ACM SIGGRAPH

2020 Virtual Conference Survey Written Comments

Data collected from 12-24 May 2020. These comments have only been edited for spelling.

6-2-2020

Q6: Do you have suggestions for other activities or events we should offer as part of the virtual SIGGRAPH 2020? 198 Answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

Pixar teapots for this year should be given as part of a raffle and due to shipping issues that might impede reaching to the owners I suggest keeping them for next year or finding a way to ship them after crisis ceases down.
Have a slack channel
Remote work setup for freelancers, small studios and large studios with security in mind.
Texturing
3D Visualization (Aerospace/ Aeronautical/ Nautical/ Architectural/ Industrial/ Robotics/ etc.)
Virtual classrooms or certification courses with key technology partners that could be offered on weekends and help new job seekers add to their skill sets.
Live fireside chats with, e.g., technical directors, paper authors, famous people, etc. Some chat forum or online platform where attendees can mingle and meet online during the conference.
Job Fair, especially now. I am looking for work and planned on using SIGGRAPH to help me find work that aligns with my skill set. Also... I'd like to see a list of all companies/industries that do work that is related to SIGGRAPH. The big ones are obvious (Pixar, ILM, Disney, Autodesk, Nvidia, etc.), but there are lots of smaller companies that are harder/impossible to find if you don't know what to look for.
Virtual realtime collaboration where different teams or companies take on a challenge remotely and solve problems e.g. making a short film or creating an app.
Sessions about that can give advice about working from home and such.
New tech demos
We got selected for immersive pavilion so I have a suggestion to use Sococo like virtual feature where you can assign booths/rooms to different presenters and the presenters get to control their booth and dashboard and pin up information about the exhibit and also other company info, reels, guestbook etc. Just like sococo they can interact with the visitors that pop into their booth , chat/video call, do hangouts with them and also demo the experience live. Our magic leap work was selected, so we do a live stream of the experience and somehow feed it through the virtual exhibit/video.
Focusing on making the content presentations as accessible and seamless as possible is the most important for me. Other aspects of the live conference will be difficult to achieve in a virtual format. I'd rather have the talks, papers, Q&A, etc. be seamless and on a more relaxed schedule, rather than try to recreate a live conference verbatim.
Panel sessions.
So much of SIGGRAPH is about personal networking. Can we set up a system for finding and meeting with friends and colleagues through the SIGGRAPH 2020 platform. It could generate some spontaneous Birds of Feather type event. That's one of the best things that happens at SIGGRAPH. Also please make room for the Pioneers and to grant more access to their programs, as this is now possible in this format.
What the new normal will look like for the VFX and Animation Industry panel.

1) Behind the scenes...virtual visit to production houses and DCC companies. Have them showcase their culture, past work, what excites them the most about working there and how they feel the COVID-19 economy will or will not affect them. 2) Round table on the COVID-19 impact. Can DCC companies still thrive in a remote work from home environment? What collaboration obstacles will they need to overcome to make work from home possible? Does it open up new opportunities to attract global talent without requiring relocation?
Demos, introductory classes (like SIGGRAPH 07's hair session)
A covid-19 spread awareness animation campaign with scientific community back up would be the current need of the hour
Technologies overlapping and crossing other Industries, like Unreal Game Engine. What others available?
Replays next day
People like to ask questions about how things work. So if someone is demo-ing something we should either be able to chat or have someone pulling good questions off a chat window like on twitch or zoom.
Maybe offer people from other countries or time zones to be able to download the conferences they miss because of work commitments or time difficulties.
Video chatting with professionals!
Focus on networking
Please sell t-shirts. I will buy one! Host a virtual scavenger hunt, like ScavengeAR in previous years. Perhaps the QR codes could pop up during various streamed videos? Stream a loop of "additional footage" from various research, perhaps focusing on upcoming presentations ("coming up in the next session..."). Past years have featured papers involving gait learning, animation of cloth or fluids, and other topics for which video is a key output. Often presenters do not have time to show all their results, so a secondary channel could show this footage instead. Send the Pixel mascot to crash a random presenter's presentation. Host a virtual drawing board for artistically inclined attendees to fill with doodles. Alternatively, host a slideshow of art submitted during the conference.
virtual meet-up or virtual hangout
product demos
Go really technical with VR technology (WebVR experience) and use new web technologies (virtual visits, 360 pictures and videos/streaming...etc.) There are many other suggestions to improve the event UX
If downloading of the events will be great as well. That way the audience can watch it when they can. And you can charge a fee on the events or specialty of the speakers that will be there.
Electronic theater watch along.
Maybe look in to fresh new blood
take care VR
360 VR streams of the activities.
VR rock band
Artists talks through DACs

Animation festival
Have speakers share their code prior to the talk. Let people ask questions in the chat during the talks and let people vote for which questions will be asked.
I always loved the Geek Bar, but I guess you are doing that anyway, in some sense, virtually? Whatever you do will be appreciated.
Computer Animation Festival
My favorite part of Siggraph are the Diversity Panels! I want these to be represented well virtually also.
training that utilizes implementation of posters methods
I'm preparing a separate document that has a different orientation than what's been suggested in the survey. I will send it to president@siggraph.org.shortly
Virtual panels where people can ask questions in a sort of chat form to the panel to start discussions.
Computer Animation Festival
I think free access for a short time to try technologies if we have the capability at home. I also believe more interactive posters and pictures would be useful so that you do not have to be somewhere at a specific time.
Online master classes
Live QA
The only idea that springs to mind is some sort of collaborative art-challenge or something that could start with the start of the conference (day one/two) until the end? I'm not really sure about logistics but something akin to the Renderman Art Challenges maybe but on a shorter time frame and maybe more constraints? or less? Who knows? Since more people will have access to workstations or computers (no travel).
I'm still really excited for the Computer Animation Fest!
hang-out sessions, just to exchange ideas on specific topics... at all times of day so people from all over the world can participate
It is highly recommended that Korean companies utilize non-facing exhibition solutions. Korea responded to Corona faster than any other country The exhibition is already in the form of digital exhibition. We have a non-face-to-face display solution, such as simultaneous connection and conversation (translation function), and business card exchange. We highly recommend your inquiry. https://www.bibimble.com/
Online QA session to be opened for a week - some people will have difficulty to join the live session due to different time zone.
Certainly the ET (although I do understand the restrictions, but hopefully the content providers also understand the world we're all adjusting to). Venues like the Art Gallery and Posters seem relatively simple (Posters in particular). For the Art Gallery, recorded interactions for the dynamic content would actually be really cool, I think, as sometimes I don't precisely know what I'm supposed to get from the experience. Having the artist talk a bit about the piece, as well as interact with it would be quite interesting. Appy Hour might actually thrive in this environment a bit more, as it might provide the contributors the opportunity to highlight their app and emphasize what they want the user to see. That's probably one of the simplest to transfer to a virtual setting.

The Immersive and VR venues are going to be more challenging, although for those submissions that might be available on device to those with devices, that could be a new and interesting angle. Otherwise, somehow capturing the experience -- perhaps similar to that of the Art Gallery -- could also help people understand the experience better. The receptions could potentially take a different form as well. Perhaps interactive common-interest sessions might be interesting, particularly if you can have some of the contributors of particular venues available at bespoke times might up the interactions. And Papers Fast Forward may translate well into a virtual setting, and perhaps even be better than the live version (only in reducing the stress for those who freeze onstage).
Panels, production sessions if possible
I don't see how you can have the hands-on experience I so much enjoy while exploring the new tech, art show, exhibition etc., by looking a screen. I'm think the entire conference should be postponed until we all get back to normal. The situation has been very disappointing, hope it is not a template for future conferences.
maybe you can match people with another attendee for a virtual coffee chat?
Leveraging on the game industry I would recommend making all the tech demos and appy hour apps available for demo two weeks prior to the conference. For future conferences it might be good to invest in a platform such as valves steam in order to make all demos and tech online friendly. Similar to how the app makes having all the information in one place accessible and easy. This can be accessed by certain badges. The key would be one easy platform to log in and have access to as many interactive elements as possible. Not an easy task but SIGGRAPH has a huge network of talented artist and programmers to draw from. Also might be able to leverage the SIGGRAPHs volt online capabilities. Keep it going during the week of SIGGRAPH and have the developers host sessions to take on questions during the conference. Virtual SIGGRAPH will be one of the best instant feedback data driven conference in its recent history. I would make sure graphics net is beefed up to capture all that data. As in previous years I would make sure all elements of streaming are available on one page. Would be great to stream through the app. Definitely leverage the geek bar idea. Special access to see all the conference at once. Not sure if you are planning on hosting a small version of the conference somewhere and streaming it. One of the issues with having people host from home will be their internet setups and camera set ups. Might be a good idea to ship a package with a small spec laptop with the software and camera all set up. Maybe a banner background to make it look a bit pro. Won't be able to do much about internet connections. Convert bird of a feather all to zoom gathering hosted by on moderator. If not zoom whatever the freeman group has. Fast forward should be entirely a zoom like meeting. The community is used to in the past seeing glitches. It would be a very interesting take seeing the presenter in their natural habitats. The content still being predicted.
Interactive 3D game/simulation that I can be part of via PC desktop. Computer Animation Festival on YouTube. PAST Siggraph Production Sessions available for viewing online (e.g. Star Wars Last Jedi vfx)
Human capital is a great focus. I would like to hire interns for my experimental Ai animation projects, or connect to consultants for hire during networking is great, networking. Workshops, like Unreal's awesome what's coming in version 5... seen reel but a workshop about "how they made it" be great for corporate me and the teacher me + my students. Discord? Or something like that which can run multiple channels of live stream videos with ongoing

chats and posts and allow for community discussion? Zoom is kind of not nice with this. If you miss the zoom you miss the chat and extra content.
May wish to have virtual experiences, music, or social events take place in Fortnite Creative.
As a recently unemployed due to covid 19, I am interested in the 'State of the Industry' content. How we can improve conditions for employees though unionizing. How studios are coping with this unprecedented environment. What can we do as an industry that will protect ourselves for the future.
Ability to get physical swag or VIP content, either in pre mailers or post event. It always a good way to get an audience excited and keep them excited afterwards.
supporting artists - maybe they can present their art station to help showcase stuff. mine is art station/peterpro i do compositing and 3d generalist using lightwave and fusion and resolve. so some function to leave your artstation page at virtual booths might be useful. if the material is relevant the virutal booth can showcase it.
Online meetings and virtual hangouts Online multiplayer games Game compositing and virtual production from remote participants
Please try to use "Virtual Reality Social Worlds" like: Altspace, VRC-Chat, High-Fidelity, Sansar and others for exhibitions and lectures. Most of these also have 2D Desktop participation capabilities as well for people with proper VR systems to use as a [point of entry.
I think that as part of virtual siggraph it would be interesting to potentially stream 3d content to a platform like https://lookingglassfactory.com/ or https://www.magicleap.com/en-us (they are restructuring, so maybe possible to negotiate a large order?). Perhaps this would be a way to justify higher conference fees?
Maybe an MMORPG or avatar-style chat gathering space to emulate the real-life 'togetherness' and community. Maybe through SecondLife or Similar? Maybe there is mail-able swag or ways we can use the SIGGRAPH app(s) and AR?
The simulated realities (VR, AR, MR, XR, AI, C.A.V.E. displays, holodecks, emersion displays, and immersive theater, etc.), all benefit from immersion. The most important aspect of immersion is stereoscopic imaging. People have two eyes, but do not have eyes in the backs of their heads. Also, 2-D, where everything from the nearest point to infinity is all squashed down to a flat plane is an extreme distortion, whereas normal vision is in stereoscopic 3-D. Therefore, there should be a strong emphasis on different methods for stereoscopic 3-D displays, including viewing them on headsets and on conventional monitors, tablets, and cellular phones, as well as other devices.
Free Livestreams?
Virtual group viewing of the film and video theater. Let the creative types figure out how to do Altspace VR type approaches to networking, graphics tutorials, etc.
Special sessions focusing on vr/ar/ml/etc applied to fighting pandemics and treating patients.
My mind was blown in watching this Travis Scott Fortnight concert, but it got me thinking of the multigamer group activity that could be applied to SIGGRAPH show floor in particular. I know you are all exploring a wide variety of options and that's probably not a new idea to you, but may be worth exploring what that kind of thing could be. An immersive live show floor with personal simultaneous demonstration capability, networking, maybe distributed on Steam... just brainstorming.

Chat rooms?
it would be nice to separate the tech talks from those that are more artistic vs. the more technical (coding) ones. Often the descriptions of talks are misleading to those who are not coders/developers and are lured into a chat where the discussion is almost entirely about the math and algorithms rather that the methodology, approach, software used, etc... (the artistic side of things)
you can also put the pictures or 360 new products in from the companies such as AMD; Nvidia and other as an exhibition a virtual tour of the and the prices of full conferences can be a lower than the cause of the original ones that many people can participate it's hard to give a full price for them during these difficult days and economical times with a little price you may increase the participants $950 is too much for full conferences
AltSpace - altvr.com - would be a great place to host some of these sessions as they are set up for various conference formats, where some users can participate in the desktop or VR/Quest headsets while others can simply watch live on YouTube.
Exhibitor highlights where you talk more about specific companies that were going to be exhibiting at the physical conference.
Support VR attendance (rift, quest, vive, etc) where it makes sense.
Virtual Scavenger hunt, A shout out from prominent individuals.
Co-creation workshops would be nice, i.e., live coding co-creation, soundscapes, etc
Create a virtual space for the Art gallery perhaps that people can explore in VR. There are VR experiences for museum and other art exhibits, though this might be too time consuming to pull together before the conference.
Some of us have never been able to attend a SIGGRAPH before. Please don't focus all of your efforts and materials in comparing a virtual SIGGRAPH to how a live conference would have been (i.e. be forward looking and not just comparing to how experienced conference-goers would adjust/react).
Maybe have a virtual mix-and-mingle event that connects random attendees in a quick call? That could replace some of the random networking interactions that are in the traditional conference format.
I think it would be an interesting idea to offer a VR-Chat room to mingle and connect.
Technical papers are important. Live Q&A sessions in those tracks would be helpful.
The Immersive and Interactive Experiences Committee (the chair is Mark Billinghurst) is considering how to host immersive happy hours. Ideally, we'd have a few platforms (mozilla hubs, the Spatial app) and dedicated time when people could join either in browser or in headset (spatial supports a few headsets). Here's more on the spatial app: https://www.cnet.com/news/zoom-but-in-vr-why-spatials-free-meeting-app-feels-like-a-leap-forward/
Exhibitors Tech Talks have been good last few years. I wish the Animation Theaters would make a comeback. Those sessions with animation from around the world (Europe, Asia, Pacific, etc.)
"Ask Me Anything" open group live video Q&A sessions with Pioneers
More in-depth breakdowns of professional work methods, especially in vfx.
At least some panels.
Virtual social (e.g. pub quiz or bingo)
All presentation could be recorded and viewed through some on demand video server.

A forum for each paper / talk / presentation where discussion can occur in asynchronous form (e.g. as channels on a Slack workspace). Such forums could be opened in advance for e.g. technical papers, since the full text is usually available well before the conference proper.
I have been to Siggraph for the last 2 years and I loved the possibility to exchange ideas or challenges i have in my daily business with other participants while waiting for a presentation to start, in the hall or somewhere else on the conference. Would be great if that exchange could happen in a virtual event as well. It would be great to have some kind of open stage for example that you can just enter and talk about your job in the industry or challenges you are facing and get into a discussion with other participants.
Provide recorded sessions as there will be many parallel sessions, don't want to miss many things at a time.
I am honestly interested to hear personal testimonies on how people are working through the pandemic. How they're handling it and how their professional and personal lives have changed and what they have had to do to adjust.
Exhibitor sessions have been good last few years. Maybe part of CAF but those sessions with animation from around world. Keynote sessions is not specifically mentioned above.
I sure hope there's a way to put on a good quality Electronic Theater.
Twitch or slido might be good experience for attending sessions with QA. Also IEEE VR did very well to incorporate live video streams and avatar co-presence of attendees in VR conference rooms. The recent Catmul/Chuang online streamed interface was pretty terrible.
If possible maybe some sort of AR Scavenger hunt that people can do in their house, like collecting badges like how it was in SIGGRPAH 2019. For students and schools, maybe consider doing mini Computer Animation Festivals that feature the graduating classes' capstones and thesis projects, i.e animated shorts. This could be a fun and awesome way to allow the graduates to celebrate their hard work even months after they graduated.
If the content provided by the conference could be recorded and played back by attendees at any point later in the conference/year, that would be the ultimate experience. I would love to be able to go back and watch all the sessions I would have liked to attend but wasn't able to (likely because I'll have conflicts with personal/work obligations).
Easy ability to switch between sessions, like the Geek Bar
VR social meeting spaces. Question polling, so multiple people can vote up questions
Just make sure we can watch sessions later - you burn out watching Zoom sessions and it's going to be harder to "get away" when people know you didn't actually go anywhere.
REAL Time Live for sure. Also live animation festival showing of entries.
Since the presenters would naturally be skittish to show stuff that isn't safe for recording... perhaps more panel discussions or one on one interviews with the artists and techs to avoid the copyright issues Also while I know companies like Disney aren't interested in making deals, since they're hurting for cash with movie delays and the like, perhaps they can still be convinced to allow behind the scenes footage, signed off as safe to distribute, as a way to promote their brand . Free advertising instead of "oh you are pirating the footage!" Unique times call for unique measures Perhaps an iPad robot can be sent to roam The halls of Pixar (etc.) and we can all watch as someone takes all of us on a virtual tour Have amazon or azure provide hundreds of online VMs so we can try out vendor software And even stuff like apply hour or real-time live stuff at our own desks inside a cloud workstation running on our browser - that way nobody is left out Electronic theater if you have one, should Have chat enabled

but needs a moderator or three Have kahoot style interaction for panel discussions where people vote on questions to ask to make The q&a more useful
Virtual User Meeting. Virtual Party.
Lightning Talk (3~5 mins for each presenter including Q&A)
Consider a social VR venue....you should check into what was recently done by IEEE-VR which was supposed to be in Atlanta but moved to totally online.
The making-of about this year Siggraph.
The Computer Animation Festival and Real Time Live are essential! Please find a way to include if at all possible.
Diversity, Equity and Inclusion, Educational and Professional Development, Job opportunities
Virtual video production primer and basics. --- (since the entertainment industry is likely to move more in this direction as a result of this COVID19 interruption, SIGGRAPH has a unique position to help lead this natural merging of Computer Graphics, virtual production and live production.)
virtual meet and greets, smaller conversations with people with like interested--BOFs that are more informal that you can hop on and off from.
An easy way for people to connect for personal conversations. I.e. allowing people to use whatever attendee id mechanism is in place to quickly set up impromptu one on one or small group checkins. Example: 2-3 people in a talk chat can quickly move offline to a slack/discord conversation or zoom call (just technology examples, not it'd need to be these choices).
Recorded workshops/lessons
I would LOVE to have the Electronic Theater available for download on demand.
Some form of virtual multiplayer gaming could be fun? Give attendees a game of some sort to play while networking, so it isn't just a chatroom.
Conference materials,   USB key
VR experiences... adding ways to "be together" in a VR space
hiring opportunities (for PhD students). Unemployment is high and career paths change drastically in such times.
Virtual recruitment booths
SIGGRAPH IRC Sessions
something for the students... lots of disappointed SVs this year, ESPECIALLY graduating students of 2020 come back to the east coast whenever we can!
Education events. Panels.
Pioneers "Get-together"
Occasional "hallway moments" e.g zoom breakouts to talk about something or another
Maybe live work critiques.
Short courses on some computer graphics tech, algorithms, etc. with an ability to ask questions, get in touch with mentors, etc.
SV networking opportunities - foster the camaraderie of the SV experience. Especially for first timers. Collaborative activity - whiteboard for personal drawings, game (ScavengAR with virtual sigglets), SIGGRAPH trivia game show. Fjorg type virtual collaboration or SIGGRAPH game jam. BRing Your Own

Animation (BYOA). Basically opportunities for attendee participation outside of consuming the accepted/juried content.
Use this time to expand this area of attendance for Future SIGGRAPH Attendees. For the future, consider providing virtual tickets for virtual attendees from now on to give the opportunity for people to further participate. This would be a great first for this to take place. I would say to also consider an "A La Carte" for the virtual sessions so people can participate with things they can honestly afford. Considering the massive layoffs and unemployment and make it affordable to allow people to advance their knowledge-base and skills regardless of limitations. Also, consider VR Theater accessibility to stay-at-home virtual attendees where they can participate within the VR from a distance.
I'd love it if there were some way to have a virtual reception, or other ways to connect with folks I only see once a year.
Animation and Electronic Theaters could be done on the weekend. Partner with Twitch or Vimeo or etc. to make streaming easier on a big screen.
Organize virtual lunches with 4-6 participants, with some sort of signup sheets. I know that not all people are in the same time zone, but then you can call them lunch/breakfast/coffee and have some signup sheets or app that would allow people to meet colleagues as if they were there in person. You can sprinkle those between sessions.
IEEE VR used Mozilla Hubs to run poster sessions remotely this year, and I thought it was very effective. Mozilla Hubs could be quite effective for social events as well. Art is hard to translate to online, especially when being there in person is required to get the intended experience. On short notice it may be impossible to move all of the art gallery online, but maybe future shows could add calls for online art in one form or another that could be correctly consumed remotely.
I am president of the chapter of Barcelona of the VR/AR Association. On June 1st to 3rd, we have our global conference virtual. It is free to attend (or you can buy a VIP ticket to have extended access to the conference). It might be interesting for you as an experience of virtual conference https://www.vrarglobalsummit.com
Live sessions
Coach and test all remote presenters in advance. Wired internet connections. Headsets and microphones - no open speaker -> mic loops! Enable every presenter to make a local recording; recording at a central location just captures everyone's network delays and may make a "clean" recording impossible.
The app with the schedule and notes
One out-of-the-box idea might be to make bits and pieces of SIGGRAPH more or less continuous. E.g., Birds of a Feather could be an online forum with periodical Zoom meetings; there may be several Poster events through the year, etc.
I was considering setting up a room for showing the live feed on a large screen. If possible it would be nice to have separate feeds for live video vs slides to simulate the Siggraph experience. At least where appropriate.
A PhD research student, I think that offering the paper presentations available on demand after they are done "live" is the most important part of a remote SIGGRAPH. In person, scheduling is only an issue with respect to concurrent sessions, but a remote SIGGRAPH has to compete with the other responsibilities of my work. Thus, I would hope that if I miss a presentation, I could catch it later in the day.
Short classes and lectures

On demand presentation would be amazing.
In other virtual conferences I have attended, there has been a forum to visit with vendors and to find out about their products. You can look to https://www.projectmanagement.com/ to see how they have done their virtual conferences. They have been doing them for years.
Virtual demos as a way to fill in the emerging tech/expo area niche? Even better if we can remotely try the demo
Hold career advice panels for undergraduates interested in graphics.
As a newcomer to SIGGRAPH I'm not sure what a lot of those are, and some seem to be hardly transferable to a virtual format. In an ideal world, some of those would be postponed to the next live-event, with invitations for everyone that should have attended this year.
Some format for spontaneous meetings, like a chat room. Something similar to Geek Bar, coffee break between Papers sessions, or other venues in the real SIGGRAPH where people serendipitously meet.
For all the events which are most fun in person E.G. Real Time Live, Electronic Theatre, Emerging Technologies, Production Sessions, etc why not move these to SIGGRAPH Asia this year and have a slightly longer schedule for that conference? It is important that technical papers are published and presented as soon as possible but other things can potentially wait...
It would be great to encourage contributors to make their demos available online and to list any such demos from a shared page, e.g. with different sections for Technical Papers, Art Gallery, etc.
Easy: Zoom could work well for the following, and you can post recording for future reference. - Appy Hour - Birds of a Feather and Town Hall meetings - Networking and mentoring activities - Posters Easy: Art Gallery (could use Second Life or https://www.artsteps.com/explore) Challenging: VR Theater - visitors would have to have their own equipment... unless there is a desktop version, or they can just watch a video, again Zoom? Case by case - ask the creators / producers what they would do for: - Emerging Tech - if AR, maybe download and use an app at home? - Immersive Pavilion - a video to convey the experiences - Lab - ? Consider a hybrid real-virtual conference program based on free choice: - The virtual is the default mode for both presentation and attendance for all works. - Allow those who wish to risk their health and who want to opt-in to a face-to-face meeting to demonstrate works, and for those who wish to attend, face-to-face and in masks, goggles, gloves, and six feet apart, and without a fever or symptoms, and who voluntarily self-quarantined for 14 days before the meeting... with evidence they did so...
The main value is typically the networking and reconnecting with old friends. It is not clear how any of the hallway type interactions can be recreated. It is not in the schedule or on the program, but will likely be one of the most important missing aspects of a virtual conference.
The people who will suffer most from going virtual are young people who are trying to build a career (both on the industry and academic side). These folks will be looking for jobs in the next N months, likely in the COVID setting. Explicitly giving them the opportunity for interaction/networking is the

highest priority. How about an event where young people can be matches up with more senior people to chat and get career advice? (Maybe that is the "Networking and mentoring" checkbox above, but I don't remember seeing such a thing at previous SIGGRAPHs.)
Papers Fast Forward Option during fast forward talks to like a talk and automatically add mark it as favorite in the agenda so that we can easily see which talks or sessions will be of most interest to us.
Maybe a panel on how to pursue this virtual conference format in the future, at least in part? For instance, grant the opportunity for presenters to give their talk remotely, even keynotes; and allow people to attend virtually at a reduced cost. Why? Firstly to cut down on greenhouse gases emission due to plane travel. It's urgent, and everybody must act. Secondly because it will permit people from developing countries to attend the conference more easily.
I wonder if there will still be SIGGRAPH souvenirs, e.g. mug, t-shirt, etc this year?
Virtual conference usually run without voice, meaning participants cannot speak up like in real conferences. Whatever can be done to give participants a voice get a virtual SIGGRAPH closer to the real one.
Coffee hour: break-up in random groups or groups based on session for coffee in between sessions
online discussions and qa
- Extended asynchronous (chat) Q&A with paper authors
Electronic theater (Animation festival)
An important part of Siggraph from an academic perspective are the hallway discussions that happen before or after sessions, in coffee breaks. This is difficult to reproduce virtually but maybe one can implement a way to see who's "nearby", e.g. in the same session.
Randomly-paired academic meet & greets ("science speed-dating").
It would be good to set up social hours around different themes which could be run in parallel. For example, getting people who are interested in AR and gaming to have a morning or afternoon tea online. The group should be small enough so that people can mingle (<50). A good technology for this would be Mozilla Hubs or similar.
I hope committee will decide to postpone the conference and we should have good experience.
virtual breakout rooms as a replacement for in person networking with people between sessions.
do a real mentoring program.   A bigger job fair.
It would be nice to have most of the presentations and exhibitions pre-recorded, so that attendees from different time zones can join the conference in a comfortable way. Because it is virtual this year, attendees from Asia region will be joining the conference at night, if the conference is scheduled on the basis of EST time. I imagine that this would be harder than having the jet-lag.
Events connecting the SIGGRAPH community to other communities, such as scientific computing. Something like the SIGGRAPH frontiers workshops. This is a unique opportunity to showcase what SIGGRAPH can do for other fields, and how other fields can contribute to SIGGRAPH because it doesn't require the huge time and cost investment in attending the IRL conference. Regarding the town hall meetings - they should be open and inclusive to whoever wants to come, as well as recorded. This will help SIGGRAPH be more transparent and also be viewed as such.

It would be better to have an online but time-constrained BBS for each talk. So the attendee can interact with the authors after the talk. I heard CVPR may have this implementation.
Focus on the papers talks.
Try to simulate as good as possible in-person interaction in events that are aiming at networking and mingling such as the SIGGRAPH reception.
Open Source Computer Graphics Hackathon
perhaps some studios would do pre-recorded virtual studio tours?
Possibly, a virtual world to hold on meetings with colleagues.
Technical papers Talk/sketch presentations
Emphasize the social aspect. Find some way - I wish I knew how - to capture the unstructured, unplanned hallway meetings and conversations that make SIGGRAPH special. I can read the proceedings and watch videos on my own. It's the social side that I will miss the most, and hope can be provided in some way. It's the spontaneous, unorganized nature of these meetings that make them special - if we have to arrange or organize or schedule, or pick people's names from a list, that is a significantly different thing, and far less valuable, since I can already email or video chat with the people I already know.
In Lab, concentrate on the classes aspect.

Q8: We will reduce our planned full conference, member, early registration fee of $950. When compared to the "traditional" SIGGRAPH registration fees, what amount do you think would be a fair price? 123 Answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

$5	
Pay what you can with suggested pricing	
RTC (realtime conference) went free from a cost of $995 per ticket. You're losing a major in-person interaction going virtual. The cost has to reflect that too? 33-50% original cost?	
free	
%5 of the in-person registration cost	
$100 worked well for ICLR	
I could probably afford 33%, but am surprised that there was not a presenter discount. Presenting at GDC, for example, gets one an all access speaker pass for two.	
iLRN is offering free education conference registration, with a reduced general registration - I would advocate for this route	
I am more interested in an inspiring SIGGRAPH than saving money (and I currently am laid off!)	
I value Siggraph but can only afford the lowest possible price. 75% off or more	
25% of the regular cost, but free for students and unemployed	
5%	
Maybe a company can bulk buy and individuals have lower rates	
Free attendance + pay to publish/exhibit	
Free. EG 2020 will take place in a week and will be totally free of charge.	
95%	
15% of the in-person reg cost	
Free for select sessions or when participating as viewer only. Otherwise up to 75% of the in-person cost	
20	
15 %	
Different plans including a free plan	
5%	
0%	
Unemployed - 25% or less (financially crying here in NY); Employed = higher percentage to cover cost for those who can afford more	
Depends on the content. With good content, 50%. With less content, proportionally less. Also, given the uncertain economic situation, that might scale this back too even if it would normally be worth more.	
In any manner this is related with I`d posted in point 6. But I think for an American person, with his earn in average, amount has understand that even in this HARD GLOBAL situation, HE HAS the conference, so: 25% it`s very good.	
Free like NAB Express	
10%	
you will need a lot less space and you can accommodate a lot more people so I would expect a much lower ticket, with price per activity.	

Free. Like YouTube.	
Go free this year	
I wish I knew. $500 is easy, $1,000 is hard.	
I feel this would be dependent on the full suite of program that is virtual.	
Impossible to say w/o knowing what the finances are.	
free of charge	
unable to answer- would have registered for "experiences"	
Most conferences gone virtual are free of charge	
I can't afford to pay anything	
As a SIGGRAPH Junkie, I'll pay whatever, but if there's the potential of having most of the content available after the allotted conference time, that's a real benefit. There's always too much going on at conference and you miss so much. Having the availability to enjoy the show at my own pace would be worth a lot. Practically speaking, however, I suspect you'll hit particular resistance about 60%.	
depends how much expense you can pass on to the vendor	
Free to students, educators. 50% off all other traditional categories	
10% of the in-person registration cost	
At a higher price I would expect higher production value content (ICLR registration was reduced to $50). Lower fees would potentially enable a large worldwide attendance, which seems like an interesting opportunity.	
pay-as-you-go	
Proportional, according to category and qualifications	
I will not spend money this year	
0. I am not certain how effectively I could participate and I am a student.	
Hard to fathom; ultimately most vendors offer information on their own; the main draw of Siggraph is that everybody is under the same roof, and the physical contact. That is lost.	
%10	
It is hard for me to judge. I was planning on attending as a representative of NYC ACM SIGGRAPH, otherwise I wouldn't have been able to afford it at any tier.	
Probably wouldn't pay to attend virtually.	
Maybe 10%. The in-person experience is why I attend	
As close to free as possible. If you don't, another conference will absolutely dominate your physical-only business model	
I've never attended, so I don't know what "fair" would be. I would never have $950 (plus travel costs) to spend so a virtual conference is my *only* way of attending.	
presenters should have a higher fee, attendees at the virtual conference should have a much smaller nominal fee	
$150-200	
10% of the in-person registration cost	
It should be free of cost.	
Really depends on what ends up remaining from the conference.	
100% or more	
free (as mentioned above)	

Full price. You are making such a great job every year and i want that to happen after Corona as well. that's why i would spend the full price!	
25% is high already, but i would pay it as long as presentations and live sessions with Q&A are available very soon after for viewing when convenient.	
0	
free (100% of the in-person registration cost)	
US$100	
Hard to say- it isn't free for you to do it virtual, so I'd put the onus on you to determine that plus how to get the sponsor money without turning it into ad central	
10% of in-person registration (Virtual conference will attract 10~100 times attendees if suitably setting the cost	
I'm typically employer covered, and have a couple talks this year, but I don't have a sense of the budget.	
I don't have preference	
Make it public babyyyyyyy	
Again consider the accompanying spouse! I enjoy keynotes, award speeches and some presentations by friends and students we know.	
The entry fee for most industry events is prohibitively high, be the change the CG industry deserves!	
At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.	
100% of the in-person registration cost	
Hard to say. Until I see what is going to happen I cannot apply value.	
10	
A menu of events/activities with appropriate pricing for each.	
10% of the in-person registration cost	
20%	
Tiered - FT students (free, cheap), hobbyist/job-seeker $99, Members/Professionals 33-50% - add in required merchandise bundle, Additional corporate donation tier for bigger industry players.	
Normal registration cost is fine, if presentations/material are available for a decent period after the conference.	
It depends on the trade-offs. If it is worthwhile and still highly engaging, convenience shouldn't necessarily be discounted. So it depends.	
This is a difficult number to estimate without understanding full expenses. I primarily attend technical papers, but get the most benefit from personal interaction as it is almost an annual reunion event for me.	
$500 Full, $250 Non-interactive, free for students.	
90% to Free as other companies have transitioned their in-person costs to free.	
Something similar to EGEV2020, perhaps with a small additional per attendee fee (EGEV is free for participants).	
"fair" price is perhaps 25%-33% but we do not want ACM to go broke if expenses are already incurred. So whatever covers expenses.	
On-line, real-time, not much. But would be willing to pay more for on-demand like services (i.e., fit the presentations to my schedule)	
40%	

free for unemployed	
What is retiree cost? What is cost to SIGGraph of Virtual Conference?	
I've had a hard time justifying reimbursement to my employer for virtual conferences, even though I still find value. 25% or less.	
10% of the in-person registration cost	
Less than 25%	
I work in industry and my employer is going to pay for this, so, as far as I'm concerned, charge as much as possible if it helps the conference.	
25%, but anybody who has lost scholarships or their jobs or has just entered the job market after studying should pay whatever they want	
5%	
$100	
It is maybe worth $100 to publish my paper and present the work to the community	
Virtual conferences tend to be free, plus 50% of exhibitor fees were not refunded	
10%? How can you ask what people would pay without saying what the conference will be? Complaining about costs incurred in the question is not useful. **WHY** should participants be asked to keep this in mind when saying what they think would be a fair price for something that has not even been clearly identified!?!	
No more than 100$ and recorded video should be available for free afterwards	
25% of the in-person registration cost, but also a free non-interacting attendee option (as most similar conferences are already doing)	
well, RTC and FMX are offering content for free...	
25% of the cost for attendees, free for presenters	
25-33% will probably be fine but keep in mind that a lot of us have lost job / businesses during this period and some conference turning virtuals became free to gain traction	
Since there is no travel, lots of cost will be saved. Going with the appropriate cost to keep SIGGRAPH healthy is imperative. So please go ahead - people will understand that there is considerable cost.	
10% or less	
full for authors and free for the rest	
Less than $100	
Anything over 10% is just not going to fly. No one except authors will register.	
I don't know SIGGRAPH well enough	
15% (major costs of venue etc. are no longer there)	
it is reasonable for presenters to spend 100% of the in-person registration cost.	
unsure	
Hard to justify spending money on a virtual conference unfortunately	
Free for contributors, ~$200 for participants	
Free for attendee, cost for presenter. For presenters, 25% seems reasonable.	
This entirely depends on the quality of the human-to-human experience (see my answer to 6 above). College students are crying out for *huge* tuition cuts because of what they've lost, and unless there's a new mechanism to replace the spontaneous, unplanned high-quality conversations that make the conference appealing, the cost should be cut to the bone - 25% seems high for that (as an attendee, SIGGRAPH's expenses are irrelevant to me. People pay for the value they receive, not because money was spent on other things, even with good motivations).	

I think presentations should be available free online.

Q9: What would incentivize you to visit virtual exhibits or attend a virtual exhibitor session? 51 Answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

games
knowing what they are in some detail in advance, to know that I would be interested
knowledge of hosting such events
VR/AR live interaction
Ama's
short demos
Ability to ask questions
Partnership, B2B R&D possibilities
Interactive or something beyond typical videoconferencing
All topics about the last in technology, and also those who can teach me another point of view about how to approach my works, which suggest me what I can change in my own style
Q&A
Being able to talk to an exhibit person to ask questions about what is going on. Basically a chat.
Interaction. Sigrraph has always been a place to interact directly with vendors and companies. Oh IDK that but Jim might, he will be by the booth with Sue, she an engineer etc ... The entire experience both here and the bofs need to be critically non passive... unlike the tech paper and poster, gallery that even traditionally are more passive areas.
VR attendance option
virtual networking
Topic
business meeting
Comfortable time to attend (my timezone is ~opposite of Washington DC)
Real sessions rather than sales pitches
networking with others
Instant Product reviews
Virtual reality networking session
Interactive Demos of real-time techniques
IF they were to be presented in fully-immersive VR.
passes and/or discount codes
Download skins or avatars
Interactivity with exhibitor and other viewers
Be able to chat informally with exhibitors
The conference I'm currently attending only lists the websites of the companies, some form of product showcase would be much better. The current one has too much clicking to be worthwhile.
it must be very brief
Well, basically everything that promises new information and insight about/ in computer-graphics ;)
How about browser based virtual workstations where I can try out the software
Q&A in person

At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.
User Group Meetings
Special presenters
Q&A
ask questions
3-minute video summary of each exhibit -- "what's hot"
online "booths" where one can talk to exhibitors
VR streaming
Tech Demos
Pay per view? Why not have a search (meta) algorithm to help me search and retrieve information of interest?
Discussion with engineers
Free access
Being able to watch (past) recorded sessions on my own time

Q11: What types of interactions would you like to have with exhibitors in a virtual environment? 30 Answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

streamed chat for real time q & a during live demo via Discord server or Twitch something similar
VR/AR
request for one on one live demonstration
Audio could work too for lower bandwith situation and those that may not want a camera in their private home. Text could just be an email.. no point.
Exhibitors should be able to choose their options
3D virtual touring of the exhibitors' demo/showroom
Live chat
Ability to GET contact information for later interaction =)
one on one or text, only if I request it
Focus on future products in development.
Ability to interact in fully-immersive VR (as avatars) in real-time. (PREFERRED)
e-mail addresses for exhibitors
Over all with zooming all day long for work this will not feel like the normal escape
VR interaction
Immersive app
Minecraft
no interaction, virtual environments are exhausting, and it's a huge mistake to try to put on an intensive conference virtually. Simplify. Simplify. Simplify
audio only chat
Slack channels
At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.
NOTE: I'm retired with no current professional activity happening.
Ability to listen in on other conversations
VR like experience on virtual booths
Anonymous feedback
audio chat (no video)
This is a VR exhibit? I don't typically interact much with exhibitors even in a normal SIGGRAPH.
Audio only
Streaming with text chat
I'd just like to watch the talks.

Q12: If you think that you might visit the virtual Job Fair this year, what functionality would you like to see? 39 answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

Submission portal for participating companies & presenters seeking applicants.
Job fair for academic positions (not sure that is usually happening) - i.e., graduate students, postdocs, and junior faculty. It does not have to be live, can be asynchronous (e.g., post available positions and search CVs etc). Maybe add the ability to schedule video interviews.
I want to see a list of every company and every industry that is doing work related to SIGGRAPH, updated every year. If I had that now, I'd use it to research companies and proactively reach out to them with my resume.
Zoom sessions from companies quickly explaining their company and what job positions are open/what they are looking for and how to contact them.
The job fair has always been an unfortunate joke for me. It makes me very unhappy to be so outcast and rejected.
Live chat
Not of interest - many existing solutions fill this gap
each company have a pre-recorded video or message about the highlights of working for them, and what they are looking for, what their focus is, etc..
Just more companies. This one in theory should be the biggest job fair. As an incentive in participating this year I would give some sort of discount for next year's booths. Though can be iffy. Not travel cost nor shipping. Might be good to interview all participants and ask them what their ideal candidate would be. As well as a sample reel. SIGGRAPH S3 may be helpful with this.
From candidates (job seekers) and companies a one-minute video pitch who they are and what they are looking for. Tired of resumes and reels. People write anything on their resume, reels folks don't tell their part in a collaborative effort. If this section was treated more like speed dating, it would be fun and more informative to both the business and the seekers. Followed up with scheduled conversation after siggraph. Sometimes just having a conversation with a company or a candidate is inspiring even if the two are not a match now for the role.
As a consultant, I am interested in virtual networking for potential clients and also contacts for potential advisory board services.
not planning on visiting the virtual job fair
social gatherings coordinated around interactive music events like WaveXR or the recent SecretSky Festival
ability to sort skill sets of applicants for possible hiring later as industry picks back up, ability to contact outside of the Job Fair
Contact info Dropbox
At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.
Networking
connections for students to meet possible mentors
advance postings from participating companies. A panel session on possibilities and pitfalls of remote production pipelines.
doesn't apply, but I think it would be valuable to try to preserve some aspect of the job fair. It isn't clear why a siggraph virtual job fair would be different from any online jobs board though.
Some sort of coordinated recruitment response to COVID-19

Q13: Our attendees highly value the networking opportunities they experience at SIGGRAPH. What mechanisms do you think would come the closest to recreating an environment with meaningful networking? 122 answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

ICLR success: low-key spontaneous mentor sessions of seniors in the field were announced on general chat channel.
look to the Ottawa International Animation Festival for as a good example of a good networking tool. E3 and GDC have similar meeting matcher / schedulers but OIAF is more transparent - if you are a participant / full conference pass holder, your contact information is published for all others of similar 'passholder' level - good mechanism to encourage 'industry' pass purchases, as the networking is often the most valuable component of attending these conferences.
strongly suggest contracting with company/ people who are already well recognized for facilitating the "human interaction" needed to create the personal interchanges for video conferences. Tess Vismale - Demystifying Virtual Events -isocialX.com
Good luck on this - a very tough nut to crack!
VR/AR (altspace)
I would advise you have live chat that is specific to each exhibit or area. A chat system similar to Twitch or Youtube streaming. Perhaps a way to direct message another attendee would also be a great feature.
More emphasis on collaboration between different regions. Mix and match Africa and the Middle East with Europe, Asia with S. America.
Possibly something along the lines of Slack or Discord for different interests.
VR hubs
Encourage formation of ad hoc social groups (e.g. former colleagues, birds of a feather) with social video chat sessions, topic-directed conversations, etc.
Form groups based on geographical location. The larger the population, the tighter the radius. For example, how many Cinema 4D users are there in non-traditional locations such as NH, NV, MN, etc. A group chat with these individuals may be more invaluable than connecting with people half way across the country or prove to you that you need to leave your current location because there are not enough people in your area.
Links to social media or emails
Zoom Spatial.io
Slack/Discord channel, please.
Zoom happy hour with those with similar interests or friends
Potentially create a social VR thematic hangouts (like AltspaceVR)
Virtual visit cards with contact info
random chats
Make them talk about a general topic.
VR sessions using HTC or Oculus would be amazing
First at all I choose the number 5. But in this case, the first time of virtual conference, and according to your prestige, and to the American basic concept about sells (I mean the book "The showmanship

in sells" by Elmer Letterman) one of his rules: "The concept of excellence in sels" I suggest you a special "channel" (you decide what kind) for all kind of doubts any attendee has.
Dex
You can't. It will just be low-value contacts talking to low-value contacts.
Be able to send messages to people to coordinate video or text chat.
VR Rooms.
Maybe having a slack or irc with various channels to let people filter by interest?
I think several of the options should be offered
Don't try to get it all in. It's different this year. It would be impossible to replicate.
I think everything should be done with video chats, it's the best way to feel connected in virtual meeting
I'm not sure if it can be done in the virtual format. And doubt that it will be worth the time and effort to organize.
Already in use in Korea
A VR format of viewing presentations or posters like in IEEEVR 2020
Don't bother trying to recreate LinkedIn or Facebook. Maybe spin up a bunch of topic-oriented Discord channels.
not of interest, siggraph is about learning - please focus on learning objectives
Persistent video meet/zoom/whatever on topics that people can hang out in.
Zoom, Braindate, menti
I have a connection to a company that has a video platform similar to Zoom, but could be customized. You can connect me if you think it's something you want to consider using. jeffalli@me.com
This one might be hard because people might not be as open with strangers as they would be in person simply from fear that what they say is recorded.
Discord.
Area of Interest islands in Fortnite Creative.
Group video can be very daunting and cacophonous, plus only one convo can really be had at a time (vs breaking out into separate conversations in person). There needs to be a way to find small groups with shared interest and then to connect with those people. Maybe it could be a bit like virtual speed dating - you get x minutes to connect with individuals or a small group and then move on, getting the contact info of those you resonate with for further conversation.
Virtual company booths. These companies can create their own interactive method for sharing resumes, reels, interviews, and company information
ability to join a zoom meeting maybe
Instead of organizing networking breakouts based on user specified interests, what if there was a "virtual hallway" where when a session ends people are placed into a 5-10 minute small breakout room where people discuss what they just saw? It seems to me that the conference will now be able to track which sessions each attendee views, which might be able to drive interesting connections.
Ability to interact in fully-immersive VR (as avatars) in real-time. (PREFERRED)
I'm involved with a group called "Office Hours" that Alex Lindsay created. There are daily discussions on Zoom and Discord that involve virtual media production and many other areas. A sample of some of the subjects is on YouTube: http://www.youtube.com/alexlindsay

along with a link to join the Zoom discussions. Alex Lindsay is Head of Operations at www.090.media
Looking at the way Fortnight and other massive game experiences produce engaging content and allow audio to tie to their avatar... interesting stuff and could be a way to use that engine to make it work and exist beyond the show for networking, education, project demos, etc.
I will miss the parties where people are relaxed, not time constrained, and happy to engage. Maybe there can be happy hour(s)?

Maybe signposts at each session page, an indicator that shows how many are hanging around and online.
   Click it to join the open group chat before and after sessions.
Definitely NO ZOOM!!
  Security vulnerabilities = not allowed to use it.
   Skype better.

Check out the company e180 that hosts what are called "Braindates" -- we've used them with great success for my company's internal conference. Basically it's almost like online dating, but for conference topics. You can put up a posting saying what you want to talk about and set up short 1:1 meetings with interested people, or you can pick a time and have up to four people meet with you on a particular topic. It was a really great way to meet and connect with new people working on the same problems you are.
social gatherings coordinated around interactive music events like WaveXR or the recent SecretSky Festival
I'd be interested in joining virtual BOFs
As mentioned earlier VR-chat might be with an experiment.
I think, it is not worth trying to recreate opportunities for networking in an online event. The energy should be focused on the other parts of the virtual conference.
This is a tough one. I don't have any suggestions
I commented above about immersive happy hours in spatial
text or video chat for BOFs. Maybe a bulletin board as well.
Mozilla Hubs worked well for BoFs at IEEE VR in my opinion. Group video is "challenging" when the groups are large and turn-taking can quickly result in a relatively rigid and formal format as opposed to mingling in small groups, which is possible in Hubs. The disadvantage of tools like hubs is that you need a reasonably powerful device to use it, but then SIGGRAPH is a graphics conference so most of the attendees probably do have more powerful than average hardware both at home and at work.
Have a kind of "chat roulette" with other attendees
If there is a way to simulate casual interaction in an ongoing virtual session where one can break into groups, that might work
I don't think networking works well in a virtual setting. Few employers are going to allow time off for a virtual conference, so few will have time for networking anyway. But everything we know about virtual environments suggests few will be able to remain as engaged as face-to-face and very few will be able to manage more than maybe two hours a day.
Some notion of "room" for people watching the same talk, where people can breakout and keep chatting after the end of the talk.
An open stage could be an idea where attendees have the possibility to introduce themself, their job and their challenges they are facing with a possibilities to interact after the presentation.
Altspacevr

And easy way to find a schedule virtual meetings, especially if tied to BOFs. There are school bofs, regional bofs, bofs by interest. And hopefully not based on a specific app like zoom. Setup brief event chats between events.
Unconference-type gatherings around a broad theme where sub-topic groups can breakout and report back later.
Ability to "walk through" virtual spaces that mimic people mingling outside of presentation rooms. Many of my interactions at SIGGRAPH happen while walking from session to session, and running into people. It would be nice to (optionally) allow huddles of people that are talking to each other to be discoverable by others that are "walking by" and who could then join the conversation organically. One massive text chat/slack channel is a poor substitute for this.
I'd love to see creativity here, for example company parties on their VR social platforms, e.g. Roblox. Maybe more emphasis on a platform for BoFs
Maybe have mini receptions or after parties where people can network, relax and have fun. Something similar to the Chapters party. Also maybe like for an hour or so, maybe consider have like an "open mic" night in terms of showing projects or having friendly discussions on computer graphic topics, i.e. game development, animation, inclusion, how to break into the industry, etc.
Networking breakouts are a great idea, but it could be even more powerful if the criteria is organic - i.e. user-submitted ideas and breakouts that could be spun-up during other breakout discussions, etc.
I'll just be using this year's RealTime Conference that was completely virtual. They conducted the sessions on Zoom. They allowed questions and answered them at the end of each session but also, the comment section was left on and there was a lot of interaction on there as well between attendees. The comment section was also filled with (relevant!) questions and answers and insights between attendees. I think a similar approach within the sessions itself would naturally create opportunities for networking. However, the practicality of this may also depend on the number of people that watch the sessions in real-time.
Something like birds of a feather but with someone "leading" the discussion. People could enter topics, questions in advanced or live and everyone can vote on these. "Lean coffee" style. We do this with a spreadsheet.
Forget the name, but Microsoft was using an internal third party solution for group posting and chats. Something like that could work (or something like slashdot).
Virtual worlds like Minecraft or mmo type environment or fortnite party royale style with a chat interface
use a social VR space
Informal happy hour based on interests; liked sessions, panels, etc
An easy way to record data for something like "i would like to have a follow up chat with these two people, but it's not urgent" and then access this data to schedule after the conference.
VR tech can be used well for additional, e.g. Vket virtual reality market was successful in Japan recently
Multiplayer gaming, with the ability to chat with the people you are playing with. It's a great way to get people to interact.
At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.
Specified times for special interest group chats "salted" with individuals known to have expertise in the topic of special interest. Having more than one time scheduled for a given topic might be a good idea.

Similar to a reception - I would value a scheduled limited time to be able to meet specific or new people for small group audio:avatar chats - such as how Mozilla hubs rooms.was used at IEEE VR. Wander from room to room or text someone to meet you in a specific room.
A Zulip chat group (ability to have threads, search), introductions
This is a difficult challenge, most of my SIGGRAPH interactions are ad-hoc & fortuitous - I know in advance that I'll spend the week chatting w/ old friends and making new ones. I'm in the mindset that I'll be talking & networking. Most of the suggestions could happen anyway at anytime without needing to be mediated by SIGGRAPH. Linking networking opportunities to where people often meet & make plans might help a bit - for example, after a talk leaving Zoom/WebEx open for people to make breakout rooms or exchange info for later might be helpful.
Direct them to SIGGRAPH Chapters where they can further gather and network. Have the ability for people sign-up for Distribution Lists for Specific Interests (Appy Hour, Art Gallery, etc.) or Subscriptions to SIGGRAPH Updates or News. Continue the Community.
Ideally, a virtual representation of the spaces, with a stylized avatar (with ID) for each participant moving around.
let me upload a list of friends to find out if they are registered
Maybe a virtual reception and/or party with breakout rooms or concurrent sessions with different themes or music or whatever that you could hop around to.
Moderated, non-panelist, discussions post talk. Moderated in order to retain coherence and single-speaker highlighting.
I had a suggestion earlier in the survey - seems like you are already thinking about the social aspect
Maybe put us in cohorts based on interests and give us a forum to communicate. Slack, video break out session for BOFs.
Experimental: Ye old chat rooms (for the video shy among us) split out based on sub-topics. Or dynamic rooms wherein chat (or video) participants can define their own topics (ACM should moderate topic titles).
Help me find other attendees who have at least 2 *different* interests in common. Those are the most interesting interactions, this might actually be more efficient digitally.
Moderated 3D virtual chat environment. Ability to change a shirt but no crazy avatars.
Many of the options might be nice, but I'm not sure how much should be invested in this.
After each technical session, please have a place to ask questions and talk to the presenters.
Networking at parties is the most productive for me — university graphics groups and companies. Not sure how to translate this...
IEEE VR used Hubs for meeting in virtual rooms after sessions. For example, the speaker of a paper session would say that after their session he/she is going to be available in a specific Hubs room. Then one would go there and meet other people who have attended that specific session, so people who likely have similar interests. It's possible to just walk around and see who is there or to join conversations or to discuss something with the speaker that could not be asked at the end of the session. It is similar to hanging out outside of a room right after a session, which is where I often network most.
Some guide for HTML5 based slides? I found our group video chat suffers the most from streaming slides.
VR lobbies
I don't know that any of these are particularly helpful, and the ability to search and connect feels like it would be abused.

Workshops
There's a social barrier that makes it harder to engage with strangers, and the screen makes that much harder to overcome. Interactions could be incentivized - perhaps through shared puzzle solving challenges with some kind of recognition for winning (a leaderboard?). I also think it's not enough for a random stranger to share my interests, I have to have some expectation that they have something I want - knowledge, experience, employment prospects, etc. Perhaps some kind of system where participants can read each other's profiles and request an audience with each other. ...A dating app. I'm suggesting a professional "dating app".
... yes... highly value the networking opportunities they experience at SIGGRAPH
Second last option sounds like BOFs to a degree... but really the networking needs to be better than chat roulette... or random match making service. I don't think I would have the patience for random bad matches and would probably simply not participate if there was a risk of wasting my time.
Make it fun; don't just throw people in a room together. For instance, online "pub quiz" style trivia has worked really well. Get people talking in a casual environment.
Networking is often carried by externals (parties by companies), at the end of presentation sessions, or with known people. I don't think any of the options you are providing will compensate this.
Discord voice channel
The system should automatically video-connect you to some people, but give you the option to 'walk' to some other group. The system should not start out with an extensive choice menu of who you'd like to talk with. This way you get more group discussions instead of one-on-one deep dives into a topic. Networking is about finding out how your work might be related even though you hadn't thought of it before.
Let people register and interact on the usual Siggraph App
You could have a virtual break room where every attendee can go with their virtual avatar. In there, one could walk up to other avatars to start chatting. Like a virtual coffee break.
Key to virtual success is accessibility: The simpler you can communicate, the more successful it will be. The more you would use standard browser feature instead of proprietary solutions, the more people will meet and get most out of SIGGRAPH. The more login-fuzz, the smaller the success and the louder the criticism. Do not rule out any platform.
I used Discord to teach a programming class due to its strong screen-sharing and conversational features as compared to other platforms, so this could be a good option for SIGGRAPH as well (or maybe Slack, although Slack is not great for screen-sharing. Absolutely no Zoom/Webex! It's terrible for technical demos and keeping the conversation going).
It would be great to have chat where one can "break out" to a 1-1 video chat. E.g. Mattermost has a video chat plug-in that allows this.
Random science speed-dating.
Social VR such as Mozilla Hubs or AltspaceVR
How about "Second Life" style virtual Washington DC Convention Center? In that virtual convention center, each participant has their own avatar, and move to session room they want, and happen to meet other researchers while moving to somewhere and have some chat! (this is the key point) I'm not sure how to implement it and there are available Second Life-style services, but I think this kind of attendee virtual experience could be most similar to the offline conference experience.
Preferably small group video chats in an informal setting. Maybe somewhat randomly matched based on research interests?

- Virtual coffee break out rooms between sessions. - An option to connect and chat with a random attendee (the main missing component in virtual vs IRL is randomness, and the opportunity to "run into things" and do stuff you didn't plan for. - Slack channels based on the mentioned criteria
This is too hard to achieve and likely waste the effort
These options miss the point. It's not about the modality of conversations (video is probably best, though). It's about who you discover that you never spoke to before, overhearing an idea that stimulates one of your own, seeing a friend with someone you don't know and joining them and meeting that person, etc. And there are multiple types of attendees. A newcomer isn't going to pick a luminary from a list to schedule a time to meet, but in person they could informally join a clump of people including that person. Social dynamics is hard, but it's what makes the conference worth going to, far far more than the "content" which can be absorbed all alone. Focus on great, informal, unstructured, casual, unplanned meetings (granted, a hard task).

Q14: Should presentations and other talks be live or pre-recorded? 44 answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

Live + slides and video; prerecorded version for back up and post event archives; live stream chat via discord server or twitch or similar for real time q & a Siggraph YouTube Channel or the like to post all presentations afterwards for post viewing. At GDC it's password protected and called the Vault, an additional fee paid during registration for access. They made last year's Vault open to the public during this conference season as they develop their summer programming; I would suggest making something similar open to the public this year, to help build community support and value around something you could gate in future years.
Give authors a choice of format
I liked how GTC was held this year. There was a live session being recorded, and I was able to watch it on demand in case I had a time conflict and was not able to watch live.
A mix between live and pre-recorded might be a good way to go (option 1 & 2). Might be easier to manage as well
Live and recorded for access post conference or for people in other timezones
I think live presentation will draw more commitment but backed up in case of failure, as well as being added to a VOD list, also being live there can be realtime audience questions submitted, for example via chat, and then those can be passed onto the presenter to answer. This is a common flow for many youtube live channels so I think the audience will resonate with this.
Presented LIVE in interactive, fully-immersive VR (as avatars) in real-time. (PREFERRED)
I think they should be live, and recorded so that people who cannot attend the live session can watch later. The exception to that should be the thing where everyone records a 30-second promo for their talk. That should be all pre-recorded and edited together, and made available before the conference.
Pre-recording with review for clarity would be awesome especially for non-native speakers
Live only - if there are issues then reschedule.
I chose other just to explain. Of course, I would prefer Live. Especially because it allows for presenters to interact among themselves which sometimes gives you great nugget of info. I could live with pre-recorded though and have time for a live Q&A. There are times at SIGGRAPH when presenters go over their time limits allowing very little time for Q&A.
Any of these
Live - but recorded as well for asynchronous review (especially important as sessions often overlap) (with a pre-recorded backup for technical failures - would be nice but put extra burden on presenter as it CAN then be made perfect by doing it over and over again - post recording in case of technical failures as option may be an idea)
all prerecorded so I can watch whenever I want I don't have problems with parallel sessions. Have a few massive q&a where people could just walk up to any speaker and ask a question.
I'd prefer the first two options but also suggest the participants can submit their questions during the session (to be answered later in the Q&A session of course). In the case of panel discussions I would suggest having it live. Going back to the RTC conference, having all the panelists weigh in at some points on the topic or to answer a participants question really made it more insightful as, for very subjective questions, there were multiple perspectives shared.
For large presentations with little interaction, pre-recorded with live Q&A is likely fine. Smaller/more intimate sessions may benefit from doing it all live. Regardless, if all could be recorded and consumed later that would make this conference superb.

It's nice to see the live interaction between speakers, it be sure and record it for later consumption. Q&A is always good live but also have a way to submit questions in advanced.
Live with ability to watch sessions after they have occurred
Precorded with a scheduled broadcast time that has live chat (coming from the point of view of being a speaker). I've found this to be really useful for some other things I've set up for others. The experience would be that the audience can watch a prepared recording while discussing in chat and asking the presenters questions in real time.
Whether you "buy" access to the lecture+Q&A, or "buy" access to just the lecture, the lecture should be recorded in advance and made available at a specific time and stay visible for a week or so. This gives members the chance to attend or dropout simultaneous talks.
At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.
I personally don't value Q&A as part of a session conclusion. However the ability to discuss with the presenter is valuable - so having each presenter available for 15 minutes or so in a breakout area for those who are interested Is worthwhile.
Live for those that can immediately attend, and Pre-Recorded for late attendees due to work or other constraints.
Either!
Live or prerecorded presentation with live Q&A Pre-recorded was GREAT at VR as it allowed poor public speakers and non-native English speakers and to practice and edit it over and over till they got it down
IMHO: Live presentation, with recording to be made available post conference. Pre-recorded backup is essential. It is all experimental. Maybe to experimentally try a few of each to determine the best strategy for future conferences?
Depends on the content. Papers may have more QA than some other content. Would like a live presentation be advanced prerecorded with live QA would also work. I usually enjoy other's questions as much as the presentation and having that live would be nice.
Exclusively pre-recorded. Not all authors have a suitable home space, reliable internet or the right timezone to be able to carry out a live online session.
Pre-recorded only, but postponed Q&A session due to time zone difference.
Pre-recorded only with forum for Q&A. Due to time zone differences with Europe, it is likely that any live session would occur at completely random time at night for us, which will not be appropriate for Q&A.
Live (with a pre-recorded backup for technical failures) AND with the option to watch later if I can't attend the live session. Honestly, if I had access to the whole conference (including parallel sessions that I couldn't attend both of) I would feel more like I was getting my money's worth. BUT attending live is always going to be the superior experience.
Pre-recorded, advanced consumption, AND show during the session for those with poor time management to view all content in advance, followed by live Q&A.
Pre-recorded with forum/live-chat for Q&A. Online Q&A session enforce timezone matching which might not be ideal for everybody (and exclude part of the attendance).
Pre-recorded for advanced consumption combined with a text forum-based approach for Q&A. Time zone differences might make attendance of a live Q&A session hard, so this might be a more reasonable approach and will enable further discussion of the works presented.
Preference of talker

Should be live and recorded. In case of failure, upload a recording afterwards. If not live, I also can read the paper, as usually SIGGRAPH presentation are scripted to death...
either one of the pre-recorded possibilities. (in such a big conference, the live with backup option would still inevitably cause delays)
It should be up to the authors. They can choose live or per-recorded with asynchronous (chat) Q&A. Over 50% of the speakers will not be in the US east coast time zone. Any "live" participation should be optional (we can't expect anyone to present or answer questions at 3AM).
My answer is "Pre-recorded followed by a live online Q&A session", but I wanted to note that any option which allows users to "download" the recordings will not work for my company (we have several technical paper presentations coming up) - and recording our presentations is forbidden. They will make an exception if we pre-record and you *stream* the talk at a specific time, but cannot make it available for download.   We've already gone through this with Eurographics.
Given the time difference, i think there is no way around doing prerecorded talks, and a one-day, asynchronous Q&A session (people can write question for 24 hours, and the authors can record their replies within 24 hours).
flip the conference. Release all the material in advance and just do Q&A during the week of the conference.
How about letting presenters choose? Recording is a WAY different experience than speaking live. Let people do what suits them best.

Q16: Many attendees appreciate the opportunity to have "hallway" conversations with other attendees or to interact with a presenter after a talk. Do you have a suggestion for a software platform that will work well for these kinds of breakouts? 253 answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

In the "traditional" Siggraph Onsite App there should be a platform (for chat rooms, video chats, etc.) that could allow attendees with presenters without having possible interruptions from users outside Siggraph.
Discord
Slack
I think Slack has a bot available that lets you pair up participants randomly in a channel for chats
Is there a software, like a randomly paired chat room, that could do chat roulette?
Discord?
Discord, Zoom
https://gather.town/ was nerdy but fun :)
One on one video chat or text chatroom
Many online courses use Zoom because they have very robust breakout rooms for discussions during or in this case, could be scheduled at the end of the tutorial also, q & a and even hand raising is well facilited with Zoom. If a Meet and Connect Networking portal (look to E3 and GDC as examples of conferences that integrate these kinds of apps to facilitate networking into their conferences) is created, a link back to this portal could be supplied for people who want to meet up after a meeting to continue a discussion on their own terms.
Slack
Zoom Webinar
Contact Tess Vismale - to learn more about human interactions.isoicalx.com
We have had success with Zoom and Microsoft Teams
Altspace
Private Zoom meeting. Google meet.
Having a direct message system of some kind in place would be great.
Slack
Zoom
A secondary "lounge conference call" where the presenter will hold something similar to a press conference in a limited amount of time so they're not stuck in a infinite loop of questions.
Perhaps have an official Q and A time posted for the event. After said Q and A maybe have the presenter/s stick around for additional time (not official or posted) where people can see they are live and can hop in and out for questions or conversation. Maybe have a count down of time that the presenter is on so people can unofficially expect this access to some of your presenters after the Q and A.
Separate chats?
Use of something like sococo
Not Microsoft Teams

Zoom won't do it, seems like Skype or Facetime would
One thing we have been doing at work is we now have a separate channel called "lunch room" and it's for people to just hang out in and post stuff, talk, or whatever to mimic the physical break room at work. We have also been doing Friday night virtual happy hours and that has also been well attended.
Zoom seems to be handling things well. Discord is another option that has good security and is robust. Using a popular platform has some advantages, as there would be less "need another account" problems. In this regard Google is also a reasonable option. Can we get corporate sponsorship for this? Seems like a great tie-in for us. It is Computer Visualization after all!
If there was one, you would know (just like the world can't stop talking about zoom).
Web-Ex. More robust than Zoom.
Jitsi, not Zoom because you'll experience cutoffs.
Zoom
google meet chat
zoom.
Slack twitter
Zoom
A SIGGRAPH Discord or Slack channel could go quite a ways to help with this. Perhaps a hosted Mastodon server that is focused solely on the SIGGRAPH community could also facilitate these types of discussions.
SocialVR
Any common text chat program such as Slack, Discord, or Teams.
Zoom
- Mozilla Hubs - AltspaceVR - Spatial - VirBELA
Discord and Slack are good options
AltspaceVR
Public chatrooms will do I guess with the ability to create groups
Discord, Twitch
About a software platform I don't know.- In the case you can`t  find out about, I suggest you "open" two channels:1) for those who appreciate the "hallway" conversations:(previously under requirements to the attendees about their preference`s subjects.-2) the same way for interactions with the presenter (if the numbers of those attendees, previously you might divide that number in groups : they`ll understand and VALUE THE QUALITY OF YOUR EFFORTS.
Zoom, not perfect but it is used often in these circumstances
We've had good success using Discord for the past few weeks, with it's ability to create many text (and possibly voice) channels in a single "server", as well as the relative ease with which it's possible to start one-on-one conversations. Unsure how it would scale to a SIGGRAPH sized event, though.
Zoom
Zoom or Google Meet
VR Chat or AltspaceVR.
Slack
Zoom

Zoom meetings
Slack?
meeting, zoom, Lifesize, ..the common ones work for the purpose (facetime only for apple, so wouldn't suggest)
Microsoft teams
Share an online version of the paper that attendees can annotate and make it easy for the annotators to reach out to each other and chat.
Slack/Discord
Zoom meeting or Microsoft Teams
This may have to be a casualty of having a virtual conference
Zoom, Cinesync
Maybe have a sort of chatroom for each presentation where the presenter can answer questions or have conversations after the presentation.
Discord sessions after each live q&a session.
A Discord server
Has to be an option of the software platform used for the virtual SIGGRAPH event
- mozilla hubs
At my place of work we've used Zoom for town halls for around 1000 participants. Q&A sessions are moderated from questions submitted through email prior (or during) the event, as well as question submissions through Slack or Zoom's chat. This has worked for both 1-to-many and few-to-many interactions.
I think zoom breakouts would be best. Small format to address comments and questions
unreal tournament 2004
https://www.bibimble.com/   digital exhibition
Discord would be good. Perhaps Slack.
Any discussion board available for the QA session - Slack would be good to have channel per each session.
As mentioned, Google Meet / Zoom / Bluejeans can have persistent calls that people can jump in/out. You could have themes to attract various people / areas of interest.
Braindate, menti, zoom
Having a discord app or the usual SIGGRAPH app that gives the ability to create group chats for general "hallway" conversations or specified industry groups.
Slack
Slack channels specific to each course/presentation
Zoom or google hangouts pretty much whatever the masses are already using.
Zoom breakouts seem to work well
Online Town https://theonline.town/
USE LAST YEARS SIGGRAPH APP
Zoom
I think discord is still good for this. I teach with Zoom and Discord going. (Google Nest instead of zoom too). The ability to see a group talking is great. Hard though to bump into anyone on Zoom and have private room chat directly. Discord can do live stream and have a voice channel, assign roles to people who join, and can be broken into channels. Twitch is fine, but the chats are singular and too fast to have a good one on one or one to group.

Discord.
I'm not sure but I think a lot of the spirit comes from queuing. So I think having a space for us to at least text chat while we wait to be called on might help simulate that experience.
Possibly discord, with different channels for different panels/discussion topics/areas of interest.
That's a tall order.... second life?
I have seen several recent experiments that used jitsi of multiroom "virtual parties", which seemed reasonably effective.
LIVE in interactive, fully-immersive VR (as avatars) in real-time. (PREFERRED)
E-mail addresses for presenters and attendees. E-mail has the advantage that it can be sent and received at any time, which is convenient for both the sender and the recipient, especially when they are in different time zones around the world.
https://jitsi.org/ Video Chatrooms with Schedule
Mozilla Hubs
Zoom works well for hosting a group, and doing breakouts, and then returning to the group
Google Meet
Fortnight
e180 braindate -- or perhaps zoom breakout rooms (although then you can't pick where you end up)
Altspace VR but maybe would be good to add highly visible and visually sortable badges to show interest, industry area, etc.
No zoom! Security issues = not allowed to use it. Skype. Web page chat. Even Reddit.
Being able to have a database with all attendees and presenters.
That's a tough one. Maybe something like AltSpace or VR Chat? Do after shows on VR platforms?
Can't work I've been ong teaching as well as working since March this will not work
AltSpaceVR
VR chat, which can also be used by people without a headset.
Slack/discord
I attended a virtual conference earlier this year that kept Zoom rooms open for participants to drop by and chat with other attendees and presenters.
Don't bother with that. It's (with today's technology) impossible to achieve that online.
virtualized hallway with avatars
Not sure if there is tool that could replicate that. Maybe something like slack? A web bullein board as well. That way attendees could pose questions and have conversations and have presenters respond when it's convenient.
Spatial! https://www.cnet.com/news/zoom-but-in-vr-why-spatials-free-meeting-app-feels-like-a-leap-forward/
Mozilla Hubs and/or Slack?
A VR platform like High Fidelity may work - something which allows roaming and conversation based on proximity.
The constraints of the situation are huge challenges. I think you should give up on trying to host them as it's extra logistics and planning time is short.

Slack channels with DM breakouts.
A software platform would be nice, however, have you considered using social media (like facebook) and creating groups or group chats there?
I would prefer to use discord channels.
Can you provide a "waiting room" with chat functionality before and after each course? Hopefully in a way that you can engage with 1:1 chats if you choose so
Discord server with multiple text and audio channels split by categories
Lavas used https://www.virbela.com/ (but had their own island for the conference). I worked a lot better than I expected, had room for social interactions, private and non private conversations, ask questions after a talk etc.
Slack
Cisco Webex Trainings, breakout session.
We at OTTO made pretty good experiences with Microsoft Teams.
What Laval used, or AltspaceVR
breakout rooms in zoom conferences
I use Discord a lot, but I know it can be very buggy with voice chats. I imagine having lots of channels can be really overwhelming and notifications could get annoying. I am honestly not sure how to recreate these moments virtually.
TWITCH
Nice idea, but sorry that I couldn't have a good solution about the software platform.
Worlds chat! Seriously, though...
Roblox is supporting about 100 simultaneously in same virtual shared place atm, and scales across different instances to millions simultaneously. don't know about other platforms. A virtual siggraph in Roblox would awesome!
This is probably already considered, but Zoom might be a really good option because it comes with "Break Out Rooms" option as well as "Waiting Rooms" option. I'm assuming that many of the contributors, panelists, exhibitors, or anyone helping out in the conference will more than likely have a Zoom pro account. If Zoom is going to be used for something like this, then maybe consider encouraging attendees with Zoom or Zoom pro accounts to host meetings during SIGGRAPH to have conversations or meetups on certain topics.
Zoom is what I have experience with and therefore what I would suggest.
Town chat, Zoom
It would be great to have that, but I don't have any good recommendations :(
Discord, Skype, Zoom
Slack
Designate Google hangout/Zoom/etc rooms specifically for post-event discussions, that attendees can join after the event ends if they want to meet/discuss with other attendees/presenters.
A vaccine? A helluva good time next year in Vancouver? (That dessert reception was awesome, but really need to get the torch lit)
Virtual world mmo wasd walking around
Google Hangout
Discord
chat rooms
Secondlife?

social VR space (like Mozilla Hubs)
Zoom possibly?
looks helpful : https://www.sli.do/
Discord
I think a menu of "connect via app x" options would be more useful, since different people prefer different tools. But having some pre-decided default for the conference.
zoom meetings?
VRChat or Mozilla Hubs
How about separate Q&A chats/calls with each presenter after a presentation block. Virtual speed dating software might be interesting.
Zoom
At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.
Mozilla hubs rooms, Zoom
yes, could have general drop in rooms.
Consider Slack; you can create certain channels for specific conversations but you can switch to different channels or conversations at any time like you are in a hallway of opportunities or scheduled conversations with presents after the talk at let's say a "Presenters Lounge".
Coffee talk in the morning. Lunch chats.
Zoom breakouts ?
Zoom with breakout rooms might work
Discord
Zulip, Matrix, Mozilla Hubs
I'd say Zoom better than Webex, the client interface is more flexible and I'm sure they've been working on security. Don't touch Facebook. Is there any FOSS software left in the space that could use a boost?
Maybe a link to different Zoom or Text channels on Slack
list up members attending the session on the side of video, and give an ability to have a text chat with them or a person.
Zoom has the ability to have breakout sessions and has a robust API set, so perhaps, large zoom sessions could be pre-programmed with multiple breakouts. Second Life was supposed to do just what you're describing, though getting people in there might be a challenge.
Only the standard platforms
Mozilla Hubs
Jeez, at this scale!? Curious if a profession platform like Microsoft's Teams could fill this gap.
Zoom or slack channels. Opt in for this? If opted in you get paired with random attendee between sessions?
I believe Mozilla hubs generally works well, but there may be room for something with text-based chatting to also work out well for people to discover shared interests in a larger group, then break out into smaller text chat rooms to dig deeper on the connections.
Try to connect to www.vrarglobalsummit.com to learn the pros and cons from that experience
Slack

Usenet, I really wished news groups returned
No, unfortunately. Looks like a good business case for a game based on Unreal or similar? :)
Discord
Discord is good at simulating a sense of community. It will be nearly impossible to virtually recreate hallway conversations unless there is some new VR application that can host virtual events with security measures in place.
High Fidelity Inc., Mozilla Hubs Both are VR meetspaces to replace meatspaces, hubs is available on HW most of us probably have (google cardboard level).
To have "waiting rooms" where the attendees are taken in between pauses and conferences, and where they can chat and interact with each other (perhaps include a small optional game mode for those rooms?)
Zoom seems fine
Zoom
Discord
Have a Slack where people join different channels at each talk/exhibition/....
Discord
Discord
Facebook Horizons
Hubs or a similar VR platform
A forum for each paper / exhibit / course, that remains open during the entire conference, with visible history.
Zoom
Ug. None very well currently
Maybe discord?
Slack
Something like reddit, with an official post for each talk/BoF/etc. and unofficial ad hoc posts by attendees.
Have a platform where every attendee has a minimal profile, and when watching presentations, attending Q&As, or simply scrolling through all attendees, you may "bookmark" profiles with some notes so you can ping them later on. Maybe an indicator of being online with current activity (e.g. watching this current paper presentation) next to your bookmarks could help on different levels, like joining presentations, asking questions, etc.
Discord
Mozilla Hubs
Second Life, make an island, and we can all log in, create avatars and enjoy virtual coffee's or drinks. https://www.youtube.com/watch?v=mZZS6NCtr1k
Google Classroom
As sad as it is, I don't think any software can really replace this sort of networking outside of normal sessions. On the bright side, this will be a good reason to try and have future SIGGRAPHS in person again, in case large events can safely take place again.

(I see it as a real possibility that many events will be only digital in the future if they work "well enough")
Not really, but this kind of makes me think about what Yik Yak used to do, allowing strangers who were in physical proximity to converse. Except in this case you'd have to simulate physical proximity with an algorithm.
I've found Zulip to be a good mix between Slack (real-time but disorganized) and a traditional forum (threaded by subject but not real-time).
The only thing I've seen is mozzila hubs (IEEE VR 2020), though I didn't experience it. Everything I've seen seems to suggest it doesn't necessarily scale well or work as a natural replacement. I imagine people will also suggest slack with various channels to try to recreate the small groups at the front of a tech papers session where people chat. WHATEVER THE SOLUTION... I think people will need to see short demos to understand how to use the solution properly... there might be some simple suggestions on how to interact or manage these sessions. Teach the community to use the new tools (e.g., think of teaching people to pinch to zoom on new interfaces as a not very good example).
Discord is the most "hallway-like" app I've ever experienced because it can be run passively in the background—just like an actual hallway. You can easily join in the conversation, or move to another hallway. It would be fun to even call the Discord channels "Hall A," "Hall B," etc.
Using a forum based or real-time chat would be good (irc).
Could be zoom
Anything that runs online and doesn't require admin privilege for installation of a software on local computer. (Discord, Slack, Google Meet, etc) (NOT Zoom)
As suggested above, a software based on text forums could offer these interaction capabilities. Other software such as Discord or Slack could also offer these capabilities through session-oriented channels.
Mozilla Hubs
Google Meet or Zoom could work
Discord
Microsoft Teams is being used in Germany for home-schooling purposes, during the Corona pandemic. I think this would be helpful to have conversations after a talk. First meeting in the chat, then sorting out questions, finally doing a video-conference with screen-sharing as required.
VR CHAT
VRChat
Discord, as mentioned before. It's good for screen-sharing, direct messaging, and group messaging/voice chats/rooms. No Zoom/Webex b/c they are hard to keep going after the meeting and are hard to talk to other individuals with. They also seem to be harder to set up even after initial settings.
I think asynchronous chat is probably the best way, with an option to connect via video chat only if the two people wish.
Mattermost / Slack (where one can easily create private chats or new threads) with video plug-in to switch if one "meets" someone.
Mozilla Hubs or Altspace VR - hubs may be better because it is web based and cross platform
Something like Second Life -style applications, that enables chatting between avatars of attendees?
Braindate
spatial chat, mozilla hubs

Zoom, MS Teams
Zoom/Slack
Slack/Discord with a channel per session and separate channels per topic/interest
Discord
The presenter can wait for a certain time after the presentation in a google hangouts session for example, and people will "jump in" the chat if they want.
Slack or discord, create a channel per session. Allow all to join.
a bbs system attached after each talk.
no - it will be difficult
Discord
I wish I did. This is, to me, the MOST important thing to get right for this to be a success. This is not a software problem, and it's not a purchasing problem. Don't start with those. Start with how you WANT this to work. Then find something that enables that, or comes closest to it. If nothing comes close, just record everything and put it online. An anemic or poorly-matched social component is worse than none, because it will simply be time wasted. Don't compare product features. Decide first what works best for SIGGRAPH, then find what matches those criteria. If the compromises are too great, just skip it and focus energy elsewhere.
Maybe offer breakouts to people who just finished hearing a presentation based on keywords. If I'm listening to a talk about a rendering engine, and I enter keywords of "lighting" and "architecture," I'd like to talk to people with similar keywords who just heard the same presentation (we were interested in the same topic to begin with).

Q17: Have you participated in a large scale interactive and virtual presentation that you think SIGGRAPH can learn or benefit from (over 50 people in a session)? If so, what was the event (please share as much detail as you can remember) and specifically, what you do think could be applicable to SIGGRAPH? 197 answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

NVIDIA GPU Technology Conference 2020 https://www.nvidia.com/en-us/gtc/session-catalog/ RealTime Conference (RTC) 2020 are the two virtual conferences I participated in which were both great interactive live experiences https://realtimeconference.com/program-avril-2020/
The recent IEEE VR event was quite good
I was virtual/web chair for ICLR. The free (partial functionality) version of the webpage is here: https://iclr.cc/virtual_2020/index.html
Brightline Pivot Fast v2 Webinar https://www.youtube.com/watch?v=qeGePGiU104 Also, see VR/AR Global Summit
ICLR 2020: https://iclr.cc/virtual_2020/ Appreciated the "Similar Papers" feature for each talk. It makes it much easier to browse the full program.
At Microsoft, we used altspace for some global meetings. https://altvr.com/ It was definitely different. The presenter had a screen and showed us a powerpoint presentation. You could look around the room and see people watching the presentation. It feels like a glimpse of the future for remote meetings. After the meeting was over, you could walk around and talk to different people that were in the meeting, or the presenter. Conversation audio is localized, so you don't hear everyone at once. You can (virtually) walk around a room and listen in on what people are talking about...and jump in if it sounds interesting.
Recently, I have finish up an anatomy course during the corona pandemic. The college used Blackboard even the science labs. Thirty people were in my class but there were some class that had over 50 students attending.
GDC
Real Time Conference is the only virtual conference I've attended so far this year. Not sure of the scale, but I'm certain it was over 50 people in a session. It was hosted as a series of sequential Zoom meetings, with a special networking lobby dedicated to Q&A and discussions with presenters between presentations. Overall, I enjoyed the format but it was a bit clunky through Zoom. Referencing the schedule on their website, you then had to go find an email with the appropriate Zoom links. Given the larger scope and complexity of Siggraph scheduling, I'd like to see something more integrated.
Zoom works best from my experience
The recent special presentation with Ed Catmull and Richard Chuang. Also the VR/AR symposium is coming up in a few weeks, they'll doubtless have some observations afterwards.
GTC 2020 had numerous pre-recorded and live sessions. It seemed to go smoothly.
Real Time Conference 2020 and #AIShowBiz Summit 4.0. Both used Zoom Webinar and worked well.

Red Hat Summit (powered by intrado)   - very good interface. easy to navigate, clear and inviting
NAB 2020 Presentations by Maxon. They did an outstanding job with their pre-recorded presentations followed by live Q&A and on-line chat so everyone could ask questions. Almost better than live presentations as there was no background noise, presentations were better prepared and access to more presenters as they could record them from their home.
flexjobs.com virtual career fair
Interaction 2020: a Japanese conference on interactive technologies. Most of presentations are demonstration style like e-tech and each presenter lived their demos using Zoom.
Slide shows in social VR are disappointing and can be so much better
Virtual summit - Headstart for startups(India) which took place on may 16 2020 with more than 100 attendees. It was well organised.
At work, I recently participated in a company-wide call. Only the presenters could speak, and the rest of us listened. Listeners could submit questions in a text box, which a moderator then read. Additionally, presenters posted polls at several points to gauge interest in different topics ("Should we talk about X, Y, or Z next?").
Growth Institute sessions
Zoom - up to 300   Laval Virtual World 2020 - 11,200 at this conference
Laval Virtual 2020   Platform: VirBELA   UI/UX need improvement (signage, typography, navigation). A lot of great features: Possibility to search and find users (attendees). Possibility to move from one room/event to another. Good networking capability. Sound isolation for rooms or very small group. Easy to have private conversation. Keep the user active (better engagement).   Realtime Conference 2020   Platform: Zoom for Webinar/Panels   Great content. Easy to login on a session. Require good moderators. Quality depends greatly on presenter equipment and internet connection. Poor interaction possibilities between attendees. Quickly leads to "video conferencing fatigue."
React Summit happened recently https://remote.reactsummit.com/.   Things I liked: - slack channels dedicated to each talk where people could discuss them afterwards and chat with a presenter.   - special zoom rooms dedicated to a specific topic that people could join/leave at any moment in some time window. Each room had a dedicated person knowledgeable in topic who would lead a discussion.   - Zoom work out break
I participated in IEEE VR conference and they used Zoom to for presentations/sessions with a session chair/moderator, which was then streamed using Twitch. This went very well as many people were able to watch and follow online, both during the talk and also a platform to watch the recording after the session was over.   The only thing I would recommend on top of this would be to provide a website on the conference website with direct links to each presentation (and paper proceedings for paper presentations) as a quick resource, as this was confusing in IEEE.

The other problem IEEE had is they had the recordings (videos) with multiple talks in one video (as a session was multiple talks long), and this made it difficult to reach a specific talk/content, as you had to scrub through a recording of multiple hours for a 30 minute talk. Separate videos for separate talks would be ideal, each with a link to them on the conference website. This could also be shared (recording after the conference) as videos and playlists on YouTube. For questions, Sli.do was used and it worked well.
We used Eventify to stream copyrighted and private content - Tampa International Gay and Lesbian Film Festival
Making sure the audio/ video is working with enough bandwidth to accommodate the volume of people that is going to attend
Realtime Conference 2020
Real time Conference in March and April this year.
Laval Virtual World
I didn`t. But,(I think it isn`t necessary to say),With respect, I`m surprising. SIGGRAPH with over 50 people? let`s say 80/90 people: it will be for you, Americans, with your concept of efficiency, a play of boys to find out the solution I`m sure you`ll give to attendees a good service. GO AHEAD !!!!
RTC2020 April, May, June 2020 https://realtimeconference.com/program-avril-2020/ https://realtimeconference.com/team/ They pivoted to an all online format vs. the planned in person in Paris & NYC as the pandemic deepened. -RTC2020 occurs in Zoom. -They broke out the content to 3 occurrences (2 days April, 1 day May, 1 day June) -A HOST personality (Blottiere) provides the "glue" required within a given day. --Managing event to event changes, question queque, chat, tech issues in the moment. SIGGRAPH 2020 should strongly consider this HOST factor.
Geneology, writers conference we used Zoom. Some problems with it though but got tons of info.
Art demos at the Society for Interactive Display, for hundreds of people at a time, tested streaming of the art demo to their devices
Houdini HIVE GameDev and HIVE Worldwide
I think a great virtual event you can look at is NAB Express virtual conference and convention. It was sure amazing to be able to do some sessions live and others on-demand where I could watch them at any point and keeping them up for a few days after the event ended. One thing that worked well was making it so that no participant other than the panel and moderate could use their web camera. This helped so you didn't have any distractions from people who were watching the session. They made it so you could still chat and had a way to ask questions separately from the chat.
Events on AltspaceVR.
The ART HISTORY IN QUARANTINE: DIGITAL TRANSFORMATIONS, DIGITAL FUTURES conference was held April 10, 2020. With an international audience of about 300 people from over 30 countries it has been a huge success with enormous reverberations on social media (#AHinQuarantine). https://dahblog.arthistoricum.net/beitrag/2020/04/11/conference-report-art-history-in-quarantine/
GTC - was well done IMHO. There was the main presentation, and people can go in "chat rooms" with the authors to answer specific questions (which can make sense, knowing that the speakers were working for NVIDIA and so have an interest in confidentiality - I don't think it's mandatory for SIGGRAPH). We were also able to

ask questions for the general audience in a chat, and they were filtered by the MC and answered by the speakers at the end of the presentation.
Zoom meetings
Yes. The editor of a group on a technical aspect of a hobby started a weekly interactive meetup that grew from 30 to 80 to 150 participants in the first 3 weeks! The host made significant changes to the format to accommodate the rapid growth. Now we have a fairly rigid format: 5 minute host discussion, 20 minute presentation #1, 5 minutes Q&A, 20 minute presentation, 5 minute Q&A. All participants muted and only un-muted by host, all questions and comments asked via chat with host actually asking almost all the questions, infrequently host un-mutes a participant for info. The sessions are live streamed and recorded (https://www.opsig.org/Virtual & https://www.youtube.com/watch?v=rFazuKt8WsY). The meetings almost always end after an hour. This has worked so well I personally would like to see it extended to 90 minutes.
GTC's prerecorded talks presented an easy way to consume content.
- IEEE VR 2020 http://ieeevr.org/2020/online/ https://voicesofvr.com/912-virtual-conference-lessons-learned-from-ieee-vr-2020/
As mentioned in question 16, my employer does town halls for large audiences that include presentations, or screen shares of interactive demonstrations. Such presentation modalities would very likely work well for SIGGARPH. Also in the past I thought that SIGGRAPH had live-streamed through facilities like YouTube or Vimeo, which seem like they may be useful for venues like the Keynote, Awards, or Papers Fast Forward.
Over 50 does not really work unless everyone is on mute and a person is presenting. This could work with breakout rooms.
Have session moderators to manage QA and prepare some questions in advance if none are asked.
I just co-organized an event for the Jewish Art Salon. We had 8 presenters in an hour, 30 min discussion. About 65 attendees. Artists had 4 minutes to present an idea they were working on that related to our topic. Presentations were on automatic advance, and combined into one big Keynote (could have been PowerPoint) . We controlled the "click" between presenters. We used about 1 minute to introduce people (name and website) and then had a hold slide at the end (same as intro) and let presenters finish speaking. This was followed by 30 minutes of discussion. Feedback has been very positive. People have no attention span over ZOOM. The quick "these are my ideas" and "here is my website" energized people. It was fantastic! I have to credit Creative Tech Week in NYC - were we followed a similar format (I think we had 6 minutes). That was in person. Also did something similar at Pecha Kucha (7 minutes) in person.
youtube streams. There is not much participation between the attendees, mostly between the presenter and the audience.
Zoom has worked very well for our company-wide meetings (400-600 participants) as well as for smaller meetings. In the larger setting, it works nicely when the main speakers are the only ones with audio/video on and screen-sharing, but others have access to chat and Q&A. The recent SIGGRAPH webinar "Procedural Approach to Animation-Driven Effects for "Avengers: Endgame" used that same format and worked very well.
IEEE VR
I've been attending a lot of art talks and musician live-streams which have been very successful. Depending on the format, certain things can work better than others: For things that are mostly instructional with minimal chat, or audience participation that is less

frequent, I've found the instagram/twitch interfaces quite good. You have a steady stream of content that can be absorbed and an easy way for the presenter to ask a question and hear back very quickly. Zoom seems to also have this functionality with the added benefit of addressing chats to presenters only, or to the whole audience.

For things that require more participation, I've found the functionality in Google Meet most intuitive for video chat, embedded chat and being able to easily share content between people. Most of the talks I've gone to which have been more collaborative have been in Zoom, but at work we use Meet and it's been easier for similar purposes.

NAB is happening online right now

I have in the last couple of weeks. One was an academic conference, https://www.climatechange.ai/ICLR2020_workshop.html. This was planned for a traditional in-person conference. They used Zoom for most of the sessions, which worked reasonably well. The biggest challenge was for session chairs to keep speakers on time. Q&A worked fairly well.

The other was run by IBM, https://www.ibm.com/events/think/. This is traditionally a large, annual conference that ranges from technical presentations to highly polished marketing presentations, including TED-like ones. There are also demos, exhibits, etc. This is the first time the conference was done virtually. All of the presentations were live but the recordings were quickly made available on the web.

Zoom webinars allow you to have up to 500 attendees. Attendees can write in questions through the Q&A or you can ask attendees to "raise their hand" by clicking the "raise your hand" button, then the moderate can allow people to speak to ask their question. You cannot bring up their video, just voice this way, unless you add them as a panelist.

House of yes instagram live tv , for the show tonight, While maybe more on the fringe then siggraph it does have lots of remote participants interacting through a solo dance party and synced music. Whether texting or zooming, creating an atmosphere that is shared is important. One place in the in person Siggraph was the food court where attendees from school and Pixar folks all shared this common area when they got hungry and wanted to eat. Mingling could happen.

If we all heard the same DJ or in a MST3000 way were watching in the background the same classic show reels, that could be used as an environmental connector.

IEEE VR had a virtual conference with avatars that could navigate and interact

Yeah, what if there was a breakout room for each session.

The things like this that I tried, there was an interesting aspect of not knowing who you'd find in the breakout room before you entered, which served as motivation to bounce around to see who you might find.

Maybe it'd be interesting to be able to make "friend requests", and have the system show you what rooms your friends are in. Hopefully SIGGRAPH will delete this data ex post facto...

I have participated in large-scale load tests for live, fully avatar enabled, interactive, fully-immersive VR (as avatars) in real-time in the "High-Fidelity" system also in Sansar and Altspace and VR Chat.

Yes, I have, and the above suggestions are all based on these past virtual presentation experiences. Actually, virtual presentation is ideal for applying most of the tenets of SIGGRAPH. When the day comes that you can resume your in-person conferences, you should still continue to have virtual conferences in addition to the live ones.

Our synagogue does virtual Friday night Shabbat Services through Zoom with over 80 people, and my daughter's school, The Ronald C. Wornick Jewish Day School, does 2 or more virtual services per week with over 150 participants.

Both use a presenter style, with highlighting of each member so everyone can see everyone else, for some portions. The synagogue uses break-outs for the after service oneg (chat and snacks).
I've mentioned before but a Fortnight style custom experience is cutting edge, exciting, and the user experience is very intuitive and something that folks will respond to better than a bunch of zoom conversations.
When I do very large presentations, I have lately been using menti.com, which is a product that allows large-scale, real-time audience interaction with a speaker. (There are other similar products; menti is the one I am most familiar with).   Menti allows speakers to make their slides interactive-- they can add polling questions, or word-clouds, or even just get emotional reactions from the audience, which is super-helpful when you are presenting to hundreds of people who are muted with their video off. The audience interacts by going to a website on their mobile devices, and it's all real-time.
Several meetings where everybody is muted, except the presenter; whenever one wants to talk he sends a chat to a moderator.
I attended the other day's Procedural FX in Endgame presentation (which I thought was excellent). The only problem with that was stuttering video playback. I help organize the NYC chapter's monthly Bring Your Own Animation, and we had our first online edition Tuesday night. We had done a test run before, and found that if (a) the presenter has a good, but not necessarily supercharged, internet connection (reliable), and (b) they screenshare videos shown from YouTube or Vimeo links, video playback worked great, presumably (our theory goes) that being on YouTube or Vimeo the videos were already very optimized for streaming. Some of our attendees used password-protected links (which they shared with us) so that they still felt safe sharing work that they would show a roomful of people but wouldn't just post online.
I was on a panel with SIGGRAPH LA a few weeks back (via Zoom). It was fine...but it ran for two hours. I felt exhausted after. It's also hard as someone one the panel to also be fielding questions in RT, so having someone dedicated to noting questions and feedback and addressing during (which we had) is super helpful.
Shorten the presentations to 5 minutes and enforce the time rule even if it means cutting them off before they finish. Schedule one break per hour. Have more than one host who can chat with each other and monitor for questions from the audience to keep it interesting. Long video presentations are terrible, don't do it. You can get 90% of the value in 10% of the time if you force people to keep it short.
Look at any of the AltSpaceVR conferences - Krakken is a good recent one - https://blog.kraken.com/post/4858/krakens-vr-halving-party-the-full-lineup-revealed-rsvp-instructions/ Oculus Venues is another possibility where people could watch a panel shot in stereoscopic 360
I would do a livestream like E3 conferences
rtc2020
Lately a couple of sessions from the Real Time Conference as well as couple of the Q&A from the VES. Given the circumstances I was actually pleased at how smoothly they went. I think key was having a great moderator so three presentations were ordered and people wouldn't talk over each other. Also fielding questions submitted via chat was key. Sometimes audio might be a bit of an issues but was mostly good. Zoom backgrounds could be distracting. But overall I think they went very well and SIGGRAPH could do something similar.
IEEE VR. It was honestly not amazing. It was challenging for myself to log into many of the sessions. I think somehow building the sense of community is the most important aspect.

I think IEEE VR did well this year using a combination of video streams on Twitch, Slack, and Mozilla Hubs. For Hubs, the spaces were segmented in multiple rooms per (large) session, which worked better (in my opinion) than Virtual Laval which had more avatars in a larger room.
I'm currently attending the OSA CLEO conference. This conference is not quite the size of Siggraph, but does have thousands of attendees. There are many parallel sessions and the ones that I have been attending have around 400 attendees. They are using Zoom for the presentations. A OSA staff member is on hand to deal with technical problems. Questions are submitted through a Q&A box and the session chair reads them. Attendees can vote for the favorite question. They are sticking to the standard conference schedule. I'm quite satisfied with this approach. They don't have any social events.   The one problem I see is the exhibit, which is basically a list of the companies and their websites. It would be nice if they could customize it, or at least list the main things they would like to show. They didn't have much time to organize this, so it's probably the best they could do on short notice. Even a link to a video would be better.
https://realtimeconference.com/
We're running weekly 500-people studio town halls with text questions submitted live for live video reply. It's organized, clean and informative.
I have not gone as high as 50, but I have been in sessions with nearly that many. They are tiring to manage and tiring for participants, especially the longer they go. They are also harder to keep on schedule than in-person events are, in part due to the extra logistics but also in part because people don't hear/see as well as face-to-face and it's harder to pick up on non-verbal communication. Also, because participants do not physically sense other participants, inhibitions are lower which can translate into an increase in superfluous questions, an increase in missed-word-type questions to the presenter that in person we would have just asked our neighbors to resolve, and, in some cases, an increase in off-color behavior (e.g., "Zoombombing"). The best advice I can offer is to keep sessions short-short-short, have a moderator, and allow for recovery time for everyone between sessions - don't try to plan to do too much in any one session, have each presenter have less time to present than usual, have a 30 second gap between presenters for all to "catch breath," and don't have any sessions back-to-back to allow recovery time.
ICLR
Yes, the Mozilla Spring Open Lab Program workshops and presentations happen on zoom for more than 100 people. Everything happens in a very simple way: all participants are muted except the speakers and they use the "raise hand" feature to Q&As.
https://www.virbela.com/ (just mentioned it above)
Europe tech conference   Adobe summit   TDWI tech conference   Datastax webinars   Ngix webniars   F5 webinar conferences
We ran an alternate capstone night at my university with minimal advertising that had 170 viewers on twitch, using discord as a prep room. Here is a recording: https://www.youtube.com/watch?v=eGmGIe5-MXY#action=share   Additionally our IUPUI Student Chapter hosted a speaker event over Zoom with similar amount of attendees, with moderated chat for real-time q/A after the presentation.

In both instances, I was surprised by the overwhelming positivity and interaction with the projects' owners, speakers and the audience. Highly recommend
We have regular "Principles of..." meetings and "Principal Engineer" meetings of 300-600 people, often as purely peer cross-group chats. Some practices, like asking questions via chat window and having a dedicated chat/question proctor have served us quite well. In a forum like Siggraph, where bad actors might monopolize the conversation, I'd recommend a proctor-controlled microphone/video enablement restriction.
My recent Post Doc presented some of our work at IEEE VR online this year. I think there was relatively low visibility and attendance in VR that I saw. I think maybe a preview event a week or two ahead of time, is good to prepare audiences for the main schedule, getting things set up, etc.
Honestly, so far I've recently I've only participated in like school thesis project presentations and demos this year. I'm assuming SIGGRAPH will probably be already doing this, but having live Youtube and/or Vimeo presentations with live chat can be really interactive and fun. For my old college, Bloomfield College, they recently hosted game development presentations with their graduates on Youtube. It was really exciting because there were some people playing the games, while the students who made the games would give a behind the scenes talk about their development process.
I've already mentioned the RealTime Conference this year. I would highly recommend the committee get in touch with theirs as to the logistics of setting it up. However, as a participant, I felt it was very well structured, kept to the time constraints and yet managed to offer a lot of insight (I'll mention why I think so later on). The only downside I would say was the schedule. The sessions I was keen on, ran about 6 hours in total each day but from midnight onwards in my timezone which was quite arduous. Just a disclaimer. I was not originally intending to participate at RTC. I only registered because when they switched to virtual, they also made registration free. So I am not familiar with their standard programme nor how this particular conference was to take place physically. However, from what I gathered, they took the sessions that would have run parallely in different rooms and combined them into a single session. So each of the speakers had allocated amount of time to give an overview of what they were to speak on. So there were around 7 sessions in total. Each about 2 hours long with a 15-20 minute break each. The sessions were conducted on Zoom. Essentially it ran: Session 1 - Moderator opens the session - Speaker 1 - Overview - Q&A for Speaker 1 - Speaker 2 - Overview - Q&A for Speaker 2 (There were around 4-5 speakers in total for each session but when I say speaker it could also refer to 2-3 people speaking - the panel discussions) - If there was time left they would do a collective Q&A Close Zoom session They had a speaker's lounge session between each. The zoom link and password were only shared in the comments of the session. I mentioned would explain why I liked the structure of this virtual conference. The participants could submit their questions throughout the session and some would be answered live and if there was no time, they'd still be answered out in the Q&A tab. Also as these were group sessions, other speakers would also weigh in on your questions. Conferences like GAFX anyway allowed questions to be submitted, via their conference app, to be answered live, and if not then they would be answered by the speakers later on. However, the set up of the virtual RTC allowed other speakers (within that

session) to answer you. Furthermore, the Q&A tab was visible to everyone and therefore if there were other professionals or speakers from another session participating, who could answer, they would just do so in the comment section. Some would argue, that it might be distracting or disrespectful to have the comment section running during the session. However, I would argue that the comment section was not irrelevant either, we're all professionals and soon-to-bes after all. We all tuned in because we were interested. Everyone was paying attention and those who had insight or perspective to add, merely did so in the comment section. Thereby, personally, I would argue that I gained more from my registration just because of the comment section. I certainly took a lot of screenshots (of the comment section only!) so I could read anything I missed later on.
In terms of connectivity, my Wifi is a bit poor but for the most part I only suffered a few skips within sessions but the video didn't lag and the audio was quite clear.
So just my take. I'm sorry this is so long.

ICLR 2020 (https://medium.com/@iclr_conf/format-for-the-iclr2020-virtual-conference-76716ddea640)
Social chat in RocketChat
Virtual Industry Booths
Pre-recorded presentation with live Q&A
Social with Zoom

My work has scheduled 500+ participant virtual "town halls"; these are orchestrated through a commonly-used virtual meeting platform with the option for communicating questions/comments to the presenters directly, or with everyone present. Video/screen sharing is controlled by presenters only, and chat logs/call are recorded and available to participants once the call is over. All could be applicable to SIGGRAPH.

Had live presenters backed by 2 assistants ranking and answering questions in the background. A lot of pre read material was provided to baseline the audience before the session to maximize the available time. All demos were recorded to avoid technical glitches inspecting time. First session from homes suffered from network connectivity and bad home offices. Ended up setting up "pod" environments in major centers with social distanced crew

Laval virtual did have a virtual environment that in a way worked nice. The talks were done live, but a lot of non-verbal communication was missing. The speakers were just giving their talk like they do normally. Where the audience is normally watching the speaker and the slides are some tool to support the story, this changes when there is a live virtual presentation. Now the slides get the full attention with the speaker in the background. If then the slides do not exactly match what the speaker is telling, it is easy to get lost, unless they are in sync. Therefore I think a video with voice over works better since you have more control over this sync between audio and video.

My company (ThoughtWorks) does this all the time. We have weekly business and covid updates these days. There's a spreadsheet available about a week in advanced for people to enter their questions and add their +1 to questions, and they can also use the chat and that spreadsheet during the talk. All of our internal meetings are like that with the recordings and follow ups sent out later.

Geek Bar - A setup akin to the Geek Bar, where you can quickly bounce between sessions (maybe even watch a few simultaneously) would be the ideal setup.

Realtime Conference had a breakout room after each session for presenters and attendees to interact more in depth. It is separated from the main presentation room so those who are interested can join and discuss with presenters.

Netflix did a series of webinar talks about a variety of different topics over zoom. There was a Q&A pop up where you could ask questions and upvote questions by others that you want answered. This functionality could be useful to make sure the best questions are the ones addressed.

Zoom + miro(Q&A)
zoom sessions transmitted via FB live (with interaction, need of social media team) team sessions opened to the audience (without interaction)
No experience before, but I heard ICLR 2020 run well.
ACM and IEEE webinars. A moderator who kept time, distributed questions, tied presentations together, etc. proved valuable. Have to make sure the virtual delivery system is secure and will scale. WebEx seems to be the leader, especially for industry adoption.
IEEE-VR was very successful in moving to a virtual venue using a variety of different technologies...Granted, it's not as large as SIGGRAPH in attendance, but they did an excellent job. I can see virtual poster sessions, realtime presentations, and VR theatre being repeated for SIGGRAPH
IEEE VR: Paper session broadcast on Twitch that was very efficient. Slack was pretty convenient messaging and chat platform. Using Mozilla's Hub virtual 3D spaces for interaction between participants was not very enabling: avatars had very cartoony look and felt weird. I'd prefer some tiled video system like Zoom instead.
A Zoom annual meeting of my religious congregation, with 127 participants, and an Oakland CA wildfire safety community information meeting with 100 participants. Both solicited questions in advance, and both also tried to respond to real time questions of the Zoom chat. Both were a series of presentations, as in a panel, with a moderator / time-keeper. The one for my congregation also had breakout rooms for smaller discussions to get congregants to brainstorm, but I do not like such sessions, even in person, so I removed myself from the Zoom session before they started, and came back after they ended, so I would not be embarrassed by quitting a small group after my face, or at least my presence, was visible. My main interests in the SIGGRAPH conferences have been a) the technical papers and talks, b) the Emerging Technologies and VR exhibits, and c) my chance to meet colleagues. I do not think that b) and c) can be reproduced in a virtual conference. But for the technical sessions, the pre-submitted questions and the real time ones via chat could both work. I voted above for the pre-recorded talks with the session used for Q&A (the difference between the wording of two options specified for this was not really clear to me), partly because I am on the west coast, and starting at 8:30 AM Eastern Standard time would be difficult for me. It also seems more flexible and efficient. However, I am not sure I would have the discipline to view the presentation videos ahead of time. When the technical papers have been available ahead of time, I have not in fact read many of them.
Sales conferences, Science Talent Searches (Platforms were On24 and 6Connex respectively)- live and prerecorded versions of panel discussions, training and skill testing/assessment, vendors, Live Q&A
I have just got off the SIGGRAPH Now webinar which was hosted over Zoom. Poor video quality was clearly an issue for many in the audience. Given the focus of SIGGRAPH is how high -quality imagery is made, this is an important issue to be resolved. I do think the live talk format works very well otherwise. You feel very connected to the speaker and the Zoom Q&A function works even better than the Q&A's at the live event.
I didn't, but I know AWE exposition in US is running a digital event this month
At the moment, I'm not interested in a virtual SIGGRAPH... I would rather postpone it to a later date and attend.
IEEE VR 2020, GDC 2020 - Zoom, Twitch, Mozilla hubs, Slido, Meet. For ETech - Mozilla hubs can be individually decorated with video, images (posters) so at a minimum you could have each piece be presented as a explanatory video showing of the experience plus a poster similar to what is placed outside each eTech booth or handed out by SVs when in person. The contributor can be scheduled a time(s) to appear live to answer questions. However attendees can drop in at their leisure which can also result in "hallway encounters".

graduation-- wish we had more audience participation during the ceremony. jamboards were fun
I attended the Adobe Summit. They made it feel personal, and engaging. They provided PDFs for downloadable materials to make things more engaging. They provided a Framework for instance that also had a downloadable PDF for personal use. I think that talks, presentations, posters, etc. can be just as memorable when you can have something for future use. Some I have seen with QR Codes so they can utilize a downloadable item for discounts. For example, SIGGRAPH Membership Discount with a QR Code from the virtual conference. As well I know that people have utilized PDFs with VR Codes that can be scanned to have 3D VR/AR Experiences.
I've experienced Townhalls both in the corporate & university setting, both worked well with Zoom & WebEx. It is helpful for a moderator to collect and condense questions via slack or slidoo, and ask the presenter the questions. Content, especially video & audio should be available separately - sharing a screen & video doesn't work so well.
I started attending GTC Digital. The format of extremely limited-attendance interactive sessions and recorded content released over ... months now? made it very hard to stay engaged. Don't stretch the conference too long!
Twitch streaming seems to have the right kind of format -- main presenter, chat, moderators for the chat. I have been in rooms with several hundred people simultaneously this way.
usually Creative Mornings -Fieldtrips. Sometimes there were >200 attendees in one Zoom session.
I know Gaia has started to incorporate virtual with live programming. They would be a great place to ask questions. I would be more than happy to help gather that info.
IEEE Virtual Reality 2020
No but would a Twitch channel be something to consider for certain events? I think pixologic has a twitch and streams demonstrations
IEEE VR 2020 was the first fully-virtual academic conference I attended, and I thought it generally worked quite well. Mozilla Hubs was used extensively for networking and poster sessions to great effect. I did not think Mozilla Hubs worked as well for paper presentations since Zoom presentations (or any video presentation platform really) work better for just sharing information and doing a Q/A with text questions from the audience. Hubs can work well for live demos if they're made to work inside the platform, which isn't always easy or possible. Since Mozilla Hubs doesn't do too well with more than ~25 people in a room, it was necessary to break up sessions into multiple rooms with the same presentation being streamed to all of them. For instance, the poster sessions would have only ~4 posters in a room so that attendees could move between poster rooms and the presenters would stay put in their room to talk about their work.
Afore mentioned: www.vrarglobalsummit.com in June 1st to 3rd
I attended a virtual townhall for my university where hundreds of people tuned in. Everyone who entered was automatically muted and had their video settings turned off so that the presenters were not disrupted. There was a well-organized moderator who controlled the atmosphere and questions. The meeting was also password protected to prevent zoom bombers and screen share was controlled by the moderator to prevent anyone from screen sharing illegal activity or dangerous propaganda.
Over 50 people you need a moderator. Works well if one or two people are doing most of the talking. Use some sort of Q&A software (e.g., Mentimeter) to collate which questions are popular amongst the audience.
IEEE VR 2020 used Mozilla Hubs among several other broadcasting and video conferencing technologies

https://www.projectmanagement.com/ has done their conference virtually for years. There are 1000+ in most sessions.
RTC Conference- Having sessions and breakout rooms GDC- Having live Q&A in the chat during the pre-recorded talks
RealTime Conference 2020 (in April and May) made a successful transition to virtual. Single-track, well-curated sessions, with speaker room breakouts after.
IEEE VR used Hubs (and slack, twitch, and slido). I think Hubs worked best for presenting posters and for interacting with speakers and other attendees of specific sessions after the session. You can find further information here: https://hubs.ieeevr.online/#/ and here: http://ieeevr.org/2020/online/ and contact Blair MacIntyre from Georgia Tech for further information. I know that they also had surveys after the conference to see what attendees liked. It might be interesting to ask what they found out from these surveys.
If the presentations are going to be pre-recorded and released before the conference date, it would be great if there are online question polls for Q+A, and the presenters can choose the top questions to answer during the live Q+A session.
https://www.hatsumivr.com/fringe Fringe VR - simple but multidiscplinary. Had a more playful approach to conferencing than most others. Recommend the VR dance party at the end.
Nvidia'a GTC conference
In the biggest presentations I've seen online, a referee was key to maintain order and to filter between attendees and presenter. The referee was in charge of selecting the next question or person that wanted to ask something. This prevented the chaos of having many questions arising at the same time, or people un-muting at once.
I tried to attend the Laval Virtual conference in the virtual world (with avatars) and was completely overwhelmed and didn't go. I would prefer a Zoom based or some other platform where you are represented by either a photo or video of your actual face (not avatar).
IEEE VR20 - I would not do what they did. Main issue is to have clear organization of information and one link to the interactive session. Best, is a simple HTML web page, with the program, time, and a link. Offer excellent search and browse functions. Search by conference session, author's name, title of presentation, and meta tags . Have one VR spaces to mingle by topic or interests, and offer a map to the space, reflect the real world layout and navigation, but also offer teleporting.
My expectation is that these things generally suck. Emergency remote teaching, live, is like talking to a brick wall. Bits of what I saw at IEEE VR presented live had bad audio and video compression... Get the quality content recorded and out to participants early with good quality video and audio is really the best option. This is like the inverted classroom model. Even with an inverted classroom... probably makes sense to have a scheduled viewing time for some tweeting or chatting between participants (color commentary). Unfortunate for SIGGRAPH, of all the virtual conferences that have happened so far, I don't think any yet show how to do it properly.
Laval Virtual was quite good. Here is an article that can help. https://medium.com/@AlinaVR/virtual-conferencing-from-theory-to-practice-989c0a54dd51
Yes—I attend a weekly Trivia Night over Zoom, and it is awesome. It is the only thing during COVID that has actually felt like group social interaction. Basically everyone gets in a big room where the questions are read off (also shared on screen) and are then sent to break out rooms with their teammates to come up with answers. During the big group session, each team chats over their own

private text channel (e.g., using Gchat). Running area- or industry-focused pub quizzes exactly like this could be a great way to help people make some informal connections/networking. Otherwise, I fear people will exclusively talk to people they know already.
Did not participate, but I guess you already checked what Laval Virtual did?
GTC2020 digital by NVIDIA. We had >900 people in the session. Important is that someone outside is surveying that the session runs smooth. For example, our presentation system only transmitted sound in the beginning. Someone needs to watch and in this case ask to restart the session. Questions were texted into the system, then we selected questions to answer from the list prepared for us. We read the questions out loud and answered. Here again, speakers need support, i.e. someone preparing the questions live for answer. Nevertheless, the speakers were free to choose the questions to be answered.
Real Time Conference had two sessions yet That was using Zoom They had a room for the "live" presentation of each speakers and people could "raise their hands" to ask questions. They also had a Speaker Room, more casual, for people to speak with others (including speakers after their session) in a more casual way. Make sure that the speakers allow some time after their presentations to catch up with people (that was not happening often during the Real Time Conference)
It was a Kaufman Startup Weekend workshop on Zoom with 75-100 people. There was a moderator who you would send questions to and the moderator would chat with you to qualify/clarify your questions and in some cases they would ask you if you would interact with the speaker in which case they unmuted certain people. Worked great!
easy search for papers by keywords. Short 1 min presentation that give a teaser to the paper.
I held lectures and office hours for a 60-person class at UNC this past spring semester, and I used Discord as discussed previously. It worked great. Some dissertations had close to 50 people over a Zoom session, but no one really communicated with anyone else. This seems to be true of other large classes at UNC, even those that encourage participation; Zoom does not provide a solid means of keeping people engaged outside of small meetings.
I attended the RealTime Conference this year, with hundreds of people watching the talks. All talks were live, and all questions were via a text-based system. A moderator kept track of the questions and asked the presenter at the end of the talk. The main difficulty of that conference was that it was spread over all timezones, and half of what I wanted to see was after midnight for me.
Except for classes taught online, no. The asynchronous nature of Piazza (for instance) is, however, quite remarkably effective.
IEEE VR 2020, Laval Virtual 2020. IEEE VR used Twitch + slid.do + Hubs for presentations. Twitch + sli.do was great for presentations, but Hubs didn't work so well. However hubs was great for socializing. Laval Virtual used Virbela (https://www.virbela.com/) which was a fully 3D conference space, but required a large download and had a confusing interface. It was okay for 150+ people in the same room once you got used to it.
I participated in IEEE VR 2020 virtual conference and CHI2020 Japan local session. The former used Slack as a communication tool and Twitch as a streaming tool. The latter used Zoom, Youtube Live and Sli.do for asking questions from the audience watching Youtube Live to presenters. I thought public streaming (such as Youtube Live) was effective for gathering audience and inducing some discussions.

Had a number of virtual classes with around 85 students participating virtually in each session. Internet speed was sometimes a problem for the students. We asked all students to turn off their video and audio and turn it on only during Q&A. That seemed to work better.
Laval Virtual World 2020 - despite the shortcomings of VIRbela, the conference was highly successful for presenters and networking. Avoid platforms like VIRbela that unnecessarily constrain the conference space within the confines of a more traditional conference center (i.e. room seating limits should be based on bandwidth not virtual floorspace). The most successful aspect of this conference was the networking. It was easy to follow up with attendees through a variety of means: private chat, private one-on-one discussion bubbles, swapcard for followup).
IEEE VR 2020, Twitch Streams and VR Hubs
Not yet, but EG is held at the end of May - perhaps resend the survey then?
Realtime Conference. I think this worked poorly over Zoom due to technical difficulties with live presentations, plus the quality of a live steam was terrible for graphics. This is an example of what not to do, and why I am very much in favour of prerecorded talks + live Q&A.
Important: a good moderator who can aggregate text-based questions into a few spoken questions for the presenter.

Q18: We would like to produce and release more content year-round. Which of the following types of content would be of most value. 50 answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

All of these are super-valuable.
Working from home and independent artists
Let's have a Digital Cinema Festival More Immersive presentations, meaning presentations in immersive setting, not presentations about immersive.
Festschrift Format
A periodic "Research Round-up" that briefly (1-2m) covers newly published research.
Online happy hours
- Virtual networking events based on interest. - Virtual get-together between Siggraph chapters.
Business opportunities that this pandemic has created for other people working from home now. How to stay focused during the day. You don't have the same interaction anymore
Virtual Production & Unreal Engine
It can be that I signed in point 6.
I feel completely disconnected from Siggraph most of the year. It's very sad.
Programming courses for computer graphics, such as Modern OpenGL or Vulkan
I love having neat things from SIGGRAPH show up in my email in box!
Panels must be SHORT - as I described above
Associations with other smaller conferences. Which is already done but more spotlight. Sponsored night events, small events after pandemic. Though might just mean stronger associations with all professional chapters since the la chapter does a great job of putting talks year-round. More platforms for smaller developers. Exclusive content from big studios just for SIGGRAPH audiences year-round. This would be a good time to have the app year-round. I always saw it as a huge opportunity lost for the conference having to download a new app every year. Have the same app just an ongoing development and upgrade every five years to line up with developer contracts. So much can be done through the app year-round. Whether a success with the community well that's another story. I would double down an all current online content and video feed outlets that SIGGRAPH currently has. Benny Benstudios@aim.com
Safe filmmaking techniques during a pandemic
I worry that a focus on year-round programming will dilute and disrupt the yearly cycle of the graphics research community. There are many opportunities available online to share content, but it takes a large amount of effort to create a polished research presentation, and advances are more likely to be missed if they are released in an unstructured way when other researchers are working on managing their own projects.
Realism in graphic arts as well as the simulated reality systems mentioned above, as exemplified by stereoscopic three-dimensional imaging.
Panels can be interesting but can easily devolve into echo-chambers or hype with nothing to back it up. Rather than having "panels of experts discussing their recent projects" it would be educational

and informative to have "panels of experts discussing their FAILED projects" -- showing dead-ends, problems, failures, and things we can all learn from.
Computer Graphics Education
More on IOT and GIS would be interesting
I'm concerned that decoupling TOG presentations from SIGGRAPH will reduce their visibility. Right now one of the huge benefits of TOG compared to other graphics journals is that accepted papers are presented at SIGGRAPH where everyone is paying attention.
Using revolutionary techniques for film and animations in game engines, such as Unity and Unreal Engine.
Organic birds of a feathers - perhaps a platform can be set up for participants to suggest topic ideas & voted upon, and quarterly BoaF meetings are organized. Support industry conversations to allow them to continue post-conference, and year-round instead of once a year.
Visualization for scientific and analytic applications. Particularly best practices of using available game engines to do data visualization.
The role of education in all of this
Behind the Scene Sessions.
Topics that relate to building community.
I love the idea of presentations, etc being made available year-round. Maybe on a weekly or monthly cadence with a highlights outline. My experience with things I'm seeing at too fast a cadence is that I start to tune it out.
AMA, ask me anythings, studio visits/tours of artists
mini-symposiums 4-5 TOG recent papers of one topic
The chapters BYOA is a fun, engaging format.
ACM SIGGRAPH Academy Mentors for those who are Next Generation Leaders that are considered the best up-and-coming talents in the industry.
Anything from the educators' track
emerging areas such as neural rendering
Cover remote working! Discuss it! We all have to do it now, and I have yet to see any studio positions listed where "remote" is a possible location.
Frontiers in virtual conferences ;)
Social events, either themed or general for the community.
Watch out that you don't cut into content used by local chapters
Online conferences can be year long (or season long) events, with seasonal topics. Devote each month to one annual topic. We no long have to consolidate into one conference if we don't have to travel. But an annual in-person conference would still be essential for networking, if nothing else.
Nature occasionally does professional videos of accepted papers (done by professionals, not by the authors). That would be good for a computer graphics conference to have that for technical papers, instead of relying on personal initiatives (authors or "Two minute paper" youtube channel)
Workflow Workshop Session
WRT mentoring, as someone who has been in the field for about 12 years, I would appreciate the opportunity not only to mentor but to be mentored. It's important to help people start their careers but also to advance their existing careers.
Note that workshops on future directions somewhat area already happening... either as specialized conferences, or as workshops organized by members of the community at different venues.

Do NOT make TOG distinct from SIGGRAPH again. That was a hard-fought battle, and we finally got to the point where you can't tell the difference between a SIGGRAPH/TOG paper. This is critical for relieving the pressure on people to submit in January. Please, please don't give TOG authors the scarlet letter again.
How about SIGGRAPH Next with Q/A and discussions?
Quarterly BOFs-town halls around community open source projects and technologies used by our industry
Excellent idea

Q19: What Interest areas are most appealing to you? 39 answers. Answers have been lightly edited for spelling. Answers that said "No," or "None," were eliminated.

cultural heritage
Immersive
Immersive interactive media (beyond games)
digital graphics in live performance, AR/VR
Developer resources (computer programming)
Practical applications: computer vision, machine learning, rendering
Diversity and inclusion, recruiting, leadership and management
Visual Effects
CG algorithm design.
Virtual Reality, Augmented Reality, Spatial Computing, 3D Scanning
Immersive stereoscopic 3-D
VR application and the metaverse
VR AR
XR Tech
virtual production
It would be great to have more companies present their ways of content production through computer graphics.
Using 3D-Rendering(-Techniques) for soft Storytelling for any kind of 3D-Application
Using game engines for Film and Animation with real time rendering.
VR &AR in the real world
Game engines for scientific scene generation, data visualization and analysis
3D Animation
Architecture
Professional Graphics
scientific visualization
Group Interaction
VR and AR, not solely VR
Education
Scientific Visualization: Scientific Computing, and Scientific Simulation.
CAD
Visualization
Virtual Nature and information fusion - Educational Cyperinfrastructure
Scientific Visualization
Engineering and fabrication
VR/Immersive
Scientific Data Visualisation
Research - I am not sure why research is lumped with education above