistic [...])” (T10402), or “rougher animation that was used in the 90’s” (T57152). For these requesters, specific styles that matched an aesthetic or design were highly important. The fact that our findings included so much interest in specific qualities of visual style differs from a previous study by Lee *et al.* (2015) whose findings showed that users tend to generically describe their information needs regarding visual styles.

Online video archives – from YouTube to anime specific and even title-specific sites – contain extensive collections of sample video from anime, allowing most requesters to easily check the style and quality of animation after receiving recommendations. Recommendation systems allowing easy, linked access to such resources would certainly be considered more useful for anime seekers concerned with Artwork/Visual Style.

Creators

Creators were divided into two sub-codes, Individual Creators (17) and Corporate Body Creators (16). Creator without a sub-code was only cited once, when the requester did not specify if the creator was an individual or an organization.

Individual Creators always referred to a specific person, such as directors Hayao Miyazaki or Satoshi Kon. Interestingly some were less interested in directors than others who took part in the creation process: “I am big fan of Masuda Toshio’s [musical] compositions” (T20827). One requester was also attempting to assess the quality of actors in Kon’s work before purchasing DVDs with different actors: “Which version did you like better: 1. the original Director’s Cut with Makoto Shinkai and his fiancée as amateur voice actors or 2. The ‘professional’ version with professional Japanese voice actors?” (T13646).

These requests are interesting as outliers by a small group that wants to discuss more about non-directorial creators.

Corporate Body Creators was used for studio-based requests, as studios tend to reflect a set of core values many requestors find appealing. Studio Ghibli is currently one of the most well-known Japanese animation studios, much like Pixar in America.

There was interest in production, discussing who owns or produces certain studio-based works. Requests like these tended to focus on specific works or interests: “My questions about Inuyasha is cartoon network buying more episodes, and are more being translated into English?” (T2246) or “i’m not sure how many of you are adults, but my husband and i are looking for some good adult anime videos. can anyone recommend some or maybe some companies who produce them” (T7971). The former represents examining a specific licensor, Cartoon Network, and their purchasing of InuYasha episodes whereas the latter is interested in production studios for “adult” anime. With little exception, Corporate Body Creators related to interest in specific studios, though some confusion exist regarding what exactly defines a studio.

These two sub-codes make up two different ways of finding works, though overlap also exists. For example, Studio Ghibli and Hayao Miyazaki are closely associated due to the influence of the director on the studio. Currently, the Agency for Cultural Affairs of Japan is testing a development version of a media art database[2], which contains information about the creators of anime. Although it does not provide association information among different artists and creators, it does provide a ten-digit creator authority ID (i.e. “A40000181”), which tremendously helps in controlling creator information. To improve creators’ association information, developing a robust controlled vocabulary of anime creators is critically important.

Audio Style

Audio Style (30) was coded when requesters presented interest in the musical qualities of an anime, sound effects, and voice actors. Some requests were generic, stating that the soundtrack needed to be good, amazing, or great, like Plot/Narrative.

Requesters often desired a specific audio style and used Work to contextualize their interests: “I’m not asking what anime titles have little snippets of enka in them, i.e. not something like Ah! My Goddess (TV) where Urd falls asleep to enka, nor anything like a character in a series singing a small enka song during a joke, etc. I neither want recommendations where the anime has like one or two theme or image songs in them that are enka” (T20827). Other examples of this behavior include a requester using Nana to request a musical style that was, “darker, edgier, grungier” (T27417), and a Naruto fan stating, “Hey i sorta loved the soundtrack in Naruto as in fusion of traditional Japanese music with electric guitars and rock” (T23859). Still another declared themselves “a classical music fanatic, ranging from pre-renaissance to modern and avant-garde [...]” (T57152). Music requesters are typified by these highly descriptive and individualized interests. Interest in, “Anime Musicals or Rock Operas” (T15571) or a desire for an anime with “professional Japanese voice actors” (T13646), also displays the high amount of diversity expressed within the code.

Language

The Language feature is split between two demands, one related to the languages used (usually English or Japanese) and one related to whether the anime has subtitles (subbing) or voice-overs (dubbing). With 29 excerpts, it was one of the less frequent features in our research, despite our personal experience with many anime consumers having strong opinions regarding subbing and dubbing. A possible explanation is that this secondary need may arise after requesters identify anime that are potentially interesting to them.

One requester wrote of a specific Work they were looking for in English: “Wolf’s rain looks pretty perfect but I can’t find it in English, is it available with English dialogue?” (T15587).

Dubbing and subbing are the two most common methods of sorting, though on occasion there were requests that spoke to other language qualities, such as comparisons of actor ability or translation availability. The separation of talent is defined by requesters as a difference between “amateur” and “professional” (T13646) voice actors, relating two different versions of the same anime, *Voices of A Distant Star*. Another requester had a question specific to the extent of dubbing: “is the entire *Hakusho* series going to be translated into English [...]?” (T2246).

Language is likely representative of questions that would be commonly asked when searching for recommendations, but in most cases this information is already included in descriptions of anime, due to the relative ease of obtaining the information online.

Release Date and Popularity

Release Date was mentioned 27 times. There were two different types of anime information needs regarding Release Date: asking for the latest release or current season (e.g. T15947: “I’ve also been watching a lot of bleach anime and manga lately, as well as mononoke hime and gungrave. Can anyone recommend some decent anime, that’s new-ish?”), and asking for anime that was released during a certain period (e.g. T10977: “I’m very interested in watching an anime series/movie from the 1980s”). Release date information is well-implemented in currently available systems. For instance, Anime News Network provides a “search by year” feature in their advanced search, and My Anime List provides a browsing feature called “anime season.”

While Popularity (9) was not a frequently used code, it was still significant for some requesters. Popularity can be associated with Release Date by simply asking what anime is good in this season, but in our data, it was mainly mentioned when users wanted to find something less well-known. For some, it was important to find a hidden gem outside popular culture, or to make sure that they did not miss any anime they considered important:

I now turn to my fellow otakus and ask what is left? I can think of no anime series of importance or popular significance that I have not seen (other than Card Captor Sakura, Yugi-Oh, Digi-Mon and Pokemon for obvious reasons) (T12161).

Could someone please give me for “under radar” anime recommendations? (T13582).

Length and Completeness

Length (26) and Completeness (5) were often associated with each other in our codes (e.g. “13 episodes or less” (T39791)). There was not a universally consistent preference in Length and Completeness. Some preferred to watch longer anime series (e.g., “Prefer long series like 50 +” (T41602)) while others like shorter series (e.g. “I am looking for a comedy/romance/slice of life/drama (not the sad kind) also could it not be a very very long series” (T13066)). Also, while some requesters wanted to find anime still ongoing (e.g. “still airing in Japan” (T16439)), others wanted to watch anime with an ending (e.g. “i really don’t want to rent a series that’s incomplete, ‘cause that’s the case with several Netflix anime series” (T1664)).

A varied preference on Length and Completeness indicates some potential for data gathering and implementing these features in search systems. Current search systems do not provide browsing filters for the length of a series or the completeness of an anime. Adding these features would be relatively easy given that it is not subjective information, and it would improve users’ search experience by reflecting minor but important needs.

Co-occurrence analysis

Co-occurrence analysis (Figure 1) was conducted to see if there were any close ties between anime features. Features discussed frequently with other features were Work (426), +Don’t Like (369), Tropes (243), and Genre (212). Work was mostly discussed with +Don’t Like (69) and Audience (52), which indicates a tendency among some to describe anime they did not enjoy (e.g. “I’ve seen *Ghost in the Shell*, etc., not really my thing” (T1924)). In cases where

Feature	Artwork/Visual Style	Audience	Audio Style	Characters	Specific Characters	Character Types	Completeness	Creators	Corporate Body Creators	Individual Creators	Genre	Language	Sub & Dub	Length	Mood	Other (unknown)	Package	Plot/Narrative	Popularity	Release date	Source/Platform	Theme	Tropes	Work	Don't Like(+)	Totals
Artwork/Visual Style	1	5	2	6	1	1				3				2	1	2	12	3			3	8	13	8	71	
Audience	1	1			5					4	3	13	1	3	1	7	2	6	5	2	2	5	6	6	52	138
Audio Style	5	1	1		1	1				1	3	2			1		1	5		1	1	3	3	5	3	38
Characters	2		1		3					3				2	3			10				1	3	3	3	34
Specific Characters	6				6													7				1	6	15	13	54
Character Types	1	5	1	3	6	1				8				2	4			9				12	14	12	10	88
Completeness	1		1			1				1					1		1	1					1	2	1	11
Creators																								1		1
Corporate Body Creators	4										2						2				1		1	6	2	18
Individual Creators	3	1								1					1		1								4	11
Genre	3	13	3	3	8	1						1	6	31	4		17	1	1	1	1	27	16	42	34	212
Language	1	2					2	1					1				1	3		1					4	16
Sub & Dub	3									1	1						1							1	4	11
Length	1		2		2					6				4		1	2		1	2	1	2	6	6	6	36
Mood	2	7	1	3	4	1			1	31			4		5	1	18			2	21	9	40	21	171	
Other (unknown)	1	2								4	1				5		1						4		2	20
Package	2	6	1			1		2	1		3	1	1	1	1		1	1	1	6	11	2	29	2	71	
Plot/Narrative	12	5	5	10	7	9	1			17				2	18	1	1			1	1	22	12	37	28	189
Popularity		2								1						1			2	1				3	1	11
Release date	3	2	1					1		1	1		1			6	1	2	4					12	2	37
Source/Platform	5	1								1		2	2			11	1	1	4					8	1	37
Theme	3	6	3	1	1	12			1	27		1	21	4	2	22						23	33	35	195	
Tropes	8	6	3	3	6	14	1			16		2	9			12						23	27	113	243	
Work	13	52	5	3	15	12	2	1	6	4	42	4	1	6	40	4	29	37	3	12	8	33	27	69	426	
Don't Like(+)	8	13	3	3	13	10	1	2		34		4	6	21		2	28	1	2	1	35	113	69		369	
Totals	71	138	38	34	54	88	11	1	18	11	212	16	11	36	171	20	71	189	11	37	37	195	243	426	369	

Figure 1. Co-occurrence analysis of anime features identified

requesters are searching for anime for another audience, they describe the targeted audience’s favorite anime to describe their preference: “Dear Readers, I have a little brother who is an anime fan like me, but sometimes it’s hard for him to find anime that’s appropriate for his age. He can watch some 13+ (Angelic Layer, Azumanga Daioh, Case Closed, etc.) and loves all the (licenced) Studio Ghibli films and Junkers Come Here” (T15316).

Genre and Work (42) were also mentioned frequently together, suggesting that requesters describe their favorite genre with examples to get anime recommendations from others: “I was wondering if anybody had some suggestions for some good horror anime for tomorrow, I already have Hellising, descendants of darkness, vampire hunter D, and pet shop of horrors on my list of marathon watching tomorrow” (T10589).

An interesting and noteworthy find was that the auxiliary code, +Don’t Like, was actually one of the most frequently mentioned codes (369) in the co-occurrence analysis (e.g. “nothing sad, please [...] I’m already too depressed (a lot more than you can probably imagine)” (T14765)). This is consistent with the findings in Lee *et al.* (2015) where they found a substantial proportion (26 percent) of recommendation requests specifying criteria for exclusion in the context of Korea. It suggests that a fair number of requesters find it easier to identify what they do not like or want in an anime. A filtering option for anime search that focuses on excluding certain works or genres may be a critical feature for recommendation systems in the future, if this auxiliary code grows in significance. +Don’t Like was often associated with features such as Tropes (113), Work (69), Theme (35), Genre (34), and Plot/Narrative (28). Many of these features – Tropes, Theme, Plot/Narrative, and logical negation operator like +Don’t Like – are not accessible in current retrieval systems. Those that do exist tend to be based on user-generated tags from different websites. While Work is just the title of an anime, many of the features that the authors discussed in this paper represent aboutness. When making requests in community-driven forums, anime requesters are seeking a context-driven retrieval experience they cannot get from current systems.

Comparison to currently available systems

Table II shows the comparisons between our identified features and the currently implemented features on various anime-related websites, forums, and streaming services. Site data are mapped to our anime features, and when there is no appropriate match, it is left blank.

Feature	Crunchyroll ^b	Funimation ^c	Anime-planet ^d	MyAnimeList ^e	d-AnimeStore ^f	Anime News Network ^g
Work	Alphabetical	•	Name	•	Works in alphabetical order	Alphabetical order; name search
Theme	•	Guides	Tags	•	•	•
Genre	Genres	Moods ^a	•	Genres	Genre	Genre search
Audience	•	•	AvgRating	Score; rated	•	Rating; objectionable content
Mood	•	•	•	•	•	•
Plot/ Narrative	•	•	•	•	•	•
Characters	•	•	•	•	•	•
Tropes	•	•	•	•	•	•
Package	•	•	•	•	Rental list; free work	•
Artwork/ Visual Style	•	•	•	•	•	•
Source/ Platform	•	•	Type	Type	TV broadcasting time	What; licensed in the USA
Creators	•	•	Studio	Studios; producer	•	•
Audio Style	•	•	•	•	Voice actor in alphabetical order; animation songs	•
Language	•	•	•	•	•	•
Release Date	Simulcasts; updated; seasons	•	Year/ Season	Anime seasons; start date; end date	New arrivals	Production year
Length	•	•	Episodes	•	•	•
Popularity	Popular	Trending	•	Rankings	Ranking	•
Completeness	•	•	•	Status	•	•
Other	•	Recommended	Other	•	Feature list	•

Notes: •: Not applicable; ^aon their website, Mood is not used as “the feeling and overall atmosphere of an anime,” but as “I’m in the mood for XXX.”; ^bwww.crunchyroll.com/; ^cwww.funimation.com/; ^dwww.anime-planet.com/; ^ehttps://myanimelist.net/; ^fhttps://anime.dmkt-sp.jp/animestore/tp_pc; ^gwww.animenewsnetwork.com/

Table II. Mapping of identified anime features with currently used anime features

The current anime-related websites and services were selected based on their popularity. The authors included one of the largest Japanese anime streaming services, d-AnimeStore, to make sure that our domain analysis is not exclusive to systems for English speaking users.

The LCSH for “Animation[3]” were also examined. For anime, there was only one term “Japanese animation.” Although there were 14 terms for animation in general, they were not included in our comparison table due to a lack of relevance to users in terms of describing the anime content itself. For example, LCSH terms often described the technical aspects of animation, such as, “Animation cels,” “Computer animations,” and “Rigging (Computer animations),” but do not describe animation contents, which is particularly important for users when searching for anime/animations. Getty Art & Architecture Thesaurus[4] also has “anime (genre)” as their preferred term for anime, but there are no narrower or related terms to describe features specific to anime.

The table shows that many popular, current systems lack the characteristics with which users describe anime. These systems tend to focus on descriptive information such as title,

author, rating, platform, and release date, missing most subject information that our study identified, including Mood, Plot/Narrative, Characters, Artwork/Visual Style, etc. However, genre information was relatively well-implemented and broadly used.

Discussion and challenges

Out of 19 anime features identified, some features such as Work, Theme, and Genre were mentioned frequently, while other features like Artwork/Visual Style, Source/Platform, Audio Style, and Language were mentioned less. However, less mentioned features are not necessarily less important. These less mentioned codes are often highly descriptive and specific, for instance, with Artwork/Visual Style (e.g. “well animated, that also pays attention to detailed movement and fluidity” (T125843)), or Audio Style (e.g. “very sophisticated music (i am a classical music fanatic ranging from pre-renaissance to modern and avant-garde music so i can really appreciate the debussian and romantic influences that can be heard in the music)” (T57152)). Specific information is currently highly valued by a small number of requesters, but its incorporation into recommendation systems would likely attract new and untapped audiences. Our study reveals a need for increased granularity in current retrieval systems, and thus, if the authors were to create a taxonomy for anime that reflects anime retrieval information needs, it will also need to be sufficiently granular. Future studies with larger sample sizes will be necessary to examine code relevancy at scale.

A big challenge was separating Genre, Theme, and Trope. Although these terms are theoretically different, there were cases where the differences in common use were quite subtle and even vague. For example, when users look for “romance,” it was difficult to discern if they were describing it as a Genre, Theme, or a Mood. Additionally, “battles” might be a main theme in anime, but if users are looking for very specific fighting scenes (e.g. T10402: “I enjoy sword play or how i view dance like fighting more and hate the 1 shot kill thing”), that may be considered a Trope. Even in academic studies of anime, as with Orbaugh (2003), Woods (2015), Yoshida (2002), and Shamoan (2007), the descriptions of these terms remain fluid, changing, invented, and reinvented with the times. Future studies investigating needs should collect and examine empirical data from real users to understand the best way to organize these terms into a defined taxonomy. Using the definitions presented by Shamoan and others, we constructed a context for their meaning as presented in this research. We are currently conducting another facet analysis study, investigating diverse genres of anime to define and categorize it in a more robust way, to resolve the issue of a complex miscellany of genres, themes, and tropes.

Our study shows that aiming to understand anime users’ diverse information needs and create a profile that could potentially address a user’s personalized information needs. Recently, automated recommendation systems like Netflix have become increasingly popular in various areas, such as music, research articles, and many other domains. These systems provide recommendations using collaborative filtering: “the process of filtering or evaluating items through the opinions of other people” (Schafer *et al.*, 2007, p. 291). The authors believed that the biggest limitation of these systems is not being able to understand “why.” Users of many anime sites can easily get a list of recommendations that are automatically generated, but these lists lack granularity. As observed from the user requests in this study, anime user interests are often highly specific. A thoughtfully built organization system or schema might fill this gap and offer personalized search/recommendation experiences. For example, Amazon Video provides additional metadata filters that make the browsing and searching experience better for the users, with filters focusing on purchasing-related decisions (Channels, Purchase Type, Genre, Mood, Theme, Subtitles & Closed Captioning, Video Definition, Avg. Customer Review, Content Type, Price, and Decade).

Aside from commercial recommendation systems, libraries may also benefit from these findings when pursuing community-driven solutions to address their patrons and how they

might organize unfamiliar material. Anime Characters Database (<https://www.animecharactersdatabase.com>) is a good example; as it contains rich information on anime characters' visual styles and allows users to search for different types of characters based on their looks. Another good example is aniDB (<https://anidb.net/>). This database includes metadata information such as Main Title, Official Title (in Japanese), Type, Year, Tags, Resources, Rating, Average, and Review Rating. Subject information, such as user-generated tags, might be implemented and utilized in public library systems, functioning as unofficial subject headings. User-generated tags ease cataloging labor and provide robust subject information to users. However, there is also a risk that user-generated information is not ready to use; there may be human errors or different opinions of the same anime, especially regarding subject descriptions. Even the most popular, well-known anime databases and websites have different genre classifications for the same anime. We believe it vital to create a set of taxonomies for anime that can be agreed upon by end-users, and complemented by community-driven descriptions.

Conclusion

Our study analyzed 396 recommendation request threads from the online forum, Anime News Network. Findings showed that there are 19 anime information features that were important to forum users when asking for recommendations. Work (638), Theme (250), Genre (223), Audience (154), and Mood (140) were the most frequently mentioned features, while several less mentioned codes such as Artwork/Visual Style (50), Audio Style (30) were often emphasized with great specificity by users.

The findings suggest that to better serve anime users' needs, it is important to create a robust taxonomy that includes several context-rich elements such as Mood, Plot/Narrative, and Characters. The authors hope that these findings motivate additional efforts to better understand what real users need in their multimedia information searches. Although our current scope is anime in this study, our findings have broader implications, especially to other multimedia and artistic information such as TV shows, films, plays, musicals and operas, video games, and others that have a form of combined narrative, audio, and visual information. Specifically, we plan to polish the current findings to create a metadata schema for anime and undertake a user study to test the usability and feasibility of these terms for deployment in anime-related recommendation platforms and library databases. In addition, we also plan to publish our future schema to Open Metadata Registry and apply to obtain a Library of Congress source code so that it can be utilized universally to describe anime in library cataloging. We believe that this effort will significantly enhance anime users' search experiences, aiding discovery of new materials, organization, and preservation.

Methodologically, using content analysis on online forum threads has proved to be an effective approach to investigate unfamiliar multimedia information and its users. Studying cultural and artistic material is challenging in academia, especially when there is a dearth of literature to help structure interview or survey questions for user studies. Fortunately, it is not difficult to find media-related websites and online communities. The authors were satisfied with the quality of data that they could draw from online forum threads, written by real anime users. As U&G theories suggest, when users look for media information, they are perfectly (sometimes even meticulously) able to describe what they are looking for. Additionally, studying these communities can be a less intrusive way to examine users' real information needs when compared to the settings where researchers observe or ask questions to participants. As researchers conducting research in new media, the authors used content analysis of user-generated writings for the unfettered descriptions of anime user interests.

The limitations of our study include a relatively small sample size of 396 online threads and the fact that user demographic information was impossible to gather due to the nature of online forums. For future studies, the authors are planning a larger scale examination that triangulates data from different online forums alongside the analysis of anime-related

user-generated tags. It may also yield rich findings if the comparative investigation is conducted among different countries' anime online forums, especially those from East Asia or Europe. With different cultural backgrounds and levels of access to anime, these user groups might show unique results. The authors also plan to conduct user surveys and interviews to better understand anime communities and their information needs.

Notes

1. A Japanese term that refers to a practitioner of the art of onmyodo, a traditional Japanese esoteric cosmology.
2. <https://mediaarts-db.bunka.go.jp/?utf8=%E2%9C%93&locale=en>
3. <http://id.loc.gov/search/?q=animation%20cs:http://id.loc.gov/authorities/subjects&start=1>
4. www.getty.edu/vow/AATFullDisplay?find=anime&logic=AND¬e=&english=N&subjectid=300404884

References

- Anime News Network (2016), "Report: Anime industry up 12% in 2015", September 29, available at: www.animenewsnetwork.com/news/2016-09-29/report-anime-industry-up-12-percent-in-2015/107055 (accessed July 6, 2017).
- Araki, T. (2013), *Attack on Titan [Television series]*, Wit Studio, Inc., Tokyo.
- Bennett, R., Lavoie, B.F. and O'neill, E.T. (2003), "The concept of a work in WorldCat: an application of FRBR", *Library Collections, Acquisitions, and Technical Services*, Vol. 27 No. 1, pp. 45-59.
- Brehm-Heeger, P., Conway, A. and Vale, C. (2007), "Cosplay, gaming, and conventions: the amazing and unexpected places an anime club can lead unsuspecting librarians", *Young Adult Library Services*, Vol. 5 No. 2, pp. 14-16.
- Brenner, R.E. (2007), *Understanding Manga and Anime*, Libraries Unlimited, Westport, CT.
- Chandler-Olcott, K. (2015), "Anime and manga fandom: young people's multiliteracies made visible", in Flood, J., Heath, S.B. and Lapp, D. (Eds), *Handbook of Research on Teaching Literacy Through the Communicative and Visual Arts*, Vol. II, Routledge, Abingdon, pp. 247-257.
- Date, H. (2002), *Naruto [Television series]*, Pierrot Co., Ltd., Tokyo.
- Davis, N. (2016), *Manga and Anime Go to Hollywood*, Bloomsbury Academic, New York, NY.
- Drazen, P. (2003), *Anime Explosion!: The What? Why? & Wow! of Japanese Animation*, Stone Bridge Press, Berkeley, CA.
- Exner, N. (2012), "Anime-zing in North Carolina: library views of anime fans", *North Carolina Libraries*, Vol. 70 No. 1, pp. 28-34.
- Fennell, D., Liberato, A.S., Hayden, B. and Fujino, Y. (2013), "Consuming anime", *Television & New Media*, Vol. 14 No. 5, pp. 440-456.
- Gonçalves, D., Costa, M. and Couto, F.M. (2016), "A flexible recommendation system for cable TV".
- Hemann, K., Ayako, K., Linda, C. and Susan, N. (2013), *The Female Gaze in Contemporary Japanese Literature*, dissertations and theses, ProQuest.
- Hills, M. (2002), "Transcultural otaku: Japanese representations of fandom and representations of Japan in anime/manga fan cultures", *Media in Transition*, Vol. 2, pp. 10-12.
- Iwabuchi, K. (2002), *Recentering Globalization: Popular Culture and Japanese Transnationalism*, Duke UP, Durham, NC.
- Ji, H., Li, J., Ren, C. and He, M. (2013), "Hybrid collaborative filtering model for improved recommendation", *2013 IEEE International Conference on Service Operations and Logistics, and Informatics*, pp. 142-145.
- Kan, K. and Fletcher-Spear, K. (2002), "Showing anime in the library", *Voice of Youth Advocates*, Vol. 25 No. 1, pp. 20-23.

- Katz, E., Blumler, J.G. and Gurevitch, M. (1974), *The Uses and Gratifications Approach to Mass Communication*, Sage, Beverly Hills, CA.
- King, K.A.R. and Keller, A. (2006), "Anime prom: most valuable pop culture program", *Voice of Youth Advocates*, Vol. 29 No. 4, pp. 304-305.
- Kruse, K. (2013), "Otakus", *Voice of Youth Advocates*, Vol. 36 No. 4, pp. 36-37.
- LaMarre, T. (2009), *The Anime Machine: A Media Theory of Animation*, University of Minnesota Press, Minneapolis, MN.
- Lee, J.H., Shim, Y. and Jett, J. (2015), "Analyzing user requests for anime recommendations", *Proceedings of the 15th ACM/IEEE-CE on Joint Conference on Digital Libraries*, pp. 269-270.
- Lee, J.H., Perti, A., Clarke, R.I., Windleharth, T.W. and Schmalz, M. (2017), "UW/SIMM video game metadata schema version 4.0", available at: http://gamer.ischool.uw.edu/official_release/ (accessed February 10, 2018).
- Levi, A. (2013), "The sweet smell of Japan: anime, manga, and Japan in North America", *Journal of Asian Pacific Communication*, Vol. 23 No. 1, pp. 3-18.
- Masuda, H., Hikawa, R., Sudo, T., Rikukawa, K. and Mori, Y. (2016), "Report on Japanese animation industry 2015", The Association of Japanese Animations, Tokyo.
- Napier, S. (2005), *Anime From Akira to Howl's Moving Castle: Experiencing Contemporary Japanese Animation*, Palgrave Macmillan, New York, NY.
- Odell, C. and Le Blanc, M. (2013), *Anime*, Kamera Books, Harpenden, Herts.
- Oliver, B. (2009), "Affect as a predictor of entertainment choice: the utility of looking beyond pleasure", in Hartmann, T. (Ed.), *Media Choice: A Theoretical and Empirical Overview*, Routledge, New York, NY, pp. 167-184.
- Orbaugh, S. (2003), "Busty battlin' babes: the evolution of shojo in 1990s visual culture", in Mostow, J.S., Bryson, N. and Graybill, M. (Eds), *Gender and Power in the Japanese Visual Field*, University of Hawaii Press, Honolulu, HI, pp. 201-228.
- Ries-Taggart, J.T. (2007), "Anime movie marathon @ your library", *Public Libraries*, Vol. 46 No. 2, p. 15.
- Ruh, B. (2014), "Conceptualizing anime and the database fantasyscape", *Mechademia*, Vol. 9 No. 1, pp. 164-175.
- Sato, J. (1992), *Sailor Moon* [Television series], Toei Animation Co., Ltd, Tokyo.
- Schafer, J.B., Frankowski, D., Sen, S. and Herlocker, J. (2007), "Collaborative filtering recommender systems", *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, Vol. 4321, pp. 291-324.
- Shamoon, D. (2007), "Revolutionary romance: the rose of Versailles and the transformation of shojo manga", in Lunning, F. (Ed.), *Mechademia 2: Networks of Desire*, Minneapolis, University Press, Minneapolis, MN, pp. 3-17.
- Skalski, P.D., Neuendorf, K.A. and Cajigas, J.A. (2016), *The Content Analysis Guidebook*, Sage, Los Angeles, CA.
- Tezuka, O. (1963), *Astro Boy*, Mushi Production, Tokyo.
- Woods, S.M. (2015), "The fascination of manga: cross-dressing and gender performativity in Japanese media", Theses and dissertations, No. 1273, University of Arkansas, Fayetteville, AR, pp. 17-18.
- Yoshida, K. (2002), "Evolution of female heroes: carnival mode of gender representation in Anime", *ASPAC Proceedings, Center for East Asian Studies, Western Washington University, Bellingham*.
- Yuyama, K. (1997), *Pokémon* [Television Series], OLM, Inc., Tokyo.

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