

Using Open Access Institutional Repositories to Save the Student Symposium during the COVID-19 Pandemic

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ABSTRACT

In 2020, during the COVID-19 pandemic, colleges and universities around the world were forced to close or move to online instruction. Many institutions host yearly student research symposiums. This article describes how two universities used their institutional repositories to adapt their student research symposiums to virtual events in a matter of weeks. Both universities use the bepress Digital Commons platform for their institutional repositories. Even though the two universities' symposium strategies differed, some commonalities emerged, particularly with regard to learning the best practices to highlight student work and support their universities' efforts to host research symposiums virtually.

INTRODUCTION

Many colleges and universities host student research symposiums as a way to celebrate students' intellectual experiences and support the high-impact practice of presenting original student research. Students contribute research outputs and share their projects with others in their institution's community, beyond the classroom. Typically, many of these student research symposiums are conducted in the second half of the spring semester in order to allow students to work on their research throughout the course of the year. During the 2020 school year, the world experienced the COVID-19 pandemic. The many ways this pandemic has changed our society are only now being understood, but the pervasive move to virtual meetings and presentations is certainly one of the most dramatic. College campuses began delivering remote instruction in a matter of days and organizers of student research symposiums around the country were forced either to cancel or reimagine the events. Longwood University and University of South Florida St. Petersburg campus (USF) were two institutions that transformed their in-person student symposiums into online events in a matter of weeks. In this article, the authors share their experiences of working with many people throughout their campuses to create a student research symposium experience similar to their past in-person events. Both universities use bepress' Digital Commons platform for their institutional repositories. Overall, Longwood's and USF's symposium strategies were different in some regards, but some commonalities emerged, particularly with regard to learning the best practices that celebrate the students' achievements and support their universities' efforts promoting high-impact student research.

LITERATURE REVIEW

Student research has grown in importance. Following George Kuh's 2008 report, *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter*, universities recognized and responded to the need to integrate these high-impact practices into their curricular and co-curricular efforts.¹ One of the recognized high-impact practices is student

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research.² Students can contribute to their disciplinary scholarly conversation through their original research and by presenting on their research projects, and colleges and universities can promote this conversation by facilitating the display of student work and enabling interactive discussions between the student presenters and other members of their academic community. The number of student research conferences has increased internationally.³ Students participate in the formal aspect of these conferences, as well as informal conversations where they can continue to expound on their research, extend their professional social networks, and gain confidence as researchers.⁴

Student research is also being captured in institutional repositories (IRs) more than in the past.⁵ “These most junior members of the academic community are doing research and adding to the body of knowledge generated by their institutions and in their disciplines.”⁶ Passehl-Stoddart and Monge point out the importance of institutional repositories supporting student work: “The IR also serves to support, enhance, and capture evidence of high-impact educational practices; acts as an equitable access point to meaningful learning opportunities; and provides a platform for students to begin to develop academic confidence and an entryway into the scholarly communication learning cycle.”⁷

In supporting high-impact student research, librarians do not act alone. We collaborate with other departments on campus such as offices of undergraduate and graduate studies; offices of research, honor colleges, student affairs; and more. Krause, Eickholt, and Otto describe how the library collaborated with the music department at Eastern Washington University to upload student musical performances to the institutional repository.⁸ This type of collaboration leads to increased student support, as well as increased discoverability of student intellectual and creative scholarship.

When the COVID-19 pandemic hit, universities around the world were forced to change their means of conducting business. Classes were moved online at many institutions. Conferences were either canceled or moved online as well. Many colleges and universities around the country host student research symposiums to highlight the high-impact work that students are doing. These symposiums needed to move to remote delivery, and many of these had to move quickly as the spring semester was well underway when institutions were being forced to close.

Symposiums and conferences adapted to online environments by moving away from their in-person events. This applied to both academic and professional conferences. For example, Oregon State University (OSU) and the New Haven Local Section of the American Chemical Society hosted their respective events virtually using a variety of technologies. OSU worked with its distance learning unit to create a Canvas course, whereas the New Haven Local Section of the American Chemical Society used a combination of Open Broadcaster Software (OBS Studio), YouTube, Zoom, and Google Drive. As far as professional conferences, many used prerecorded sessions when hosting on digital platforms such as Zoom.⁹

There were positive outcomes from these virtual symposiums. For example, OSU saw benefits of “enhanced ability to devote personalized attention to presenters (e.g., by providing links to relevant publications or websites), fewer distractions, more time to craft thoughtful responses, and an ability for students to keep track of shared resources and discussants’ contact information that could be used for follow-up after the event.” Their post-event surveys also showed that students who could not previously participate due to distance circumstances were able to

participate in an online forum. OSU's approach involved using Canvas, their learning management system (LMS), through which students submitted prerecorded lightning talks over PowerPoint slides with a written narrative. The Canvas course was open to the OSU community. Discussion boards for commenting were open for a two-day period.¹⁰

In her article, Stephanie Houston interviewed various conference coordinators.¹¹ Interviewees stated that a major benefit was global access to information from top researchers.¹² With regard to cancer research conferences, free registration vastly expanded the number of registrants from previous years.¹³

Conference hosts felt as though some of the differences of online events would stay for future years because of personal scheduling issues, ability to provide global access, and environmental impact.¹⁴ Others think the novelty of virtual events may wear off following the pandemic.¹⁵

However, the switch to virtual events was not without challenges. OSU noted that two main challenges they faced were organization of presentations and presenters responding to comments on their asynchronous presentations.¹⁶ Houston's interviewees explain that the lack of informal discussions and face-to-face interactions was a negative of hosting virtual symposiums.¹⁷ Speirs also states that virtual poster sessions suffer from the lack of interaction of face-to-face exchanges, especially for young researchers.¹⁸ Some saw that the large number of participants made it difficult for participants to engage in question-and-answer sessions.¹⁹ Two of the interviewees attempted to fix this by using Twitter to have asynchronous Q&A using a specific hashtag for the event.²⁰ Technology issues such as limited bandwidth and internet connectivity problems are a concern for virtual conferences.²¹

Conferences that are not archived can result in a loss of material beyond the original event. Jonathan Bull and Stephanie Davis-Kahl discuss the problem of conference ephemera not being accessible in their poster presentation.²² They explain that conference-hosting as an institutional repository service can assist with this lack of accessibility. "By posting documents and artifacts from conferences within an institutional repository, the content is not only accessible for future use, but also preserves those materials for the future and for institutional memory."²³

VIRTUAL STUDENT RESEARCH SYMPOSIUMS

Longwood University's Virtual Spring Showcase for Research and Creative Inquiry

Longwood University is a public university in south central Virginia. It has about 4,000 undergraduate and 500 graduate students. It is known for its liberal arts focus, with strong programs in the humanities, nursing, and education. Since spring of 2018 there has been a spring symposium of undergraduate research (now called the Spring Showcase for Research and Creative Inquiry). For the first three years of its existence, the spring showcase was planned as a single day event in April, then a fall showcase was added in November 2019.

In January 2020, the university showcase committee began planning to have an in-person Spring Showcase for Research and Creative Inquiry on April 22, 2020. The proposed schedule was to be as follows: Students would register to be part of it by March 13, 2020; they would be notified of their acceptance by the end of March, and they would be encouraged to submit posters to the institutional repository, Digital Commons @ Longwood, by the date of the spring showcase, April 22. Planning for the in-person showcase continued throughout February and the first part of March. One of the elements on the registration form was giving permission for student content to

go into the institutional repository. This step had been added in fall 2019 for the previous showcase.

As COVID-19 cases in the United States began rising in the beginning of March, administrators at Longwood began to discuss the possibility of altering certain events. Author Mark Hamilton considered the possibility of offering the institutional repository as a vehicle for hosting digital content for the showcase. By March 23, the Director of Undergraduate Research notified the author that a decision had been made to host the spring showcase as an asynchronous event from April 22–24, 2020. This decision had been made by a small group including the co-chairs of the showcase and the provost in consultation with others. The Director of Undergraduate Research specifically asked the library if the event could be hosted virtually through Digital Commons @ Longwood and also requested a comments feature to facilitate online conversation. Students, faculty, and staff would comment on the presentations throughout the three-day showcase. Presenters would check the comments within those three days and post replies. The director also asked if it would be possible to upload videos that could go along with posters and other presentations.

Hamilton and the library's Digital Initiatives Specialist began to work through the technical aspects of making the showcase virtual. After inquiring about potential software from Digital Commons, they looked through two suggested options, Disqus (<https://disqus.com/>) and Intense Debate (<https://intensedebate.com/>). They decided on Intense Debate because the comments feature was already integrated into the platform. They also looked through the various video formats available. Then they worked with the Digital Commons representative to develop the structure for the showcase. This involved a bit of dialogue back and forth between the showcase co-chairs, Digital Commons staff, and the library. Because the registration form already gave permission to post student content, it was decided that the university did not need to ask for this permission a second time for a virtual conference.

New workflows were developed for the research submission process which included posters, presentations, and videos. Faculty would submit files on behalf of students in their classes. Library staff and instructional designers developed video and printed upload instructions. They were posted on the showcase website (part of the university website) as well as advertised via the library website. Faculty asked students to submit their final projects by Thursday, April 16, so there was time to upload the project posters and videos to Digital Commons @ Longwood. Most students submitted their projects through the campus LMS, Canvas. As faculty attempted to upload content, library staff were available to help them. The author helped one faculty member via Zoom, describing the process of uploading to Digital Commons. One process that had to be adjusted involved PowerPoint presentations that contained videos—they had to be separately downloaded and then just the PowerPoint of the poster re-uploaded, so visitors could both view the PowerPoint and watch the video. Hamilton and the other staff member worked with faculty to place all the required content for each presentation; then the library's Digital Initiatives Specialist made all the content live.

A number of activities occurred during the showcase. Initially the Digital Initiatives Specialist individually approved the comments that were posted, because this was the default set up. Later this was changed to allow for automatic posting to speed up the approval process and to remove any apparent bias on the part of the administrators. Some faculty also uploaded a few new versions of presentations. Some of the science students decided to post only their abstracts,

because they were going to publish their research in journals and did not want their content to be open access and because some faculty were co-authors in these publications. In the subject listing, library staff included a link to the live Zoom presentations that were offered. There was also a link to a live Zoom session for the showcase awards ceremony, highlighting submissions to the journal of the college of arts and sciences.

Longwood University has hosted two more virtual showcases: in fall 2020 and spring 2021. The showcase organizers chose to switch the hosting platform to Symposium by Forager One (<https://symposium.foragerone.com/>), a third-party platform that allows for virtual and live posting of presentations and videos. The new platform provided an easier interface for students to submit research and administrators to manage it. Library staff worked with the showcase organizing committee to preserve all the abstracts from the spring showcase. They are in discussions with how future content will be preserved and whether library staff should collect some of the research into the institutional repository.

University of South Florida St. Petersburg Campus Virtual Student Research Symposium

The University of South Florida St. Petersburg campus is a branch campus of the larger University of South Florida (USF). USF is an R1 research institution with approximately 50,000 undergraduate and graduate students in Tampa, Florida. At the time of the 2020 Virtual Student Research Symposium, USF St. Petersburg campus was a separately accredited institution with roughly 5,000 undergraduate and graduate students.

The Student Research Symposium was in its 17th iteration in 2020. The Office of Research at USF St. Petersburg organized the event and coordinated with the Nelson Poynter Memorial Library and the Honors Program. Undergraduate and graduate students were invited to share their work with the campus community to demonstrate the high-impact research that they were conducting. In 2019, the library had worked with the Office of Research to host award winners and posters nominated by faculty on the bepress Digital Commons institutional repository called USFSP Digital Archive. For the 2020 symposium, the Office of Research began planning in August 2019. The in-person symposium was scheduled for April 16, 2020.

When the COVID-19 pandemic hit, the USF St. Petersburg campus moved to remote instruction and ended on-campus activities on March 20, 2020. The Office of Research staff contacted librarians at Nelson Poynter Memorial Library to discuss the possibility of a virtual symposium. Author Allison Symulevich considered a variety of platforms for hosting the research symposium, such as the campus website, Canvas, LibGuides, Digital Commons, and Facebook. Criteria for platforms included factors related to team control, security, engagement, and archiving. Because of these factors and the prior pilot project, the library decided to recommend that the institutional repository be used to host the virtual research symposium.

The Office of Research wanted to capture an experience for the students similar to that of the in-person event. Thus, they requested that the platform include both video and audio options, as well as a way for the poster to be viewed. The Office of Research also requested audience participation through a commenting feature if possible. They also extended student submission deadlines to assist with the disruption in students' lives.

The Office of Research used a course in Canvas, the learning management system used at USF, to collect research posters and presentations from the students. The library digital team was given

access to the Canvas course so that the team could download posters, presentations, and abstracts to then upload to the institutional repository.

The library uploaded 55 student projects, 43 of which had a video or audio presentation. The digital team had hoped to batch upload the files to the institutional repository using spreadsheets containing metadata such as author names, titles, abstracts, and links to audio or video presentation files. However, due to technical concerns, everything was uploaded manually, with work divided amongst team members who had previously used the system. First, all of the content was downloaded from Canvas. These files were then posted to a shared drive in a variety of folders organized to maintain a workflow. The projects with audio/video presentations were uploaded first. Then the projects that had abstracts and posters were added. Due to time constraints, the digital team wanted to make sure the basics were done first so students would have time to make any revisions necessary before the site was promoted to the USF St. Petersburg community. After this initial implementation, the team had a meeting with the larger committee to discuss the progress of the digital collection. The committee suggested some changes and offered constructive feedback.

Once the abstracts, posters, and presentations (either audio or video) were posted, the team noticed issues with some submissions. Some students had submitted PowerPoint presentations that did not display as the team was hoping, so one of the team members changed the format to mp4 files. Audio files did not include a visual component. As a way to add a visual component, the team worked with Digital Commons to create a digital image gallery and add thumbnail images that could then be added to a special metadata field called Poster Preview. This enabled the collection to have a visual of the poster displayed above the audio file, allowing virtual attendees to press play on the audio file and see the poster image on the same page.

The team then turned to the Office of Research's request for a feature that allowed virtual attendees to interact with student presenters. Digital Commons does not have a commenting feature, so the digital team had to look at third-party commenting platforms. Digital Commons was able to integrate the platform chosen, Intense Debate, so that virtual attendees could comment on presentations. Students were asked to monitor their posters for a two-week period.

Moving forward, the library and the USF St. Petersburg campus discussed using the institutional repository for the spring 2021 symposium. However, due to administrative consolidation of the USF Tampa, St. Petersburg, and Sarasota-Manatee campuses into a OneUSF with a single accreditation, the new combined Office of Research on the Tampa campus decided to host the newly expanded, one-university, undergraduate student symposium through a Canvas course.²⁴

DOWNLOAD STATISTICS

Following the research symposiums, the authors looked at metrics for the virtual events. At USF, 55 presentations were uploaded to the IR. All time downloads from April 1, 2020 to December 31, 2021, including additional supplementary files, is 2,068, from 53 countries around the world. Total streams of audio or video presentations for the same timeframe are 1,168. At Longwood, 200 presentations were uploaded to the IR. All time downloads from April 13, 2020 to December 31, 2021, including additional supplementary files, is 16,190 from 124 countries around the world. Total streams of video presentations for the same timeframe are 2,541. See figures 1 and 2. These presentations are still getting downloads and streams—one of the benefits of preserving high-impact student research projects.

University of South Florida



Longwood University

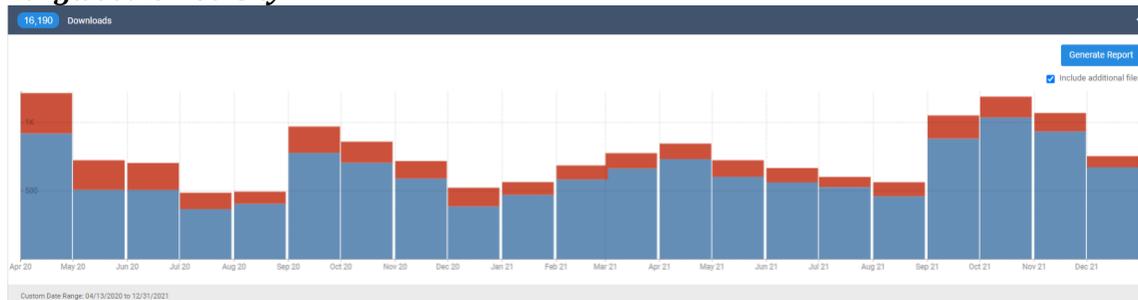
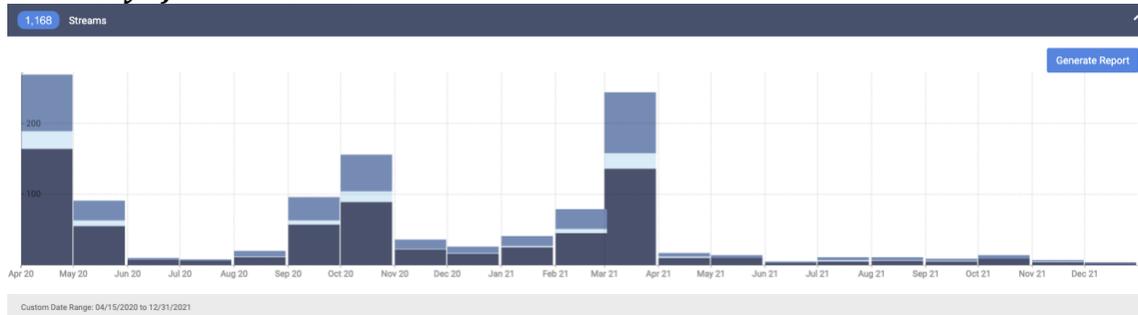


Figure 1. Downloads of symposium materials from each campus from April 20, 2020 to December 31, 2021. Blue represents downloads of presentations. Red represents supplementary materials.

University of South Florida



Longwood University

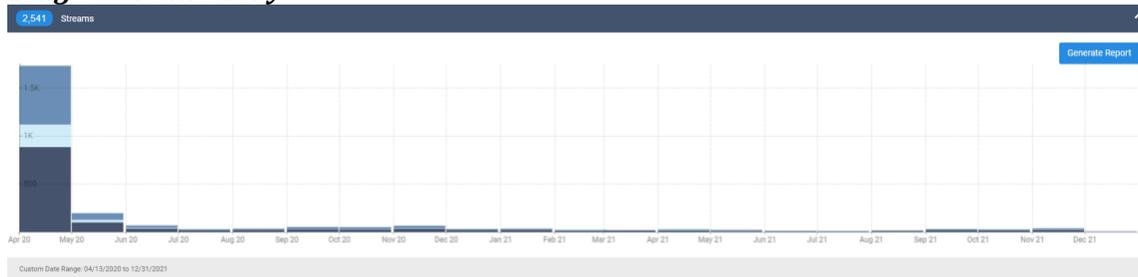


Figure 2. Streams of symposium materials from each campus from April 20, 2020 to December 31, 2021. Dark blue represents plays, blue represents views, and light blue represents completed viewings.

BEST PRACTICES

After reflecting on these large undertakings to move in-person events to online student research symposiums, the authors have identified some common best practices, meant to assist other institutions making similar decisions. These decisions are based on the following core requisites.

Consistent University Branding

Although both universities used bepress' Digital Commons platform, institutions can use a variety of online platforms, such as campus websites, other institutional repositories, and third-party software for conference hosting, such as Symposium by Forager One or Lumen Learning. Use a system that creates a cohesive look and feel to the collection of student research projects. USF had to do this with audio only presentations for consistency of viewing, adding a visual component to match those of video presentations.

University Access or Open Access

Use a platform that allows archiving of student projects. Even if the platform chosen for hosting the event does not allow for archiving, libraries should work with event hosts to provide institutional repository digital archiving of projects, similar to USF's pilot project and Longwood's 2021 spring project of archiving abstracts. Libraries can offer this as a solution to provide permanent archiving of high-impact student work.²⁵ Institutions need to consider whether they will keep their symposiums closed, meaning only accessible to the university community, or open to the world. While it is technically straightforward to restrict access using the campus LMS, IRs using net id sign-ins, or private websites, the authors argue for worldwide access to these presentations.

Archiving Student Work

Archiving these projects allows students to build their CVs for graduate school or interviews by providing hyperlinked citations to worldwide published projects. Making these projects available open access allows students to contribute to the worldwide scholarly conversation on their given research topics.²⁶ Statistics from both Longwood and USF show international downloads.

File Formats

As far as file formats that work best, consider embedding video and audio files using consistent formats. Mp4 video files worked best for both Longwood and USF on the Digital Commons platform. Audio files should be consistent as well for preservation.

Cross-Unit Collaborations

Work with other departments on campus to host these major academic events. Many units on campus contribute to student success, and these efforts can be combined to distribute work amongst university faculty and staff so as not to overload one department and to provide the best possible symposium. Different departments have different skill sets, such as technology and marketing. Both Longwood and USF St. Petersburg libraries worked with departments such as Undergraduate Studies and Communications to switch these in-person events to successful online programs. Consider working with distance learning units to increase distance learning student participation in student research symposiums.²⁷ Distance learning and IT departments may have additional technology experience that could lead to a better overall experience for students. In 2021, Longwood worked with the Office of Student Research, the library, Marketing and Communications, and Academic Affairs to put on the spring student showcase. This inter-unit

work led to another successful online event, with several hundred student researchers presenting their work.

Flexibility

Institutions should use flexible workflows when transitioning in-person events to online. Both Longwood and USF used flexible workflows for posting presentations into institutional repositories. However, the two universities differed in their submission process. Longwood had faculty submit student projects directly to the IR, a more distributed approach. USF St. Petersburg had students submit projects to Canvas and then the digital team posted projects to the IR, a more centralized approach. Institutions will need to decide which approach works best for them. USF St. Petersburg does not have a history of allowing outside submissions to its IR.

The digital teams needed to remain flexible as event dates were moving and online technology requests were changing, for example, event coordinators requesting online commenting features. Similarly, deadlines should be set with realistic timeframes, allowing enough time for uploading projects to the online platform. Longwood and USF worked with offices of research to establish flexible timelines for digital teams.

Submission Forms

Consider using forms or a system to collect student submissions. Google Forms, Microsoft Forms, or a learning management system such as Canvas are ways to collect the projects. Make sure to test these prior to the submission process. Both universities used Canvas during the 2020 student research symposiums to collect student projects. However, in 2021, Longwood students (both graduate and undergraduate) submitted directly to Forager One's Symposium platform because it was already integrated into the campus single sign-on service, enabling ease of submissions. For the Graduate Student Research Symposium in 2021, USF used Microsoft Forms to create a form that was tailored to file format preference. Although this form was not used after the Office of Graduate Studies went in another direction, Symulevich felt it was an improvement from the previous year's collection process due to the output of an Excel spreadsheet for metadata collection for batch uploading purposes.

Abstract Archiving

Institutions should consider allowing students to submit abstracts only. Longwood allowed students to not submit complete presentations if they were planning to publish their projects. This may be more of an issue when students are working with faculty members on research to be published at a later date.

Promoting the Symposium and Creating Engagement

Promote the event to increase student participation. This can be done both through social media and through university web presences. Consider working with your campus marketing and communications department to broaden marketing beyond the library. This marketing can be both to gain student projects and to promote the event to the broader campus community. Likewise, seek ways to promote engagement on the institutional repository or whatever platform is chosen. This could include using a third-party commenting feature as a way to further engage students with their scholarly topic. However, make sure to monitor commenting in some capacity to avoid spam. Also, turn off commenting features after a certain period of time so as not to overburden students. Commenting features and increased engagement via online platforms, like video and audio presentations, help avoid the negative impact of a lack of face-to-face interactions.²⁸

Hybrid Symposiums

Even after the end of the COVID pandemic when events resume in-person, hybrid symposium models should be considered, as evidenced by Longwood's use of synchronous presentations using Zoom. These links were integrated into the IR. OSU is considering using hybrid solutions in the future as well.²⁹

CONCLUSION

Moving in-person student research symposiums to online platforms during a pandemic is challenging. But this process of creating online events allows students to continue to celebrate their high-impact research and contribute to the scholarly community. Open access archiving of these projects has been successful based on download counts at Longwood University and USF St. Petersburg campus. The authors hope to continue to use innovative digital archiving to provide support for student research projects. Remaining flexible and working with other departments on campus can lead to successful online events. The authors hope in-person events will eventually return; however, these online platforms can enhance student research symposiums, providing global access to high-impact student projects.

ACKNOWLEDGEMENT

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ENDNOTES

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