HOW TO USE ZOOM: 15 TIPS AND TRICKS

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TABLE OF CONTENTS

INTRODUCTION

Video conferencing has become more important than ever, particularly during the coronavirus pandemic. Zoom, a popular social platform, has experienced a surge of new users ranging from remote workers to schools.

Zoom combines video conferencing, online meetings, chat, and mobile collaboration, enabling users to meet locally, nationally, and globally on any device, anywhere, at any time.

In 2011 Eric Yuan, then a lead engineer from Cisco's WebEx business unit, founded Zoom. The service started in January 2013. By May 2013 Zoom claimed one million participants.

Today, Zoom has become familiar to both unfamiliar users to business professionals. This ebook from TechRepublic helps beginners and experts alike maximize their Zoom skills.

HOW TO HOST A ZOOM MEETING

BY BRANDON VIGLIAROLO

Countless people are now working from home due to the COVID-19 outbreak, but social distancing doesn't mean work still can't get done. Zoom is one such way to meet with your coworkers while separated, and it's available for free to anyone who needs an account. Downloading it, signing up, and opening the app doesn't mean you'll know how to send out invitations, though. If you're unsure of how to launch a Zoom meeting, follow these steps, and you'll be chatting face-to-face in no time.

Note: Increased demand on Zoom servers during the coronavirus pandemic means that phone dial-in functions may be limited--be sure your computer has a microphone and/or camera to use Zoom to its fullest. Also, this tip was written using the macOS desktop version of Zoom with a free user account, though Windows users should still be able to follow these same tips.

HOW TO START A MEETING IN ZOOM

Starting a meeting is simple: With Zoom open (**Figure A**), just click on the orange New Meeting button.

As soon as you click New Meeting, Zoom will launch it and your camera and audio will come on (if this is your first time using Zoom you'll have to grant it permission). Once you're in the meeting, you can invite users by clicking on the button on the bottom bar (**Figure B**). Meeting invitations can be sent by email or to contacts you have stored in Zoom.

HOW TO SCHEDULE A MEETING IN ZOOM

You're not forced to send out ad-hoc invitations to a meeting already in progress--it's possible to schedule meetings and send invitations in advance as well.

Look for Meetings at the top of the main Zoom screen and click on it. The screen it takes you to is where you can see upcoming meetings and schedule new ones (**Figure C**).

Click the + sign on the left side, above where it shows your personal meeting ID and the meeting scheduler will open (**Figure D**). From there, you can set a time and date for your meeting, decide which kind of calendar invite will be sent, and tweak audio and video settings.
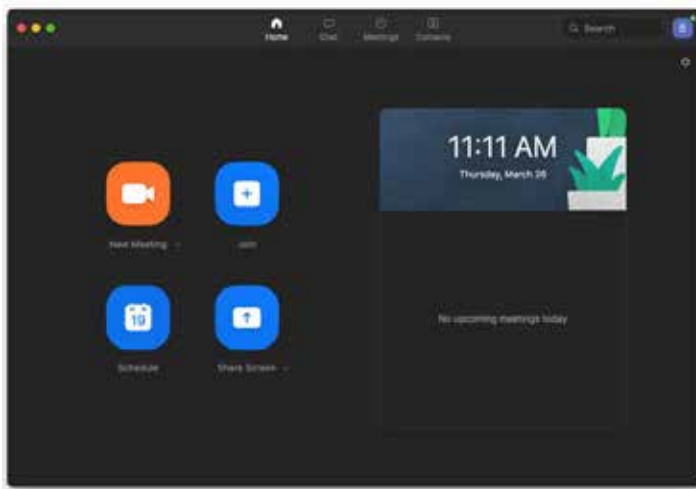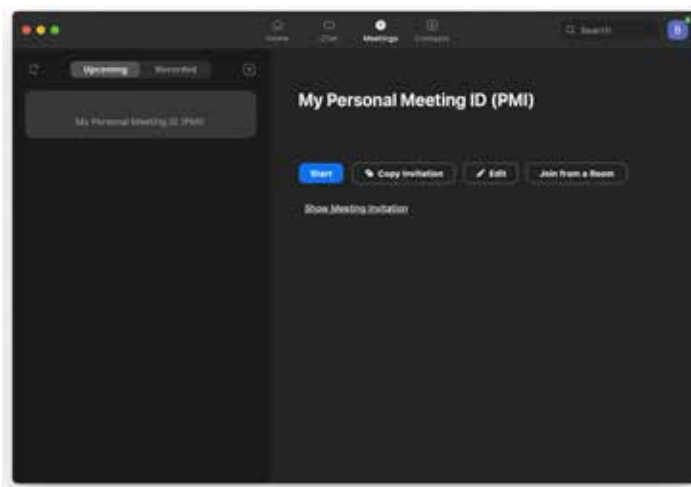
Figure A

Figure B

Figure C

Figure D
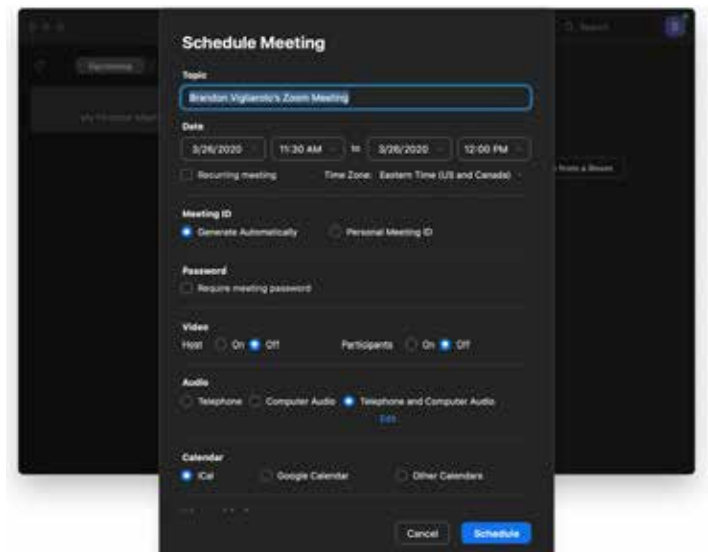
Once you set up a meeting, it should automatically add it to your calendar app if you choose iCal, or open a browser window prompting you to connect a Google account. Once it's added to your calendar, you can send invitations from there, or you can copy the invitation from Zoom to send in an email manually (**Figure E**).

Once it's time to start your scheduled meeting, look for the Start button and click it. If you have the meeting added to your calendar, it should remind you and Zoom has notifications to prompt you of upcoming meetings as well.

Figure E
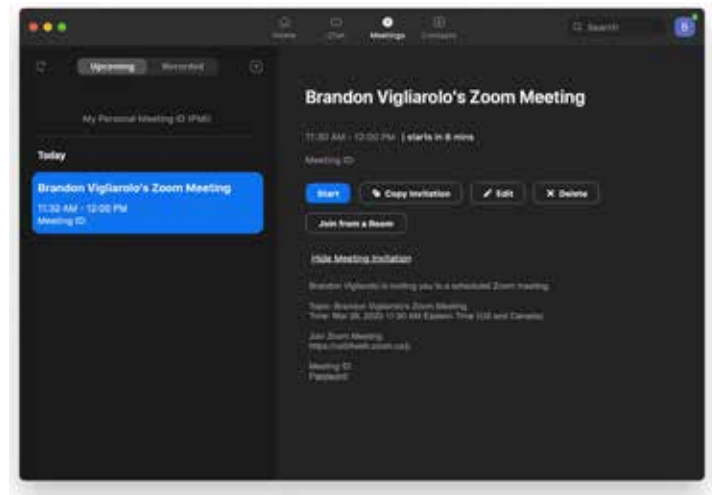
HOW TO TURN ON VIRTUAL BACKGROUNDS IN ZOOM

BY BRANDON VIGLIAROLO

As more offices close, travel plans are halted, and coronavirus restrictions rise, a lot of professionals are facing working at home for an extended period. Downloads of virtual collaboration tools like Zoom have skyrocketed, and many users are likely experiencing online meetings and remote work via those apps for the first time.

Not everyone has a home office, so folks attending a video meeting might be in a bedroom, kitchen, or other space that all attendees can see when the video is enabled. Letting coworkers into your private space can be uncomfortable, which is why Zoom offers virtual backgrounds that let users easily hide what's behind them.

Zoom virtual backgrounds have a hardware requirement in order to function. When following the steps below, you may get a message that your computer doesn't meet the requirements; you can still click through and try virtual backgrounds, but your performance may vary.

Note: Increased demand on Zoom servers during the COVID-19 outbreak means that phone dial-in functions may be limited--be sure your computer has a microphone and/or camera to use Zoom to its fullest. Also, this tip was written using the macOS desktop version of Zoom with a free user account, though Windows users should still be able to follow these same tips.

With the Zoom desktop app open, look for the gear icon in the upper right hand corner (**Figure A**). Click on the gear to open the Settings window.

With Settings open, you should see Virtual Background about halfway down on the left side. Click on that, and you'll see either the Virtual Background page (**Figure B**) or the warning that your hardware doesn't meet the requirement. If the latter appears just click through--you can still try it.

In the Virtual Background window, you can see me in my office, and also a couple of background image options. In **Figure C**, I've turned on a virtual background by clicking it.

Figure A
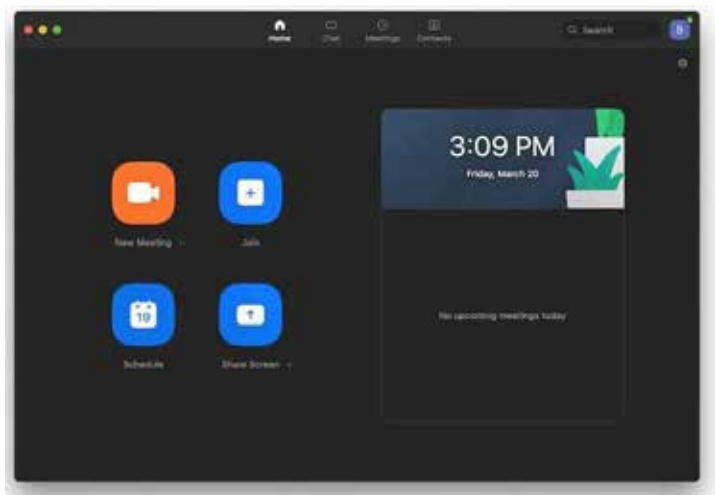
There is a plus sign below the preview image where you can click to add a new background image of your choosing.

You can also toggle virtual backgrounds during a meeting by clicking on the arrow button to the right of the Stop Video button (**Figure D**). That's all there is to it.
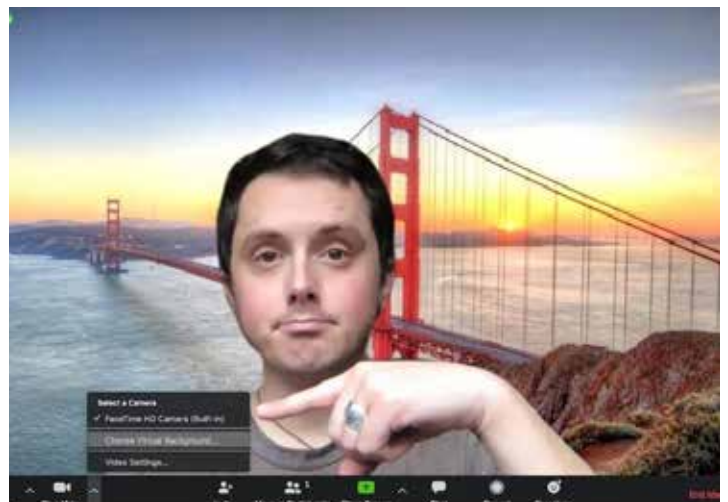
Figure B

Figure C

Figure D

HOW TO RECORD A ZOOM MEETING

BY BRANDON VIGLIAROLO

Important meetings need good records, and anyone who has taken notes knows that some details can be missed. Without a doubt, the best way to preserve a record of a meeting is to have a video recording of the entire thing.

That goes doubly for remote meetings, where distractions, tech issues, and other problems can lead to missing out on essential information. If you're using Zoom for your virtual meetings, you can record the entire call, whether you're the host or not.

If you are using an enterprise account to host a meeting, you may not be able to record a Zoom meeting unless your IT team has given you permission. Be sure to test Zoom before an important meeting and check with your administrator to grant access if you don't have it.

Note: Increased demand on Zoom servers during the COVID-19 outbreak means that phone dial-in functions may be limited--be sure your computer has a microphone and/or camera to use Zoom to its fullest. Also, this tip was written using the macOS desktop version of Zoom with a free user account, though Windows users should still be able to follow these same tips.

Figure A shows an active meeting as well as the Recording options screen in Settings, where you can see several different ways to modify how videos are recorded and where they are saved.

Figure A

By default, only the meeting host can record the meeting, but it's easy to grant other participants the ability to do so. The meeting host can do so by clicking on Participants while in a meeting, looking for the More button next to an individual's name, and selecting Allow Record.

Once in a meeting, those wanting to record only need to click the Record button to start capture, at which point the Record button will change into two buttons: One to pause the recording and one to end it.

When you're done recording video, Zoom stores it temporarily for encoding into MP4 format once the meeting has ended.

HOW TO HIDE AND UNHIDE VIDEO IN ZOOM

BY BRANDON VIGLIAROLO

Millions of Americans used to working in offices have found themselves working at home due to the outbreak of the coronavirus, and that means a lot of virtual meetings. Users new to Zoom's desktop app may find it a bit odd when their face appears while speaking--it's a bit jarring to say the least when you pop up in your own face! If you want to hide your own video, adjust it so you don't take over the screen, or bring it back once it's hidden, read on.

Note: Increased demand on Zoom servers during the COVID-19 outbreak means that phone dial-in functions may be limited--be sure your computer has a microphone and/or camera to use Zoom to its fullest. Also, this tip was written using the macOS desktop version of Zoom with a free user account, though Windows users should still be able to follow these same tips.

There are several options for hiding and unhiding videos during a Zoom meeting, both for yourself and other. The Video tab in Settings (**Figure A**) has numerous options for configuring video in meetings that will change the way Zoom handles all videos in a meeting, both yours and others.

During a meeting, if you wish to hide your video from your own screen to make room for other participants, just right-click on your video and choose Hide Myself. If you want to bring your own video back onto your screen, you can right-click on any other user and select Show Myself. Note that this won't disable your video from showing up for other users--only from displaying on your own screen.

To disable your own video completely, you can select the checkbox in the Video Settings screen shown above that says Turn Off My Video When Joining A Meeting to disable it by default, or click the Stop Video button in a meeting to turn it off temporarily for the session.

Figure A

HOW TO SECURE YOUR ZOOM CONFERENCE LINE FROM HACKERS

BY ALISON DENISCO RAYOME

A Zero Day vulnerability in the Mac Zoom Client allows any malicious website to enable the machine's camera without the user's permission, potentially impacting the 700,000+ companies worldwide using Zoom for video conferencing each day, security researcher Jonathan Leitschuh disclosed in a post on Medium this week.

The vulnerability leverages Zoom's feature of allowing users to share a link that permits anyone to easily join a meeting. If you have ever installed Zoom on a Mac, the app installs a local web server, to get around changes introduced in Safari 12. You can check this on your Mac by running lsof -i :19421 in your terminal, Leitschuh found.

Leitschuh said he was able to exploit the vulnerability to create a URL that could drop users into a call and force video and audio on without their permission.

In a statement to our sister site ZDNet, Zoom said it believed that running a local server in the background was a "legitimate solution to a poor user experience, enabling our users to have seamless, one-click-to-join meetings, which is our key product differentiator."

Meanwhile, Leitschuh wrote in his post that he doesn't feel Zoom has done enough to mitigate the vulnerability after it was disclosed to them. "Ultimately, Zoom failed at quickly confirming that the reported vulnerability actually existed and they failed at having a fix to the issue delivered to customers in a timely manner," he wrote. "An organization of this profile and with such a large user base should have been more proactive in protecting their users from attack."

According to Richard Farley, CISO at Zoom, "once the issue was brought to Zoom's support team's attention via a support ticket, we responded within ten minutes, gathering additional details, and proceeded to perform a risk assessment. A few days delay in the initial risk assessment was the process of getting details from the researcher and getting him into our bounty program. Our determination was that both the DOS issue and meeting join with camera on concern were both low risk because, in the case of DOS, no user information was at risk, and in the case of meeting join, users have the ability to choose their camera settings. Our Security and Engineering teams engaged the researcher and were in frequent contact over the subsequent period."

Malicious actors can still use the exploit to launch someone into a call without their permission today, Leitschuh wrote. (**Note**: This article about securing your Zoom conference line from hackers is available as a free PDF download.)

HOW TO PATCH THE ZOOM VULNERABILITY

To patch the Zoom vulnerability, users can do the following, according to Leitschuh:

- Disable the ability for Zoom to turn on your webcam when joining a meeting (Under Settings --> Video --> Meetings, check "Turn off my video when joining a meeting").

- To shut down the web server, run lsof -i :19421 to get the PID of the process, then do kill -9 [process number]. Then you can delete the ~/.zoomus directory to remove the web server application files.

- To prevent the local server from being restored after updates, execute the following in your terminal (you can copy and paste the terminal commands here):

```
1    # To prevent the vulnerable server from running on your machine
2    # (this does not impact Zoom functionality), run these two lines in your Terminal.
3
4    pkill "ZoomOpener"; rm -rf ~/.zoomus; touch ~/.zoomus && chmod 000 ~/.zoomus;
5
6    pkill "RingCentralOpener";  rm -rf ~/.ringcentralopener; touch ~/.ringcentralopener && ch
7
8    # (You may need to run these lines for each user on your machine.)
```

permanent_zoom_and_ringcentral_server_remover.sh hosted with ❤ by GitHub   view raw

IMAGE: JONATHAN LEITSCHUH

Zoom also has more information about upcoming patches in a https://blog.zoom.us/wordpress/2019/07/08/response-to-video-on-concern/. For more, check out Online security 101: Tips for protecting your privacy from hackers and spies from ZDNet.

HOW TO ADD A ZOOM CALL TO A GOOGLE CALENDAR EVENT

BY BRANDON VIGLIAROLO

Telecommuting app Zoom is experiencing an unprecedented boom in users, which means there are a lot of people wondering how to get the most out of it.

One of the less intuitive aspects of Zoom is its meeting scheduler, which can be a bit tricky to get used to. Luckily for G Suite users, Zoom has a Google Calendar integration that makes adding a Zoom call to a Google Calendar event a snap.

Those who don't want to give Zoom permission to snoop around on their Google Calendar don't need to feel penalized--it's also possible to add a Zoom call to a Google Calendar event without needing the integration app, but with a bit more copying and pasting.

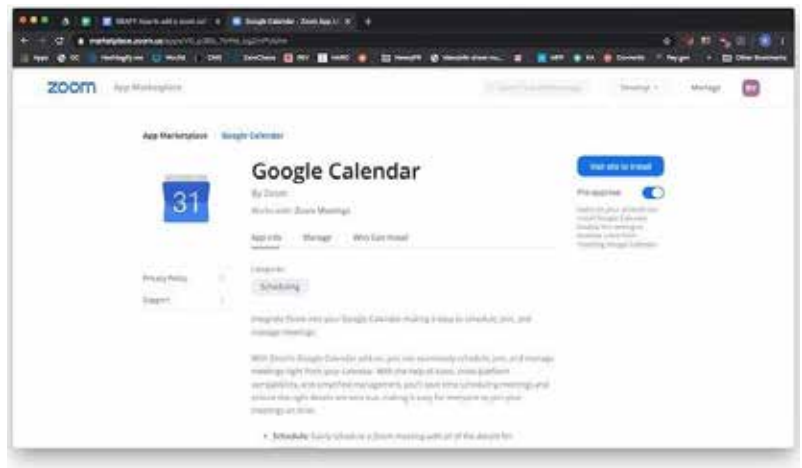## HOW TO ADD A ZOOM CALL TO A GOOGLE CALENDAR EVENT USING THE GOOGLE CALENDAR PLUGIN

If you click on the link above to the Zoom G Cal integration, it will take you to the link to install the app (**Figure A**).

Once there, log in to your Zoom account and make sure you toggle the Pre-Approve button on. Note: Users on a paid enterprise account may need to contact their Zoom admin to grant install permissions.

You may have noticed that the install button says Visit Site To Install. Click on this and you'll be taken to the G Suite Marketplace where you can install the Zoom For G Suite add-on (**Figure B**).

Figure A

When you click Install you'll be prompted to grant Zoom permission to access a lot of data (**Figure C**).

If you're at all unsure about Zoom's safety, now is the time to turn back—you'll still be able to add Zoom calls to Google Calendar events manually.

If you go ahead with the install of the Zoom For G Suite add-on, you won't get much notice that the installation is complete. The Install button will change to indicate it's already installed, but that's about it.

Once you've installed the add-on, open Google Calendar and look for the Zoom icon on the right side of the screen. If you click on the Zoom icon you'll see the add on interface shown in **Figure D**, though you'll have to log in to Zoom first to see the same view as is shown.
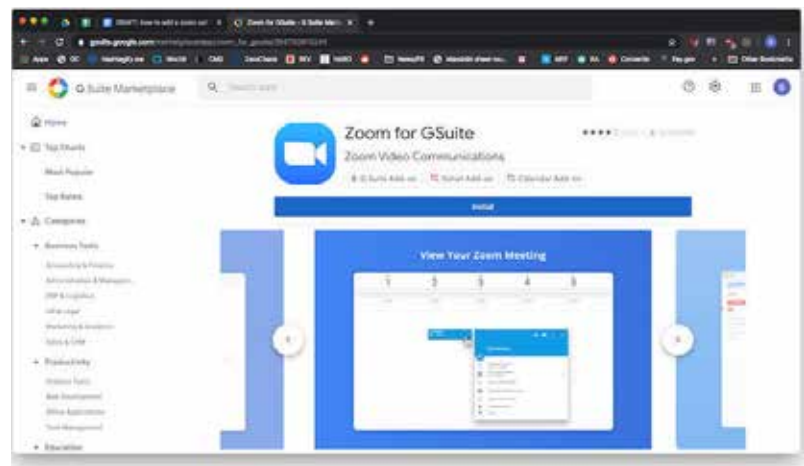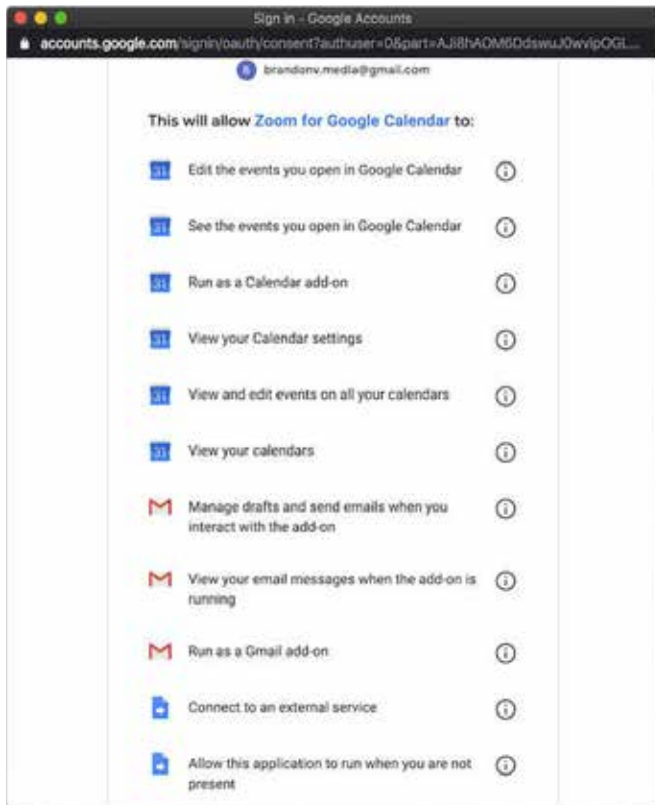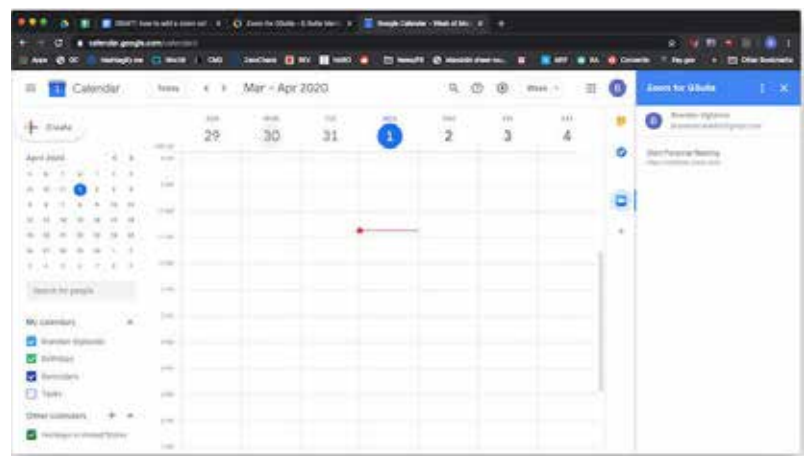
Figure B

Figure C

Figure D

Once you're signed in to Zoom through the add-on, create a new calendar event and look for the Add Conferencing field shown in **Figure E**.

Choose Zoom from the drop-down—if Zoom isn't showing then you don't have the add-on installed.

When you select Zoom a meeting will automatically be generated, based on the criteria you set in the Zoom add-on menu (**Figure F**).

The options you'd see if you were creating a meeting in Zoom are all available from that menu. Once you invite attendees, they'll be able to join the meeting directly from Google Calendar.

One of the nicer features of the add-on is that it automatically populates Zoom meetings scheduled in Google Calendar to the Zoom app, as shown in **Figure G**.

This works in both directions—if you have the add-on installed, any meetings you create in the Zoom app will be added to your Google Calendar as well.

If you want to add a Zoom call to a meeting that's already been scheduled just follow the same steps listed above.
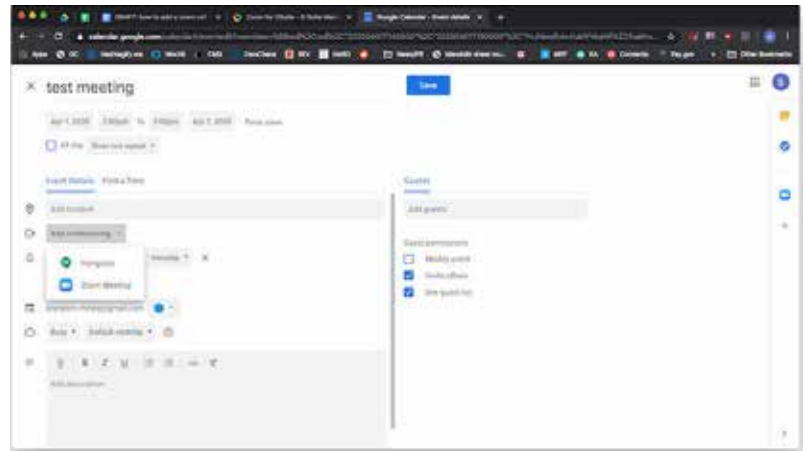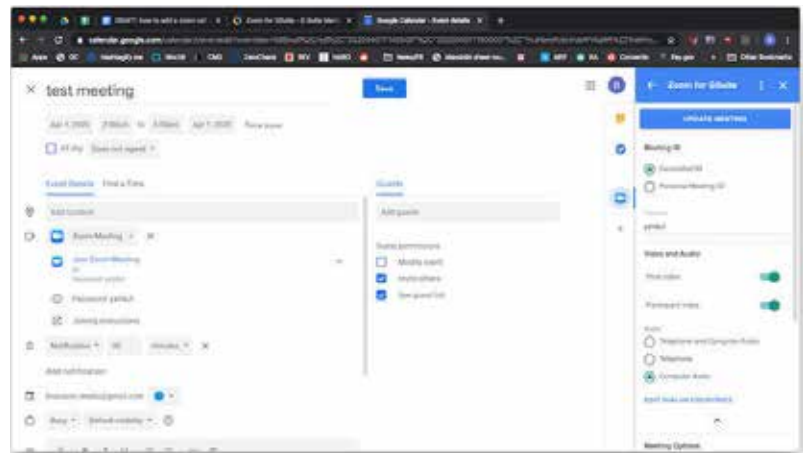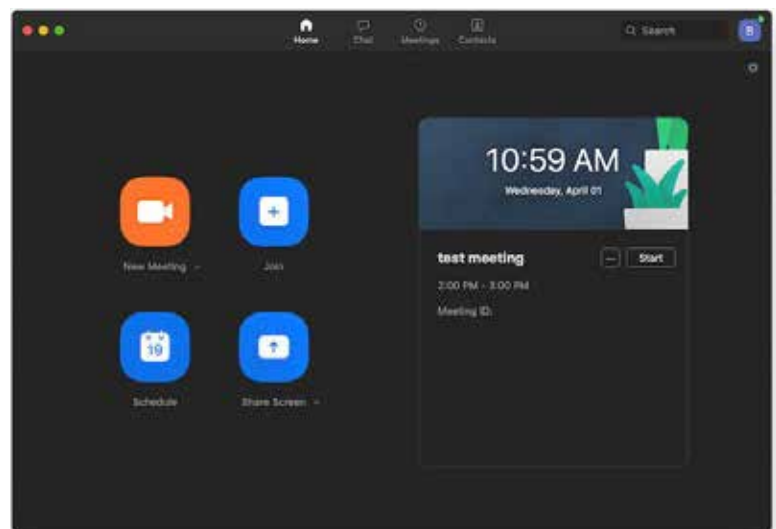
Figure E

Figure F

Figure G

ADDING ZOOM CALLS TO GOOGLE CALENDAR EVENTS WITHOUT THE G SUITE ADD-ON

As mentioned above, the add-on asks for a lot of permissions, so it's reasonable to not want to install it given recent headlines about Zoom security issues.

If you want to add a Zoom meeting to a Google Calendar event without the add-on it's still possible, but you'll be losing the automatic population of meetings between Google Calendar and Zoom, as well as the integrated start and join buttons accessible on Google Calendar.

To proceed without the add-on you'll need to have the Zoom app installed. Create a new Zoom meeting, and look for the Copy Invitation button on the Meetings screen in Zoom (**Figure H**).

Click the Copy Invitation button and you should see a notification saying the meeting information was copied to your clipboard.

Open up Google Calendar and either create a meeting or select the one you've already created but need to add Zoom info to. Paste the Zoom meeting information into the Notes field (**Figure I**), save the meeting, and be sure to notify attendees of the change--Google Calendar will do this for you, but you need to tell it to when you save the meeting.
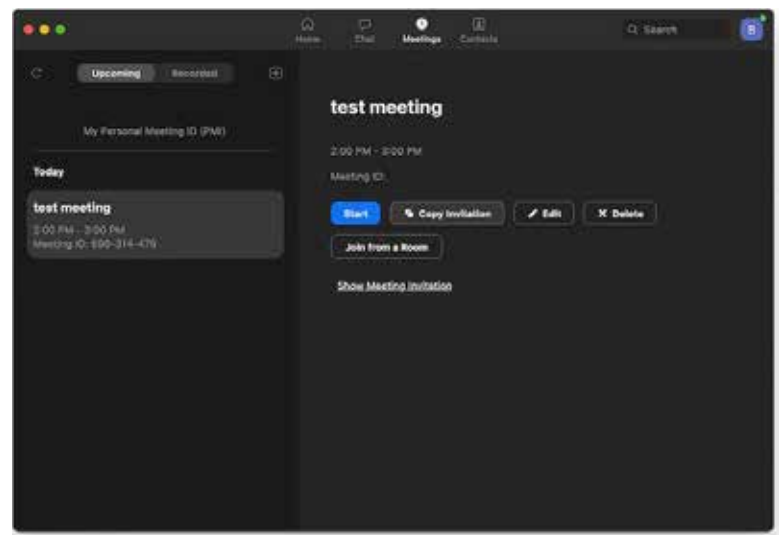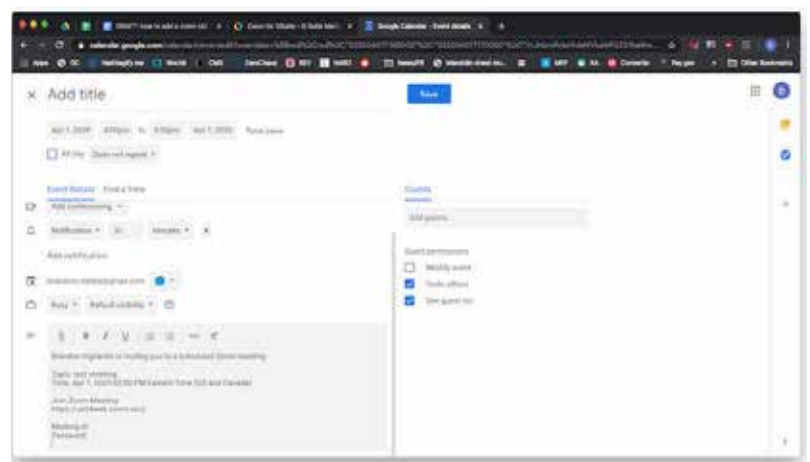
Figure H

Figure I

HOW TO GET STARTED WITH ZOOM'S APPS FOR IOS AND ANDROID

BY BRANDON VIGLIAROLO

Millions of Americans are now working from home due to the coronavirus outbreak and that means demand for video chat apps and other remote collaboration tools has skyrocketed. If your team is looking for ways to communicate face-to-face while maintaining social distancing, Zoom is just one of the tools you have at your disposal.

Newly remote workers may find themselves using Zoom for the first time and most will probably opt for the Zoom desktop client for Windows or macOS. But, what if your remote work situation still requires moving around, be it inside or out of the house? A desktop video conferencing app won't cut it.

That's where Zoom Cloud Meetings for iOS and Android come in. If you're not sure how to get started with Zoom for your mobile device, it's time to get up to speed.

MAKE SURE YOU DOWNLOAD THE ZOOM CLOUD MEETINGS APP

A search in the App Store or Google Play Store will reveal a lot of products called Zoom, and a lot of other products by the actual makers of Zoom as well. Downloading the wrong app--especially if your meeting is happening soon--can be frustrating.

The app you're looking for is called Zoom Cloud Meetings. Other Zoom apps are for integrations or conference room scheduling, which are useful for enterprise workers, but not necessarily those who just need to host or attend a Zoom meeting on their mobile device.

HOW TO HOST A NEW MEETING IN ZOOM FROM YOUR PHONE

Anyone with a free Zoom account can host a meeting. Meeting size limits are set to 100 users, including the host, for both free and paid accounts--unless you've paid for larger meeting capacity. For free Zoom accounts, meetings with two or more people will automatically end at the 40-minute mark.

After you install the Zoom app on your iOS or Android device, have an active Zoom account, and sign in to the app, you'll see the screen shown in **Figure A**.

From there, simply tap on New Meeting, then Start A Meeting, and you'll be in a new conference where you can access controls to share documents, invite other people, and do other things similar to what you can do in the desktop version of Zoom for macOS and Windows.

HOW TO JOIN A MEETING IN ZOOM FROM YOUR PHONE

If you've ever joined a meeting on the Zoom desktop app, you're familiar with how joining a meeting works: The host sends you a link via email, text, or in the Zoom app (if you have both shared Zoom contact details), you click the URL, and the Zoom app automatically joins the meeting.

It's the same on mobile devices: If you get an email to join a conference and have the Zoom mobile app installed, all you need to do is tap on the meeting URL and Zoom Cloud Meetings will launch, adding you to the meeting. If you don't have Zoom Cloud Meetings installed, you'll see the screen shown in **Figure B,** at which point you'll have to download and run the app--a Zoom account is not required to join meetings.
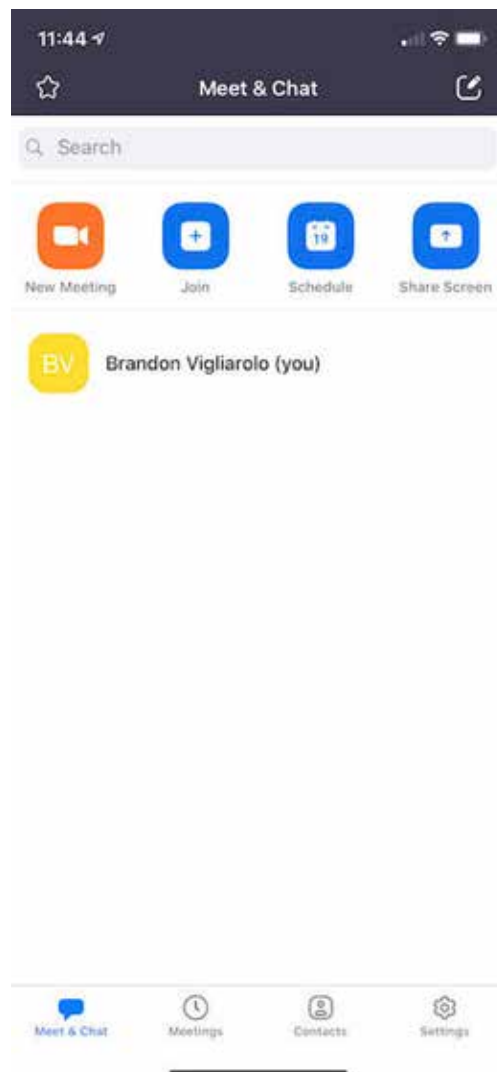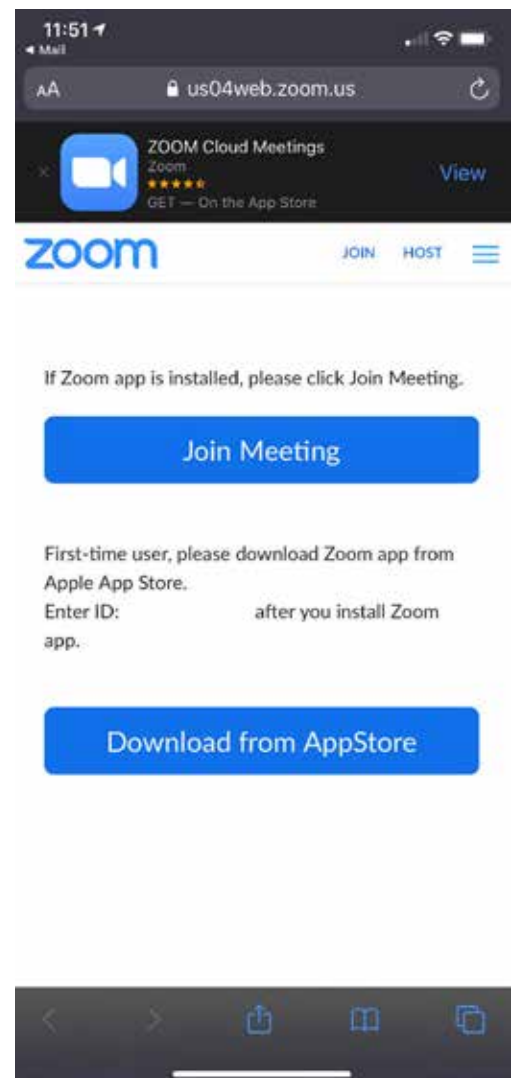
Figure A

Figure B

HOW TO USE VIRTUAL BACKGROUNDS IN ZOOM FROM YOUR PHONE

BY BRANDON VIGLIAROLO

One of the coolest features of Zoom's video conferencing app for desktops is its virtual backgrounds. With just a few clicks, you can replace the room behind you with whatever photo you choose. This feature is available in Zoom Cloud Meetings too, but with a caveat: It's only available on iOS.

Sorry, Android users--you're stuck displaying the room behind you since Android doesn't currently support virtual backgrounds in Zoom (it isn't known when, or if, the feature is coming).

iOS users can turn on virtual backgrounds in Zoom Cloud Meetings during a meeting by tapping on the More button at the bottom right of the menu bar, tapping on Virtual Background, and selecting which background to display (**Figure A**).

If you want to add photos for use as a background, like a nice outdoor space or a clean, uncluttered version of your home office, tap the plus button.

You can turn virtual backgrounds off again by tapping None, and you can check out this link to download Zoom Cloud Meetings for iOS.

Figure A
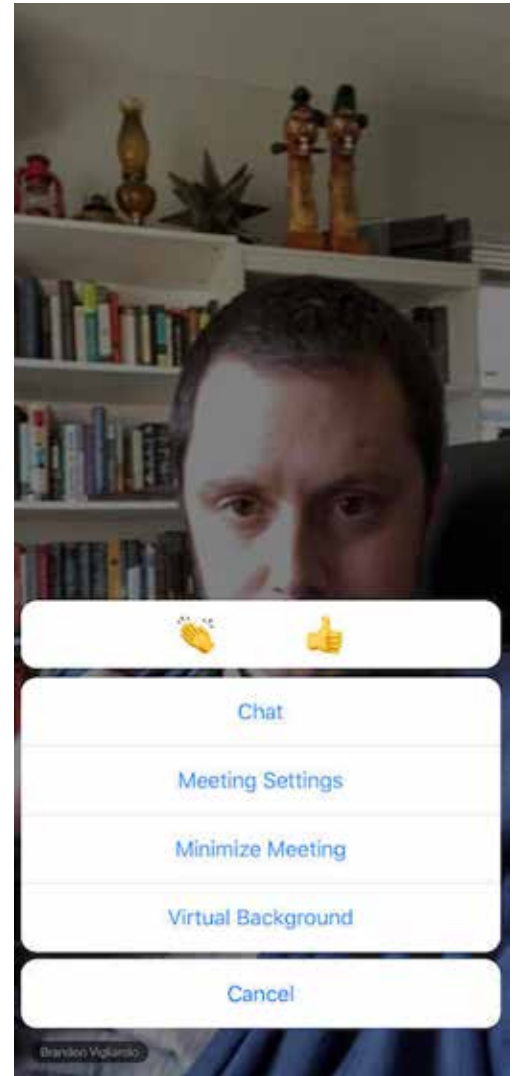
HOW TO SHARE CONTENT IN ZOOM FROM YOUR MOBILE DEVICE

BY BRANDON VIGLIAROLO

Like sharing documents onscreen with the Zoom desktop app, you can share content from your mobile device relatively easily, though the experience is different on a mobile device than on a desktop.

The process to share a document, a presentation, a video, or an image on your screen with Zoom Cloud Meetings also differs slightly between Android and iOS, but not in any functional ways: Some menu items are in different locations and granting permissions to Zoom in Android and iOS look a bit different, but the steps in this tutorial apply to both types of devices.

While in a Zoom meeting, you'll see the Share Content button in the middle of the bottom of the screen (**Figure A**).

If the menu isn't visible, tap anywhere on the screen to show it. Tapping on the Share Content button brings up the menu shown in **Figure B**, where you can choose what to share with other users.

The next steps vary based on what you want to share.

To share your screen, tap that option, and grant Zoom Cloud Meetings the permissions it requests. In iOS, be sure you select Zoom as the app you want to use--the window that opens is the generic iOS screen share/record menu and will display all apps capable of recording the screen or broadcasting (**Figure C**).

Figure A

Figure B
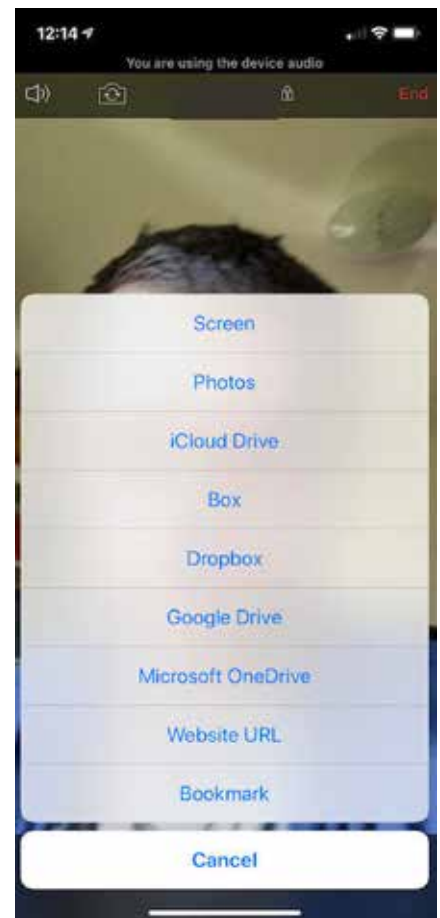
Android doesn't display this option--it just asks for permission to broadcast once other app permissions have been granted.

- Sharing a document on-screen from iCloud, Google Drive, OneDrive, or other cloud services requires you to link your account with that service to Zoom; as discussed in my desktop file sharing tutorial, this option isn't necessary. If you want to screen share a document stored in a cloud drive, have the document open in a separate window, do a standard screen share as described above, and then switch over to the app that displays the document you wish to show.

- To display documents stored locally on your mobile device, tap that option and follow the onscreen prompts.

- Web URL And Bookmark sharing allow users to input a URL to launch the site in a built-in Zoom browser--tapping that option will prompt you to type or copy/paste a link. Click Share, and the site should load in Zoom.

When sharing documents, your screen, or websites in Zoom Cloud Meetings, you can annotate, highlight, scribble, and otherwise mark up your screen by tapping on the pencil button on the lower left of the screen (**Figure D**).

If the button isn't visible, tap the screen to bring up the bottom menu bar, and the button should appear as long as you're the active screen sharer.

To end a share of any kind, look for the Stop Share button at the center of the bottom bar. Tap it and you'll be right back to the regular meeting screen.

Check out these links to download Zoom Cloud Meetings for iOS and Android.
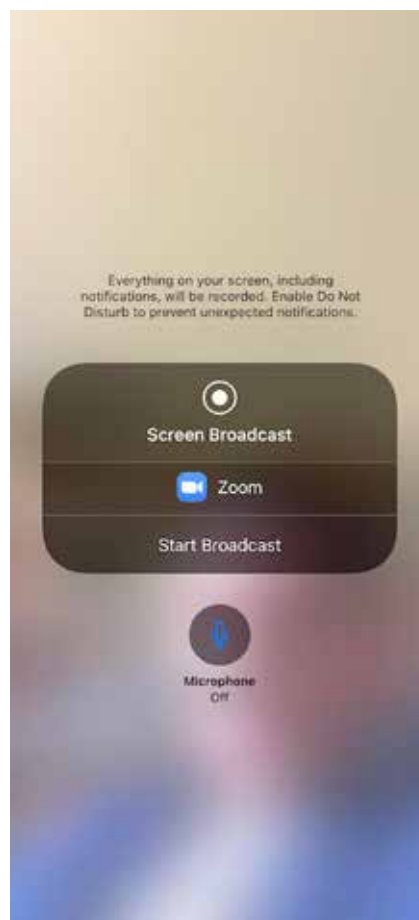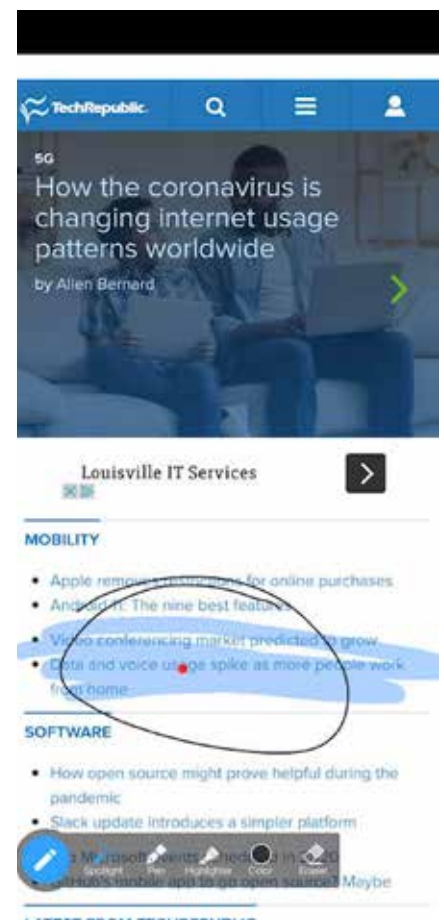
Figure C

Figure D

HOW TO RECORD A MEETING IN ZOOM FROM YOUR MOBILE DEVICE

BY BRANDON VIGLIAROLO

Video conferencing app Zoom can do a lot of different things to make meeting with people in different locations easy. One feature that comes free with the desktop app is the ability to record Zoom meetings and store them on your computer with the tap of a button.

Recording a meeting on Zoom's desktop app is simple once you're granted permission by the host, but recording a meeting from the iOS or Android versions of Zoom is a bit more complicated.

First off, if you're using Zoom with a free account, you can forget about recording the meeting in Zoom: Screen recording on iOS and Android is restricted to paid Zoom accounts. Zoom doesn't support making locally stored recordings on mobile devices and requires that the recordings are stored on the cloud, which is only available to paid users.

Only a meeting host can record on a mobile device, and permission can only be granted to a co-host, not attendees.

Premium Zoom users, go to Zoom's site to find out more about how to record your mobile device screen during a meeting.

Note: iOS 12 or later and the upcoming Android 11 have built-in screen recording capabilities that should suffice for mobile users to record their meetings. Be sure you have enough free space on your device to record a whole meeting--those files can get quite large.

HOW TO ALLOW ZOOM MEETING ATTENDEES TO JOIN WITHOUT INSTALLING THE APP

BY BRANDON VIGLIAROLO

The coronavirus pandemic is forcing people to work from home who have never done so before. Many newly sequestered workers are encountering technology they've never used before--like Zoom for virtual meetings.

Frustration can occur on both sides when someone doesn't understand how to use new technology, but in Zoom's case there's an easy way around having to teach someone how to use a completely new app: The Zoom web client.

Zoom's web client has many of the same features as the desktop app, but for users only needing to join meetings as participants it's particularly useful: All a meeting attendee has to do is click on the meeting invite link from the host and the web client will do the rest of the work.

For meeting hosts considering the web client for their attendees there's one sticking point: It's not enabled by default. Here's how to turn this time-saving option on.

Note: Increased demand on Zoom servers during the coronavirus pandemic means that phone dial-in functions may be limited--be sure your computer has a microphone and/or camera to use Zoom to its fullest. Also, this tip was written using the macOS desktop version of Zoom with a free user account, though Windows users should still be able to follow these same tips.

HOW TO ENABLE JOIN FROM YOUR BROWSER IN ZOOM MEETING INVITATIONS

Note: Enterprise Zoom users will need an administrator to enable this option for their account or their workgroup. Direct your administrator to this tutorial from Zoom to enable the option you need. This how-to is only for users who have free individual Zoom accounts.

If you want your meeting attendees to be able to use the Zoom web client, you'll have to start by logging in to your zoom account on Zoom's website.

Once you've logged in, you should see a screen similar to the one shown in **Figure A**. On the left side of the screen, look for Settings under Personal (the Admin options further down the page are for paid and enterprise accounts). Click on Settings.

On the Settings page click on In Meeting (Advanced) and scroll down until you see the screen displayed in **Figure B**. Look for the option labeled Show A "Join From Your Browser" Link and click the toggle switch to the right of it. After that you should be all set.

When a meeting attendee clicks on your invitation link to join a meeting they'll see the screen shown in **Figure C**, which gives them the option to download and install Zoom or Start From Your Browser. Tell your attendees to select the latter option, install the plugin, and follow the on-screen instructions.

There are fewer options, buttons, and clicks required to join a meeting using the web client, so hopefully it will eliminate some of the confusion that comes with using Zoom for the first time.
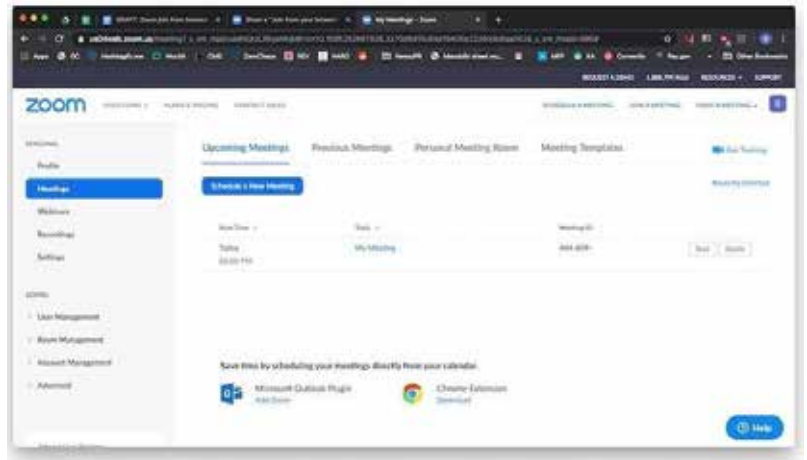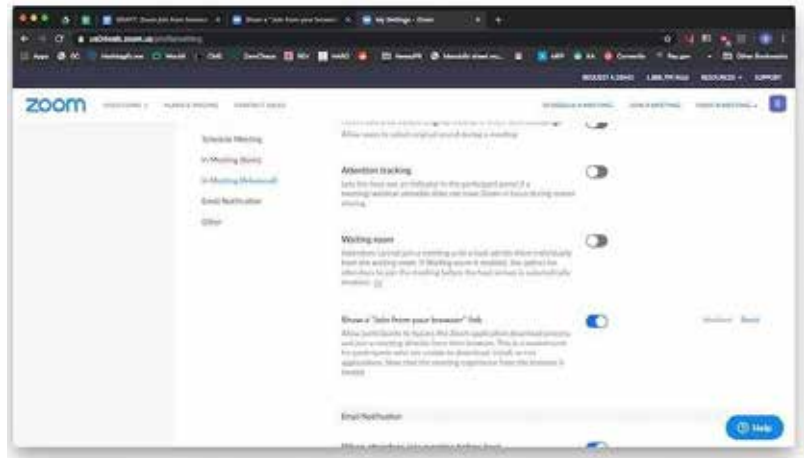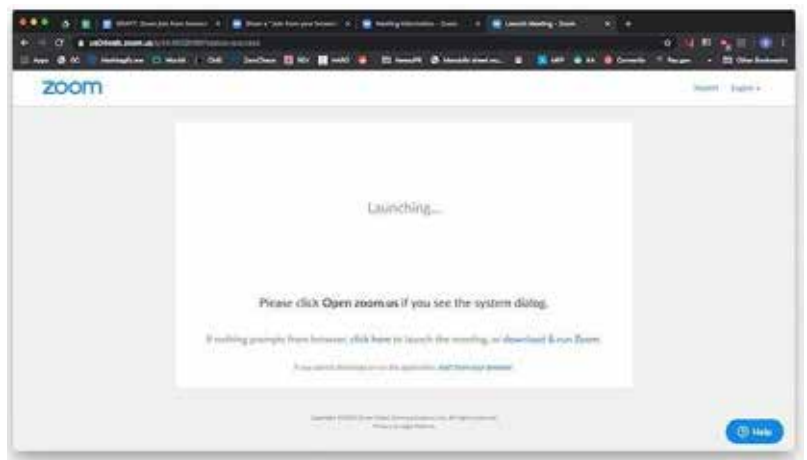
Figure A

Figure B

Figure C

HOW TO TRANSFER FILES DURING A ZOOM MEETING

BY BRANDON VIGLIAROLO

In an in-person meeting, you can share a document by simply passing out photocopies. Online meetings, like those performed through Zoom, can make it a bit tricker to share documents and files.

Luckily, there's an easy way to share documents with Zoom meeting participants, whether they're in your organization or outside of it--it's even easier than sharing your screen.

Note: Increased demand on Zoom servers during the COVID-19 outbreak means that phone dial-in functions may be limited--be sure your computer has a microphone and/or camera to use Zoom to its fullest. Also, this tip was written using the macOS desktop version of Zoom with a free user account, though Windows users should still be able to follow these same tips.

While in a Zoom meeting, look for the Chat button on the bottom bar. Click on it, and the screen should shift to add a chat window to the right side of your video screen. Look at the bottom right of the chat window for the File button. Click on it, and you'll be able to add a file from a cloud service like Google Drive or Dropbox, or share a locally-stored file (**Figure A**).

Figure A

Once you navigate to the file you wish to share, click on it, follow the onscreen prompts to share it, and the document should appear in the chat window like any other typed message. Other attendees can click the link to download the file or open it in a browser window (for files stored in the cloud).

HOW TO SHARE DOCUMENTS ONSCREEN IN A ZOOM MEETING

BY BRANDON VIGLIAROLO

Any collaboration tool worth its rack space has screen sharing capabilities, and Zoom is no different. This essential part of online meetings is easy to use--if you know how to do it.

Whether you want to share a document, a presentation, a video, or an image, Zoom has the capabilities to do it, but don't get stuck making the process more complicated than it has to be--follow the steps in this tutorial.

Note: Increased demand on Zoom servers during the COVID-19 outbreak means that phone dial-in functions may be limited--be sure your computer has a microphone and/or camera to use Zoom to its fullest. Also, this tip was written using the macOS desktop version of Zoom with a free user account, though Windows users should still be able to follow these same tips.

There are a few hurdles to jump through before sharing documents onscreen during a meeting, and there are two ways to go about it. First, there's the easy method of simply having the document open before starting a meeting and then doing a screen share.

To start, open the document you want to share onscreen during a meeting. With Zoom open and a meeting started, look for the Share Screen button on the bottom bar. When you click on it, you'll see the window shown in **Figure A**.

On the Basic Sharing tab, which will open by default, find the window you want to share, click on it, follow any onscreen prompts asking you to grant Zoom permission, and voila-- you'll see a sharing screen like that in **Figure B**.

Figure A
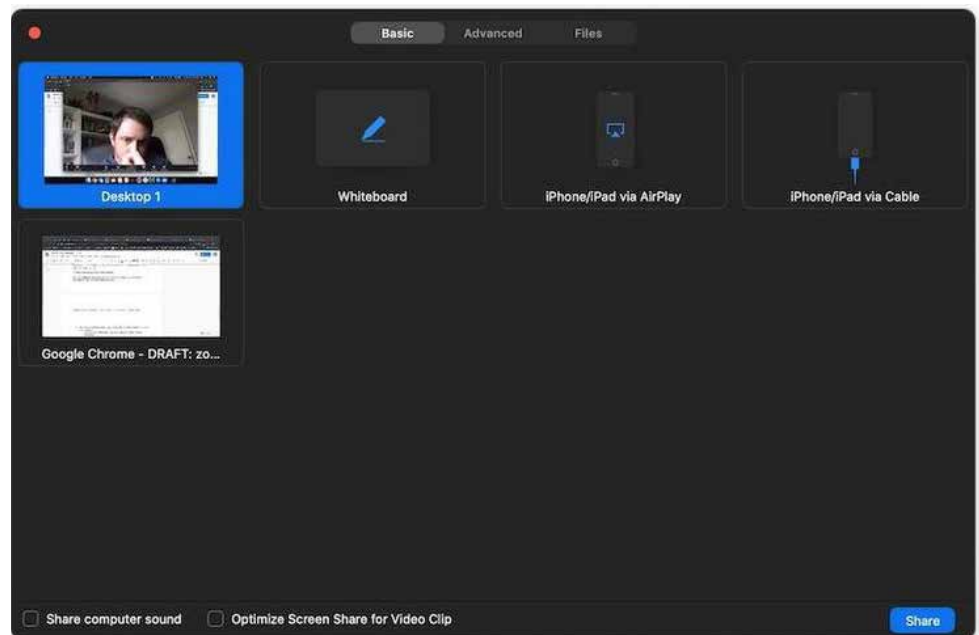
The other way of sharing a document onscreen in a Zoom meeting is in the Files tab of the screen sharing window and is restricted to documents stored in a cloud provider (**Figure C**).

This entails linking your cloud account to Zoom, which will allow you to navigate through a Zoom-hosted version of your cloud drive and choose a document to share. When you select the one you want, Zoom will automatically open the document in a new tab and begin a screen share.

Note: The latter option isn't necessary, and only adds steps that can be avoided by doing a basic screen share on a document that is already open.
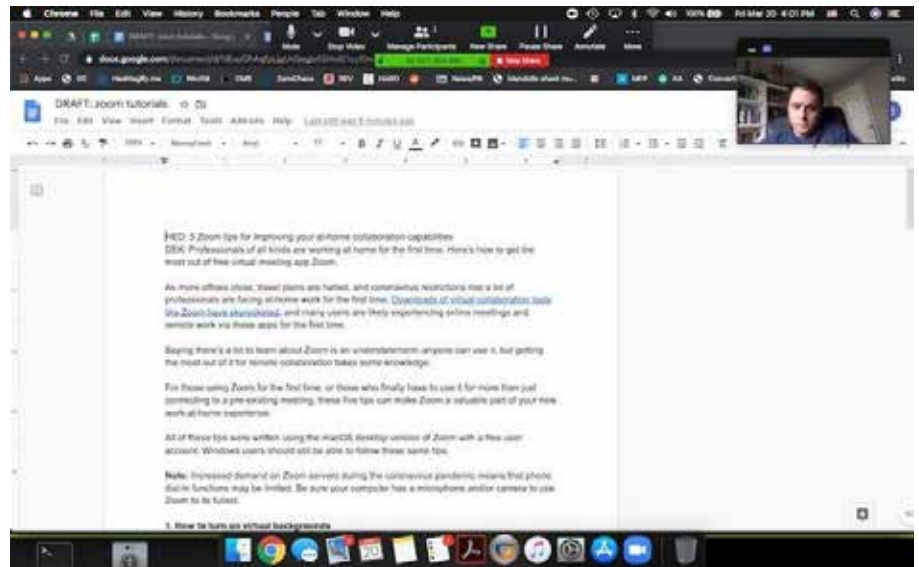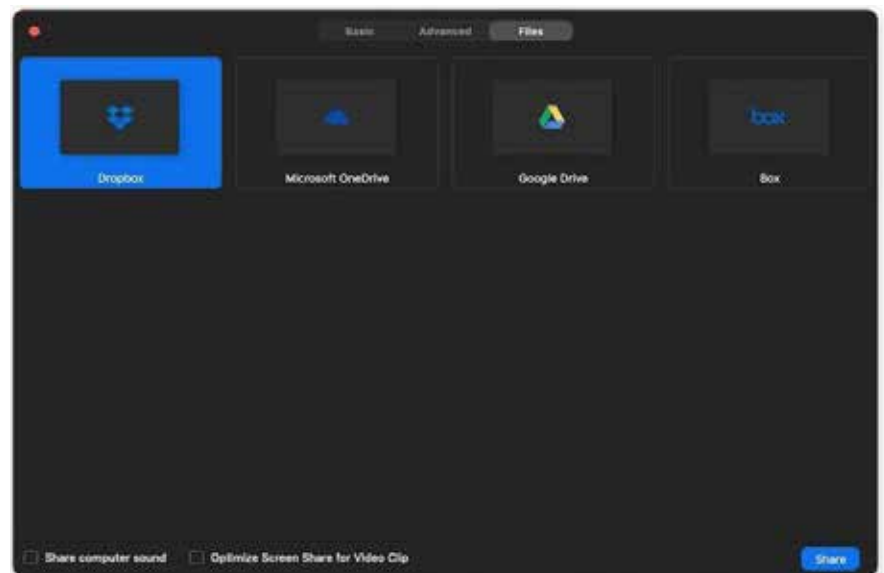
Figure B

Figure C

3 TIPS FOR LIGHTING A ZOOM MEETING ON A BUDGET

BY JACK WALLEN/TECHREPUBLIC CONTRIBUTOR

Due to the coronavirus pandemic, you may find yourself working from home now. In most situations, there's no way around it and throughout the day, you're probably having to deal with various sorts of meetings—either on the phone or via teleconferencing. And those teleconference meetings can be nothing more than two IT admins trying to solve a problem, or a corporate meeting, where appearances mean more than you might imagine.

For those meetings, you're probably using Zoom, even with its current insecurities. When you have to turn that camera on you for those corporate or public meetings, you should at least attempt to make yourself look as good as possible.

I'm not talking about makeup and hair (although that wouldn't hurt)--I'm talking about lighting.

Lately, I've had to sit through enough Zoom meetings where people sat in front of their cameras or phones, in poorly lit rooms, and went about the meeting as though everything was perfect. No matter how important their words were, they were, at times, hard to watch. Too much light washing out their faces, or too little light to cast everything in shadows.

How do you fix that? Believe it or not, it's not that hard.

Let me give you a few tips.

CHOOSE THE RIGHT HARDWARE

First off, you must be using a good camera for these videos. Generally speaking, your Android or iOS device has a camera that is plenty capable of handling the demands of a Zoom meeting. However, if you're using your smartphone, make sure to have that device connected to Wi-Fi as you do not want to attempt to participate in a teleconference meeting over your carrier signal.

The one thing about Zoom meetings is that, unlike that of Google Duo, the Zoom app doesn't have a low light mode. Because of this, you need to be in a room with plenty of lighting, be it natural or artificial. Another thing you should consider is using your front-facing camera, instead of your rear facing camera. You won't be able to see what's going on, so unless you have the ability to plug your mobile device into an external monitor, you might need to strategically place a mirror behind your phone so you can see everyone.

Why would you opt for your front-facing camera? Because that camera is, generally speaking, far superior to the rear-facing hardware, so it's going to have an easier time with the video aspect of your meeting.

If you find your camera isn't cutting it, you can always opt to go with a webcam. But which one? There are so many. There is one available that includes a built-in ring light that does a very good job of adding just enough lighting to your face to make it rise above the top. That camera is the Razer Kiyo (**Figure A**).

The Kiyo specs and features are pretty decent:

- **Video resolution:** 1920 x 1080
- **Video modes:** 480p, 720p, 1080p, 360/30p
- **Still image capture resolution:** 2688 x 1520
- **Frame rate:** 60 fps
- **Connectivity:** Wired
- **Compatibility:** PC
- **Digital video format:** MJPEG, H.264, YUV2
- High Definition
- Dimmable light
- Autofocus

Figure A

My Razer Kiyo has worked like a champ.

I have my Kiyo running seamlessly with Pop!_OS Linux. Surprisingly enough, I have yet to get the camera to work with macOS. So unless you're running Windows or Linux, you'll want to find another option. If you do search for another camera, try and find one with built-in lighting.

You might have a bit of trouble finding the Kiyo at the moment (it's currently sold out on Amazon), so look on as many online retail sites as you can.

USE EXTERNAL LIGHTS

If a third-party camera is either not available or out of your budget, all is not lost; you can still use that laptop or phone camera by supplementing the lighting. Under normal circumstances, this is a tricky bit of business. Why? Coloration. You don't want to throw in lights with varying color temperatures into the mix.

Normally.

However, these are strange and (sometimes) desperate times, so light temperature shouldn't be a concern. Even so, the first type of light you should grab is an LED. Why? Two reasons. First, they generally produce a much more video-friendly color temperature. But more important is that they don't put off much heat. The last thing you want to do is slap an incandescent bulb in front of you, which will warm up the area and cause you to sweat.

As to fluorescent (or CF) bulbs, their coloration tends to cast people in a very unflattering light. So grab any kind of LED you can. And if you have it, make it a 5-6K daylight bulb. If you opt to go the 3K soft or warm light glow, the light will cast too much amber on you. You want as white a light as you can get.

You'll want three lights, preferably identical. Place one light directly in front of you, one at around 45-degrees to the left and one 45-degrees to the right (**Figure B**).

If at all possible, make sure the lights point down from above, not directly at you, because they can be too harsh, or from below, because they'll create sinister and unflattering shadows. Make sure to place all lights behind your camera-- otherwise they can bleed too much light into the lens.

If you have the budget for it, a ring light is a perfect solution. Not only will it generate plenty of light, it'll give your eyes that flattering circle of light to make them pop. I use the Neewer Ring Light for all of my videos. It includes the ability to mount a phone instead of a regular camera, so your Zoom meetings would be fantastically served with this light.

Figure B

IMAGE: TECHREPUBLIC/JACK WALLEN
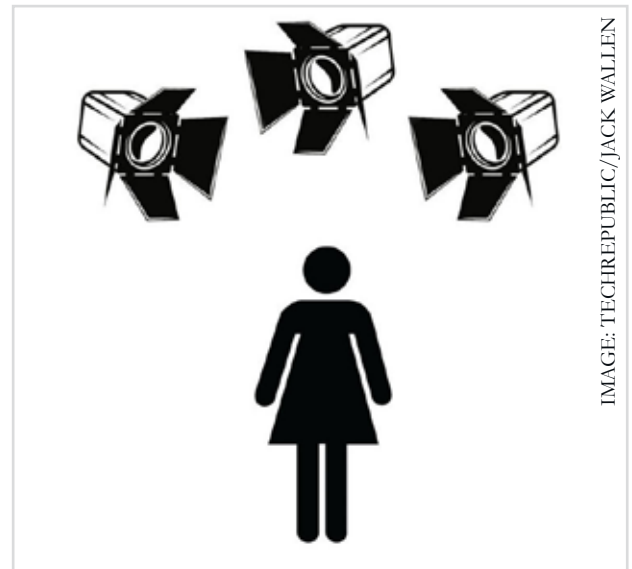
A fairly traditional lighting setup.

USE NATURAL LIGHTING

If you don't have access to spare LED lights and lighting fixtures, you can always count on Mother Nature. Find a room in your house that allows as much natural lighting in as possible. If you don't have such a room, maybe you can take your end of the meeting outdoors. If you live in an area that is relatively peaceful, this is always an option. Just make sure to not place anything in the background of the video that could give away your location. If you're creative enough, you can make an outdoor meeting look quite professional, and the added bonus of all that natural lighting should make you look quite good.

It doesn't take too much work to get quality lighting for your Zoom meetings. Experiment with different rooms in your house, different types of lights, and settings on whatever camera you use. With just a bit of effort your Zoom meetings will look as if a pro lit them.

HOW TO CREATE A CUSTOM ZOOM VIRTUAL BACKGROUND

**BY BRANDON VIGLIAROLO/TECHREPUBLIC CONTRIBUTOR**

Zoom's virtual backgrounds are one of the features that make it a stand-out choice for professionals working and meeting remotely. There's no green screen required and all it takes is a few clicks or taps to hide a messy room from coworkers, friends, and family.

The default Zoom background options are limited, though: Depending on which Zoom app you're using, you can only hide the room behind you with the Golden Gate Bridge, some blades of grass, or a shot of Earth from outer space (**Figure A**).

Creating your own Zoom virtual background is, at first glance, simple: Click the plus sign next to the default image options and you can add any image you want. That doesn't mean your custom image will look good, though.

Note: Virtual backgrounds are supported on Windows, macOS, and iOS machines that meet the minimum requirements, though machines that don't meet those requirements can still use virtual backgrounds with varying result quality. Android devices do not currently support virtual backgrounds in Zoom.

Figure A
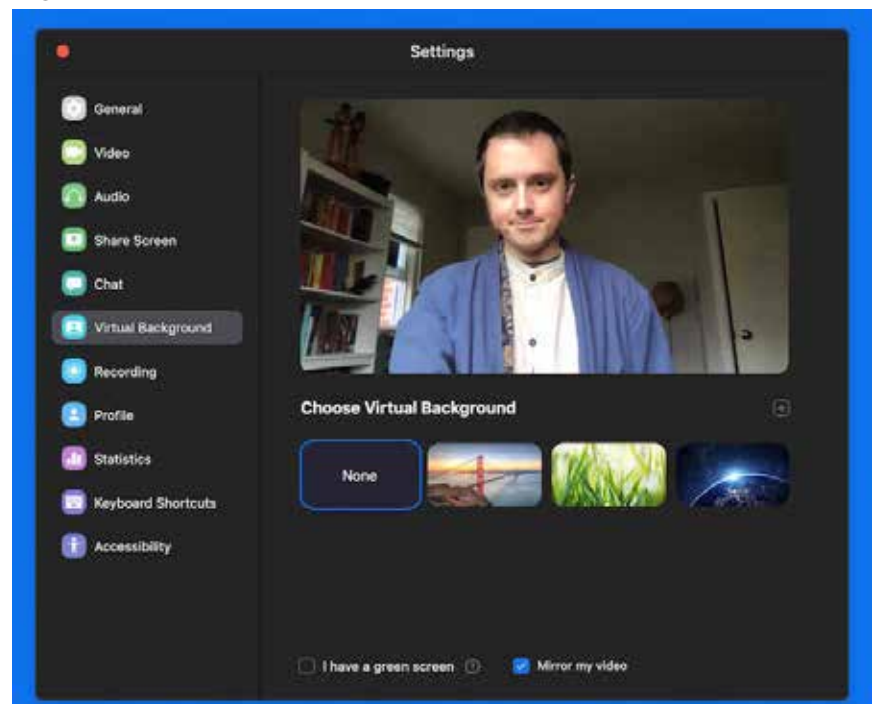
HOW TO DETERMINE THE SIZE AND SHAPE OF YOUR CUSTOM ZOOM BACKGROUND

First, if you're not sure how to use Zoom virtual backgrounds you can learn how to do so with these TechRepublic tutorials for Zoom desktop virtual backgrounds and iOS virtual backgrounds. The rest of this tutorial assumes you are familiar with turning virtual backgrounds on and off.

Zoom doesn't actually restrict the image size or dimensions usable as virtual backgrounds, so any image will work. If the image you want to use doesn't match the aspect ratio of your camera, however, portions of it will be cut off, as in **Figure B**.

Each of the color bars in the 1280 x 1024 image I set as my virtual background should be the same width, but they're cut off at the edges because Zoom automatically centers images.

To make your images fit properly, and look good, you need two things:

Figure B

1. An image that matches the aspect ratio of your webcam.
2. An image of high enough quality that it doesn't look fuzzy when blown up in Zoom.

To find the aspect ratio of your webcam in macOS, click on the Apple icon | About This Mac | Support | Specifications. A web page will open with your system specs where you can look for info about your webcam.

In Windows 10, open the Camera app, then the Settings menu. Here you can verify and change your camera settings.

Most built-in webcams in modern laptops are either 720p or 1080p, which means they have a 16:9 aspect ratio. 16:9 images include those of 1280 x 720 pixels and 1920 x 1080 pixels. Some webcams have (or can be set to) a 4:3 aspect ratio, which includes images of 1024 x 768 pixels and 1280 x 1024 pixels.

FINDING THE RIGHT CUSTOM ZOOM VIRTUAL BACKGROUND

Once you know the aspect ratio of your camera, it's time to find an image and this is where you can get inventive.

The key to picking the right image for use as a virtual background is important. It it's too dark it may be hard to see; if it's too bright or busy, it will distract from the call.

TechRepublic contributor Andy Wolber said he has had great results with a blank blue background with his Twitter handle on it—It's minimal, not distracting, and provides essential information for those who want to contact him outside of Zoom.

Most people have a mobile device filled with photos and any of them can work as well. Just know that your mobile phone may not have the same aspect ratio as your webcam, so you may end up with images that get cut off, especially if they weren't taken in landscape mode.

Lastly, there are stock photos and other images available freely online. When choosing an image from the internet, it's important to make sure you have the rights to use it, so make sure the image source specifically says it doesn't require licensing or attribution.

Stock photo sites like Pexels offer professional stock photos completely free of restrictions, but images found through a web search or on social media may require getting permission.

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