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Avalon Media System: A User Experience and Usage Analysis

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User Experience Research

On Avalon Media Systems

UCLA Library

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Introduction

The Avalon Media Systems is an open source platform for managing and providing access to a large collection of digital media. It is used primarily by Walter H. Rubsamen Music Library, but also includes materials contributed by other UCLA libraries, including the Arts Library, East Asian Library, Library Special Collections, and Young Research Library. New materials are usually added on a regular basis, and the collection is only accessible to current UCLA students, with the exception of 9 items that are openly available to the public. As of May 2026 data, Avalon has a total of 4,340 published items across the collection.[1] The collection has grown steadily, with usage increasing each year, reflecting the Library's ongoing investment in digitizing and providing access to its audio and video holdings.

Like many digital repositories, Avalon includes its own search and browse function, allowing users to locate items by title, genre, subject, or collection. Understanding how students actually discover materials and use this platform is important for the Library's continued investment in digitizing and cataloging its collections. As new materials keep being added, it can become increasingly difficult for individual items to remain visible and easily accessible without effective metadata and search tools.

This report presents a small-scale user experience (UX) study of Avalon usage and discoverability. The datasets used in this analysis were provided by the Walter H. Rubsamen Music Library and reflect activity across the full Avalon platform, including materials from other contributing units. By examining how users interact with the streaming platform, this study aims to help ensure that digital resources are not only well organized, but also effectively discovered and used.

To guide this analysis, the study addresses four objectives: (1) analyze user browsing behavior in how content is discovered, (2) identify underutilized or rarely accessed materials, and assess potential gaps in discoverability, (3) examine indicators of user difficulty in navigation or search (where data allows), and lastly, (4) evaluate how usage patterns relate to the organization structure of item metadata.

Data & Methods:

All data cleaning, analysis, and visualization for this report were conducted in RStudio using the R programming language, primarily using the tidyverse package for data manipulation and chart creation.

Dataset 1: Monthly Usage Statistics[2]

This dataset used contains Avalon's monthly usage statistics from 2020 to 2026. It includes the number of monthly views, users with registered accounts, published items, and the total use recorded since publication. Unnecessary columns were removed, fields were renamed for clarity, and the date column was reformatted to allow charts to display months in proper chronological order. This dataset was used to examine overall platform growth and usage trends over time.

Dataset 2: Page-Level Traffic Logs[3]

[1] UCLA Music Library, "Avalon Monthly Usage Statistics," unpublished dataset, available upon request from the UCLA Walter H. Rubsamen Music Library, 2026.

[2] UCLA Music Library, "Avalon Monthly Usage Statistics."

[3] UCLA Music Library, "Avalon Page-Level Traffic Logs," unpublished dataset, available upon request from the UCLA Walter H. Rubsamen Music Library, 2026.

The page-level traffic logs dataset includes the page title, page path, referral source, date, browser language, and view count for each page visited. This dataset was filtered to include only traffic referred from within Avalon itself and then narrowed to individual item pages, excluding staff-only editing pages. Each item's unique identifier was then extracted from its page path and used to aggregate total views per item. This allowed for the identification of individual item views, an examination of how users arrive at Avalon content, and a comparison of usage across different genres and subjects.

Dataset 3: Item Metadata [4]

The item metadata includes title, owning Library unit, publication status, visibility, genre, subject, and item URL. Genre and subject fields originally contained extra symbols like brackets and quotation marks left over from how the data was exported. These were removed during cleaning to leave just the plain text terms. Since not every item has both a genre and a subject, a new column called "tags" was created. Genre was used when available, but when missing subject was used. Items with neither genre or subject were marked as untagged, so no information was assumed where none existed. This dataset was used to assess metadata completeness across the collection and evaluate how metadata related to item usage.

Dataset 4: Bot Traffic Logs[5]

Finally, the fourth dataset tracks monthly counts of human and automated (bot) traffic. This dataset was used to check what share of the recorded views might not reflect actual human activity. Since bots only have access to the 9 public files, they do not have an effect on the view counts for the rest of the collection.

[4] UCLA Music Library, "Avalon Item Metadata: Genre and Subject," unpublished dataset, available upon request from the UCLA Walter H. Rubsamen Music Library, 2026.
[5] UCLA Music Library, "Avalon Bot Traffic Logs," unpublished dataset, available upon request from the UCLA Walter H. Rubsamen Music Library, 2026.

Findings

3.1 Overall Platform Usage Trends:

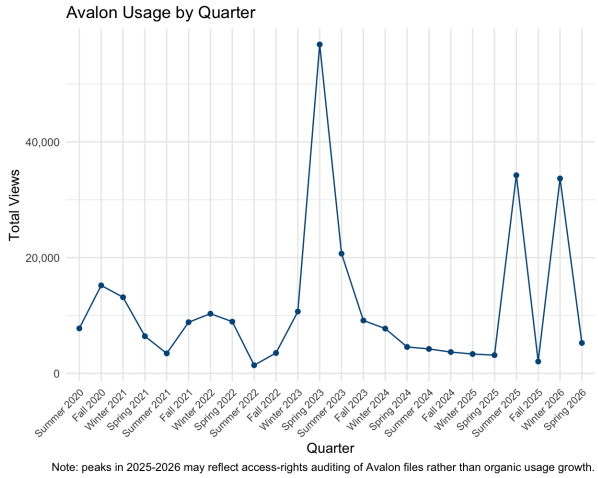

Figure 1: Graph of Avalon Usage by Quarter

The Avalon Media Systems shows clear variation in user engagement when analyzed at a yearly level, with total views fluctuating rather than following a steady upward or downward trend. Usage increased from 2020 to 2021, declined in 2022, then peaked in 2023. It dropped again in 2024 before rebounding in 2025 and continuing into 2026. Because 2020 and 2026 include only partial-year data (five months each) while 2021 though 2025 reflect a full academic year, average monthly views were examined alongside total views to allow for a fair comparison across years. 2026 stands out in particular with its usage already climbing, even with only half the year's data recorded so far.

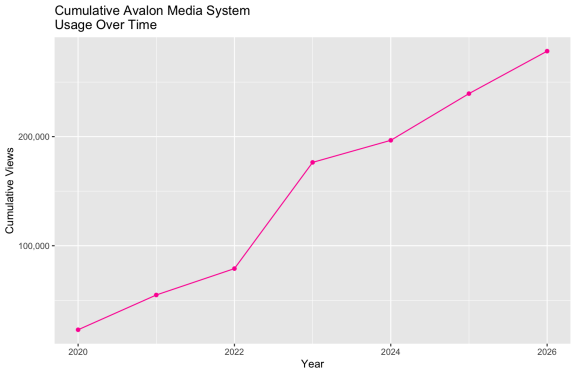

Figure 2: Graph of Cumulative Avalon Use

This year-to-year fluctuation looks different when viewed cumulatively. Looking at

cumulative usage over the same period, overall platform engagement continues to grow steadily, indicating that Avalon is successfully accumulating use over time even as individual years fluctuate. Several external factors may help explain these fluctuations, including academic course integration, digitization or content release events, and promotional use of the platform. With this in mind, the drop in 2024 should not be interpreted as a lasting decline, but rather as part of a broader ongoing pattern of fluctuating usage.

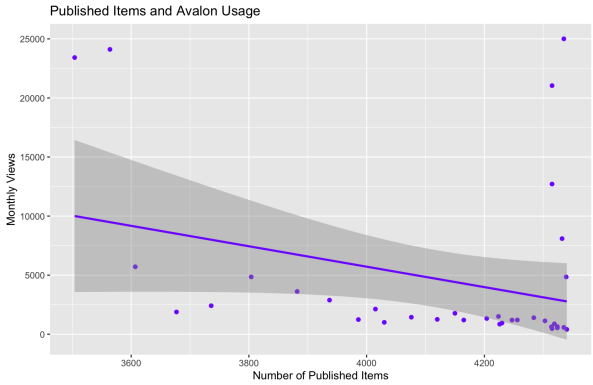

Figure 3: Graph of Relationship Between Published Items and Avalon Usage

To understand what might be driving these fluctuations, the relationship between published items and monthly views was also examined. This comparison suggests that collection size alone does not drive user engagement. Instead, usage spikes appear tied to specific periods of activity rather than to how large the collection was at the time, with the highest-use months occurring at very different collection sizes. This points to visibility, timing, and user needs playing a stronger role in engagement than collection size alone.
Taken together, these patterns suggest that Avaon's growth in usage has depended more on timing and visibility than on the size of collection itself. The Library could investigate what events, courses, or collection releases coincide with high usage periods, with the goal of replicating those strategies to encourage more consistent engagement. Concrete steps might include integrating Avalon content into course discovery tools, increasing its visibility on UCLA homepages, and encouraging faculty to recommend relevant items directly into the course syllabus.

3.2 How Users Discover Content:

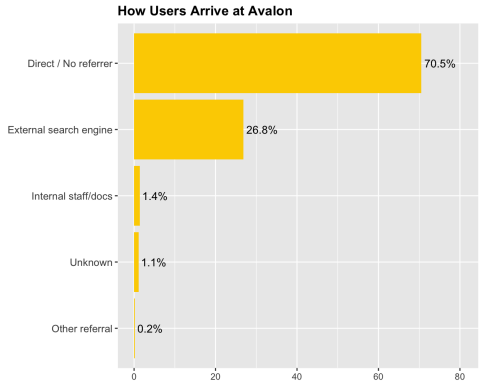

Figure 4: Graph of How Users Arrive at Avalon

To understand how users find their way to Avalon content, page- level traffic was categorized by referral source. The large majority of traffic arrives either directly (70.5%), meaning no referral source was recorded or through an external search engine like Google (26.8%). All other referral sources combined, including UCLA Library's internal staff documentation site, account for less than 3% of total traffic. Notably, referral-based traffic data does not include a distinct category for Avalon's own internal search or browse tools, since visits originating from within Avalon itself are not distinguished from direct access in this dataset. This means it is not possible to determine from referral data alone how often users search or browse within Avalon once they have already arrived on the platform. What can be said is that external referral sources (primarily direct access and search engines) account for the vast majority of traffic reaching Avalon, suggesting that much of the discovery process happens before a user ever lands on the platform itself. This could mean that students are clicking on links that lead directly to the material they need for a class, rather than discovering it through Avalon's own search tools.

3.3 Genre Popularity vs. Collection Size:

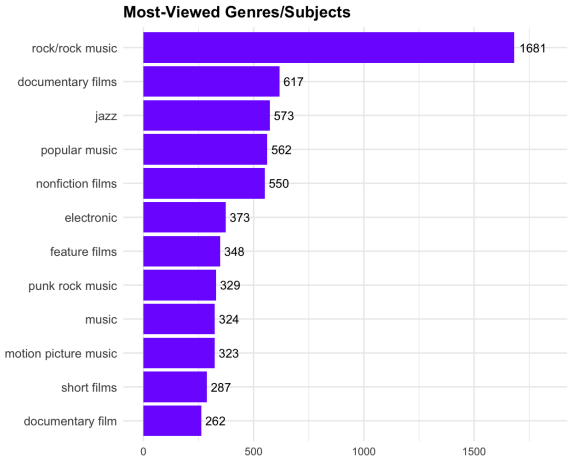

Figure 5: Graph of The Most Viewed Genres/Subjects

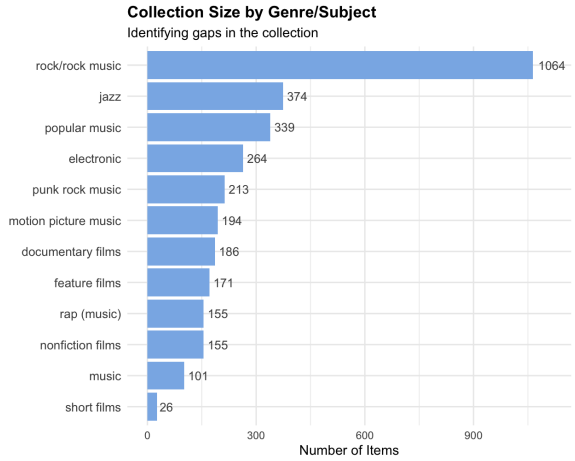

Figure 6: Graph of Collection Size by Genre/Subject

When looking at the most-viewed genre and subject categories in the collection, Rock related content draws by far the most engagement, with 1,681 total views. “Rock” and “Rock music” were merged into a single category for this analysis, as they refer to the same genre despite being recorded under different metadata fields. Documentary films, jazz, popular music, nonfiction films, and electronic music round out the remaining top categories, each drawing between roughly 370 and 620 total views. “Music” also appears among the top categories, with 320 total views across 101 items. This term functions less as a specific genre and more as a broad, general purpose label. The majority of its views come from items that also carry more specific genre or subject terms, such as “Popular music” or “African American music”. Only 18 items are tagged solely as “Music” with no further classification. One of these being “The music of Tibetan Buddhism,” which accounts for the majority of that group’s views on its own. While we can see which genres draw the most engagement, it does not indicate how large each of these categories actually is within the collection.

When comparing collection size to total views, film categories draw more engagement despite having fewer items than categories like rock or jazz music. This may be because music is more easily found on other platforms students already use such as Spotify or Youtube, while film content is spread across a wider range of services like Netflix or Hulu which might not have the specific materials students need for coursework. As a result, Avalon may be one of the few places students can find certain film items, making it their most direct or only option to watch them. That said, the raw view counts may not be the fairest way to judge if Avalon’s music collection is “working”. Rock music, for example, remained both the most-viewed genre and the largest category in the collection, a reminder that high view counts can reflect collection size just as much as genuine demand. When comparing engagement genres, it is important to keep in mind that different types of content may simply have different consumption habits.

Since documentaries and films show such a strong per-item engagement, the Library could lean into this by featuring these categories more prominently on Avalon’s homepage or in curated collections. At the same time, this comparison can raise questions about the music categories, rather than assuming that music is simply “less needed,” it may be worth investigating whether music items suffer from a

genuine discoverability gap (like poor tagging or difficulty locating materials within such a large collection), or if students are genuinely turning to personal streaming platforms. It is also worth confirming with faculty if professors are intentionally linking course materials to Avalon. If so, formalizing this pipeline by creating dedicated tags or collections for specific courses could make the engagement even stronger.

3.4 Underutilized Materials and Metadata Structure:

Because Avalon holds such a large collection, most items receive relatively little engagement individually. During the period studied, a typical item was viewed only once, while a small group of items were viewed far more often, one item alone had 111 views. This shows that usage is very uneven across the collection. Notably, 16 fully published and properly tagged items received no recorded views at all. Since these items are correctly cataloged, the cause appears to be a discoverability issue rather than missing metadata. This raises the question of whether metadata gaps elsewhere in the collection might explain low usage.

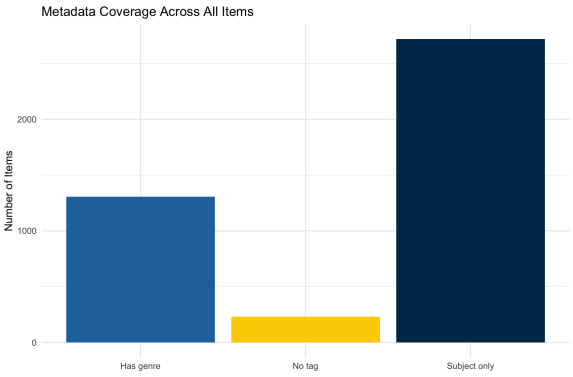

Figure 7: Graph of Metadata Coverage Across All Items

Across the collection as a whole, a small portion of items have no Genre or Subject metadata at all. However, tagged and untagged items show no meaningful difference in median view counts (both = 1 view), suggesting that missing metadata does not appear to be driving low usage. Instead, this points to a discovery barrier, items without genre or subject have no path into faceted browsers or filtering, something that could matter more if students start to rely more heavily on Avalon's internal search tools going forward.

3.5 Bot Traffic:

A portion of Avalon's recorded traffic comes from automated bots rather than real users. This activity likely comes from search engines and similar automated tools that regularly scan publicly visible pages, such as the homepage or search results, rather than from bots accessing individual media files since most of Avalon's collection requires a UCLA login that bots cannot complete. Consistent with this, bot access to actual item-level content is limited to just 9 public files. As a result, the item-level engagement metrics reported in Sections 3.3 and 3.4 are unlikely to be meaningfully affected by bot activity, even though bots account for a large share of overall site-wide traffic.

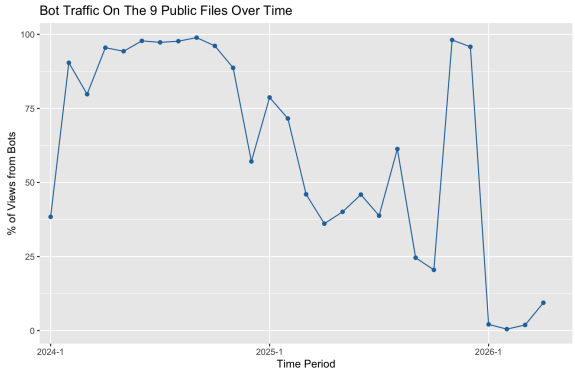

Figure 8: Graph of Bot Traffic on Avalon's 9 Public Files

Discussion

The most notable pattern is that Avalon's own internal search and browse tools appear to play a limited role in how students find content, since the majority of traffic arrives either directly or through external search engines like Google. At the same time, the usage across the collection is highly uneven, receiving just a single view and some that are fully published, properly tagged items receiving none at all. These two findings are likely connected, if

students are not discovering content through the Avalon's search feature, items that are not linked in a syllabus or course page may simply never be found at all, regardless of how well they are cataloged.

This interpretation is reinforced by the finding that tagged and untagged items showed no meaningful difference in views, suggesting that the underlying problem is not a lack of metadata on each item, but a lack of visible pathways leading students to that material. Avalon's collection is largely well-organized, but this organization is not yet translating into consistent discoverability.

The genre-level findings add further context to this picture. Rock music leads in both collection size and total views, but documentary and nonfiction films show disproportionately strong engagement relative to their collection size. This suggests that Avalon is filling specific needs, providing access to film content that is otherwise difficult to find on mainstream streaming platforms. This pattern suggests real opportunity in leaning further into this strength, both by expanding relevant holdings and by making them easier to find.

These findings suggest that Avalon's central challenge is not the quality or completeness of its collection, but the visibility of that collection to the students who use it. The recommendations that follow are built around this idea: rather than treating underuses as an indication that content or cataloging needs to be fixed, they focus on strengthening the pathways in search, browsing, and course integration that connects students to materials that are already in the platform and ready to be used.

Recommendations

5.1 Promote High-Engagement Film Content:

Documentary and non-fiction films show a very strong engagement relative to their size in the collection. The Library could feature these categories more prominently on Avalon's homepage or in curated collections to build this existing demand

5.2 Investigate Internal Search and Browse Tool Effectiveness:

Referral data shows that the vast majority of traffic comes through direct links or external search engines, with no way to measure how much students use Avalon's own internal search and browse tools once they arrive on the platform. A focused usability review of these internal tools is recommended to determine whether they are effective but underused, or difficult to use in the first place

5.3 Confirm and Formalize Course Integration:

Given that most traffic appears to arrive through direct links, it is worth confirming directly with faculty whether professors are intentionally linking course materials to Avalon. If so, formalizing this pipeline though dedicated tags or collections for specific courses could strengthen engagement further.

5.4 Enable More Detailed Usage Tracking for Future Studies:

This study could not directly measure search behavior, since the available data did not include search-query terms or session-level identifiers. Enabling more detailed tracking, such as capturing search terms or session IDs would allow directly assessing search difficulty and navigation patterns, addressing a key limitation of this analysis.

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Conclusion

This study set out to understand how students discover and use the Avalon Media System, and the findings point to a clear and encouraging path forward. Avalon usage has grown steadily since 2020, reflecting real and sustained engagement with the platform. Much of this traffic arrives though direct links or external search engines, which shows that students are actively seeking out and finding Avalon content, which shows that students are actively seeking out and finding Avalon content, even without relying heavily on the platform's internal search tools.

While usage across the collection varies, with some items receiving far more attention than others, this variation is not driven by gaps in cataloging, tagged and untagged items perform similarly, meaning the collection's underlying organization is already in solid shape. Future improvements can focus on strengthening discovery pathways rather than starting from scratch. Notably, certain types of content like documentaries and non-fiction films, already draw strong engagement relative to their size, suggesting real opportunities to build on what is already working.

Taken together, these findings suggest that Avalon is a well-organized platform with strong potential for even greater impact. With continued attention to how students discover and interact with the collection, the Library is well positioned to help even more students to find and benefit from the materials Avalon has to offer.

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References

UCLA Music Library. "Avalon Bot Traffic Logs." Unpublished dataset. Available upon request from the UCLA Walter H. Rubsamen Music Library, 2026.

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