

# Towards a Pattern Language for Participatory Online Events

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Online, synchronous events are one of the main formats that many virtual communities of practice use to engage with members of their community. However, many of these online events adopt a webinar format that typically does not support opportunities for participants to contribute or connect with one another. This paper reports on 13 design patterns that focus on both platform and event design for a more participatory format for online events. The design patterns are divided into three categories: culture and mindset, facilitation strategies, and event flow. In this paper, two patterns are introduced. The process of developing the patterns and some insights from this process are discussed.

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## 1. INTRODUCTION

A wide variety of organizations and networks, ranging from grassroots initiatives to professional associations, are defined in part by their community members: individuals who share interests, purposes, and backgrounds. When people in these organizations and networks regularly interact with one another on topics of mutual interest, they are said to be participating in a community of practice (CoP) (Lave & Wenger, 1991; Wenger, 1998; Wenger, McDermott, & Snyder, 2002). Communities of practice are predicated on the belief that learning is a social process (Vygotsky, 1962, 1978) and that by sharing ideas, knowledge, and expertise with others, individuals construct new forms of understanding.

Regular social participation—a prerequisite for a CoP to emerge and thrive—can be difficult to support and sustain for a community that is geographically distributed. One strategy is to design a virtual community, leveraging the internet, networked technologies, and remote collaboration. Typically these distributed, online communities leverage both asynchronous formats (e.g. listservs, discussion forums) and synchronous formats (e.g. video calls, webinars) to encourage regular interaction among their members and support the emergent development of a CoP (Johnson, 2001).

When it comes to synchronous, online video-conferencing events, many online CoPs utilize a webinar format, where a few experts broadcast information to an audience that usually has limited access to means of participation. These webinar-style events not only fail to take advantage of participants' experiences and expertise, but also undermine the participants' motivation to contribute to the development and maintenance of their CoP by making them passive recipients of information.

Yet, increasing opportunities for participation in synchronous online events faces challenges. Firstly, the vast majority of video-conferencing platforms out there (e.g. YouTube Live, BlueJeans, Zoom, Webex, etc.) are designed to support the traditional webinar format. Thus, the feature sets of these tools are not primarily designed to support interactions among participants or create opportunities for them to contribute and produce shareable artifacts. Additionally, there is a perception that participatory events are harder to organize: in order to ensure that all participants engage in meaningful conversations with one another in online environments, event organizers need to make careful design decisions based on their goals, their communities, and their

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capacity to run these gatherings (Sethi, 2015), and this can seem difficult, especially online. In order to host a successful participatory online event, both platform design and event design need to be taken into consideration.

Unhangout—a platform for hosting participatory, online events—was developed in 2014, and alongside its development, a wide-range of experiences in event design were documented. Taken together, this paper introduces elements of the platform and event design as a series of design patterns (Gamma, et. al., 1995) for participatory online events. Identifying patterns and constructing a unifying language around them requires documenting and understanding issues, practices, and ways of being that occur repeatedly in a given field and documenting solutions so that others can apply this knowledge to their own contexts. This strategy was originally developed to describe design strategies in architecture (Alexander, 1979) and has since been widely adapted to the field of software development (Beck & Cunningham, 1987) and other fields such as education, creativity, and collaboration (Iba, 2013; Weiss, 2017).

In this case, these patterns are intended to be used by anybody in a CoP looking to engage in synchronous, fully online interaction with their mid-sized (15-200 people) fellow community members, regardless of whether they use Unhangout or something else entirely.

## 2. UNHANGOUT, AN ONLINE (UN)CONFERENCE PLATFORM

These design patterns for participatory online events emerged out of the design project of Unhangout, an open-source platform for hosting large-scale, participatory online events (Sethi, McConachie, DeTar, & Schmidt, 2014). Through several design iterations, the Unhangout platform has been designed to support a participatory online event format where up to 200 participants can interact with one another and are given the opportunity to contribute to the event and produce shareable artifacts together.

Each Unhangout event has a landing page, which is referred to as the lobby (Figure 1). When participants arrive, they can see who else is there and chat with each other. Event hosts can offer a video welcome message that gets streamed into the lobby. They can also control the playback of videos (live or recorded) for all participants. Participants can break out into smaller sessions (up to 10 people per session) for in-depth conversations, peer-to-peer learning, and collaboration on projects (Figure 2). These breakout rooms allow participants to communicate with each other via webcam and audio, text-based chat, and a document co-authoring tool. Event hosts can send notifications into each breakout room to share information with participants and can join breakout rooms just like other participants, but they do not have a special seat in the rooms or a special power to bring people out of the breakout rooms. Breakouts can be pre-created by hosts, or proposed and voted on in an unconference-mode. Participants can access Unahangout via a desktop web browser, without the need to download any software to their machines. The project is open-source, and an instance is hosted by MIT that allows anyone to host their own Unhangout event free of charge.

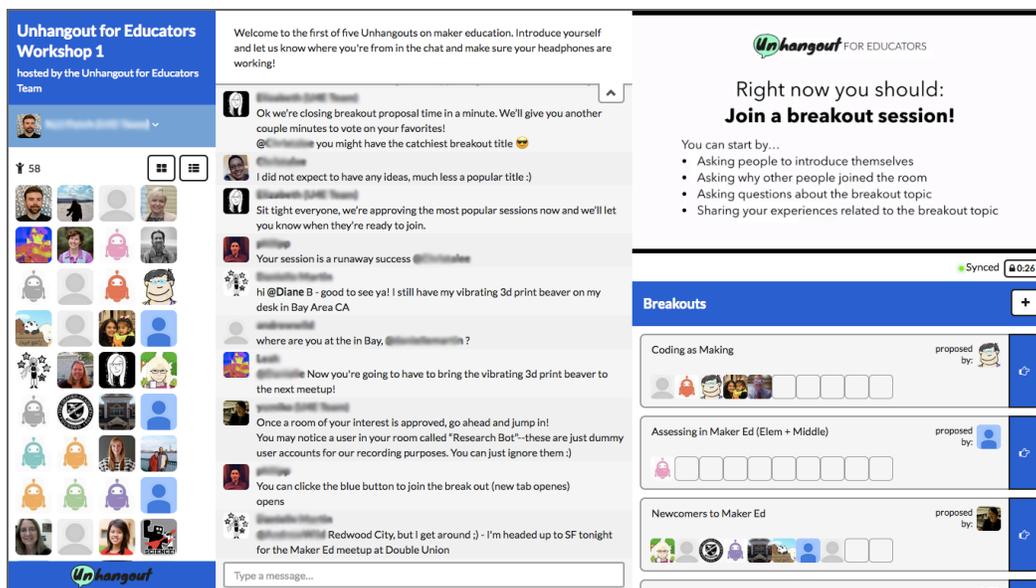


Figure 1. Screenshot of an Unhangout event lobby.

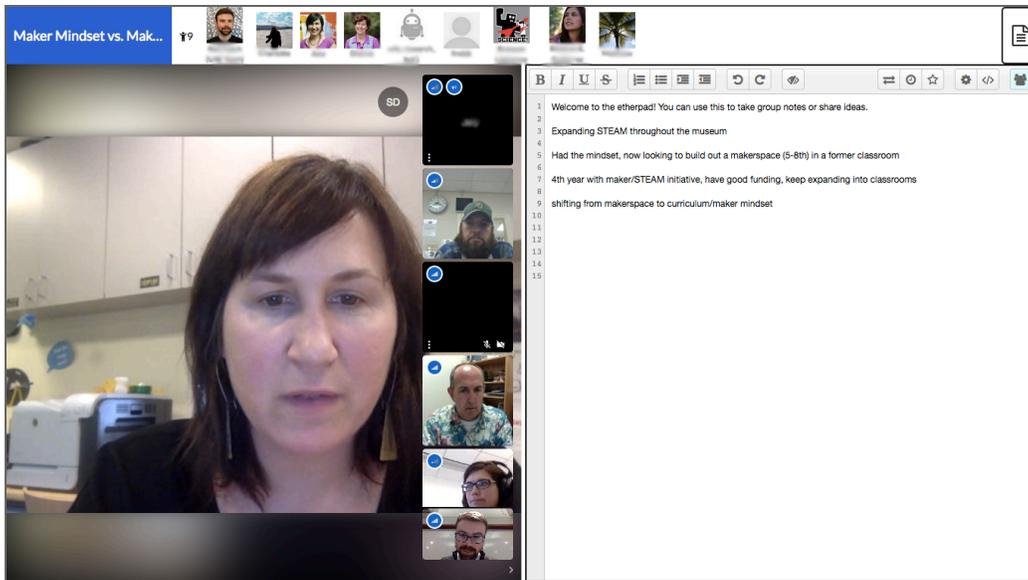


Figure 2. Screenshot of an Unhangout breakout room.

A preliminary version of what would later become Unhangout was initially designed to host a participatory online conversation that was part of a Massive Open Online Course (MOOC) called Learning Creative Learning in 2013 (Schmidt, Resnick, & Rusk; 2014). Since then, the Unhangout platform was created and has been through two rounds of iterations based on the user feedback gathered from hosting and supporting hundreds of events. Some of the design patterns identified in this paper have been built into the design of the Unhangout platform itself; however, these patterns may also be applied to the design and usage of other video-conferencing platforms and environments as well.

### 3. METHODS

These design patterns for participatory online events were identified while iteratively designing the Unhangout platform, using the platform to host events, and also providing support to many hosts as they designed and ran their own participatory online gatherings. These experiences generated a diversity of participant and host feedback gathered from events that were designed for a variety of use cases: community gatherings, professional development workshops, and online course discussions.

Community gatherings are events designed mainly to convene an existing online community. Typically, organizations that hosted these sorts of events had an online, asynchronous “home” for their CoP and were leveraging the synchronous event as an additional format they hoped would contribute to the strengthening of their community. For example, the non-profit organization Peer-to-Peer University (<https://p2pu.org>) hosted a series of monthly participatory online events as a way of creating a space for their practitioner community to hang out, converse, and share relevant updates.

Another event type is a participatory professional development workshop. In this type of event, a group of professionals, like K-12 teachers, convene to share knowledge and practical skills with one another, in service of their professional growth. For example, in 2017-2018, the authors hosted a series of online, participatory workshops for maker educators. These workshops were designed around a series of relevant themes and invited participants to draw on their own experiences in the classroom to inform group discussion and activities (Murai, Patch, Choe, McConachie, & Schmidt, 2019). In this type of event, participants often do not know each other beforehand, but have a shared interest or passion that brings them together.

Finally, the last event type that we draw on is the online course discussion event. For example, the authors collaborated with several Massive Open Online Courses (MOOCs)—where hundreds or thousands of learners participate on platforms like edX—to host synchronous, participatory discussion events. These events allowed learners to meet one another while engaging with course topics, activities, and materials.

Moreover, the sum of these experiences have enabled the authors to develop a depth of first-hand experience with the participatory event format. This experience was synthesized with user feedback, collected through

surveys and interviews, via several cycles of brainstorming, prototyping, writing, and editing (Iba, Sakamoto, & Miyake, 2011) to articulate the patterns introduced in this paper.

#### 4. OVERVIEW OF PATTERNS

These design patterns for participatory online events can be divided into three categories: culture and mindset, facilitation strategies, and event flow. Culture and mindset refers to the set of attitudes and practices that hosts should adopt for themselves and strive to cultivate among participants. Facilitation strategies refers to a series of patterns that inform host behavior and actions during a participatory online event. Finally, event flow refers to concrete strategies for event and tool design and selection in order to support participation. Table 1 provides an overview of all thirteen patterns, organized by category.

You can use these patterns to design and host a participatory online event for your distributed community. You can use them to design a workshop or showcase for your online course; or host a monthly gathering of your nonprofit’s global partner community; or throw a meet-and-greet to connect your volunteers or site-coordinators with each other; or simply host a webinar that doesn’t suck. You can use it to help you select the software you’ll use to host your event. You can use it to guide you and your event participants in the actual process of participation during your event. If you’re a software developer, you can use it to guide you in the development of new tools or features for your online event platform.

In this paper, the two patterns that are particularly unique to online participatory events will be introduced in detail.

Table 1 Patterns for Participatory Online Events

	Category	Pattern Name	Patlet
1	CULTURE AND MINDSET	The people who show up are the right people	All the people you expected to come to your event may not show up. Therefore, design an event that inherently embraces and builds upon the unique group of people who are there.
2		Party host	There tends to be a power dynamic that emerges between event admins and participants. Therefore, act like a party host: plan for and set up an environment where everyone can have a good time, and when people show up, participate rather than trying to control everything.
3		Opportunity to contribute	You want every participant to contribute in conversations. Therefore, create an event environment that gives participants as many opportunities as possible to choose to contribute.
4		Collective troubleshooting	Technical troubles become unmanageable for a single host when many attendees are participating. Therefore, encourage participants to help one another and share tips and resources to collectively solve the issues.
5	FACILITATION STRATEGIES	Modeling	You want to provide tips to contribute in conversations for participants but it is not easy to explain how to make meaningful contributions. Therefore, model good participation and community stewardship through your attitude, tone, and actions in an event.
6		Anti-surveillance	You want to make sure all participants are having a good time and contributing, but people tend to feel uncomfortable openly sharing their thoughts when they are being monitored. Therefore, do not surveil your participants actions or conversations, and trust them to co-create their own experiences.
7		Good constraints	You want to encourage participants to connect with one another in a meaningful conversation. Therefore, designate a specific time when participants can meet with one another instead of leaving them to meet anytime.

8		Designate facilitators	You want to avoid the situation where a talkative participant dominates a small group conversation. Therefore, designate a facilitator to help ensure that airtime is equally distributed among all participants.
9	EVENT FLOW	Onboarding	You want to give participants feel welcomed to participate in sharing their thoughts, ideas, and questions. Therefore, open the event with a casual social conversation where participants can introduce themselves or share updates and break the ice in the room.
10		Balanced small and large group conversation	You want to give participants a sense of the scale and diversity of your community as well as a sense of intimacy that comes from interacting directly with other community members. Therefore, design an event that strikes a balance between small and large group conversation formats.
11		Minimum talking-head introduction	You would like to welcome and orient participants to your event while still allowing for maximal participatory time. Therefore, design an event flow that requires minimal talking head introduction from the event hosts and constrain speakers to short, provocative presentations.
12		Co-creation	You would like your event to support lively small group conversations, but sometimes it is challenging for participants to strike up a conversation on their own. Therefore, offer an activity or discussion prompt that participants can use to co-create an artifact or new understandings in their small groups.
13		Community showcase	The limited amount of social cues available in online environments makes it harder for participants to begin building personal connections with others. Therefore, opt for features and event designs that enable you to showcase the community to itself.

## 5. PATTERNS

The following section describes the selected design patterns for participatory online events. Each pattern consists of the name of the pattern, contexts in which the pattern can be implemented, and articulation of the problem, forces that set up the problem, the potential solution, potential consequences of the solution, known uses of the pattern, and related patterns.

### 5.1 Opportunity to contribute

... A participatory online event for a large group of people tends to be led by only one or few people who are organizing or who are outspoken. Indeed, many participants come to online events with an expectation that it will be in a webinar format, where one speaker talks at a group of listeners for most of the event. However, a webinar format not only takes away the opportunity for participants to learn from other participants, but also has a risk to fail at addressing the specific concerns participants have. It is important to make sure each participant participates in the conversation rather than passively listens in to encourage peer learning in the group.

\* \* \*

### How do you engage all participants in the conversation?

Beyond intention of the host, participants are sometimes reluctant to share their thoughts and questions when they do not feel safe to make contributions. This tends to be true especially when participants do not know each other well, which is a common situation in online events. If participants can see their peers interacting with other participants similar to themselves, they are more likely to engage in conversations. Having a time for participants to talk in small breakout groups is one way to help them find like-minded people to interact with.

In addition, people tend to be more open and contribute meaningfully when they are invited to participate rather than being forced to take part. When people feel agency, they tend to be more intrinsically motivated to participate. Rather than preparing a rigidly structured event, creating an open-ended space for participants to

bring in their own interests and expertise can help to support participants to showcase their own interests and support participants' independence.

One strategy is to create small breakout rooms where participants can come and go. Create opportunities for participants to propose their own ideas and questions. If you have pre-selected the topics you want participants to discuss in small groups, describe the intentions of each room and let them choose which room to join.

An unconference format is another option. In unconference, there is no set agenda; participants collectively propose, vote-up, and choose what they want to talk about with other people at the event. This format not only provides participants with agency to spend time with people who have shared interests but also creates a space for them to learn from others on the topics they want to learn more about, but they may not be confident or feel comfortable enough to share insights with others.

Therefore,

**Cultivate an event environment that gives participants many opportunities to contribute and create what they want to share with others. Choose a platform that allow participants to choose whom to talk to. Make sure to have a time for participants that they can decide things to talk about or activities to do with other participants.**

When hosts can always be watching, participants may not feel comfortable sharing their thoughts and questions. Thus it is important to have an *Anti-surveillance (6)* policy in your event, where participants can focus on their conversation without any interruption by the host. If you adopt a *Party host (2)* mentality, it will be easier to create an event environment that seems open and friendly, thus encouraging participants to make contributions and shape the event. By starting your event with *Minimal talking-head introduction (10)*, you will signal to your attendees that the majority of event time is for them to participate and contribute. Finally, by *Modelling (5)* good participatory behaviors and ways of talking, hosts can help signal the ways that other participants are invited to contribute as well.

## 5.2 Dinner Party host

... During an event, it is common that power dynamics emerge between hosts and participants, where whatever a host says or does has a greater influence over how the conversation develops than participants' do. When there are power dynamics, participants start to rely on the host and refrain from taking any proactive actions without being told to do so.

\* \* \*

**How do you facilitate self-driven conversations between participants that directly point to their interests and intentions?**

Even when they are not intended to, small actions, such as ways of talking, can set the tone of conversation, signaling and nurturing the power dynamics. For example, when you begin your conversation with formal greetings, participants receive a signal that they should match their behavior to the formality standard set by the host.

In online environments, the design of communication tool or design of the session can also set the tone of conversation. For example, many platforms (such as Zoom, Adobe Connect) grant a host a superior power over participants, e.g., the power to decide who participates in which breakout room. Being the only one who can freely move around the breakout rooms, many hosts of online events try to join breakout rooms to make sure all participants are having a meaningful time, often disrupting the conversation flow that was already going on by participants.

When participants feel safe and respected, they may feel encouraged to have more open conversations, feeling increased ownership of their experience during the event. As a result, they may start to take more initiative to facilitate conversations, or they may start to share their interests and questions more openly. A host acting like a participant is also a great way to model the ideal ways of participating to other participants. This will be very helpful for participants who have little experience with participatory events.

Without a host controlling conversations, however, there will be a higher risk that some participants might dominate the conversation in a way that detracts from the safe and open environment you are striving to create in your event. Similarly, it will be more difficult to guide the direction and influence the outcome of an event or a conversation. This may result in varying quality of conversations in dimensions such as depth of thought, direction of conclusions, and distribution of participation.

Therefore:

**Think of yourself as a dinner party host who set up a condition in which everyone can have a good time, welcoming people, making it enjoyable, helping participants get to know each other, to enable them to have conversations about things they are interested in with people they want to talk to. Model how to participate in the event by being an active and friendly participant yourself.**

\* \* \*

With a party host mindset, you want participants to feel safe and comfortable to choose their own way of engaging in the event. Thus, adopt an Anti-surveillance (6) policy and set-up conversation prompts that emphasize Co-creation (11) in order to support the emergence of authentic social interactions. Because it is important during events for hosts to act as a participant, you can Designate facilitators (8) to help support small group conversations and ensure that airtime is equally distributed among all participants. Finally, create Opportunities for contributions (3) in your event design so that when participants arrive, it is clear how, where, and when they can jump in to participate and shape the event.

## 6. CONCLUSION

This paper introduced 13 design patterns for designing and hosting participatory online events. These patterns were mined through the iterative development of the Unhangout platform, using the platform to host events, and also providing support to many hosts as they designed and ran their own participatory online gatherings. Although these patterns are still work-in-progress, they highlight that small design considerations can help resolve large issues that repeatedly occur for online communities who gather using a synchronous, online event format. As a next step, these design patterns need to be tested, examined, and refined in order for them to be relevant in more contexts.

## REFERENCES

- Alexander, C. (1979). *The timeless way of building* (Vol. 1). New York: Oxford University Press.
- Beck, K. & Cunningham, W. (1987). "Using pattern languages for object-oriented programs", in *OOPSLA-87 workshop on the Specification and Design for Object-Oriented Programming*.
- Gamma, E., Helm, R., Johnson, R., & Vlissides, J. (1995). *Design patterns: Elements of reusable software architecture*. Reading: Addison-Wesley.
- Iba, T. (2013). Pattern languages as media for the creative society. In *proceedings of COINs '13*.
- Iba, T., Sakamoto, M., & Miyake, T. (2011). How to write tacit knowledge as a Pattern Language: Media Design for spontaneous and collaborative communities. *Procedia-Social and Behavioral Sciences*, 26, 46-54.
- Johnson, C. M. (2001). A survey of current research on online communities of practice. *The internet and higher education*, 4(1), 45-60.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Murai, Y., Patch, N., Choe, E., McConachie, K., & Schmidt, P. (2019, April). Modeling social participation: Design implications from analysis of online teacher professional development workshops. Paper presented at Annual Meeting of American Educational Research Association, Toronto, Canada.
- Sethi, S. (2015). *Making serendipity stick: translating short, live online interactions into meaningful relationships* (Master thesis, Massachusetts Institute of Technology).
- Sethi, S., McConachie, K., DeTar, C., & Schmidt, P. (2014). Unhangout. MIT Media Lab. Retrieved from <http://unhangout.media.mit.edu>
- Vygotsky, L.S. (1962). *Thought and language* (A. Kozulin, Trans.). Cambridge, MA: MIT Press.
- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Weiss, M. (2017, July). Patterns for idea management in innovation communities. In *Proceedings of the 22nd European Conference on Pattern Languages of Programs* (p. 4). ACM.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. New York: Cambridge University Press.
- Wenger, E., McDermott, R., & Snyder, W.M. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business School Press.