TAKE CONTROL OF

ZOOM

by GLENN FLEISHMAN

$14.99

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Welcome to *Take Control of Zoom*, version 1.3, published in April 2021 by alt concepts inc. This book was written by Glenn Fleishman and edited by Joe Kissell.

This book provides detailed instructions, warnings, and tips for using the Zoom videoconferencing service, from installation and configuration of software and account settings to best practices as a meeting member and meeting host, including how to be safe when creating meetings and participating in them.

If you want to share this ebook with a friend, we ask that you do so as you would with a physical book: “lend” it for a quick look, but ask your friend to buy a copy for careful reading or reference. Discounted classroom and user group copies are available.

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What’s New in Version 1.3

Sometimes, if you wish hard enough, things become true: Apple updated Keynote for version 11.0 on March 24, 2021 for macOS 10.15 Catalina and later, and added the last piece in its presentation puzzle: you can present in a window and have your presentation notes and some other tools appear in a separate window. This finally allows the use of Keynote within Zoom (and other videoconferencing apps) in a way that makes sense!

As a result, I modified several sections of Present in Zoom to account for this Keynote option, and look particularly at the reworked section Present in a Window in Keynote.

However, Microsoft PowerPoint remains mired in the past in which presenting in a window doesn’t give you access to notes and other tools so that all remains the same—for now!

Zoom updated a few of its own features:

- When you share a window, screen, or selection from a desktop app, Zoom briefly displays a label over what you’re sharing as soon as other participants can see it. See Pick What You Share.

- If you’re a meeting host, you can now report abuse by participants in concluded meetings, and you can review abuse reports you’ve submitted. See Report Abuse.

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Introduction

Zoom is a videoconferencing service that lets you bring from one to hundreds of other people together for real-time meetings, conversations, gabfests, lectures, and other purposes. Zoom allows screen sharing, audio-only participation (including via regular landline and wireless phones), and audio/video session recording.

While Zoom was founded in 2011 and had steadily grown in adoption, usage skyrocketed during the outbreak of the global coronavirus pandemic in early 2020. The company said 10 million people used the service an average of once a day in December 2019. By April 2020—the last time Zoom updated its count—that number had jumped to an average of 300 million daily meeting participants (Figure 1). That’s an extraordinary leap and it’s remarkable that the company could keep the service running with that level of demand, which has since grown.

Figure 1: Zoom’s use has become so high that cartoonist Peter Kuper can knowingly parody its overuse. (© 2020 Peter Kuper. All rights reserved. Used with permission.)
Many companies, nonprofits, schools, and government bodies shifted from in-person meetings to Zoom calls. Zoom also became a popular option for socializing, including virtual coffee dates, and for gaming, where people gather around a board game or use an online game that allows remote participation—almost certainly including you!

And, as you have certainly found, Zoom is flexible and you can get started with it easily. The software is available as an app for every major desktop and mobile operating system, and the company offers a web app that works without a plugin in all major desktop browsers.

But because it’s also powerful, there are a lot of options you can fiddle with in your setup, both before or while participating in a meeting and while setting up or running a meeting as a host.

Researchers and others have also revealed weaknesses in Zoom’s security, encryption, privacy, and basic programming. Zoom has fixed bugs, promised better, and continues to deliver updates to meet a security roadmap it set. And you can make choices to improve your safety and privacy. But whether to trust Zoom for your particular purposes is a question everyone has to ask themselves, too.

This book aids people suddenly thrust into frequent Zoom usage who feel hamstrung by the company’s documentation and the various apps’ sometimes baffling or infuriating interface choices—as well as the regular updates, which sometimes change behavior dramatically.

It’s also for people whose friends or family want them to be part of ongoing virtual happy hours or regular chats, and who are concerned about what they have read about Zoom or find the service overwhelming to use well.

I will take you from a Zoom user to a Zoom master by helping you understand all the corners of the service, including the many ongoing changes in the app, which I will document in future updates. But I will take you from your current level of Zoom knowledge to full expertise through task-based, bite-sized chunks. Let’s start!
Zoom Quick Start

Zoom packs a lot of power and utility into a sometimes hard-to-understand set of interfaces that differ slightly across each operating system and browser they support. Use this Quick Start to find the parts of the book most useful to you the fastest.

If you want to leap into a meeting, jump to “Be part of a meeting.” If your paramount concern is safety, read the sections under “Consider safety.” If you’ll never start (or “host”) a meeting, you can skip later chapters in the book focused on managing meetings, listed in “Learn to host Zoom meetings.”

**Consider safety:**
- Look into reports of Zoom’s privacy and security issues; see Trust and Verify Zoom.
- Maintain your safety as a participant; see Stay Safe in a Meeting.
- As a host, create safe conditions for a meeting; see Plan for Safety as a Host.
- Deal with safety issues while a meeting is underway when you’re hosting it; see Protect a Zoom Meeting.

**Get set up in Zoom:**
- Install Zoom software and configure it; see Get Set Up with Zoom.
- Prepare your surroundings and yourself for video chats; see Prep for Meetings.
- Make sure you’re using the best audio and video inputs you can for your purposes; see Upgrade Your Audio and Upgrade Your Video.

**Be part of a meeting:**
- Conference with people in a Zoom meeting; see Participate in a Meeting.

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• Understand the many kinds of things Zoom lets you share to other people in a meeting; see Share Your Screen.

• Learn how to make effective presentations with Zoom by setting up the right configurations and getting the right help; see Present in Zoom.

• Talk via text with people inside and outside a Zoom meeting; see Chat in Zoom.

• Make an audio and video record of a Zoom session; see Record a Meeting.

**Learn to host Zoom meetings:**

• Use host controls to create meetings; see Set Up a Meeting.

• Handle a meeting while it’s underway; see Manage a Meeting.

• Manage breakout rooms; see Break Meetings into Smaller Groups.

• Create polls during a meeting; see Run a Poll.

• Control participants’ screen sharing; see Manage Screen Sharing.
What Zoom Can Do

Before we get into how to set up Zoom and use it, let me sketch an overview of what Zoom offers across their software and some optional hardware so you can understand the scope of your options.

Zoom offers videoconferencing, a feature this book largely devotes its attention to, because it’s what most people are looking for and how most people spend their time using Zoom as a product.

Videoconferencing obviously includes two or more people using audio and video to communicate with each other in a live session (Figure 2). One person has to be the host: they create a meeting and have super-powers. (In some tiers of service a host can partially delegate to other people or hand off hosting entirely.)

Figure 2: In a typical Zoom meeting, you might have a number of people who you can choose to see on screen at once.

Everyone else is a participant, someone who has varying abilities in a meeting depending on what the host permits them to do and what’s available in their app or supported by the browser they’re using.
Each participant may be able see the live streaming video camera of everyone else, or sometimes just one person at a time—or just a presenter or meeting host.

**Note:** Zoom’s *Gallery view* in native desktop apps—shown in *Figure 2*, above—can be overwhelming, especially in big meetings, as you see dozens to hundreds of people’s live streams at once, sometimes broken into several pageable screens. The *Active Speaker view* shows just the current and most recent people who have spoken.

Zoom videoconferencing, called [Zoom Meetings & Chat](https://zoom.us), also includes:

- **Audio-only participation:** People in a Zoom meeting don’t have to have a camera or can choose to not enable it. Those who dial in from a regular telephone also can use only the audio features.

- **Viewer/listener only:** A Zoom participant can be a completely passive observer and not send their audio or video into the meeting.

- **Screen sharing:** A Zoom host or participant can share their live screen. If the host allows it, multiple people can share screens simultaneously from desktop apps at once.

- **Screen annotation:** Participants can mark up a screen that everyone can see.

- **Public and private chat:** Zoom allows participants to send text messages within the meeting that everyone can see, as well as private messages to the host or among participants.

**Note:** A host or administrator at a company, school, or organization may disable certain features or make them mandatory.

Zoom Meetings & Chat is broken out into price tiers, which start with a free level. That tier includes nearly all important functionality, but imposes modest limitations, such as a 40-minute meeting length for sessions with three or more participants. Paid tiers lift meeting limits and add additional account features, including cloud recording. I explain this in full in [Choose a Tier](https://zoom.us).
Get Set Up with Zoom

Zoom starts with an app, like any networked service that involves connecting people. To use Zoom you install a native app from the company and launch it, or click a link in your browser to open a Zoom web app. From there you can participate in meetings and webinars.

I walk through the options for apps, and then explore the kind of hardware you need and options you might prefer.

Finally, I examine Zoom’s pricing tiers, useful for anyone who ever plans to host a meeting of more than one other person.

Use a Zoom Appliance
If you acquire a Zoom for Home device, like the DTEN 27-inch Zoom appliance that doubles as an external display described in the previous chapter, you will be guided through set up on the device. These appliances require a Zoom account, which is otherwise optional in many cases as a participant in meetings.

Download or Use a Zoom App

Zoom works best with a native app, one written for the operating system on which it runs. Some features are only available in native apps, such as a side-by-side view of a shared screen and other participants in the meeting. Native apps are also faster, less choppy, and more reliable than the web apps that Zoom offers.

If a native app isn’t feasible, however, turn to a web browser that Zoom offers the best feature support for: Google Chrome.

Note: You may be helping someone else get set up, and for naïve users, a web app may vastly easier to use—a single click or two is all that’s needed to participate in a videoconference.
Use a Native Zoom App

Zoom offers native apps for every major platform, including Android, iOS, iPadOS, macOS, and Windows. To get a native app, you can do any of the following:

- Visit the Download Center, which automatically figures out what app is right for the device from which you’re browsing. Click or tap the Download button.

- Wait until you join your first meeting on a given device. The meeting webpage will prompt you to download the software.

- Download directly via these links to Google Play (for Android), the iOS App Store (for iPhone and iPad), and the Mac App Store.

On desktop operating systems, run the installer and follow prompts to install the software.

Remember To Update Native Apps

Zoom pushes out a seemingly constant stream of updates with both small bug fixes and major security improvements.

Zoom’s desktop apps should let you know within 24 hours of an update becoming available if the app is running or if you launch it. However, that didn’t prove to be the case in our testing across multiple editions of this book! On one call in 2020, several people were weeks to months out of date without ever having seen an update notification. It’s worth routinely forcing a manual check: Click your profile picture or icon in the upper-right corner of the window and select Check for Updates.

Mobile apps have updates served via the App Store for Apple devices and Google Play for Android. Your device or store settings control whether updates install automatically. To ensure you have the latest version, launch the mobile store’s app and check the updates section for a release that hasn’t yet been installed.

On mobile devices, install the software through the familiar app store process. Smartphone apps have relatively little territory to work with to manage showing people and the Zoom interface (Figure 3).
Trust and Verify Zoom

You can’t discuss Zoom without asking whether or not you can trust the company that provides the service and develops the software due to missteps they made in 2019 and early 2020 and some technical debt from decisions made over several years.

Note: You can skip this chapter if you want to get right into your next steps. Jump ahead to Prep for Meetings.

As Zoom grew dramatically in popularity in early 2020, they drew enormous new scrutiny. That led to the exposure of bugs, poor practices, misstated explanations in technical documentation and marketing materials, and bad business decisions. In response, the company has appeared to clean up its act, taking specific actions, apologizing, and producing a roadmap.

In this chapter, I review some past problems you may have heard about and how they were resolved. More importantly, I look into Zoom’s current policies and implementations for communication privacy, app security, and encryption integrity.

Explore Zoom’s Security Model

Obviously, a company that has access to your screen, microphone, and camera and that lets you create communication sessions with other people has to protect the security of your interactions.

There are several aspects of security in a system like Zoom’s:

- **Apps**: Software must be written to prevent malicious parties from exploiting it and gaining access to users’ audio, video, and text feeds. But it also must respect a user’s settings and intent.
• **Account security:** Zoom requires a registered account for hosts, but participants don’t always need one, so only some Zoom users provide the company with information that must be protected.

• **Meeting security:** Zoom sessions should be able to prevent unwanted attendees. This is both a security *and* a privacy issue, and I discuss both in this and the following section.

• **Encryption:** The system must be designed to prevent unauthorized parties from accessing communications while they happen and, if data is intercepted, by decrypting it later.

Let’s dig in on each of these.

**Apps and Security**

Zoom has suffered from sloppy coding and shortcuts in the interest of making it easier to install the software and join meetings. This included bypassing a protection Apple put in place to make it harder for webpages to launch applications directly. While the company fixed it in mid-2019, it did so with ill grace and made excuses.

**Note:** While we’re used to seeing URLs as `https://domain/path/to/file`, the `https` part is merely one *scheme*. For the web, `https` gets you to a website. Applications in major operating systems can optionally bundle a scheme that’s registered with the OS when they are installed. That allows Zoom to use `zoomus://` links and Slack to use `slack://` links.

In March and April 2020, other app problems emerged with iOS (leaking information to Facebook through bad programming), macOS (shortcuts in the installer that bypassed user interaction), and Windows (links in chat that could open programs and execute commands).

This time around, Zoom’s CEO apologized, and within hours to a couple of days the company pushed out revised software versions that removed the Facebook connection, updated the macOS installer, and disabled links in chat temporarily. They froze adding new features for 90 days as of April 1, 2020, to focus on software and other improve-
We all like to put our best foot forward, and appearing on video can be daunting if you don’t do it all time—even among trusted colleagues, but especially with students, instructors, your boss or higher-ups, family, and friends.

As I write this book, a good hunk of the world is under shelter-at-home or tighter lockdown rules, requiring us to put our home working spaces under scrutiny when we use Zoom for video. That can make it even more fraught, but you can increase your comfort.

A few years ago, I had a contract job in which there were regular video meetings. I wound up making a number of changes in my work area to make it look tidy and professional and so I felt less self-conscious on camera—realizing that nobody else particularly cared about my space or appearance.

Consider all of the following as a way to put your best visual foot forward.

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**Set Up for Video**

Obtaining the best results from a stream of video can be a fickle endeavor. Built-in and add-on webcams often perform poorly in low light, adding noise, and in mixed light, such as with bright lights in frame or pointing towards a frame.

You can fix lighting, add a backdrop, and make other changes that bump up your video quality. Here are a few tips that can help you produce the best conditions (Figure 7).
Figure 7: Your intrepid author set up a backdrop (see Hang a Green Screen), lit himself evenly, and got his face positioned well. Let’s call this one the “Gallant” image.

Tip: You can test your video in Zoom’s desktop apps via Settings > Video. These apps show a preview screen that’s exactly what other people will see.

Tip: With networks and services sometimes overwhelmed, hosts may ask some people or all participants who aren’t speaking to pause their video to reduce bandwidth requirements. This can improve video and audio quality.

Manage Your Camera

Whatever kind of camera or device you’re using, make sure the camera is positioned and angled well to show your entire face, mostly, er, head on. Nobody wants to look up your nose or see just your eyes and forehead (Figure 8).
Participate in a Meeting

Everything in the book until now has been preamble! We are finally at the main event: being part of a meeting.

Zoom meetings may have all participants joining via just video, just audio, or some combination of the two. Some people in a session may be using a dial-up line as audio-only members.

Meetings might have a single person streaming their video on camera, like a lecturer, fitness instructor, or manager, and everyone else locked out from showing theirs. Or a screen might show every participant!

Tip: Zoom offers multiple views, discussed later, that let you customize how many people you see on screen when multiple people are streaming video or sharing screens.

A host might mute everyone and ask that only text messaging be used as a backchannel, or might call on individuals and hand a sort of virtual mic to them, highlighting them as they ask a question or take a turn in a presentation or course.

Let’s dig into how we find a meeting and join it, and then how to work within a video session.

Note: Learn how to work as a host in setting up and running a meeting in two later chapters: Set Up a Meeting and Manage a Meeting.

What Makes a Meeting

A Zoom meeting is a sort of virtual room to which you’re invited. Every meeting has a unique meeting ID (a 9 to 11 digit number), and nearly all have a passcode. You may be sent an invitation that contains the meeting ID, the passcode, and a URL that will redirect (with permission) through Zoom’s website to connect you to the meeting.
Note: Only paid business tiers of service let a host create a meeting without a passcode as of May 9, 2020. Further, since September 27, 2020, all paid tiers must have either a passcode or a Waiting Room enabled (or both). See Join the Meeting, just below.

What’s a Personal Meeting ID?
Zoom creates a Meeting ID for every new meeting, but each account also has a fixed Personal Meeting ID associated with it. (You can change the ID if you subscribe at a paid tier.) It can be used exactly like a regular Meeting ID for both scheduled and “instant” meetings. See Meet Instantly for more details on the latter.

Because the Personal Meeting ID doesn’t change, as long as you keep the passcode the same, anyone can drop in while you have an active meeting by using the ID and passcode. That might be useful for some personal, academic, or work situations in which you want a persistent accessible space. Or you may not worry about people re-using the connection details. (For business and education accounts, administrators can disable the use of Personal Meeting IDs.)

The host may have opted to include the passcode in the URL; if so, it appears as &pwd= followed by letters and numbers. This adds risk with publicly announced or posted meetings, as an unwanted party can use the URL to join. Other hosts may share just the portion of the URL that contains the meeting ID (with the passcode provided through other means), and you will then be prompted to enter the passcode to join the meeting.

Each meeting is set up with particular parameters, some of which can be modified during the session. Here’s a list of what you may be able to do in a meeting, keeping in mind some hosts may disable certain options or they may not be available at the host’s service tier or without the host’s permission:

- Share a video stream from your camera.
- Share audio from a mic you select.
- Share your screen.
Share Your Screen

Depending on what groups you use Zoom with, you may find yourself routinely sharing your screen to walk through or narrate a presentation, demonstrate software, or help provide technical or other support to people in the meeting for a given feature. You might even use this method to record a video solo or with other people that you can post as a how-to.

Zoom makes it easy to share your screen to from a few to as many as hundreds, or even thousands, of people. Knowing a few key settings will help you from the get-go.

I start with how to share your screen, then look at what you don’t want to share. Next I move into how manage presenting in Zoom using a variety of techniques, including with a single screen, multiple screens, and multiple devices. I also detail how to work around limitations in full-screen modes in macOS.

**Note:** Screen sharing in Zoom is streaming video: a compressed version of the particular item or focus being shared replaces a video camera feed. This makes sessions bandwidth-dependent. Thus, a presentation with bullet points and flat colors will appear better on every connected person’s display than a 30-frames-per-second video or even walking quickly through menus in a piece of software.

**Tip:** For advice as a host on managing screen sharing, see Manage Screen Sharing.

Pick What You Share

What you can share varies by platform, but it includes photos, apps, a full monitor or device screen, and files that an operating system can show natively without another app, like video and PDFs. While desk-
top apps have a lot of options, Zoom provides a robust set of choices for mobile devices, too.

**Multiple Shared Screens**

Just to make it even more complicated, Zoom allows multiple people to share their screens in the same session. This includes whiteboards. A host must enable this feature.

As many desktop users as desired can share at once, but mobile users can share only if they’re the only member sharing.

With dual-monitor mode enabled, a desktop user can see two different whiteboards at once. Otherwise, they see the most recent one, but can use view controls to select others. Mobile users see only the most recent whiteboard.

**Note:** What actions can viewers take? See View a Shared Screen. This includes options you can engage in with a whiteboard or annotating your own screen. Other people in the meeting can be allowed to mark up what you’re sharing, too, and everyone can see it.

**Share from a Desktop App**

Desktop apps offer a very long list of what you can share to other participants. Start by selecting an item and then proceed to share.

**Choose a Desktop Option to Share**

Click the Share Screen button and Zoom reveals a three-tabbed window with an array of choices. Shared items either have a green outline or appear in a green-outlined window in Zoom, depending on the item.

**Tip:** You can turn the outline off in the app’s settings in Settings > Share Screen’s Advanced options. Uncheck “Show green border when I select the shared content.”

The Basic tab includes screen-based options (Figure 35):

- **Any display:** Zoom notes these as Desktop 1, Desktop 2, and so forth, and overlays large numbers on the corresponding displays.
One of the most common uses of Zoom is to show stuff to other people: presentations, images, movies, app demonstrations, and much more. While Zoom has robust features for sharing screens, as the previous chapter lays out, it’s surprisingly difficult in some cases to manage the interactions among a presentation app, an operating system’s full-screen mode, and Zoom’s screen-sharing options.

**Tip:** I can really only recommend presenting from a desktop or laptop computer. On a mobile device, controls and features are so minimal that I feel presenting is an exercise in frustration and limitations, and therefore acceptable only in a pinch.

I count Apple Keynote, Google Slides, and Microsoft PowerPoint as the major presentation options, but Apple’s Preview app, which can display images, PDFs, and other forms in full-screen mode, and a number of other display apps, may also fit the bill. (Other sorts of apps are typically used for demonstrating the app itself or a process within an app, and not showing still images, videos, or paging through screens of information.)

I’ve developed strategies for common scenarios that should help you prepare presentations and manage them.

Start by laying out what precisely you want to present and what you want available:

- **Slides alone, or slides plus notes:** If you’re using a slide deck within presentation software, as a PDF, or in another app, do you want to be able to see just the presentation or the presentation plus notes or other supplementary material? (I know I nearly always need notes for my presentations.) Or see the next slide (or others)?

- **Observe participants or monitor chat:** While presenting, it can be extremely useful to see people’s reactions, sometimes subtle and sometimes overt. This can let you answer questions people say
with their faces, or call on people. You may also want a show of hands or other visual feedback. You may even want to see questions or responses people are typing in Zoom’s in-meeting chat.

- **Switch among apps:** Do you need to bring in material from more than one app as you present?

- **Add additional video sources:** In some cases, you may want to switch among video sources other than your presenter webcam and shared slides when you are showing “real-world” objects. That could include a document camera attached to the computer from which you’re presenting, or additional devices logged into Zoom.

Here’s the good news. If you need just your slides, are good with the way Zoom shows an overlay of participants in a floating window, and don’t need other apps or video sources, you have the greatest flexibility. You can use Zoom and a presentation or other app without engaging workarounds or special modes, and with either one or two screens. It’s still worth reading on for suggestions for flow and simplicity when presenting or demonstrating, particularly in PowerPoint or Keynote.

However, if you need to consult notes, look at other slides, switch between apps, or pull other video sources, read on! Each of the scenarios I present, particularly the deep dive into full-screen mode, will help reduce frustration and achieve your desired results.

---

**Get a Helper**

For anything complicated, if at all possible—and if it’s appropriate for your meeting—try to get at least one person who can help manage inputs and give you chat, text, or even audio feedback as you go, and keep an eye on participants. A co-host could call out, “Andrea has a question,” or cue you to confusion they see on several faces through some backchannel, including private chat within Zoom.

If you’re hosting the session, you can hand off your host role to someone else while you present; see Hand Off the Host Role. In paid plans, you can remain host and grant other people co-host privileges, which lets them have nearly all the same capabilities as a host; see Promote a Co-Host.
Chat in Zoom

While Zoom may seem all about video, the service has a chat system that works both within meetings and separately, depending on how you have it configured.

Zoom’s chat is fairly primitive compared to modern instant messaging systems, like WhatsApp, Skype, and Apple’s Messages, and channel-based group communication tools, such as Slack and Teams. It gets the job done during a meeting, but it’s unlikely to be a tool of choice outside it unless you, your company, or your school has or offers no better alternative.

Tip: For details on what chat features you can control as a host and how to manage during meetings, see Manage Chat.

Note: With business-linked Zoom accounts, an administrator can impose additional limitations on how chat is used both within meetings and outside of them, even if you’re the host.

Chat in a Meeting

Zoom features chat alongside audio and video as one of the ways to communicate with the host and among members during a meeting.

To get started with Chat in a meeting, click the Chat button at the bottom of a desktop app or tap the More icon and tap Chat.

From a menu, you can select to whom your messages are sent, whether that’s everyone in a meeting or individuals (Figure 54). Zoom doesn’t let you set up groups to talk to, however. Enter a message and press Return (desktop) or tap Send (mobile).
In a chat in a meeting, we talk about chatting in a meeting.

When you receive a message and are not displaying the Chat view in your app, a brief overlay appears showing the sender and message, which then fades. A red badge with the number of missed chat messages appears over the Chat button in desktop apps and on the More icon in mobile apps.

**Tip:** It is very easy to overlook chat. The Chat pane doesn’t display by default in the desktop app and it’s not apparent that you have to tap More > Chat in a mobile app to get there.

All messages appear in a single Chat stream. A label above each message that indicates whether it was sent you individually or if it was sent to the whole group.
Set Up a Meeting

Because the meeting is the central unit of Zoom, as discussed in What Makes a Meeting, creating that meeting is the central job of the host.

In this chapter, I review the many options you have for setting up a meeting, including planning for safety, and then discuss how to create a meeting.

A Roadmap on How To Host

In this chapter and the following, Manage a Meeting, you learn how to function as a host on Zoom, including wrangling participants and controlling screen sharing and chat. In the chapter after that, Record a Meeting, I explain options for hosts to allow or configure recordings and how to record or access recordings as a host or participant.

Configure Meeting Options

Let it never be said that Zoom offers too few options—or that it puts them all in one place! In this section, I explain where to find settings and walk through basic meeting preferences and security options you can choose in advance.

Where To Find Zoom Meeting Settings

The company’s website and apps organize meeting options in a few different places.

- **Personal settings:** Preferences you set via the Personal > Settings part of the website affect both the defaults for future meetings you create as well as the accessibility of certain features in all meetings, no matter whether you have scheduled the meeting before that point or not. I discuss these in this section.

- **Administrative settings:** Every paid account, even with a single host in the account, has additional settings for people in the admin-
istrator role. If you’re a single-host Pro account, you may need to access on the website Admin > Account Management > Account Settings to enable features that can then be accessed via the host account’s Personal > Settings options. If your host account is managed by another person, you may need to consult them to turn on (or off) features in your host account.

Note: Administrators can create groups which then have their own set of meeting-related settings. If there are features you need in a particular way that nobody else does, an administrator could conceivably create a group of one for you.

- **Meeting settings:** When scheduling a meeting, you can make changes to defaults that are decided in your account settings. See Create a Meeting for details.

- **In-meeting settings:** Some options chosen in advance can be modified by a host while the meeting is underway. See Manage a Meeting for a variety of options available during a meeting.

- **Personal Meeting Room settings:** Zoom also has separate options for the Personal Meeting Room, a sort of fixed address in Zoom assigned to your account. I discuss these options particularly in Meet Instantly and Invite Participants to a Meeting.

To access personal settings that affect just your host account, start by visiting zoom.us, clicking Sign In, and then clicking My Account. In the left-hand navigation bar, click Settings under the Personal menu. Or click this link to Settings.

Tip: For administrator settings, under Admin, click Account Management > Account Settings for global preferences or User Management > Group Management to modify settings assigned to groups.

I’ve grouped below the settings you should understand and consider configuring. There are many others that are self-explanatory or which you will rarely have reason to change.

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Manage a Meeting

Zoom makes hosting a meeting just as easy as being a participant. You use the same apps and have all the same options plus superpowers in meetings that let you control participants.

Zoom doesn’t force you into a particular way of interacting with participants. A series of pre-meeting choices you make and in-meeting actions you take shape how you run the meeting.

As a host, you can be entirely laid back, a moderator, a mediator, or a dictator—sometimes acting that last role is needed! Like running a classroom, a Zoom meeting often requires attention and discipline to prevent it from devolving into chaos. A tighter hand will be needed for public meetings, in which anyone can participate, and student-based videoconferences.

But even for social use, knowing how to manage meeting Zoom’s controls will make the experience more meaningful, fun, or functional.

Host Meetings with a Desktop App

Zoom lets you host a meeting from mobile, desktop, or web app. But I argue it’s best to use a desktop app, as it offers you the option to switch between Active Speaker, Gallery, and Side-by-Side views and layouts, add multiple spotlights, and even arrange the order of speakers’ video in Gallery view. Even iPad and Android tablet versions of the Zoom apps limit you: iPad to 16 or 25 and Android to 9.

While you can navigate to security and meeting settings, manage a Waiting Room, and swipe to find different participants’ video streams in a mobile app, it takes time and often requires multiple taps. In the desktop app, everything is easily available, often with a single click. It lets you fully participate and fully manage a session.

Likewise, even though you can use a web app to host a meeting, browsers lack features and responsiveness compared to the native desktop apps. If you must host via a browser, use Chrome.
Divvy Up Host Roles

While I’ve spoken mostly about a singular “host” throughout this book so far, and Zoom largely does the same in their documentation and across their software, there are actually three kinds of host roles—or maybe two-plus-a-bit—in a meeting:

- **The main host (all tiers):** This role is mandatory, while the other two are not required for any meeting. A host can hand off their role within a meeting or when leaving an active meeting.

- **Co-host (paid tiers):** During a meeting, a host can appoint one or more co-hosts, who have a subset of hostly powers. (While the prefix “co-” can mean jointly or equal, it’s used here—as it often is—to mean “less than equal.”)

- **Alternative host (paid tiers):** When scheduling a meeting or modifying a scheduled meeting, one or more people can be anointed in this role which gives the ability to start the meeting and act as host until the meeting organizer arrives. After the meeting starts, they remain the temporary host *until* the host joins, at which point they’re demoted.

Hand Off the Host Role

Because the host has some extra capabilities, it can be handy to hand off the role with a paid account, and this is the only way to give other participants host-like control with free accounts.

At any time during a meeting, a host with a free or paid account can do one of the following:

- In a desktop or web app, open the Participants list, hover over the member, click the More button, and select Make Host.

- In a mobile app, tap the Participants button, tap the person’s name, and then tap Make Host.

When asked “Make name the meeting host?” (text varies by platform), click Change Host (desktop), click Yes (web), or tap OK (mobile).
Record a Meeting

Zoom has excellent built-in controls for recording the audio and video of a meeting. The service lets you conduct a multiple-person conference, a lecture or presentation, or an event and use in-app software to later work with the material captured. Your action might be as simple as posting the complete video the moment a session ends, or editing a multi-track podcast from individually recorded speakers.

While this chapter contains much that’s relevant for participants in meetings, recording is more tightly controlled and potentially more relevant for the person who organized or started the meeting.

**Note:** In addition to recording for later playback, you can stream meetings via YouTube Live. The feature is available to paid accounts only, including education accounts, and the setup is fairly straightforward, as Zoom describes in a support document.

**Use Other Tools for Recording**

If Zoom’s built-in tools don’t suit on a desktop operating system or you want to record from a mobile device, you can use built-in operating system or third-party tools to record. Android and iOS in particular have straightforward ways to record the screen as a video or even stream to other apps.

These videos will include Zoom interface details and might need additional editing. You can disable the Zoom account setting “Always show meeting control toolbar” to minimize its appearance on screen.

**Configure Recording Details**

Zoom allows two kinds of recordings: all tiers of service can record locally, and a host can allow any participant to make a recording. Paid tiers also have access to cloud-based recording, which has different
parameters and more limitations, but doesn’t require any work on behalf of a host or participant to manage the recording.

**Note:** Recording requires a desktop app. It’s not available in mobile or web apps.

Let’s start, however, with privacy, as it’s a key aspect of recording sessions.

**Consider Privacy During Recordings**

We often say unguarded things when we think we are among people we trust. In this new era of everything happening remotely on video, we may drop our guard and be impolite, impolitic, or imprudent during a meeting that is being recorded.

There are also many kinds of meetings that are strictly private, proprietary, or confidential, and in the event they need to be recorded, much more care should be taken about the process.

**Tip:** While these options are available only to the host, you as a participant can suggest that a meeting host engage them. In an organization, you can help draft guidelines, a wiki entry, or some other method of spreading best practices for recording internal and external meetings.

A host can provide some additional help in a meeting by configuring for both privacy and disclosure in the [account settings for recordings](#):

- **Local recording:** It’s wise to turn local recording on, but also disable the option “Host can give participants the permission to record locally,” unless this is something needed for an upcoming meeting. It avoids any confusion.

- **Automatic recording:** For some kinds of meetings or businesses, you may want to enable this option, because you have an internal, regulatory, or other obligation or guideline to record all meetings for later review.
So-called artificial intelligence (AI) has arrived, but in the usual unexpected form. Instead of an electronic brain capable of all tasks, the most-advanced AI comes in the form of deep learning, a way to train an algorithm to pick things that are very like other things. This lets machine-learning systems identify cats in photos, predict upcoming weather conditions based on radar imagery, and turn spoken words into text—all with shockingly good accuracy.

There are three general types of AI-based conversion of speech into text available:

- **Live transcriptions:** While people talk, the service creates a transcript which can be viewed as it’s created. It’s often just concatenating live captioning, but it typically attempts to uniquely number and identify speakers.

- **Live captioning or closed captioning:** While people speak, a text version of what they say is posted live in the videoconference feed, just as if it were a captioned video or TV program. The quality can be quite high, but because it’s real time, it’s often worse than offline processing. This is often provided free (as in Skype and Google Meet), as part of a business plan (as in Microsoft Teams), or as a third-party subscription add-on (as with Zoom and Otter.ai, described below).

- **Post-meeting transcription:** Offline processing of audio can produce better results, because it’s not trying to keep up with the demands of nearly instantaneous conversion. This audio tends to be more accurate and better identify multiple speakers.

Zoom chose not to build its own machine-learning speech transcription system, but to work with a partner—the privately held startup company [Otter.ai](https://otter.ai)—and integrate Otter.ai’s system into Zoom. Zoom
and Otter.ai added live captioning in late October 2020, and the two companies already partnered for follow-along transcripts that a host and attendees can annotate.

**Note:** You can use Otter.ai to upload any audio file for transcription, too, but that’s a feature that works entirely on Otter.ai’s site, and has nothing to do with Zoom, unless you record Zoom audio through another means. In that case, you can simply upload the audio after a meeting to your Otter.ai account.

To use Otter.ai’s Zoom-integrated features, you must have a paid subscription to their Business tier service, which costs $30 per month or $240 per year. The below examples assume you have this level of service, which is available as a free trial.

### Use Live Notes

Otter.ai offers detailed instructions for the several settings required at its service and Zoom to allow what are called Otter Live Notes for Zoom. This provides a real-time transcription that fills in as people talk.

Once you’ve enabled this feature, you will see a new menu item at the top of Zoom apps whenever it’s active (Figure 83). The host can click the bar to select options from it, while other participants can click or tap it to copy the streaming link (Figure 84). This link lets them view the live transcript in a browser, just as a host can from the View Stream on Otter.ai link (Figure 85).

![Figure 83: A host can control the Otter.ai streaming features.](image-url)
Appendix A: Virtual Cameras

One of the most exciting additions to videoconferencing during the pandemic has been the rise of virtual cameras. (Look, I'll take my excitement where I can find it.) A virtual camera is a video stream that a software package creates from one or more still or video inputs. That can let you combine a feed of yourself, a slide presentation, live input from an external video camera or DSLR, and much more. These can be used with Zoom as well as with most other videoconferencing and live-streaming software.

Virtual cameras have been a big deal for a while for game streaming. The gamers want to combine what they see while they’re playing with a webcam view of themselves and stream that via Amazon’s Twitch service (one of the most popular outlets to find such live and archived videos) or many others. They may combine several videos streams of games, chat windows, local video, and video streamed by other people! Now, we’re all getting the benefit of work done for that audience.

Note: If you’re not a whippersnapper and don’t have kids under, say, 30, you may not realize this is an extremely popular form of live entertainment. Kids and young adults watch people playing video games for billions of hours each year. (I know, I know, get off my virtual lawn.)

The advantage of a virtual camera is that you can better and mix the kinds of additional media you want to feed into Zoom, instead of relying entirely on Zoom’s screen-sharing options.

In this appendix, I discuss three of the most the well-known, useful, or advanced options right now: Camo, mmHmm, and OBS. Each of these has a different intent, but I expect ever more overlap over time.
In August 2020, Zoom released a beta version of a sort of virtual camera add-on to screen sharing, called “Slides as Virtual Background.” It overlays the slide sharer’s webcam video with algorithmic or green-screen background removal on top of Keynote or PowerPoint slides! It’s clearly an attempt to pick up on what’s offered by mmHmm, discussed below. See Work with Slides as a Virtual Background for more on that built-in feature.

Camo

Your iPhone has two to four pretty great cameras, depending on the model. Your computer, if it has a webcam, almost certainly has a far worse one than any iPhone or iPad camera of the last five to seven years.

What if you could get the best of your iPhone’s audio/video input and the Zoom desktop app? Reincubate Camo melds those two worlds.

An app for iPhones (and iPads) and virtual-camera software for macOS), Camo brings in up to 1080p video from any of your iPhone’s cameras and mic input from all mics over USB and passes it through—with any modifications you make—as a virtual camera and audio device that can be used by Zoom and dozens of other applications. (USB is required for throughput and consistency, but network support over Wi-Fi is on the roadmap.)

Right now, Camo can’t act as an input to Safari and FaceTime, probably because Apple never does anything quite standard in their own operating systems.

The iOS/iPadOS app has no controls—you just launch it (Figure 89). You can even connect multiple mobile devices with Camo running at one time. Camo Studio, the macOS app, is where you adjust inputs (Figure 90). That includes selecting device input, lens on the device, and resolution. You can use stereo input on devices with two mics, or select a mic on those devices, too.

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About the Author

Glenn Fleishman never stops writing about technology and its implications. He’s in his third decade of writing for publications as varied as *American History, Fast Company, the Economist, Smithsonian* magazine, Increment, the *New York Times, Macworld*, and TidBITS, and many others. In 2012, he was a two-game champion on Jeopardy!

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