"What Does a Community Need?"

Researching Remote Communities, Digital Events, Academic Conferences, and Tool Design during COVID19

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Simply Secure

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Introduction

In February 2021, Convocation Research + Design and Simply Secure were supported by the Alfred P. Sloan Foundation to conduct ethnographic and human centered design research to surface and analyze the needs of different academic communities in the context of digital events and spaces during the COVID-19 pandemic. The study presented in this report explores the barriers, frictions, opportunities, and advantages of remote events. The central aim was to understand how hallway conversations and academic conferences are recreated in the digital sphere. Seven virtual academic conferences were observed to assess new emerging norms, event organizers' needs, attendees' preferences, and the state of remote events and digital convenings during the COVID-19 pandemic.

Despite the normalization of professional circles connecting via video chats and new platforms, academic conference organizers and participants have lamented the lack of hallway conversations and the onslaught of "Zoom fatigue." Organizers have mentioned the difficulty of balancing the design of digital events for their communities and the tool or tools that suit the organizers and attendees needs, including social media integration within the event design as a specific tool and platform choice. With the looming presence of the COVID-19 pandemic, remote events are most likely continuing into the near future. Therefore, it is vital to understand the digital needs of organizers, attendees, speakers, and researchers, and how remote events can be improved to support community building, research sharing, outreach, collaboration, and cooperation online. To address this issue, our report combines observations, interviews, and platform analysis on the best practices used while focusing on usability, tool design, affordances, experiential design, public programming, and community identity within events and conferences.

Acknowledging Harm

Community based research is designed to be responsive, but the spread and management of COVID-19 itself is not a constant or linear event; new variants emerge, cities shut down and reopen, and vaccination rollout is slower in some countries and areas than others. The COVID-19 pandemic mirrors the structural inequalities that existed before it, both online and offline.¹ On top of these existing inequities, COVID-19 is generating new ones, with sexual harassment in the workplace, blurred work and home space boundaries, and emotional and physical labor falling more on people who self identify as women and people of color.

As we approached our participants, we were cognizant of the demeanor and emotions of our interviewees. Particularly, we noticed in the summer of 2021 that our interviewees openly acknowledged feeling burned out, time constraints, and general tiredness in attending digital events. While this happened to coincide with a rise in variants, and with the realization across the United States that things would not be going back to "normal" during the summer, it's impossible to isolate these variables and their effects. Although burn out, COVID-19, and "Zoom fatigue" are real factors that

impact communities and individuals, their effects and impact are difficult to measure. Our research goal was to see what barriers and opportunities are possible with remote convenings, but as researchers, we cannot separate COVID-19's emotional and physical impacts on communities. More specifically, it's difficult to understand general remote best practices in a COVID-19 mitigated future, because these best-practices cannot be decoupled or divorced from the reality of the COVID-19 pandemic. If someone is experiencing burnout, no design or UX or UI improvement will fix the emotional labor that is living with COVID19.

Contextualizing and Recognizing the Impact of the COVID-19 Pandemic

ON PARTICIPANT ENGAGEMENT

Life didn't and does not stop during the COVID-19 pandemic. Instead, more aspects of our lives moved online, became more interconnected, and began moving at a faster pace. Professional and personal lives are now both contained within the same screens and physical spaces; caregivers are co-teaching while working; people are attending weddings,² funerals,³ birthday parties,⁴ dance parties,⁵ and work meetings⁶ across video conferencing platforms from their homes.

Similarly, the requirements of academic life have not stopped. Conferences have gone remote, along with faculty meetings, lectures, and job interviews. Conferences and events are key parts of research and academic life, as they provide space to engage in critical feedback on research, meet junior and senior scholars, and strengthen community bonds. Unsurprisingly, researchers and academics are facing burn out, stress, and harm in addition to the stressors that exist in daily life.

Our study presents findings related to digital event design and the current state of community engagement within this space. Throughout our research, two conflicting themes emerged in regard to participation in remote events: remote events are much more accessible to attend, and at the same time, they often compete with external life circumstances.

Participants mentioned increased accessibility in regard to the ways their international colleagues could attend an event, because international travel is often cost prohibitive or extremely difficult due to visa approvals or

Even in remote events that were well coordinated and designed to align with the interests of their communities. participants still lacked the time. bandwidth, and headspace to be fully present and engaged. A caregiver cannot stop being a caregiver when they are at home, even if they schedule time to attend an event. Although in-person events provide this kind of distance and separation from the home and the office, the downside is the very real privilege of whom can attend those physical events. Remote events are physically easier to attend, but they are competing for the attendee's attention across many different, important, and legitimate needs. Often the act of balancing life's daily needs with attending virtual events results in a form of distributed engagement. We'd like to emphasize that this is not the fault of any participant or attendee. The act of living through a pandemic is in nature, traumatic. The results and findings presented here reflect a particular moment in time that cannot be separated from this trauma.

5 https://www.instagram.com/p/B-QezmRja-l/

6 https://journals.sagepub.com/doi/

other travel barriers. Although inperson events allow participants to be physically away from their home lives, people are now attending multi-day long events while at home, along with all the needs that the home brings.

https://www.vogue.com/article/how-to-set-up-your-zoom-wedding
https://medium.com/illumination/attending-a-zoom-funeral-295ecbbcc860
https://www.nytimes.com/2020/05/02/smarter-living/zoom-birthday-party.html

full/10.1177/10464964211015286#:~:text=One%20of%20these%20changes%20 involves,million%20(Evans%2C%202020).

ON EVENT DESIGN

We found that the design and adoption of a remote event's digital environment require as much intentionality and planning as a physical event. Virtual conferences benefit deeply from producers and event moderators at all stages of planning (before, during, and after). We also noticed how specific tacit knowledge about a particular event or community is much harder to surface for new attendees in remote settings (i.e., knowing when it is okay to speak), and can lead to frictions, confusion, and even harm for new attendees.

Lastly, we found in our observations that to plan engaging and nuanced remote events, organizers need to know the kinds of activities or interactions their specific community enjoys, their community's bandwidth or openness to learning new digital tools, and how their community communicates or prefers to communicate digitally. We detail more specific findings and examples in our Observations and Recommendations sections below.

AN EMERGENT RESEARCH SPACE

It's important to acknowledge the global reach, pain, and disruption of COVID-19 across nearly every facet of life, including in research, funding,

7 https://www.nytimes.com/2020/06/10/business/ford-foundation-bonds-coronavirus.html and academic spaces. As funders have allocated new resources⁷ towards the pandemic itself with regards to viruses and vaccines,⁸ there has been funding and research focused on social interactions during COVID-19- on what kinds of support communities need,⁹ the tools they use, and educational materials to help support going entirely remote.¹⁰

Specifically, the space of studying remote communities, community support, and community structures during COVID-19 is particularly emergent, given that the pandemic started in late 2019 and early 2020. The lead researcher within this project has conducted similar embedded ethnographic research in a project supported by Omidyar Network and the Mozilla Foundation.¹¹ That previous research looked at how creative communities, educators, and mutual aid groups are building digital workflows and practices to engage and support their communities, and specifically analyzed their tool usage, best practices, workflows, pain points, what their communities responded to, and the improvements they needed. That work helped surface and uncover distinct workflows within digital spaces, which were often planning focused, with no one magical tool. Organizers and communities used a

⁸ https://www.gatesfoundation.org/ideas/articles/coronavirus-funding-additional-250-million-suzman

⁹ https://www.fordfoundation.org/the-latest/news/ford-foundation-takes-historic-unprecedented-action-to-increase-grantmaking-for-nonprofits-by-1-billionwith-proceeds-of-offering-of-social-bonds-in-response-to-covid-19/

¹⁰ https://www.rockefellerfoundation.org/covid-19-response/

variety of tools, engaging in "digital duct taping" where they were using different kinds of non-integrated tools to create a workflow to facilitate different kinds of community engagement.

Adjacent research has been conducted by Center for Scientific Collaboration and Community Engagement to support organizers on how and which tools and platforms to select for online convenings.¹² Further work has been conducted by Rachel Coldicutt for the National Lottery in the United Kingdom, studying how charities and civil society organizations during COVID-19 were continuing to engage with their communities along with the kinds of problems they were facing, their needs, and the kinds of tools they were using. Other design or community based organizations, such as the Center for Urban Pedagogu,¹³ have been analyzing and addressing how their community is engaging during COVID-19, and what their communities can do to further community building. To the best of our knowledge, there has not been significant research on professional academic conferences and event design during the COVID-19 pandemic. While conducting our research for this report, the Scialog event was in the process of studying and reviewing their digital events

12 https://www.cscce.org/2021/02/09/new-cscce-resource-helps-you-find-theright-tool-for-your-next-virtual-meeting-or-event/

14 https://www.lexisnexis.com/community/businessblog/b/trends/posts/ covid_2d00_10-and-academic-libraries to create more cohesive and better experiences for their attendees. However, most of the existing research we have uncovered is focused on research¹⁴ and support for academics building community¹⁵ and trust with their students during the COVID-19 pandemic.¹⁶

15 https://www.insidehighered.com/news/2020/09/11/no-dorms-no-personclasses-no-problem-how-community-colleges-are-building-community

16 https://sr.ithaka.org/publications/seven-practices-for-building-communityand-student-belonging-virtually/

¹³ https://vimeo.com/445332625

Methodology

From February 2021 to October 2021, we observed 7 academic conferences that moved online and interviewed 41 people. This ethnographic work informed the main findings, recommendations, and projected next steps presented in this report.

To understand how academic conferences and subsequent hallway conversations are recreated in the digital sphere, this study implemented a number of qualitative research methods including desk research, user and event observations, interviews, and design and usability audits. Whereas the desk research guided this project's methodological blueprint, user and event observations provided uninterrupted analysis of how the digital events tools were used in real time. Interviews with stakeholders, event organizers, and attendees provided a deeper understanding of their needs, and the advantages and frictions of remote events. The findings from our observations and user interviews were grounded in a critical understanding of the affordances and

constraints of each platform used. The following presents a breakdown of the methodologies we used.

DESK RESEARCH

Our desk research focusing on digital event design, and tools used within online convenings (mentioned above in the "An Emergent research space section") helped inform our study's underlying research objectives by revealing some of the current pain points experienced in designing remote events and helped provide documentation of some of the common frictions and pain points to contextually ground our research.

USER RESEARCH AND EVENT OBSERVATION

During our research, we observed and attended seven online academic conferences and engaged with their communities (listed see below) across different disciplines including STEM Sciences, Social Sciences, Liberal Arts, and Digital Humanities. We built confidentiality and varying levels of anonymity into our research process to surface critical and authentic feedback (see Annex for more detailed information). We conducted 30 to 90 minute interviews that allowed guidance from our participants, and varied in length depending upon how much detailed information an interviewee chose to provide. We interviewed 41 participants in total: 4 stakeholder interviews, 11 preliminary event organizer interviews, 17 attendee interviews, and 9 post event organizer interviews.

DESIGN RESEARCH AND USABILITY RESEARCH

In total, we noted that 10 digital platforms were used across the observed events. Our observations included basic usability and accessibility audits that focused on affordances, constraints, and confusion. We noted how easy or difficult it was to use a tool, surface information, and engage with design and UI elements. The underlying objective of our observations was to look for consistency either following design standards (flat or material design) or comparing the app/ software/product to similar but more well known products (that then set interaction design standards and norms for users). Additionally, we analyzed each tool following some accessibility standards, (e.g., could text be changed bigger or smaller, did the colors in the product/app/software seem to have a high enough visual contrast). We also analyzed the tools based on safety standards, regarding online harassment, on privacy settings, and on communication design (e.g., did the apps/software products have react or emoji elements, could gifs, images or videos be uploaded, etc.). Lastly, we specifically asked questions to our users on ease, intuitiveness, and comfort in using the conference's tools.

Prior to the events, we gave the same consideration and observation to the events' websites, email updates, and event ticketing sign up. Our observations are rooted in a sociotechnical understanding of platform design, noting how platform design and user engagement shape one another on a continuum.

Our Events

Social Science Foo (community building, medium/small, invite only, free)

- Event Dates: February 19-21, 2021
- Platforms: Discord, Zoom
- Discipline/Academic Community: Social Sciences

Scialog (workshopping/community building, medium, invitation only)

- Event Dates: June 10-11, 2021
- Platforms: Zoom, Padlet, Google Suite
- Discipline/Academic Community: STEM

NBER summer institute (community building/ milestone, medium, invite only)

- Event Dates: July 26-30, 2021
- Platforms: Zoom
- Discipline/Academic Community: Economics

CSV conf (bridge/community building, large, sign up free)

- Event Dates: May 4-5, 2021
- Platforms: Crowdcast, Slack, Spatial, Zoom
- Discipline/Academic Community: ???
- We Robot (milestone, medium, affordable ticket)
 - Event Dates: Sept 23-25, 2021
 - Platforms: Whova, Zoom
 - Discipline/Academic Community: Law and Robotics

Write the Docs (bridge event, large, ticket under \$100USD)

- Event Dates: April 25-27, 2021
- Platforms: Hopin, Slack

SLSA (workshoping/milestone, medium, ticket under \$100USD

- Event Dates: September 30 October 2, 2021
- Platforms: Zoom, Discord, Twitch

• Discipline/Academic Community: Digital Humanities/ Liberal Arts

	Zoom	Discord	Padlet	Google Suite	Crowdcast	Slack	Spatial	Whova	Hopin	Twitch
Social Science. Foo										
Scialog										
NBER										
CSV Conf										
We Robot										
Write the Docs										
SLSA										

PLATFORMS OBSERVED

DIVERSITY STATEMENT AND COVID-19

Within our research, we aimed to center the experiences of traditionally marginalized groups; female presenting people, non binary people, and BIPOC individuals. However, we found it difficult to do so for a variety of reasons.

Some of these reasons are systemic. Our study focused on academic conferences, and naturally, the institutional inequities experienced in academia shaped who we were able to observe and interview. Historically, academia has existed as a "sea of whiteness."¹⁷ In the United States, 74% of the tenured faculty is white¹⁸ and 53% of college faculty is cis-gendered white men.¹⁹ In the United Kingdom, less than 1% of academic staff identifies as Black compared to 85% who identify as white.²⁰ Therefore, it is not surprising that we could only identify one or two people of color at each conference we attended.

Despite the removal of travel barriers and increased international accessibility that remote events theoretically afford, we too observed a "sea of whiteness." In terms of gender inequities, 47% of full-time faculty members in the U.S. self-identify as female.²¹ While the number of people who self identify as female is on the rise in multiple countries, cis presenting men are paid more and more likely to receive tenured track positions.²² Like academia's racial disparities, its gender inequities were also present in our data. We observed what seemed to be a sizable number of female identifying people, however the gender breakdown of attendees, to our observations, was not equal - cis presenting men were often the majority of attendees and speakers.

It's important to acknowledge that our research was centered on remote academic events and convenings, and it's important to acknowledge how white and male the academy is. However, academia's institutional inequities were not solely responsible for shaping the sea of cis white men that we observed. Critical race and technoculture studies demonstrate how the architecture and affordances of most digital platforms magnify social inequalities and promote a "default whiteness."^{23 24 25}

The ability to effectively communicate one's race, ethnicity, or gender is not intentionally designed in most online

 $^{{\}bf 17}$ Quote from interview participant that attended one of the events we observed

¹⁸ https://fivethirtyeight.com/features/universities-say-they-want-more-diverse-faculties-so-why-is-academia-still-so-white/

¹⁹ https://nces.ed.gov/fastfacts/display.asp?id=61

²⁰ https://www.theguardian.com/education/2020/feb/27/fewer-than-1-of-uk-university-professors-are-black-figures-show

²¹ https://www.aaup.org/news/data-snapshot-full-time-women-faculty-and-faculty-color#.YZqNZ2ZKhhE

²² https://www.catalyst.org/research/women-in-academia/

²³ Boyd, D. (2012). White Flight in Networked Publics? How Race and Class Shaped American Teen Engagement with MySpace and Facebook. In Nakamura, L & Chow-White, P. (Eds). Race After the Internet (pp. 203-222). Routledge

²⁴ Nakamura, L. (2002). Cybertypes. New York [u.a.]: Routledge.

²⁵ Chun, W. (2019). Queerfying homophily. In W. Chun, & C. Steyerl (Eds.), Pattern discrimiation (pp. 59-98). London: University of Minnesota Press Minneapolis.

platforms. Although platforms like Zoom (the most observed platform in this study) enable users to alter their skin tones but they also have to manually opt out of the default skin tone. One recent study finds that people who use default or neutral skin tones for their emojis are assumed white, thus promoting a sense of default whiteness in digital spaces.²⁶

In an attempt to understand the demographic background of these attendees, we reached out to each conference but only one of seven was able to provide this information. This data was not necessarily accessible from an observational standpoint because most participants attended the events we observed with their cameras off. However, if most participants had attended with their cameras on, this would have resulted in the researcher assuming their race, ethnicity, and gender, which is not only problematic, but it would also undermine the integrity of this study.

As previously noted, we aimed to center the experiences of traditionally marginalized groups when developing and conducting this study, but institutional inequalities and the default whiteness rooted in the design of most online platforms barred us from doing so. To counter these inequities, we intentionally coordinated our participant outreach to include female identifying people and people of color, but our emails would occasionally go unanswered or were declined due to a lack of time and availability.

We must acknowledge that the groups we targeted for user interviews (people who present or identify as women and BIPOC individuals) tend to be the people who engage in more emotional and physical labor within the workplace and in their own homes.²⁷ Often the burden of labor. emotional labor. and care falls most on marginalized groups;²⁸ minorities have less free time and bandwidth in the blended spaces we are currently navigating.²⁹ During the pandemic women's publishing fell dramatically in correlation to men's,³⁰ therefore demonstrating disparities in harm among traditionally marginalized groups.

Within this, we want to acknowledge the pain, burn out, and harm caused by the COVID-19 pandemic. Despite our intentional and concentrated outreach, the groups we wished to interview had more burdens, stress, and other barriers than cis, white men during the pandemic and this is ultimately reflected in our interviews, observations, and findings.

²⁶ https://arxiv.org/pdf/2105.05887.pdf

²⁷ https://www.theguardian.com/world/2015/nov/08/women-gender-rolessexism-emotional-labor-feminism

²⁸ https://www.theguardian.com/world/2015/nov/08/women-gender-roles-sexism-emotional-labor-feminism

²⁹ https://www.jstor.org/stable/9000788230 https://www.nature.com/articles/d41586-020-01294-9

A note on our quotation styling: we offered interviewees the ability to be interviewed and quoted by name, anonymous, or under transparent opacity. If an interviewee chose transparent opacity, we describe their observation as a sentence or paragraph, removing any kinds of information that could out or de-anonymize the interview or event they are describing. This is to ensure further safety of the interviewee. Transparent opacity quotes are then described as sentences or paragraphs throughout this report, often starting with "one interview mentioned" etc.

Insights & Observations

Across the board, interviewees mentioned missing in-person events, while highlighting the benefits of remote events. Specifically, they noted that virtual conferences are more affordable, and make it possible for international colleagues to attend. Each interviewee weighed and considered our questions on the benefits and tradeoffs associated with digital events, by recognizing that remote is not as enjoyable as in person but highlighting the very real benefits that remote brings. Almost every interviewee expressed an interest in hybrid events. Across the next few pages, we break down our findings from observing remote events and interviewing participants, organizers, and key stakeholders, into three sections: community, event design, and the digital nature of events and communities.

Community

This section refers to insights related to community events, surfacing how communities are responding to fatigue, newcomers engaging with communities, and how community culture can and should impact event design. Across pages 15 to 20, we unpack the following insights:

It's Not Just Zoom Fatigue, It's General Fatigue

Know Your Community

The Community Around an Event Matters

Tacit Community Knowledge Is Not Easily Shared to Newcomers

Caregiving During the Pandemic

No Time To Attend Everything

"I just felt very burned out the whole conference. And it's not the fault of the conference. I was probably feeling already burned out going into it. But it was exciting seeing other people's energy there."

Anonymous Assistant Professor

"I had budgeted four and a half hours of being on Zoom, in total, plus the time it took to prepare my stuff, which was probably another... Even though it was some very, very simple kind of prompts, it was another like two or three hours. So, seven and a half hours over the course of [a] three or four day conference is like more than enough... It's just exhausting."

Shaka McGlotten, Writer and Maker

IT'S NOT JUST ZOOM FATIGUE, IT'S GENERAL FATIGUE

During the middle of our research study (May, June, and July 2021), we noticed that people seemed to be feeling burned out while attending these virtual conferences. Those organizing or chairing specific events mentioned attendees joining events with their cameras off. Other interviewees had mixed feedback on the success or enjoyment of a particular event in the summer of 2021. We noted this because two of those interviewees mentioned fatigued, feeling tired, and/or fatigued with Zoom. The summer of 2021 was a particular moment in the United States, where vaccine roll outs were made available to adults, but the new variants were rising, and it became very clear that even with the vaccine, pre-pandemic life was not returning.

KNOW YOUR COMMUNITY

Organizers know their community interests and build for them. Knowing what works for a given community is extremely important in creating a remote and engaging event for that community. For example, from an outsider's perspective one of our conferences felt a bit dry; everything was held over Zoom with an impromptu afterparty in Gathertown. However, this event seemed to work really well for the community. The Zoom chats were consistently active and there was always a participant talking or asking questions to the speaker and moderators. Participants seemed fully engaged from the beginning to the end of the day. Additionally, we noticed that the conversations were so in-depth and specific to the speaker's talk that the questions and comments were difficult to understand without any background information on the topic.

THE COMMUNITY AROUND AN EVENT MATTERS

Tools don't make the community. One of the keyways to create engagement has nothing to do with the tool, but the community ties and the extent to which the community is connected and close knit. Three out of the seven events attended seemed to go really well or function well for attendees because of the closeness of their communities: CSV conf, Write the Docs, and WeRobot. Both CSV Conf and Write the Docs appeared to have hundreds of attendees, with CSV conf having over 1,000 attendees each day. In the Hopin chat for Write the Docs, people would greet each other by name, and seemed excited when someone they knew joined. Similarly, we saw the same kinds of engagement in CSV Conf and WeRobot. Community members would regularly engage with each other and the speaker, often referencing one another or work relevant to the community and talk. This sort of community engagement was also witnessed in Write the Docs's Slack community, which is active throughout the year and allows community members to regularly engage each other. This space afforded community members who did not attend the actual event to talk with event attendees. WeRobot has a thriving, regularly returning community, who also have attended digital events. One interview participant mentioned their 10 year long engagement with the conference.

The kinds of closeness, intimacy, and engagement these communities have are not something that can be solely created or facilitated by tools but are kinds of connections that get created over time within the community. "I think the format of [this particular] conference is, in itself, something that is unique. And I think you sort of pick up [that] there's these discussions that you have to read the papers beforehand to comment, to have a sense of what's happening and then discuss and do an overview [but this wasn't made apparent before the event]. And then you can engage with conversation. One of the things that I did pick up is that a lot of times in a conference, and especially like the conferences that I'm used to attending, which are more like technical conferences, you ask a lot of questions from the author, but you don't necessarily give a lot of suggestions or feedback or critical sort of feedback on their work. There's this element of, 'let me add onto your work and let me give you references you can use, or directions of thinking that you can have, and not necessarily just question what you have done.' It's an interesting cultural element to this conference."

Anonymous Researcher

TACIT COMMUNITY KNOWLEDGE IS NOT EASILY SHARED TO NEWCOMERS: AND CAN LEAVE PEOPLE OF COLOR FEELING ALIENATED AND CONFUSED.

Each community presented an established system of communication and a preconceived rhythm of how to navigate communal norms. While many of these norms are unspoken (inside jokes, specific kinds of vernacular, understanding how the conference functions, understanding how to engage with other participants in the community, etc.) these kinds of tacit knowledge help shape the expectations of how people should interact. The rhythm of how to navigate these norms are embedded within the virtual conference space but are not accessible to newcomers or outsiders. This can amplify feelings of alienation among junior scholars, BIPOC scholars, and female presenting scholars given the asymmetrical power dynamics within academia. One interviewee mentioned how they were at an event, and unmuted to add a point to the conversation, but did not realize there was a particular way to add their name to the speaking list. They thought that they had broken the community's established system of communication and felt mortified. In being the only Black person at the event, the weight of the disharmony they thought they had created made them feel alienated. They left wondering when the protocol for speaking had been shared and whether they had missed something. In this particular instance, one of our researchers was also there. This event had shared the protocol only once at the start of the panel, but the rules changed panel to panel.

"Because we're in different time zones, some of us families, the only unstructured time was this sort of *cinq a sept*, beer o'clock thing, but I didn't participate in it because I have a family. So, I was being a decent dad. And so, that was the part that was missing for me."

Nick Cowan, Professor

"I liked them very much, the talks and as I mentioned I'm really looking forward to watching some others that I missed. And I really liked the 'Birds of a feather,' [a specific session in CSV Conf], although I only half attempted one of them because it was late in the evening, I had to put my son to sleep so I had to leave, unfortunately"

Karolina Bzdušek, Data Engineer

CAREGIVING DURING THE PANDEMIC

While everyone has suffered stress, burnout, and fatigue, so have caregivers. But in regard to attending digital events, caregivers have a particularly difficult time attending events, including "after hours" events like social events, as they will often coincide with or overlap with caregiving duties. Two interviewees mentioned missing different events, because of time zones or timing of the event coinciding with when their children were home or when it was time to put their children asleep.

NO TIME TO ATTEND EVERYTHING ATTENDEES ARE FEELING OVERLOADED AND CAN'T ATTEND EVENTS IN THEIR ENTIRETY, EVEN IF THEY WANTED TO.

Multiple interviewees, including most of interviewees from one event, mentioned only having the bandwidth and time to attend their own talk, and not the rest of the event. However, these interviewees clarified that they had wanted to attend the other talks but just did not have time.

Events

This section refers to insights related to events, in how to structure, coordinate, and plan digital events. Across pages 22 to 26, we unpack the following insights:

Moderation Matters

Almost All the Events Had This Similar Problem: Time Zones are Difficult to Manage

Less Chance for Spontaneity; Online Events are More Structured

Cameras On or Off Don't Determine Engagement or Interest

The Joys of Recurring Events

MODERATION MATTERS THE RIGHT MODERATOR CAN DRIVE REAL ENGAGEMENT, EVEN IN REMOTE SETTINGS.

In our observations, we noticed that having moderators helped encourage participation, and the moderator's engagement styles with participants affected the amount and quality of the conversations in chat and during the Q&As. One participant recounted an event they attended earlier in the pandemic, specifically mentioning how the moderator shaped the tone of the conversations and made participants feel comfortable and engaged. In this example, the moderator created space for non-scientific interactions during breaks. This helped bring participants together as people.

Additionally, we observed how moderators hold key roles in starting a conversation or breaking the silence in a chat or room. We noticed that if the moderator didn't initiate conversation in the chat, participants would wait for someone else to start the conversation. Generally, we saw that if one person starts commenting, others would quickly follow suit.

ALMOST ALL THE EVENTS HAD THIS SIMILAR PROBLEM: TIME ZONES ARE DIFFICULT TO MANAGE

When designing for many time zones, events still prioritize the organizers. One of the benefits that remote conferences bring is the ability for anyone, in any place, and any time zone to attend the event. But with that benefit comes some very real tradeoffs. It seemed like conferences in the United States tried to be time zone accessible across the US; meaning, conferences would start slightly later in the East Coast (10am-noon) to accommodate for an early morning in the West Coast (7am-9am) and accommodate for European members. Some events, like Write the Docs, placed their job fairs and keynote talks in the mornings to accommodate international attendees.

Events are usually structured in a way where at 9am each day the same activity is happening (such as 9am job fairs and 10am keynotes every day)- this means that the groups, or people that are in another time zone can't attend events that occurred 'later' or earlier' in their time of day.

"The sort of hallway conversation thing I haven't seen [in digital events]. I know there are tools that try to simulate this, but I don't think they really have kind of gotten critical mass. And so, a result of that is there are fewer organic interactions. And again, I think that's unhealthy. I say this from the perspective of a senior person who's established. None of this is bothering me for my sake; I think it's great. I get invited to stuff. I can turn it down. I can show up for stuff and leave and whatever. I don't need to spend time, you know, hanging around by the coffee machine. But, as a steward of the field, I worry about it often."

David Autor, Ford Professor at MIT Department of Economics and Co-director of the NBER Labor Studies Program

LESS CHANCE FOR SPONTANEITY; ONLINE EVENTS ARE MORE STRUCTURED SPONTANEITY MUST BE ORGANIZED

The internet is an entirely designed space. In person you could overhear a conversation or have the ability to meet someone randomly. **EVENTS**

"There are Q&As that work really well, but I would not have been able to predict an audience of dozens of people with their cameras off."

Shaka McGlotten, Writer and Maker

CAMERAS ON OR OFF DON'T DETERMINE ENGAGEMENT OR INTEREST

Cameras and audio are not signals for lack of engagement or interest. In multiple events with thriving chats and commenting sections, multiple participants would have their cameras and audio off but still be engaging.

"So, it was basically every week for a month, Wednesday afternoons, we would get together for like an hour. And we would do little presentations and stuff. And there was nothing special about it. It was just little presentations followed by some Q&A. But because it was distributed over the course of multiple weeks, you didn't get Zoom fatigue. And they scheduled it super far ahead of time, so we all cleared those afternoons. And the moderator was ruthless and kept everyone on time so that they never took more than an hour. Or whatever, maybe it was an hour and a half. I forget what they were. But they never took longer than scheduled. And that was actually really good. I was pleasantly surprised by that because that was an event that I enjoyed."

Nick Cowan, Professor

One interviewee was surprised. "It's funny. I hadn't really thought about how much I liked the recurring ones."

Melissa Santos, Data Scientist at CircleCl

THE JOYS OF RECURRING EVENTS

There have always been frequent or recurring community events, such as weekly or monthly meetups. But some communities have specifically made more frequent and recurring events for their communities, while other interviewees have sought out recurring events as a way to more regularly see similar faces, without the burden of having to organize hangouts on their own. In a way, a recurring event removes the stress of organizing from the individual and provides the benefits of sustained and recurring social interactions with similar people, which is something that was missing during the pandemic.

The Digital Nature of Events and Communities

This section refers to insights related specifically to how the digital and online impact both communities and events, from harm mitigation existing (or not) in digital tools, the context collapse of the home and workplace, and how digital design matters for community engagement and event design. Across pages 28 to 36, we unpack the following insights:

Blended Spaces

Not Designed for Harm Mitigation

Design Matters

Cross Platform Communication

Layers of Passive Surveillance

BLENDED SPACES

THE ABILITY TO FIND BALANCE AND ESTABLISH BOUNDARIES IS LOST IN THE COLLAPSE OF WORKING IN OUR HOME SPACE

Work and personal lives are now contained within the same rectangles and backgrounds. Our living rooms have become our offices, our kitchens have become our break rooms, and our homes have become our workspace. The separation of work and personal life has become blended and a part of our homes. The ability to find balance and establish boundaries is lost in the collapse of working in our home space.

A person's computer and phone screens give users little to no separation from those areas in their lives. Digital blended spaces are a mixture of enterprise software and social media tools that are used by users across both their personal and professional lives. The blended nature of digital environments mirrors how our work and private lives are woven into the social fabric of events and convenings. To fully understand the useability and usefulness of enterprise software we must understand their integration into our daily lives. As we noted earlier, weddings, birthdays, and funerals are being held over video conferencing platforms. Other tools like multi-channel text tools, such as Slack, are not just tools for workplaces anymore, but are used by different kinds of communities and individuals to interact professionally and socially. For example, the Write the Docs community has a thriving and vibrant Slack community that exists beyond the conference.

In addition to enterprise software being used in a fashion that blends our professional and private lives, the kinds of events we observed

were blended in nature. Some were strictly research presentation based events where papers had to be submitted and approved beforehand. Others were invitation only and designed to help create feedback between junior and senior scholars. However, some were 'bridged' events that brought academics and practitioners in the field together. Within our interviews, we noticed that most of these events, had they been held in person, would have included some socializing aspects like lunch breaks, coffee breaks, after work drinks, etc. Regardless of the intentionality of the event, most if not all these environments would still blend the personal and the professional, even if interactions are strictly related to research.

However, in the current digital environment, ice breakers, coffee breaks, and paper presentations are all happening within the home. The threads of our personal and professional lives are knotted, not just in our homes but in the digital environments we occupy. By acknowledging we are living in the new kinds of blended physical and digital spaces, we acknowledge that the design and affordances of these spaces must be interrogated, critiqued, and studied.

NOT DESIGNED FOR HARM MITIGATION ENTERPRISE SOFTWARE BUILT FOR COMPANY ENVIRONMENTS ARE NOW IN HOMES BUT LACK THE NUANCED SETTINGS TO KEEP USERS SAFE

As noted above, enterprise software is becoming a blended space, being used for personal and social interactions the way traditional social media platforms are used. However, enterprise software is not designed to function in the same way as social networking sites. Enterprise software often lacks reporting systems, nuanced privacy settings, and in some cases muting and blocking capabilities, a challenge that companies are facing today. ³¹ While some enterprise software have safeguard policies in regard to hate speech or illegal content, they rarely reference discrimination, harassment, or other kinds of user related harms.

Often in enterprise software, it's the tool administrator or "admin" who has the agency and affordances typically associated with social network permissions, such as the ability to remove and block users. In enterprise software, it is the admin's responsibility to determine the side channels that can emerge. Again, this form of agency and control is not afforded to users. This creates a division of labor within enterprise software and hierarchy among its users. While some are granted permissions as admins, others are just participants. What makes this dichotomy problematic in the context of events, if a participant is facing any kind of harm, they have to go to admin to help solve that harm, which can take time, prolonging the harassment and harm that participant is facing. Putting it into context, if someone is being harassed in a video conference meeting, there's nothing that the

user facing harassment can do at that moment, other than flag it for the administrator. However, if that same user was being sent harmful content on a social network, such as Twitter, they could mute or block and report the user.

Digital blended spaces bring about different kinds of harm. Serious or harmful conversations are now happening in a person's private space, but these harms are afforded within the tools themselves as witnessed on Zoom with the emergence of Zoombombing, a new form of harassment came into existence during the pandemic. Zoom-bombing is when a person with malicious intent (a troll) hijacks a Zoom session by joining a Zoom meeting they are not intended to join, and disrupting the meeting with inappropriate and offensive content to cause harm and wreak havoc.³² On April 1, 2020 Zoom's CEO acknowledged that they had not thought of harassment when designing the tool.³³ On the other hand, Slack has repeatedly said publicly that it's just a workplace tool, and thus doesn't need blocking or moderation. Their stance is that disagreements can be worked out in an office place. However, in digital blended spaces, these kinds of tool considerations matter for the safety of participants, especially as they are now in their private homes.

DESIGN MATTERS

ONLINE OR OFFLINE, EVENTS HAVE 'SIDE' CONVERSATIONS THAT HAPPEN AROUND THE ACTUAL MEETINGS AND CONVENINGS THEMSELVES

Semi-private and semi-public conversations are often one of the main motivations for participants to attend events. These semiprivate and semi-public conversations need spaces to exist within, like a 'hallway' but online, these kinds of conversations must be more coordinated, because of compacted digital event tools.

Digital blended tools, like most software, are highly constrained and designed. Any kind of interaction has to be coded, planned, and designed. While physical events still have architectural and event design constraints, they do allow for more fluidity and ease of movement and choice within the event. While a Zoom event may have three breakout rooms going at once, an admin is the one to move a participant to the Zoom rooms. Within Zoom, there is no designated 'hallway' or 'lobby area' that a participant themselves can choose to move to. This is what creates this kind of constrained and compacted space; everything has to be coordinated and pre-determined, even 'un-structured conversation' spaces had to be intentionally chosen and designed by the conference organizers.

In some events we observed that were using Zoom as the main event software, events would intentionally create separate unstructured and open 'hangout spaces' on other platforms, like Discord or Slack. We see this similarly to how a physical event has multiple spaces tied to it,

such as a lobby, a hallway, the main event, and even outside spaces such as coffee shops, that attendees can choose to go to have spontaneous meetings or hangouts. Putting this in perspective, an event in a physical space is never just one room completely isolated and alone. Physical events are often situated in a larger context or structure like a building that may have a lobby, a stairwell, a door, and a hallway. All these physical spaces offer spontaneous and random chances of interactions and function as spaces where attendees can intentionally peel off together to have smaller conversations away from the bigger group.

Online, the spontaneity must be coordinated and planned, either within the chosen platforms of the event, or spearheaded on a new platform by individual users coordinating with one another. Hallway conversations and spontaneous meeting areas in digitally blended spaces have to be coordinated and planned but participants still need those spaces in events; organizers can facilitate them by using multiple platforms (such as a combination of Zoom and Discord) or in a robust product like Hopin or Whova.

In this vein, we noticed a dearth of tools that allowed for semi private spaces, with the majority of tools only allowing conversations completely in public, or privately between users one on one within our research. As mentioned earlier, professional events can span into personal spaces and having spaces to engage in forms of coordinated and semi-private spaces is important. Perhaps a senior scholar wants to catch up with a junior scholar, or three colleagues have not seen each other in a while and want to chat just amongst the three of them at the event. Those kinds of interactions are natural and endemic to these events and are a necessary part of creating social bonds and ties within communities.

An interviewee, who asked to stay anonymous during our interviews, remarked having a conversation at an event with another attendee that turned personally serious. They remarked wishing they could make a private circle for themselves and this other person to continue having their conversation, for example, like being able to go into a private room in a real event, but not being able to do that in the tool they were using, which was Gathertown. Whova, Hopin and Slack were the few tools that allowed users to create 'semi private' or 'semi public' spaces, spaces that a participant, not an admin, could create between two or more users. Semiprivate and semi-public conversations provide similar outlets, like hallway conversations.

CROSS PLATFORM COMMUNICATION: RECREATING FAMILIAR AFFORDANCES FROM ONE PLATFORMS TO ANOTHER

We observed participants using affordances commonly found on traditional social network platforms (Twitter, Facebook, and Instagram) in chat spaces like Zoom's chat box. Even though these features were not recognized by the platform they were using, participants were recreating them to organize conversations within the chat space. For example, the @ symbol is a feature recognized by most social media applications and is used to directly reference or tag a specific user. The ability to tag specific users is not a feature in Zoom, but participants were still using the @ symbol to address specific people within the chat space.

Additionally, users would often award their colleagues imaginary points to communicate that the comment they made or the question they asked is a good one. As one interviewee mentions, when several participants reply +1 'name of participant' in response to a person's comment or question, it becomes clear what discussion points are most important to the community. The user cited how this form of feedback is helpful to gauge the needs and desires of those in the room. Some of the platforms we observed, like Whoa, allowed participants to vote on the questions submitted, thus providing a clear consensus on what questions to focus on during the discussion. Platforms like Zoom do not offer voting features, but participants would recreate the ability to form a consensus by awarding imaginary points to participants.

LAYERS OF PASSIVE SURVEILLANCE

Some of the more male and middle aged interviewees mentioned wanting more video and audio engagement, to see the other participants, citing video on as a form of an engagement metric. However, as observers, we found there to be high engagement with many comments in the same events these interviewees were mentioning. It's worth noting how this request of video and audio on can function as a form of passive surveillance for attendees but is also not a great metric for engagement. Insights & Observations **The Positives** of Digital Events

The Positives of Digital Events

NEW KINDS OF CHATS AND INTERACTIONS

A NBER moderator mentioned how chatty their community is in Zoom, particularly in response to papers. This kind of real time interaction and feedback is impossible for them in a physical space, and it's something they don't want to lose if the events transition back to being non-remote.

DIGITAL ALLOWS FOR INVITING NEW PEOPLE AND MORE ATTENDEES

"One thing that I think is really important and sort of interesting about Write the Docs and other online conferences, is that I know for this year attendance was up. Because people who wouldn't ordinarily be able to come to the conference in person, were able to do it because it was online." EMILY BAKER STUCKMAN, TECH WRITE ONE

MORE INTERNATIONALLY ACCESSIBLE: TIME ZONES

One interviewee cited the global reach of remote events and being able to engage more frequently and regularly with colleagues in Europe with weekly meetings. They used to only see those colleagues once a year, but now it's much more frequent with remote events calling this kind of frequent access "mind blowing."

ACCESSIBILITY IN TERMS OF COST: DIGITAL EVENTS ARE CHEAPER

"The cost of getting to these conferences is actually lower than the actual entrance fee. And, if you were going to travel to these conferences, that has huge implications in terms of timing and also cost as well. I think the barrier to entru to a conference is so much less, and that is great because you can attend a lot more events and qet a lot more exposure. I don't want to sound like a jaded junior researcher, but as a junior researcher, that's actually great because you can get exposed so much earlier on." ANONYMOUS RESEARCHER

"That's one thing that I really, really want to see stick around is [remote]. And, how we can make in-person meetings more inclusive for the people that are there, but also for the people that can't make it...you also shouldn't be penalized for not being able to attend all meetings, whether it's financial or otherwise."

TRINITY HAMILTON, ASSISTANT PROFESSOR IN THE PLANTS AND MICROBIOLOGY DEPARTMENT, THE UNIVERSITY OF MINNESOTA

"The number one best thing has been the accessibility. People that have never gotten to come to these conferences can come to conferences now and it's fantastic. Because CSV conf was going to be in DC last year, I was like, "I have to travel for it. And pay the conference entrance fee and all right. I love you guys so much. I'll go to DC for you." Versus now, it's just online. And we have a thousand people signed up. I don't know how big the in-person one was. In fact, I'm pretty sure it was smaller. And things like PI Data Global where there's people from nearly all over the globe taking part have been really nice."

MELISSA SANTOS, DATA SCIENTIST AT CIRCLECI

MORE AFFORDABLE EVENTS MEANS DIVERSE EVENTS

One interview mentioned how much access and much more diversity digital events provide, because of the lack of travel costs. This interviewee, who is also an organizer, noted that they could invite such a large swath of people, and be very intentional about getting invitations into the hands of people they really wanted to attend, since now the barriers are so low for attending virtual events.

"I think that digital events do give

possibilities for people to connect, that might not otherwise have been able to connect. across... you can't always travel from one country to another, or even from one city to another, but a digital event allows you to do that. So, I don't want to see them disappear, but I do want to see there be more intentionality about how the event is structured, and particularly with attention to how to maximize engagement."

SHAKA MCGLOTTEN, WRITER AND MAKER

ALMOST THE HALLWAY: DIGITAL CHAT ENABLED PEOPLE TO ENGAGE WITH EACH OTHER DURING SESSIONS AND TALKS

"You could DM people. There was one aspect where I thought Whova

was superior to the in-person experience because the audience could chat during the session and the people on the panel, most of them were paying attention to the chat in addition to doing the panel. The audience could discuss amongst ourselves. And then, the official thing of raising your hand or putting something in the Q&A to get called on"

SUE GLUECK, SENIOR DIRECTOR OF ACADEMIC RELATIONS AT MICROSOFT

"The only thing is the chat, right? That's the only really, really big difference. And certainly, that would not happen at an inperson conference. The other thing that happens a lot, and again, this is for better or for worse, is that you have multiple authors on a paper. And so, let's give three person papers, one person gets the presentation, and two others work the chat in real time, and that happens. And that definitely wouldn't happen at an in-person conference. You wouldn't have two people answering questions while the presenter was speaking."

DAVID AUTOR, FORD PROFESSOR AT MIT DEPARTMENT OF ECONOMICS AND CO-DIRECTOR OF THE NBER LABOR STUDIES PROGRAM

CHAT ENABLED THE ABILITY TO SHARE SOURCES READILY

"Similar to what people say on Twitter, but it's right there, convenient for the authors of the papers. Someone will mention, "Oh, this reminds me of this paper," and they give a link to it."

SUE GLUECK, SENIOR DIRECTOR OF ACADEMIC RELATIONS AT MICROSOFT

"I think the sharing of references was way better than it would be at a real conference. If I threw out an idea and then someone else could say, "Yeah, someone's already done that. I'll send you a link." And then they would, and I could click on it right away and open up a tab so that I could read that paper at my leisure later or then I could post that on my research group's Slack with a click of the mouse."

NICK COWAN, PROFESSOR

CHAT ENABLED CONSENSUS ON WHAT TO DISCUSS

One interviewee mentioned how online

chat makes it easier to more intentionally respond to someone's point or generate consensus around an idea or topic, with just the added benefit of writing "+1 to X person's point. In particular, they mentioned seeing in other conferences a question gets upvoted to help get a sense of the room, and to see what the room is struggling with or what the room wants to focus on. Thus, being able to see +1's to a particular topic or question was incredibly helpful to generate consensus in a way that would be harder with in person events.

DIGITAL SPACES PROVIDE MORE ROOM FOR SHYER PARTICIPANTS TO SPEAK

"Personally, the thing that would be lost is, the Slack conversations and having those be able to continue casually. If somebody gives a talk on something, being able to have a Q & A. A lot of people who are kind of shyer like me still, I don't want to get up to a microphone after somebody gives a talk and be one of the three people who gets to a question of this speaker. But way more people feel comfortable commenting or asking a question on Slack, because you're not like taking up valuable space...The space is infinite. So those of us who are nervous about taking up space feel way more comfortable on Slack. And I think that'll be a big loss for, especially for early

career or more timid people."

ANONYMOUS ASSISTANT PROFESSOR

MULTI-DIMENSIONAL AND MULTIPLE PLATFORM INTERACTION: MANY PLATFORMS LET'S PARTICIPANTS CHOOSE WHAT COMMUNICATION STYLES WORK BEST FOR THEM

"The diversity of platforms is helpful. Different people work better in different environments... so the range of platforms, because the different things work differently for different people, I liked seeing on the Slack and on the Padlet, like what other people were doing. It was motivational for me to see other people posting ideas on the Slack and thinking to

myself, I should come up with something cool."

ANONYMOUS ASSISTANT PROFESSOR

"I like the fact that they set up a few platforms for people to interact and that I think they recognized that it was going to work better in different ways for different people."

AARON INGELHART, ASSISTANT PROFESSOR IN THE DEPARTMENT OF GENETICS, CELL BIOLOGY, AND DEVELOPMENT, UNIVERSITY OF MINNESOTA

FACILITATE A FLOW OF COMMUNICATION

One interviewee mentioned how multiple tools was better in terms of creating a communication flow and encouraging more participants to interact with her, in regard to the event they attended. They mentioned how connected they felt to the other participants and feels like this is from the amount of forethought the organizers put into choosing the different technology for the event. For example, having Slack running while multiple sessions are going on at once gave this interviewee more insight into what other people were up to and the ability to join more conversations.

PANDEMIC INTRODUCED NEW FORMS OF ENGAGEMENT: TREAT TALKS LIKE PODCASTS

"One thing that I've had some success with recently is doing things with audioonly headphones and going for a walk or going for a hike in the woods and listening to conferences and then

stopping every once in a while, and asking questions, but basically just doing it without the visual. I find in Zoom times, I always train my team to basically give Zoom talks as if they were podcasts, to basically give them, assuming people are distracted, they're actually checking their email while they're listening to your talk because that's probably what's happening, at least for the most important people that you want to impress. And so, to basically make [their presentations] like a radio show."

NICK COWAN, PROFESSOR

"I do a lot of attending conferences while I'm walking around the city or exercising. That's something that I have really enjoyed actually. I can attend things and

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be productive, while I'm walking on the treadmill or walking along the river. I can engage much more attentively and energetically, I think, while my body is in motion."

SHANNON MATTERN, PROFESSOR OF ANTHROPOLOGY AT THE NEW SCHOOL

AFFORDED SIDE BAR CONVERSATIONS

"In the background, something came up that was interesting in conversation to me, and then the conversation went somewhere that I couldn't really follow, but I started having a private chat with the person who said the interesting thing and that private chat continued for the rest of the session, and was the most valuable part of the interaction for me was that one-on-one

chat that was happening in the background." ANONYMOUS ASSISTANT PROFESSOR

AFFORDED FOLLOW UP CONVERSATIONS

"I can give one other example though, which was one of the larger conferences ... And the thing that worked well about it was that we had these like little... Everyone had their recorded talks ahead of time and then there was a little Zoom Q & A session. And after my talk, a couple of people just sent me... direct messages with ideas that led to hour long chat conversations, where we explored the ideas and decided whether and when to write a proposal to follow up on that idea. And those conversations were definitely the highlight of that meeting."

ANONYMOUS ASSISTANT PROFESSOR

FEEDBACK AND FOLLOWING UP HAS BECOME MORE ACCESSIBLE

"In other interactions where I had feedback for the author of a paper, I found that being able to say something in the chat that paved the way toward my feedback was incredibly helpful."

SUE GLUECK, SENIOR DIRECTOR OF ACADEMIC RELATIONS AT MICROSOFT

Another interview mentioned how after giving a lightning talk at an event, getting fast and immediate follow ups with other attendees, such as their email and other contact details which then quickly turned into meetings, and lead to other brokered meetings. This specific kind of quickness that digital allows in terms of getting contact information is much different and faster than if they were to have received contact details at a physical event. Insights & Observations **The Frictions in Digital Events**

The Frictions in Digital Events

BLURRED WORK LIFE BOUNDARIES

"When you go to a conference in person, you're immersed in that conference experience, and you really have nothing else to do basically, or besides being at that conference or that there's an allowance that has been given to you to not to partake in other meetings and things like that. But unfortunately, with virtual conferences, that's not really the case. I had to sort of go in and out to other meetings and things like that. So that was a little bit frustrating because it sort of destructs your lull of being in the conference and your thinking and your engagement with it."

ANONYMOUS RESEARCHER

DIGITAL CAN MAGNIFY HIERARCHIES WITHIN ACADEMIA

"...it's very difficult to get people to participate, junior people, they're just intimidated. I think there were upwards of 140 people. And so, this makes it actually rather... I think it makes juniors and students just really reluctant to raise questions. And I even one day said I would randomly draw a name of a junior faculty member who asked a question and award them a \$100 Amazon gift card, which I did. I don't know if that actually succeeded. The qoal was not to bribe people, just to convey how much we desired their contributions."

DAVID AUTOR, FORD PROFESSOR AT MIT DEPARTMENT OF ECONOMICS AND CO-DIRECTOR OF THE NBER LABOR STUDIES PROGRAM

NO GRACEFUL WAY TO EXIT OR PASSIVELY PARTICIPATE

"One of the last talks l joined was on death and grief. Unlike an in-person talk where one could quietly walk in and walk out, in this Zoom call, all of the participant faces were elevated in a group setting, giving everyone the same hierarchy. This talk required having cameras on, and the facilitator prompted participants to speak. It felt difficult to leave such a serious, and emotionally raw conversation. While it was well facilitated and felt very approachable and light given the subject matter, it was still on a serious subject, and because of the subject matter, it felt a bit rude to leave before it was finished.

I felt really obligated to stay even though I wanted to leave."

CAROLINE SINDERS, RESEARCHER AND CO-AUTHOR OF THIS REPORT

"I would say one of the things that is a little more awkward in an online platform than in person, is if you go into something like an unconference session. And it turns out to not be particularly useful for you or the topic is not quite what you thought it would be. It's more difficult to leave gracefully. If you are on camera in the group, it's harder to just be, "Okay. I'm just kind of fade into the background. It's when people are trying to make sure they're calling out everybody, but maybe you just wanted to lurk a little. But you joined with your camera, so now

I'm, 'Well, I'm committed. I'm just trapped here.'

EMILY BAKER STUCKMAN, TECH WRITE ONE

SOMETIMES, TOO MANY PARTICIPANTS CUTS DOWN ON INTIMACY

"I would like to see more conference rooms. Because they've really got their feet under them and attendance went way up for this year's virtual conference, the unconference rooms qot really crowded this year. And so, the level of small intimate group discussion, where it was really moving a topic forward, was not present for several of the things that I attended. It's just too many people."

EMILY BAKER STUCKMAN, TECH WRITE ONE

IT'S HARD TO HOLD REMOTE POSTER SESSIONS AND JOB FAIRS

"I think traditionally with the idea of a poster session is that it's a bit of a happy hour mingle and also getting to talk to people in network and see interesting, cool preliminary work that people have done. Those are generally scheduled to be towards the end of the day, close to the dinner time. And then when they do that on online environments, it's just inconvenient because people probably are exhausted just seeing videos, seeing recordings the whole day, being on the computer, and they have no willingness to really just comment and see a bunch of videos

on posters and they just want to go have dinner or whatever, relax....So that has been a really frustrating thing for me, especially as a young researcher, because you first tend to put out posters and to just sort of test out the water a little bit and see what people are picking up about your work initially before you go to conference papers and journal papers. But that's just, it's just been really hard to do that with virtual conferences from the beginning of my PhD." ANONYMOUS RESEARCHER

"I would say that going to the job fair, popping into the job booth. Sometimes there would be booths where the person who was manning it would not have their camera on. And it was really hard to tell if it was just literally an empty room, an empty job booth. And so, then you would leave and then you would see something on the side of the main stage chat that, "Oh no, we're in here. We're just waiting for people." And that was sort of a... I don't think that was the best way to be utilizing the tech. That was on Hopin. On the second day in the morning, they hold the job fair. And it's a setup where each booth has its own little room, the unconference rooms."

EMILY BAKER STUCKMAN, TECH WRITE ONE

HARD TO GIVE AND RECEIVE AFFIRMATION FEEDBACK

"I didn't feel like there was a really good way for me to express myself, as somebody who didn't really have a lot of questions for the speakers. And, we just said, "Hello from wherever." At the beginning of talks and things like that. There wasn't a lot of room for that. I'm a very active listener at actual conferences. So, I will usually sit in the third row, and make eye contact, and nod along, and be there for the speaker. And it's, you don't get that connection feeling, in an online conference, in the same way."

MELISSA SANTOS, SCIENTIST AT CIRCLECI

Recommendations

Digital events require as much organization and curation as an offline event, but they bring new and specific challenges directly related to software and digital environments. Our recommendations might seem a bit obvious at first, but they are all generally focused on streamlined communication, event support, understanding how tools and facilitation can help engagement and why structure for organizers and for attendees. These kinds of recommendations can help lower the burden and cognitive overload that attendees might be facing right now, especially this deep into the pandemic.

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Recommendations

Having streamlined and easy to find information about an event is extraordinarily helpful for an academic or researcher, be them senior or junior. Creating a schedule that's easy to access allows attendees to know when and where they should be online without having to dig through multiple websites, emails, or sign-up sheets. But a schedule helps organizers stay on task and respond to any of the issues that could arise with digital, such as low bandwidth, loss of Wi-Fi, or a tool randomly shutting off. Even with a structure that's easy to access and follow, having a moderator facilitate a digital event helps situate newcomers, engage junior and senior scholars, and keep conversations flowing. All these recommendations can be utilized to help make digital events more accessible, and engaging for participants, as well as organizers.

Create Clear and Concise Information Update for Users Over Email

Event Planning, Programming and Moderation Matters

A Schedule and a Plan Matter for Engagement

Scheduling Unstructured Time For Participants to Mingle

Breaks Matter (and Are Needed!)

The Tools Chosen for Events Matter... ...and So Does the Training You Offer

Not All Engagement Can Be Equally Measured

There is No Hallway- But People Need the Ability to Create Their Own Spaces In Events

Switch Up Your Schedule to Accommodate for Time Zones

Nothing Can Replicate in Person

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CREATE CLEAR AND CONCISE INFORMATION UPDATE FOR USERS OVER EMAIL

Placing key information in email, a very central platform to almost all attendees' lives, is one of the better ways to inform and update attendees. Scialog sent all event information in an email, along with a link to a Google Drive with key documents. Each day they sent an email only with that upcoming day's schedule and key information. Scialog used email in a very searchable, serviceable, clear, and legible way. It did not feel overloaded, and it made the experience much more manageable and easier to engage with, even with a jam packed agenda. Conversely, asking attendees to sign up for what could be a new platform for them, such as Discord or Slack, can lead to tool overload, and users ignoring or signing out of the tool, thus missing key information. Email is more searchable, archivable, and used multiple times a day by users. Clear and legible information on easy to access platforms that your audience is already using is key.

EVENT PLANNING, PROGRAMMING AND MODERATION MATTERS

Producing an event is a skill. Digital events require just as much planning, organizing, and 'herding' of speakers and participants as offline events. There are two key roles within event planning and programming: the event planner or program manager, and the moderator. The event planner or program manager helps plan, coordinate, and run the event, responds to attendee or speaker requests, helps coordinate sessions, provides impromptu tech support, and generally oversees the run of the show. The moderator helps coordinate and run the event sessions, by responding to attendees' questions in real time, by moderating, mitigating, and de-escalating harm should it arise, and creating a conversation with the speaker, if there is Q&A. In our observations, moderators played a crucial role in helping kick off digital conversations; sometimes there would be a lull or a quietness in the chat until someone started speaking. A moderator can help seed questions and engage participants. These are two separate and necessary jobs for digital events, and ones that need proper resourcing to help a digital event feel engaging, organized, and accessible for attendees.

A SCHEDULE AND A PLAN MATTER FOR ENGAGEMENT

While obvious, having a clear plan and schedule matter for event design and community engagement. This includes not just a plan for how the day(s) of the event will run, but also creating a schedule for moderators and organizers to follow, along with creating a schedule for preparation, months in advance before the event itself. For example, Scialog starts planning their events nine months to a year in advance. Within six months of the event, they will have assembled the entire team of organizers, facilitators, speakers, and moderators. For the days of the event, the organizers create a specific schedule and script, along with contingency plans for lost connectivity. For the Scialog event we observed, there were three main organizers, each with two devices connected to different Wi-Fi sources. By having multiple devices, an

organizer can be logged in on one machine as an administrator and on the other as an attendee, allowing the organizer to see in real time what an attendee sees. Andrew Feig, one of Scialog's core organizers and a program director for the Research Corporation for Science Advancement explained, "we're using [this second device] to see what the participant is seeing, so that we can tell if there's a faux pas In what's being projected or screen shared." Scialog's multiple devices also provided fast backchannels for the three organizers to message one another.

Having a clearly coordinated schedule, along with multiple devices, worked as a form of a contingency plan for any kind of event and remote specific hiccup that could occur. For example, what if an organizer lost Wi-Fi connectivity? Scialog had a plan for that. Feig mentioned, "we have a written script in the background that none of the participants see, but we have assigned the tasks that we know what each other's tasks are. And so, if any one of us were to lose connectivity, for some reason, we know what the other person is supposed to do at each time point throughout the entire two days of the meeting."

However, we also found that the structure and event structure for attendees worked well. One attendee, Professor Trinity Hamilton, mentioned how much she enjoyed the structure, and prompts of sessions, and it helped circle back on thoughts, discussions, and learnings. She mentioned, "I think having the prompts of, 'This is what we want you to discuss in this hour and a half session. And then, the facilitator popping in. And also keeping notes. Because, then the note taker would be like, 'Wait, I didn't understand what you were saying, and I need to write it down.' And then at the very end, in the last 10 or 15 minutes, they asked us to summarize what came of our discussion. I think having, again, just that tiny amount of structure, where someone's writing down key points [was helpful]. And, if that key point wasn't clear, or they just wanted to make sure, then they could interrupt and say, 'Hey, let's slow down and just make sure I get this down right.'"

SCHEDULING UNSTRUCTURED TIME FOR PARTICIPANTS TO MINGLE

Another attendee cited the importance of breakout rooms or official spaces for participants to gather, and specifically structuring that 'unstructured' time to just engage and meet other participants in the event itself. Melissa Santos recalled, "The one thing that I really like about online events is when we do little breakout rooms, I get to actually talk to some people. I just want my human interactions. And we just didn't have any of that... this year."

BREAKS MATTER (AND ARE NEEDED!)

More than half of our events we attended did not have scheduled breaks. As a result, our researchers would tag team events to create breaks for themselves, but this could provide barriers for a regular participant would have to decide when to leave or miss an event for a break.

THE TOOLS CHOSEN FOR EVENTS MATTER...

The tools that the organizers choose shaped the whole experience of the event. Something

that is difficult to understand will create friction for users. One of the NBER interviewees (and the organizers) commented on how easy it was to engage with NBER, since they were already comfortable with Zoom from having been trained to use Zoom to teach in their schools, and with Gathertown, which had already been used in other conferences they had attended.

Knowing your audience or community is key in selecting a tool. WeRobot selected a tool that, while it was new to their community, helped replicate some of the 'in person' conversations or create more ways to engage, which was what their community needed. WeRobot is a heavily and highly engaged event, with a core community. So, selecting a tool that allows for different kinds of communication and commentary is key.

...AND SO DOES THE TRAINING YOU OFFER

WeRobot offered training prior to the event on how to use Whova, which one of our interviewees used. This training helped our interviewee better understand the platform and its design.

NOT ALL ENGAGEMENT CAN BE EQUALLY MEASURED

Not all engagement is the same and can be measured the same; sometimes cameras off or a quiet chat is not a good indicator of if participants are engaged or not. Most or nearly all of the events we attended were considered high engagement, but with the kind of engagement differing per event. For example, a few interviewees, particularly from more academic and conference based events, lamented participants attending with screens off. However, those same events had a high amount of engagement amongst many different participants in the chat channel.

THERE IS NO HALLWAY-- BUT PEOPLE NEED THE ABILITY TO CREATE THEIR OWN SPACES IN EVENTS

Spaces need to exist for participants to have sidebar, semi private and semi public conversations, but those spaces should be created by the events. Multiple conferences, like Write the Docs and WeRobot, chose platforms that allowed for multiple video conferencing rooms to be created and then seen by users within their platforms. WeRobot and Write the Docs then created specific, unstructured socializing rooms; some were even named "Hallway Conversations."

SWITCH UP YOUR SCHEDULE TO ACCOMMODATE FOR TIME ZONES

Most events seem to have a set structure, especially if the event is across multiple days, meaning each day will have the keynote at the same time, with the job fair at the same time, etc. One attendee, based in Europe attending an event with more US centric time zones, mentioned that the event could flip up its schedules on certain days. They suggested having the social hour in the morning one day, and in the evening another day, this way international colleagues could have a chance to engage or participate in that event. This suggestion could apply to all events. Perhaps one day is a bit more US centric, with another day being more centric to another time zone to give all attendees a similar experience.

NOTHING CAN REPLICATE IN PERSON

There's no real way to replicate in-person events. By accepting it's not the same, perhaps we can yield to this new medium of remote or accept and see its benefits, instead of focusing on what this medium lacks. Moving forward, equity, accessibility, and responsibility need to be centered. What was gained during remote events should not be lost if events decide to go back to in-person or try a hybrid model.

Next Steps and Looking Towards the Future

We wrote this in November 2021, as the United States and other countries in North America and Europe are rolling out booster shots while facing new lockdown policies, a new variant has emerged on the global stage, and other countries across Africa and South America are still working toward administering their first vaccine shots, due to lack of access. Different cities around the world are removing mask mandates, but some are responding with vaccination requirements to attend events, restaurants, and other physical locations. It's difficult at this moment to determine or predict what the future could hold. To support the academic community in the face of future unknowns, our research proposes a number of key points for digital and remote events in the coming months and years.

HOW CAN RESOURCES BETTER SUPPORT DIGITAL EVENTS?

Digital conferences, like in-person events, require financial support. Producers and event moderators are necessary roles in organizing virtual conferences, but it costs time and money to fill these roles. Multiple organizers mentioned the difficulty they had in finding and raising funds for their digital events. They explained that admission fees for in-person events would often help offset expenses. Some of these same organizers had to make their events cheaper or had difficulty landing sponsors for digital events. We noticed that the responsibility for figuring out how to hold a digital event during a global pandemic fell on the organizers, who were also teaching full time. More monetary support for digital events could help those organizers hire more support for the event.

HOW COULD WE LEVERAGE TECHNOLOGY TO UPLIFT JUNIOR SCHOLARSHIP VOICES?

Even with the accessibility of remote events, power asymmetries still exist. Previous studies on online communities reveal that offline inequities become magnified in the digital sphere. As noted above, academia is predominantly white and male. To offset existing inequities, future events must be intentional in their design and figure out ways to be more equitable toward marginalized groups. Yes, virtual conferences do offset travel costs, but attending an event does not translate into having a voice. In digital spaces, visibility equates to voice. Who is and isn't seen is intrinsically tied to who is and is not given a voice. If digital events are here to stay, we must intentionally design equitable visibility. If hybrid events are the future, we must be cognizant of who is physically present and who is digitally visible. If in-person events return, we must be sensible as to who is left behind.

In addition to establishing more equitable spaces for marginalized groups, organizers must ensure they are not prioritizing academic celebrities or the experiences of senior faculty over junior faculty. As noted by our interviewees and in our observations, poster sessions were especially difficult to replicate in the digital sphere. Poster sessions offer junior scholars the opportunity to share their work and form connections with senior faculty. During in-person events, poster sessions are typically held toward the end of the day and are organized near or around the bar. As attendees make their way to the bar, they are able to browse the work of younger scholars and spark conversations with a drink in hand. This relaxed environment was not observed in the remote events we attended. Instead, poster sessions were a central point of vacancy and technical glitches, therefore minimizing the visibility of junior scholars' work. David Autor, a co-director of a NBER event series, expressed this exact sentiment, "[Conferences] are all about the kind of cultivation of junior scholars and that one of the reasons junior people like to go to things physically, is you can see your people are there. And if the online world creates a setting where the senior people sort of helicopter drop in to give their discussion or whatever, but then they take off, then this is not healthy for kind of making, seeding those connections that are so important, because

"One thing that I did see happening last year is that some conferences were recording events and then [those events became] really concerned about intellectual property. With the College Art Association, I remember there was a big controversy when they went online because they were asking people to clear [copyright] because they were broadcasting their events. You're asking art historians to clear copyright for all of the materials they were using. And if you're an art historian and you have a conference coming up next week or two weeks from now, that means writing major museums for a slide presentation that could potentially include 50 images, paying for rights clearances full of these things. Some people, especially junior scholars, were afraid that it was going to essentially destroy their presentations, the fact that they had to clear copyright for everything."

Shannon Mattern, Professor of Anthropology at the New School senior scholars in many ways are the gatekeepers for junior scholars."

HOW CAN INSTITUTIONS BETTER UNDERSTAND COPYRIGHT WHEN CREATING SO MUCH DIGITAL MATERIAL?

One issue raised by an interviewee pointed out that, with all the digital events, talks and conversations that are happening, much more digital ephemera is coming into existence. But this move to digital, with digital talks, and digital ephemera is starting to raise copyright concerns, and is having downstream effects on presenters and events.

IS THE FUTURE HYBRID?

We strongly suggest further investment and research into hybrid events.

Hybrid events are most likely to be the future, as the world starts to shift and adapt during and, hopefully, post the pandemic. As emphasized by David Autor, "the whole notion of just these closed sessions that you can only participate in if you're physically present is just antiquated. And it's terrible. It constrains who can come and when it is, and where... I just think it has huge, huge disadvantages. So, I think the fact that we have the ability to sort of change the culture so that people are willing to do online meetings is an enormous social wealth."

The benefit of investing in how to run hybrid events is multifold. Professor Nick Cowan pointed out how much better for the environment hybrid can be, "Hybrid events can help keep costs low, while also reducing the carbon footprint of events. And I think those are the ones that "It would be incredible if someone could figure out a great way to do hybrid events. I've obviously attended a bunch of events in-person for my work, and I get great joy out of that, but there are lovely things about being able to stay home and sleep in your own bed, or especially in my case, attempt to limit my risk of being exposed to the virus. I would love it if someone would figure out a way that hybrid events could be good enough that organizers would be incented to hold hybrid events. For the people who stay at home, if it's engaging enough to make it worthwhile to attend and really attend and fully participate versus just wandering off into your at home responsibilities, but really be engaged in the same way you would be in-person."

Sue Glueck, Senior Director of Academic Relations at Microsoft

we really have to get dialed for from climate change, trying to reduce our carbon footprint standpoint. I think we have to go towards more blended events because [while] there are real advantages to meeting in person, but there are real costs to that."

However, another interviewee mentioned fears that hybrid events will only prioritize the inperson experience and create a difficult or awful experience for the remote attendees. No one can deny the accessibility that remote events bring to scholars and researchers, not just in terms of access, but also in terms of time, and bandwidth. It's much easier to attend a digital event now, and attend more events, than to try to attend events physically. Several organizers and interviewees mentioned a deep interest in hybrid events, not wanting to lose the accessibility that remote events provide. At the same time, these same interviewees pointed out a dearth of information on hybrid events, on how to hold hybrid events well, make hybrid events enjoyable for remote attendees, and how to hold a hybrid event affordably.



Our Interview Protocols

Within the research process, we will craft an interview script focusing on dialog specific questions that will elicit specific examples of events they've attended, open discovery questions focusing on events, interactions and types of talks, understanding user activities (having a user walk through how they attended event, what they remember seeing/doing first, what stood out to them, etc.) guestions focusing on their opinions and points of view, problems and pain points, with anticipated follow up questions to dig deeper into anecdotes, feelings or findings shared by the interviewee. These questions will focus on how the tools intersected with the conference itself, what kinds of interactions they had with other attendees, what they enjoyed/disliked in terms of talk curation and then while engaging during the conference (on the tool, with others), what was confusing, what was easy, what was annoying, and what could have been better for them. Some of these interview questions may pull from traditional usability interview questions, but this is geared towards better understanding how a conference tool can add friction or alleviate friction to a community event.

Within our interviews, we had three options for citation: by name and affiliation, anonymous, and under transparent opacity. Both anonymous and name and affiliation use direct quote citations. Transparent opacity operates in a different kind of space, moving beyond anonymity. In researching communities and community health, it's not enough to just anonymize data, which can be be-anonymized and used to identify individuals. More care and consideration has to be taken to protect individuals particularly if they are expressing critique or harm they've experienced or witnessed. Within our research, we are utilizing a protocol developed by one of our researchers, Caroline Sinders, from her years of online harassment practice, which is presenting data in a "transparent opaque" manner. "Transparently opaque" research presentation moves beyond

moves beyond anonymizing data at a detail level and moves towards protecting victims by obscuring identifying markers. Within this methodology, engaging in "transparent opaque" research design a researcher can state how many interviewees were interviewed, generally where they were from, and high level findings. If using social media data or blog posts, the research will state that information was gathered from "social media platforms such as X [e.g., Facebook] and from specific areas such as Y [a kind of Facebook group]," but it is not listing the exact URL. Additionally, this methodology does not use direct quotes, instead it restates what an interviewee has said, to help obscure identifying markers such as the conversational "voice" and word phrases that may identify an interviewee. By taking such measures, the researcher is acknowledging where research came from, who the respondents are, and pertinent information about the research, but removing details that could be used to deanonymize survey respondents and interviewees.

Our Rationale

In these exercises, we asked: which of these are we using as a selection criterion (size, rationale for attending, invite style) vs what are we labeling after the fact (e.g., such as academic domain like Al versus economics, location/time zone, and who hosts it). From this workshop, we broke down the different kinds of events, the size of events, and the rationale for an academic to attend events. Not all events are for research or paper feedback, some exist for community building, idea generation, and knowledge exchange. It's important to note that some events we attended fit multiple buckets; for example, Write the Docs does serve a very particular kind of group (technical writers) but is open to all kinds of newcomers, and it has a regular and recurring number of attendees; it fits across multiple buckets incredibly helpful in determining which events to attend and how to compare and contrast events. That being said, we did not attend a thought leadership event, but included here as a bucket kind of event.

Our selection criteria

Size of attendees

Big: over 500 attendees Medium: under 500 attendees small: under 100 attendees

• Rationale (why to go, why to speak, and why to attend)

community building: allows the attendee to meet other practitioners or researchers in their field, and allows for networking, socializing, and community building in response to interests but in an informal and fun way

Example: Social Science Foo

bridge event: allows for practitioners and researchers in a general but broad field to interact. Imagine artists, researchers, working technologists and practitioners giving workshops or presentations, and attending each other's workshops

Examples: CSV Conf, Write the Docs

milestone: milestone events are conferences that publish papers or are extremely domain specific and well known within that domain or industry.

Examples: NBER, We Robot, SLSA

workshopping/small convenings: these events focus on creating something such workshopping a paper or attending an event to gather insights, share ideas, etc

Examples: civil society private convenings, or highly specialized events such as Scialog

thought leadership/share with the general public: a place where researchers or academics are sharing their work with the general public. It is often large, with a lot of different kinds of speakers, and keynote talks along with smaller talks, all happening in tandem

Examples: Re:publica, SXSW

Within our kickoff, we determined a series of metrics for heuristics:

• What is or isn't working in terms of presenting, listening to talks, and engaging in workshops

• What is enjoyable, what is frustrating- where does a tool fail but event design or a facilitator can prevail?

• This can result from specific examples from interviewees

• Designing to Avoid Overload: what is the right balance between too many activities or facilitation versus not enough?

• Digital hallway conversations: are they happening, how could they happen, and when have attendees or speakers engaged in a spontaneous or planned conversation that felt useful, delightful, or generally positive in a digital space? How did that conversation occur?

- What do they miss/need from physical events?
- What can physical events learn from remote events?

Along with different kinds of initial questions on community and event norms to consider:

• Does the scale or size of events affect the norms, conversations, and engagement within events?

• Does the scale or size of events online affect the enjoyment for attendees and speakers?

• Are norms determined by the rules set forth by the event or event design of the event itself (such as language/content strategy, marketing, graphics, style of talks, etc.)? This will be separating out the different kinds of events into groups to classify the kinds of norms that exist and are emerging within digital spaces.

• Are new norms arising in digital spaces? What are they?

Brief Map of the Kinds of Conferences, Sizes, Reasons to Attend and Application Styles

BIG	MEDIUM	SMALL		
Thought leadership	Bridge event	Invite only, learning		
Milestone/ Paper submission	Milestone/ Paper submissions	Community building (invite only)		
Bridge event	Community building (application or ticket)	Learning (application/ paper submission)		
	Invite only, learning/ workshopping			

Our Events

Social Science Foo (community building, medium/small, invite only, free)

- Event Dates: February 19-21, 2021
- Platforms: Discord, Zoom
- Discipline/Academic Community: Social Sciences

Scialog (workshopping/community building, medium, invitation only)

- Event Dates: June 10-11, 2021
- Platforms: Zoom, Padlet, Google Suite
- Discipline/Academic Community: STEM

NBER summer institute (community building/ milestone, medium, invite only)

- Event Dates: July 26-30, 2021
- Platforms: Zoom
- Discipline/Academic Community: Economics

CSV conf (bridge/community building, large,

sign up free)

- Event Dates: May 4-5, 2021
- Platforms: Crowdcast, Slack, Spatial, Zoom

Platforms Observed

• Discipline/Academic Community: ???

We Robot (milestone, medium, affordable ticket)

- Event Dates: Sept 23-25, 2021
- Platforms: Whova, Zoom
- Discipline/Academic Community: Law and Robotics

Write the Docs (bridge event, large, ticket under \$100USD)

- Event Dates: April 25-27, 2021
- Platforms: Hopin, Slack

SLSA (workshoping/milestone, medium, ticket under \$100USD

- Event Dates: September 30 October 2, 2021
- Platforms: Zoom, Discord, Twitch
- Discipline/Academic Community: Digital Humanities/ Liberal Arts

	Zoom	Discord	Padlet	Google Suite	Crowdcast	Slack	Spatial	Whova	Hopin	Twitch
Social Science. Foo										
Scialog										
NBER										
CSV Conf										
We Robot										
Write the Docs										
SLSA										



Simply Secure