# Security of Online Classes
## A few tips to Parents and Teachers

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**Introduction:** The proliferation of the digital gadgets and the Internet has popularized audio and video meetings and also virtual classrooms. Such virtual classrooms have helped students to meet their teacher online. However, by exploiting the inherent vulnerabilities of the various apps or platforms used for virtual classrooms, intruders and hackers quite often find ways to get into the online sessions and take control of the presentations and chat. And thus, they pose enough online security threats to institutions, teachers, students and also parents. Here are a few tips for achieving better cyber security during online learning.

**Institutional control:** All academic institutions are expected to instruct the teachers to follow the following steps to give some addition protection to each of their online classrooms

1. Use an ID that is specific to each meeting instead of your personal meeting ID
2. Make the entry of each prospective attendee restricted through password.
3. Use a new password for each session.
4. Select the "Waiting Room" feature. This allows you to select who can join the session.
5. Disable the option that lets users join the class before you (the host) joined.
6. Disable screen sharing among users who are non-hosts.
7. Unless necessary, disable the remote control function, file transferring, autosave chat feature, and annotations.
8. As soon as the meeting starts, lock it from outsiders.

**Parental Controls:** All parents are expected to setup the following three-levels of parental controls.

1. Device-level controls
2. Application-level controls:
3. Network-level controls

# 1. Device-level Controls

Device-level parental-controls are available as part of the "Privacy/Parental controls" icon on devices such as laptops, and mobile phones. Such controls, if set properly and effectively, will restrict most extra-curricular WebPages from appearing on the screen of the device regardless of how and where the device is connected to the internet.

It is well-known that each device runs with the help of a specific Operating System (OS). For example, a computer runs with the help of either Windows 10 OS or Mac OS while a mobile phone or a Digital tablet runs with the help of iOS or Android OS.

Also, some devices can host multiple OSs. For example, a computer can host both Windows 10 OS and Linux OS at a time and such a computer can be booted with either of the two OSs present in it.

Because of the differences in the basic architectures of these OSs that run on these devices, the device-level controls too are different for different devices. Even then, generally, most OSs allow you to control your child from accessing adult or entertainment sites on the laptop or desktop and even regulate the time they use these devices. Also, such parental-controls enable you to keep a track on what your child has been browsing, the usage time, what he / she has been downloading etc.

In order to introduce such parental-controls on your home computers, you need to first set an administrative account for your own use and then, set a user account for your each child. Finally, depending on the mandatory educational and other requirements of your child, you can set the following different parental control features (which, obviously, can vary with the OSs)

a)  Features to enable controlled-access of the device

b)  Features to set time-restrictions for your child to use the computer each day

c)  Features to regulate or control use of the various apps installed on it.

d)  Features to restrict installation and use of games on your device

The following general advices will guide you on the different ways to set parental-controls on various devices.

**Laptop / Desktop running on Windows 10:** For setting the 4 features mentioned above, you are advised to generally follow the following procedure.

- Click on the start button
- Click on settings
- Click on the account option on the setting window
- Select family and other users and add a family member.
- Select add a child from the dialogue box and create an account with an email id to control and view this account remotely.
- Accept the invitation sent to the email ID and come back to the settings
- Choose manage family settings online and select the setting you would like to enable for your child.

To know more about the specific ways of setting these 4 features in windows 10 PC, parents are advised to watch the various videos online. In order to get quick access to such videos, parents can Google with the keyword "Enabling secured access and parental controls on Windows 10".

More details are available at https://www.youtube.com/watch?v=GLLjrl607Ls

**Laptop / Desktop running on Windows 7:** For setting the 4 features mentioned above, you are advised to generally follow the following procedure.

- Click the start button
- Click on User Accounts and Family Safety
- Create a new user account for your child
- Select the parental controls and set it on
- Select the 'Time Limits'

- Scroll down and select the different content and programs you wish to block.

More details are available at https://www.youtube.com/watch?v=ietew4qp6Y8

**Laptop / Desktop running on Mac OS X:** For setting the 4 features mentioned above, you are advised to generally follow the following procedure.

- Choose the apple menu and select the system preferences
- On the system preference window select the Parental control
- Create a new account with parental control
- From the different tabs specify the apps, websites, store, Time & privacy settings as desired.

More details are available at https://www.youtube.com/watch?v=8fUKiWYbmig

**Smart phone with iOS:** For setting parental controls and also for restricting your child from using "unnecessary" features and applications, you are advised to generally follow the following procedure.This procedure shall help you to block your child's access on iTunes, on pages with adult content and also block your child from in-app purchasing. In addition, you can also limit your child's access to the camera and restrict him / her from sharing of photos.
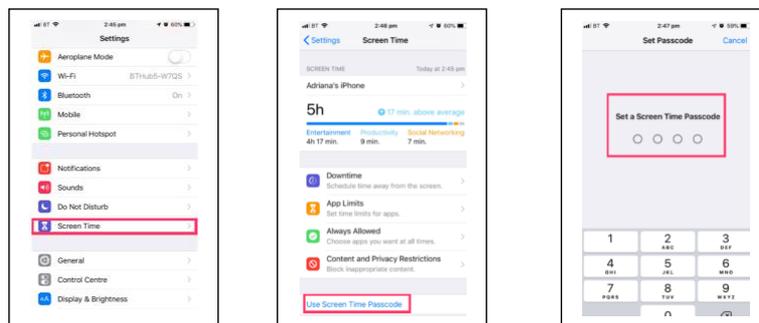


- Go to settings and select screen timing
- Decide your choice regarding
    - ⇒ Screentime ,
    - ⇒ Apps limits,
    - ⇒ Allow Apps,
    - ⇒ Content and privacy restrictions (Location, contacts, Web contents, Siri, Gaming centre etc),
    - ⇒ In App purchases, games

**Smart phones with Android OS:** The "Family Lynk" app from Google can enable you to stay in the loop while your child explores or uses their Android device for educational or learning, and can also let you to set certain digital ground-rules for your child.Through "Family Lynk", you can manage some of your child's account settings on a web browser. Other features, like setting screen time limits, require that you have the "Family Lynk" app on Android or iPhone. For achieving all these, you may follow the following procedure.

- Download Google Family Lynk App onto your own device

- Download the Family Lynk app on the phone / tablet of your child and then, complete the process of linking the accounts.

- Create a Google Account for your child under 13.

- Once complete, the child can sign-in to their device with their new account.You can do things like manage their child's Chromebook and account settings, and set website restrictions.

Once the accounts are linked, parents can use the Family Lynk to keep an eye on screen time.

More details are available at [https://www.youtube.com/watch?v=7b-0gbQWOmc](https://www.youtube.com/watch?v=7b-0gbQWOmc)

# 2. Application-level Controls

Application-level parental-controls are available as part of the "Privacy/Parental controls" icon of most apps. The parental-control features provided by WhatsApp or YouTube are examples of such Application-level controls. It is well-known that many standard apps provide parental control features. The following general advices will guide you on the different ways to set parental-controls on the various apps.

**Google Play store:** Android smartphones offer parental control feature for restricting downloads from the Play Store. However,this feature is provided in the Play Store (and not on the Android smart phone). The following procedure can allow you to set the maturity level of apps and set a PIN code for purchases.

- Open the Google Play Store on your android mobile / tablet.

- Navigate to the Settings menu, scroll down and click on the Parental Controls option.

- Hit the toggle where it says "Parental controls are off" to turn them on.

- Input a PIN code. (Note that this PIN is for parent (and not for child) and so, device a PIN that the childcannot assume or break.

- Enter the PIN a second time to confirm your selection.

- Change the text in the menu to "Parental controls are on".

Once this is set, you can prevent the child from watching movies on Google Movies, download apps from the Play Store etc. during online classes and without your permission.

**YouTube:** There are two ways to block adult content from children.

a. The first way to block adult content from children is by creating a YouTube Kids account. (Kindly note that this will work only in mobile devices with Android or iOS.) In order to achieve this, first install the YouTube Kids app on the child's Android or iOS device. The YouTube Kids app on your child's mobile device allows you to decide what content to make available for him/her to watch, set a timer to control screen time, block videos or channels, and more. Then, choose settings:

- Content level: Choose the content level that's right for your child
- Search: Turn Search on or off
- Unblock videos: Unblock all videos and channels that have been blocked in your child's YouTube Kids app

b. The second way to block adult content from children is by creating a YouTube account or by giving your existing YouTube account on shared basis by turning on the restricted mode. Restricted Mode is an opt-in setting that helps screen out explicit and adult content to protect children when they use YouTube. It also screens out comments on all videos your child watches.

In order to enable restricted mode on your desktop or Laptop, follow these steps to set up in YouTube.

- Open the YouTube app on the mobile device or website and sign in to your account.
- Once logged in, look for the account icon.
- Select Settings and tap General.
- Turn Restricted mode on.

Click the restricted use mode and save your settings. That way, you keep your child from reverting the privacy settings that you set.

Alternatively, you can do the following
- Open up the YouTube app on your smartphone.
- Select your account icon to open the drop down menu and select 'Settings'.
- Select 'General'
- And turn the restricted mode switch to 'on'.

**Live location:** To disable live location on mobile devices, you Go to your device Settings, Then, tap Location, then turn-off location or select the Apps for which you would like to turn off the location.

**WhatsApp:** Whatsapp privides a few security features. They are briefly given below

Whatsapp allows you to restrict people from watching your "last seen" information, your profile photo and/or your status by giving you three options: Everyone, My Contacts and Nobody. This can be achieved as follows.

Go to Settings on WhatsApp.

- Tap Account
- Then, tap Privacy
- Then, tap your selected option
- Then, choose from either option: 'Everyone', 'My Contacts' or 'Nobody'.

In addition, Whatsapp allows you to disable automatic photo or video downloads. If you do not set it, WhatsApp will automatically download all the photos and videos (including unwanted photos and videos) received from all (including unwanted people) automatically

and saved to your camera roll. To disable this, first go to WhatsApp Setting, then tap Chat, then, to Save to Camera Roll, slide to toggle off, and finally, if prompted, tap DONE or tap OK.

Whatsapp allows you to set 2-step verification also. By setting 2-step verification, you can make your whatsapp account slightly more secured. To set this,

- Go to WhatsApp Setting
- Then, select Accounts
- Then, select Two-step Verification
- Then, set a 6-digit PIN (Once set, you will have to remember this because whatsapp will periodically ask you to enter this PIN.)
- Then, give your email address. (In future, Whatsapp can use this email address to share with you a new PIN in case you have forgotten the existing PIN.)

**Browsers:** Commonly used browsers also allow you to set Parental Control  for safer search.

**Google browser:** Safe Search for Google can be easily turned on for a single use, but for it to stay on you will need to lock SafeSearch. In order to do this, follow the following steps.

- While on your browser go to google.co.in, click the 'Settings' tab
- Click on 'Search Settings'
- Find the "SafeSearch Filters" section and check the 'Filter explicit results' box, then click on 'Lock SafeSearch'.
- Finally, to confirm, click the "Lock SafeSearch" button.
- You will need to do this on each browser that you use or if you have multiple Google Accounts.

**FireFox browser:** The parental control for Firefox web browser can be turned on for enabling safe browsing. This feature can be turned off only through your password-protected parental settings on your operating system, so your child will not be able to deactivate this feature through the browser.

To turn on parental controls on your computer,

- Go to the official Mozilla site, highlight the "Add-Ons" button and select the "Firefox Add-ons" option.
- Perform a search for security add-ons by typing "Parental Control" in the Mozilla search box. A list of available parental control add-ons, such as FoxFilter, ProCon Latte, Suricate and Kid Mode, will appear on the page.
- Review the functionality of each available add-on and select your preferred option by clicking on the "Add to Firefox" button. Depending on the add-on you choose, you may need purchase the add-on and register for an account.
- Click on the "Install Now" button to begin the installation process. After installing the add-on, you will be prompted to restart Firefox to complete the installation process.
- Edit the Internet filter and security features for your new parental control. To edit the add-on features, click on the "Tools" tab and select the "Add-ons" option. After the "Add-ons" window appears on your screen, click on the "Options" button and enable your new parental controls.

Apart from the above app, several apps exist which, when installed on your mobile device or on your laptop, can provide better parental control. However, some of such apps have inherent vulnerabilities which hackers often try to misuse or abuse. So, institutions, teachers and parents are advised to take expert-opinion on the vulnerabilities of such apps before imposing them on children.

# 3. Network level controls:

Network-level parental-controls are available as part of the "Privacy/Parental controls" of the hub or router which is installed at home to access the Internet. If set properly, such controls will automatically apply to all the devices which are connected to that hub or router (covering your whole household).

As you know, the entire Internet traffic of your home network flows through the DSL modem (or the router) installed at your home. So, one of the easiest ways to set up parental controls in the network is by setting them up on your modem (or router). By setting up parental controls on your modem (or router), you will be able to perform web filtering for all the devices (like computers, smartphones, tablets, and even game consoles with built-in browsers) that uses this modem (or router) on your home network .

Some DSL modems (or routers) come with built-in parental controls. In such modems (or routers), you can directly set up parental controls by enabling the respective icons. If you are unable to set it up, you may seek the assistance of a modem technician.

However, many DSL modems (or routers) do not have built-in parental controls. If your modem does not offer inbuilt parental control, then you are advised to seek help from a modem technician to use OpenDNS to set up parental controls on the modem (or router). To do this, you will just need to change your router's DNS server settings to use OpenDNS. OpenDNS allows you to set up an account and configure web filtering. Through this set-up option, you can select different types of categories of websites with the ultimate objective to block them. In future, if anyone at home tries to access such blocked websites, he / she will get a message "This site is blocked".

Unlike in DSL modems, the modem (or router) used establish the "Fiber to home" connection at your home may not give you the privileges to access and set these parental control features. In such case,you will have to seek help from the service provider of the "Fibre to home" to enable these settings.