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**Novo**Connect

Wireless Collaboration.

Connect. Teach. Share.



**Novo**Cast

User Manual

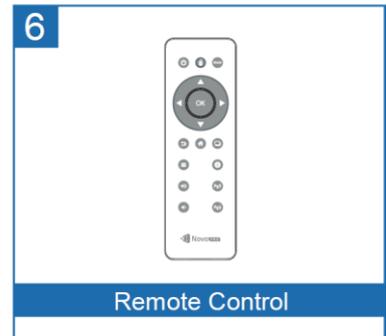
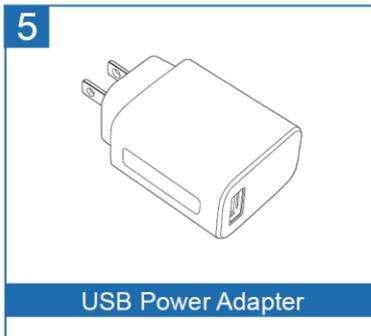
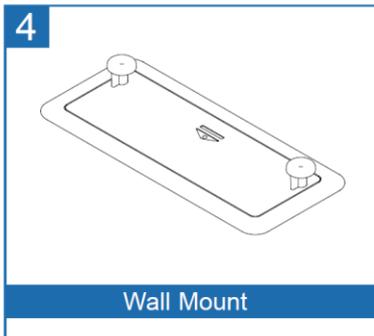
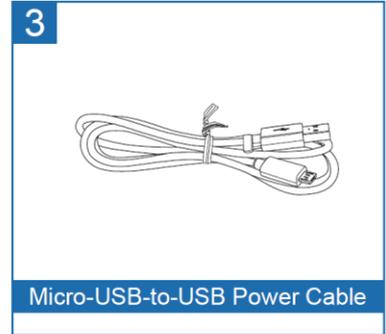
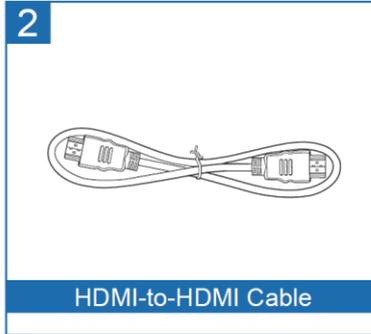
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# 1. Getting Started

## 1.1 Package Contents



## 1.2 Hardware Setup



1	RJ45 (Ethernet) Port
2	USB Port
3	HDMI Port
4	DC Power Jack
5	Kensington® Security Slot
6	microSD Card Slot
7	Reset button
8	IR Receiver
9	System Power On (Green)
10	System Standby mode (Red)
11	Network activities

Setting up NovoCast is simple and straightforward.

- 1) **Video/Audio connection:** Connect the HDMI port to a TV/projector’s HDMI input port with the provided HDMI cable (item (2) in “Package Contents”).
- 2) **Power:** Connect the DC Power Jack to a power outlet with the provided USB power adapter and USB cable (items (3) and (5) in “Package Contents”).

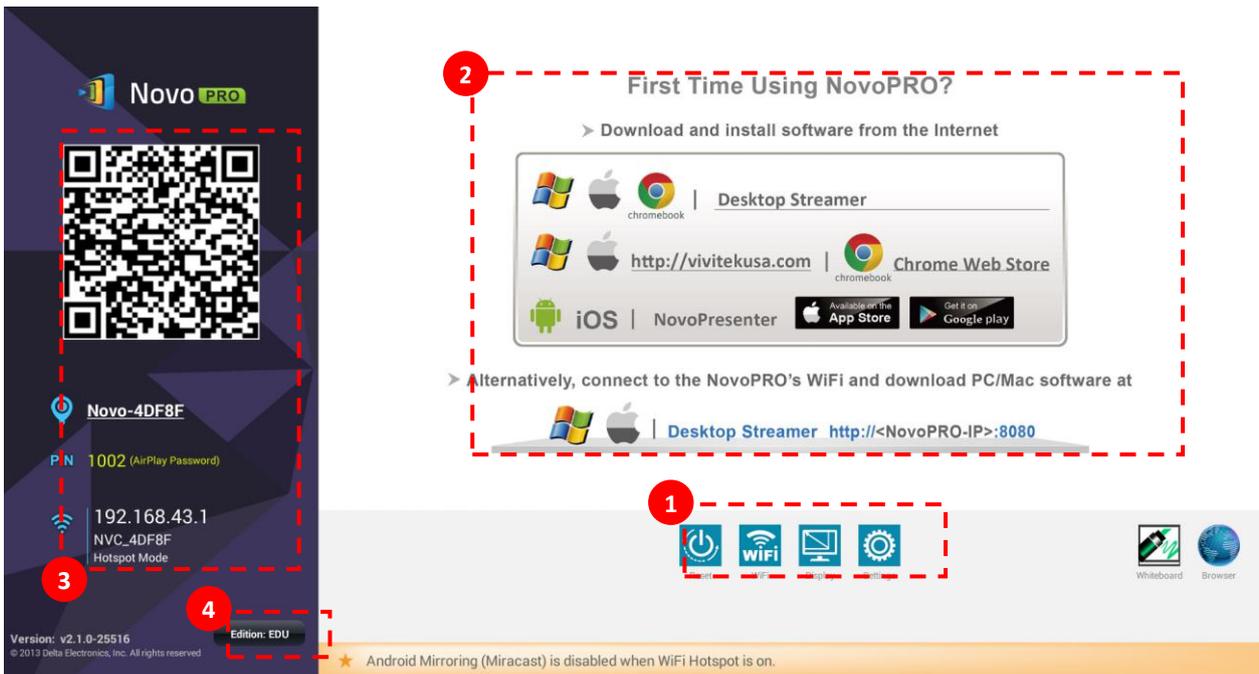
If everything is set up properly, NovoCast’s green LED should be illuminated.

*Note:*

- You may connect an optional USB mouse/keyboard or a USB disk to the USB port.
- If more USB ports are needed, you can connect a USB hub to the USB port.
- The microSD slot supports microSD cards up to 64GB.

## 1.3 NovoCast Home Screen

After a successful boot-up, the NovoCast device will show the following screen, which is referred to as the “NovoCast home screen” or just “home screen” in this document. The home screen is generated by NovoCast’s main application, *Remote Viewer*.



### 1 Basic Device Configuration

NovoCast is default at WiFi Hotspot mode with its SSID name displayed at the home screen (e.g. NVC\_4DF8F in box 3). Alternatively, you can connect the NovoCast to any existing network via a wireless and/or a wired connection (using the USB to Ethernet Adapter). Click on the “Wi-Fi” button to make the necessary changes.

Similarly,

- Click on the “Display” button to change display-related settings
- Click on the “Settings” button change other general settings.

### 2 Software Installation

Windows/Mac Users: Open Desktop Streamer’s download link shown on the home screen with your web browser and follow the on-screen instructions. Or simply visit <http://vivitekcorp.com/> for software download.

iOS/Android Users: Install NovoPresenter from App or Play Store. (See Section 1.5)

Chromebook Users: Install Desktop Streamer from Chrome Web Store (See Section 1.5)

### 3 Connection Information

- **Location**  – Users can change this to a meaningful room name.
- **PIN**  – This is an optional PIN code to join a presentation session.
- **IP address**   – Ethernet and WiFi IP address respectively.
- **QR code** – It has all the above-mentioned information. With tablets/phones, users can use *NovoPresenter* to connect to a presentation session by scanning this QR code.

### 4 Education Edition

NovoCast operates in the Education Edition. The features of the Education Edition are as follows:

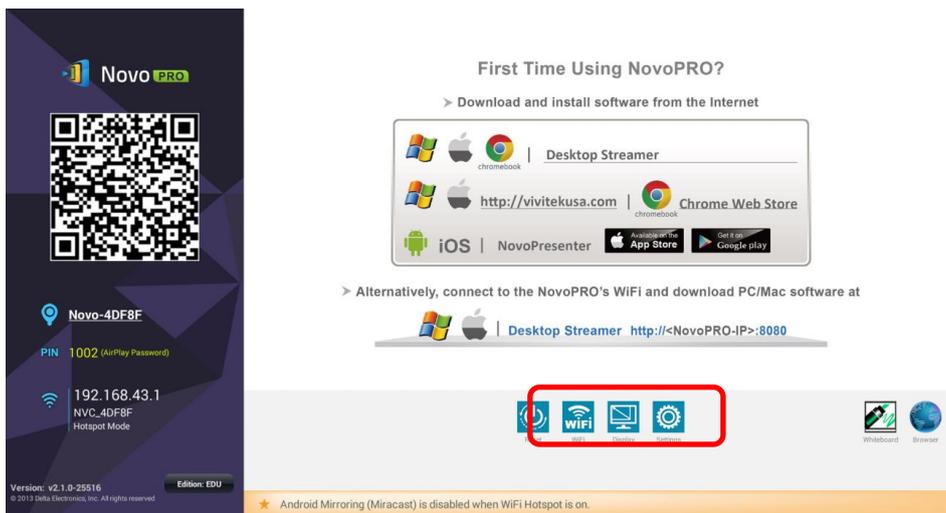
Feature	Education Edition
Projection Control	<ul style="list-style-type: none"> <li>• Only HOST (teacher) can switch users</li> <li>• Switch users without permission</li> </ul>
Screen Preview (Ability for Moderator to preview participants' screen)	Yes
Encryption	No
Lock Tablet Screen	Yes
Disconnect Everyone	Yes

## 1.4 Basic Device Configuration

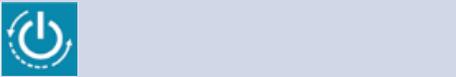
Before being deployed, a NovoCast device may require some basic configuration such as setting up its display resolution, network connection, etc. To do so, typically a USB mouse is needed.

Note: Following any clicking activity on the screen, the navigation bar 

appears. You could hide the navigation bar by clicking the back key  one or more times.



Function	Description					
 	<p><b>Wi-Fi:</b></p> <p>Click on the <b>WiFi</b> button to bring up the Wi-Fi configuration menu.</p> <ul style="list-style-type: none"> <li>• To use the NovoCast as the Wi-Fi host, select “<b>Enable WiFi Hotspot</b>” and click <b>Apply</b>.</li> <li>• To connect to an existing WiFi network,                             <ul style="list-style-type: none"> <li>○ Select “<b>Connect to WiFi</b>”.</li> <li>○ Click on <b>Configure</b> to bring up a new WiFi configuration page.</li> <li>○ Enable Wi-Fi connection. Select the SSID of the external router. Enter the WiFi password when prompted.</li> <li>○ Click on <b>Connect</b> to start connecting.</li> </ul> </li> </ul>					
 	<p><b>Display:</b></p> <ul style="list-style-type: none"> <li>• Click on button <b>Display</b> to bring up the <i>Display</i> menu.</li> <li>• Select the one that matches the display.</li> </ul> <table border="1" data-bbox="676 808 1463 1043"> <tr> <td data-bbox="676 808 995 891"><b>Auto Config</b></td> <td data-bbox="995 808 1463 891">NovoCast will automatically determine the optimal screen resolution.</td> </tr> <tr> <td data-bbox="676 891 995 1043"> <b>XGA(1024x768)</b>  <b>WXGA(1280x800)</b>  <b>720p (1280x720)</b>  <b>1080p (1920x1080)</b> </td> <td data-bbox="995 891 1463 1043">You can specify your desired display output resolution.</td> </tr> </table> <ul style="list-style-type: none"> <li>• Click <b>Save</b> to confirm the selection, or click <b>Cancel</b> to abort the selection.</li> </ul>		<b>Auto Config</b>	NovoCast will automatically determine the optimal screen resolution.	<b>XGA(1024x768)</b> <b>WXGA(1280x800)</b> <b>720p (1280x720)</b> <b>1080p (1920x1080)</b>	You can specify your desired display output resolution.
<b>Auto Config</b>	NovoCast will automatically determine the optimal screen resolution.					
<b>XGA(1024x768)</b> <b>WXGA(1280x800)</b> <b>720p (1280x720)</b> <b>1080p (1920x1080)</b>	You can specify your desired display output resolution.					

 <p>The screenshot shows the 'Settings' menu with four options: General Settings, Firmware Upgrade, Settings Protection, and Slideshow Config.</p>	<p><b>Settings:</b> Click on the <b>Settings</b> button for more device settings.</p> <ul style="list-style-type: none"> <li>• <b>Firmware Upgrade:</b> Upgrade the NovoCast to the latest version</li> <li>• <b>General Settings:</b> Access the Android system settings</li> <li>• <b>Settings Protection:</b> Enable/disable password lock.</li> </ul>
 <p>The screenshot shows the 'Configure Settings Protection' screen. It has two radio buttons: 'Disable Protection' (selected) and 'Enable Protection'. Below are two text input fields: 'Create a password' and 'Confirm your password'. At the bottom are 'Save' and 'Cancel' buttons.</p>	<p><b>Settings Protection:</b> This allows users to lock the settings with a password, or unlock it.</p> <ul style="list-style-type: none"> <li>• To disable the password, click <b>Disable Protection</b>.</li> <li>• To set a password, click <b>Enable Protection</b>, then enter a password followed by its confirmation in the next field.</li> </ul>
 <p>A power button icon with a circular arrow, indicating a reset function.</p>	<p><b>Reset:</b> Restart the NovoCast.</p>
 <p>The top screenshot shows the 'Location' screen with a red box around the text 'Novo-4DF8F'. Below it are fields for 'PIN 1002 (AirPlay Password)', IP address '192.168.43.1', and 'NVC_4DF8F Hotspot Mode'. The bottom screenshot shows the 'Edit Room Name' screen with a text input field containing 'Math Class' and 'Save' and 'Cancel' buttons.</p>	<p><b>Location:</b></p> <ul style="list-style-type: none"> <li>• Click on the associated text to bring up <i>"Edit Room Name"</i> menu.</li> <li>• Enter the new name.</li> <li>• Click <b>Save</b> to confirm the name change, or click <b>Cancel</b> to abort the name change.</li> </ul>

## 1.5 Client software download and installation

To connect to a NovoCast device, one of two client applications may be needed on your device. They are,

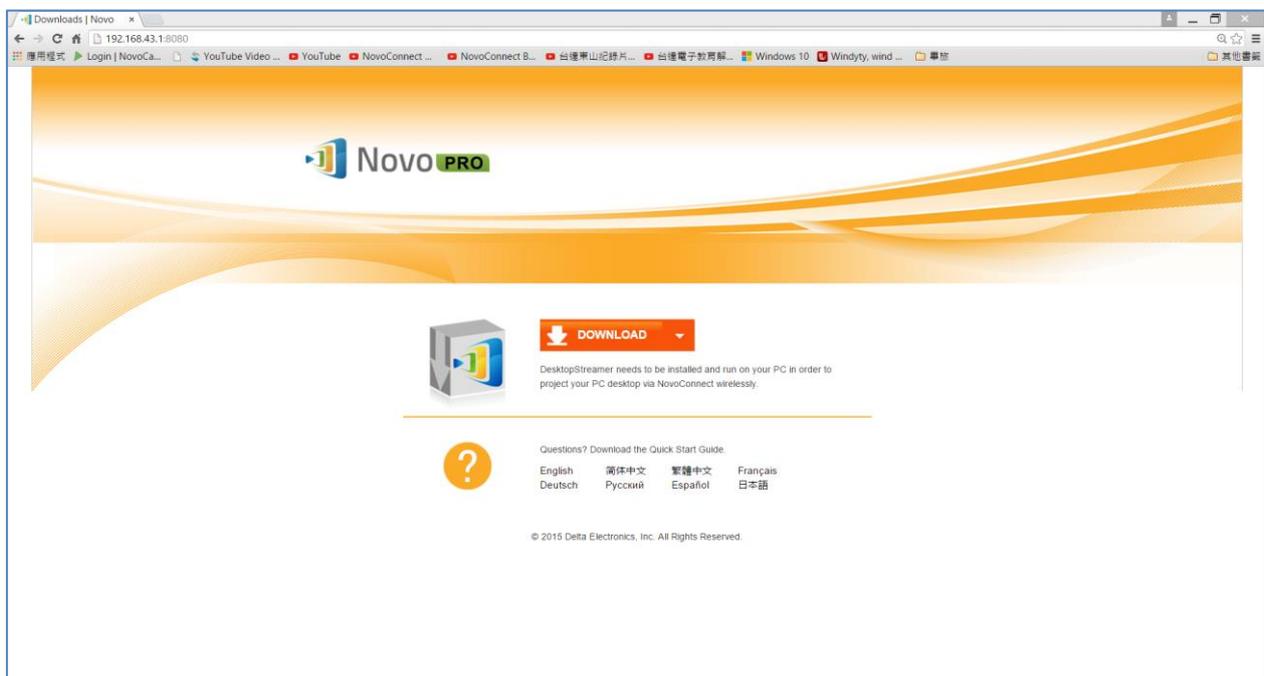
Novo Desktop Streamer : Windows, Mac, Chromebook  
NovoPresenter : Android, iOS

### Software Download/Installation for Windows and Mac

You can download the software directly from <http://www.vivitekcorp.com>. Alternatively, you can download it from the NovoCast device.

- (1) Connect your computer to the same network as the NovoCast.
- (2) Open the Desktop Streamer's download link shown on the home screen with your web browser and follow the on-screen instructions. For example, on the home screen shown above, you would use <http://192.168.43.1:8080> to download the Desktop Streamer.

You will see the download page, as shown in the figure below.



- (3) Select the appropriate OS and then click the **DOWNLOAD** button to start the download.
- (4) Execute the downloaded file to start the installation. Follow the on-screen instructions and the installation should complete in a couple minutes.

### App Download/Installation for Android/iOS

- (1) For iPhones/iPads, download and install the *NovoPresenter App* from the Apple App Store.
- (2) For Android phones/tablets, download and install the *NovoPresenter App* from the Google Play Store.

### App Download/Installation for Chromebooks

Download and install the *Novo Desktop Streamer* from the Google Chrome Web Store.



## 2. Setting Up Network

To fully take advantage of NovoCast's capabilities, it should be properly deployed in a school network. Some aspects should be carefully considered and planned, for example, WiFi interference and channel selection and intranet firewall. In this chapter, these aspects will be illustrated to facilitate a successful NovoCast deployment in your network.

### 2.1 Network connection

NovoCast has three network connection types, Ethernet, WiFi Client, and WiFi Hotspot.

- A) **Ethernet** – NovoCast can be plugged into your Ethernet via its USB to Ethernet adapter. Namely, you can connect NovoCast to your organization's backbone network. It is recommended to use Ethernet connection (when possible) since it gives you better robustness and higher performance.
- B) **WiFi** – NovoCast's built-in 802.11ac WiFi operates at dual bands (2.4/5GHz). With its 2T2R antenna, it can achieve a maximum bandwidth of 300Mbps<sup>1</sup>. This high-performance WiFi module can operate in two modes.
  - a) **Client Mode** – NovoCast can be connected to your organization's WiFi network via its built-in WiFi module.
  - b) **Hotspot Mode** – NovoCast can create its own WiFi network, allowing users to connect their mobile devices to this ad hoc network.

The following table summarizes their feature difference and typical usage.

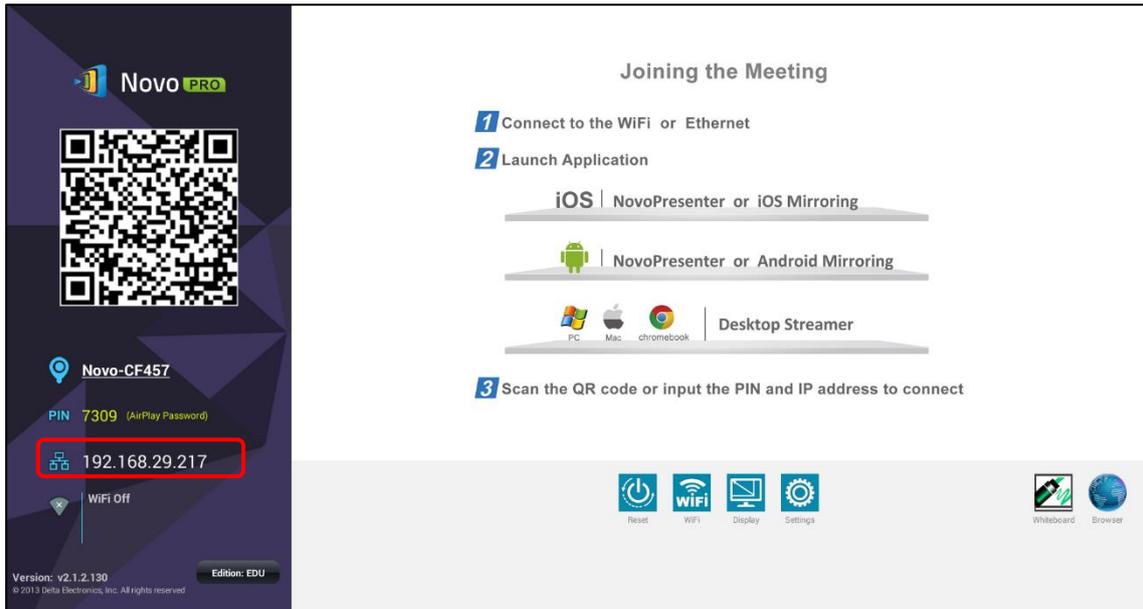
	Ethernet/WiFi Client Mode	WiFi Hotspot Mode
<b>Number of Users Allowed</b>	8	8
<b>Internet/Intranet Access</b>	Yes	No
<b>Typical Usage</b>	Pre-configured for School	Quick setup for small-group meetings

It is worth mentioning that Ethernet and WiFi connections can coexist on the NovoCast. Namely, you can configure NovoCast in Ethernet and WiFi Client mode, or in Ethernet and WiFi Hotspot mode.

#### 2.1.1 Ethernet

The following home screen shows NovoCast is in Ethernet mode, where its Ethernet IP is highlighted in red.

<sup>1</sup> 300Mbps is the maximum value while the actual bandwidth may vary depending on operating environment.

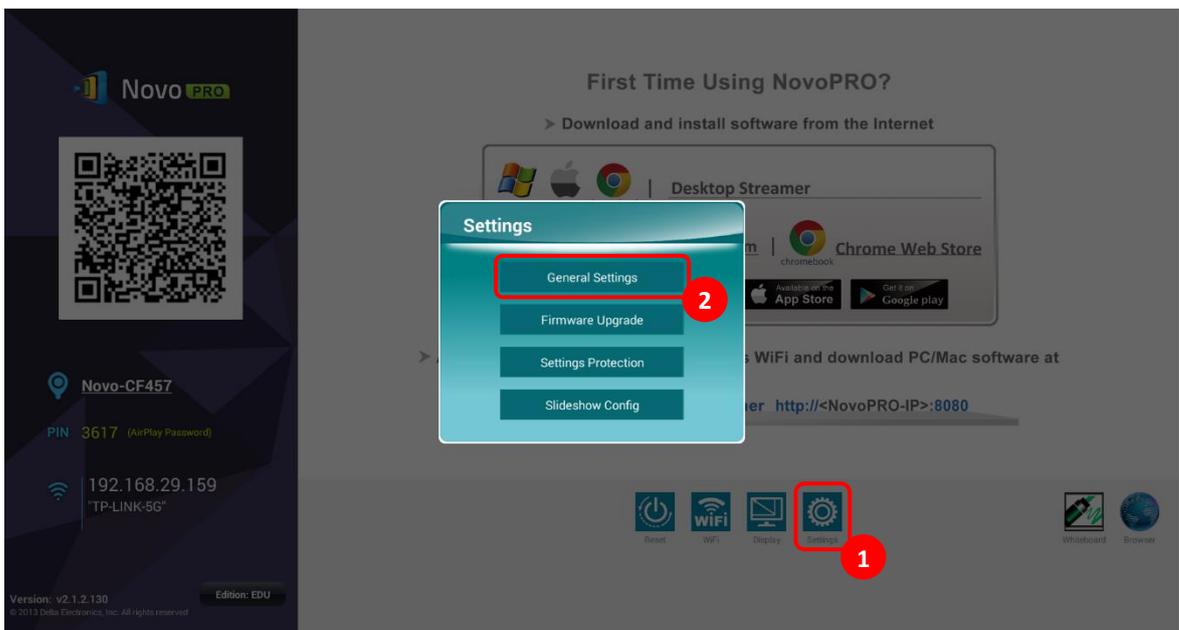


When connecting to a wired network, NovoCast supports both DHCP and Static IP connection types.

- **DHCP:** NovoCast obtains its IP address from the DHCP server on the network.
- **Static IP:** NovoCast is assigned a fixed IP address manually.

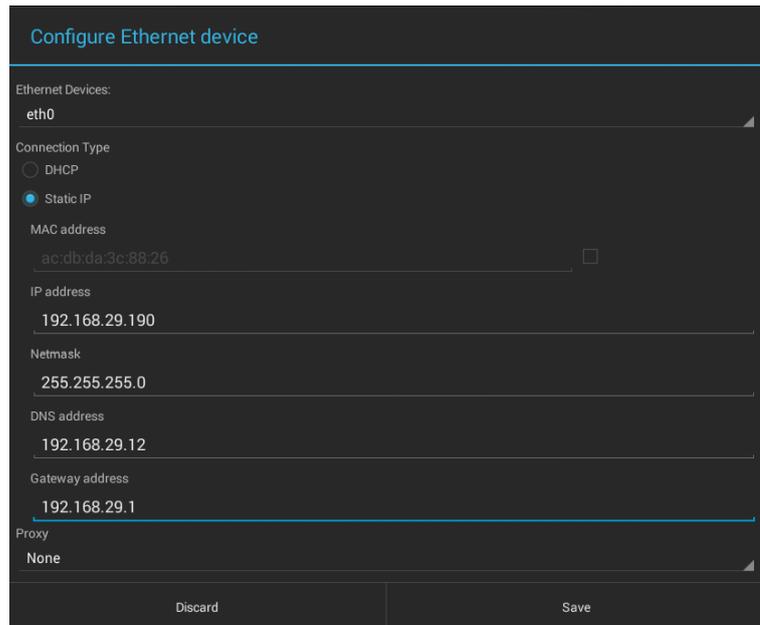
“DHCP” is the default connection type. However, “Static IP” might be more preferable as it makes remote management much easier.

The following diagram illustrates how to select one of these two connection types. (Settings → General Settings → Ethernet → Ethernet Configuration).



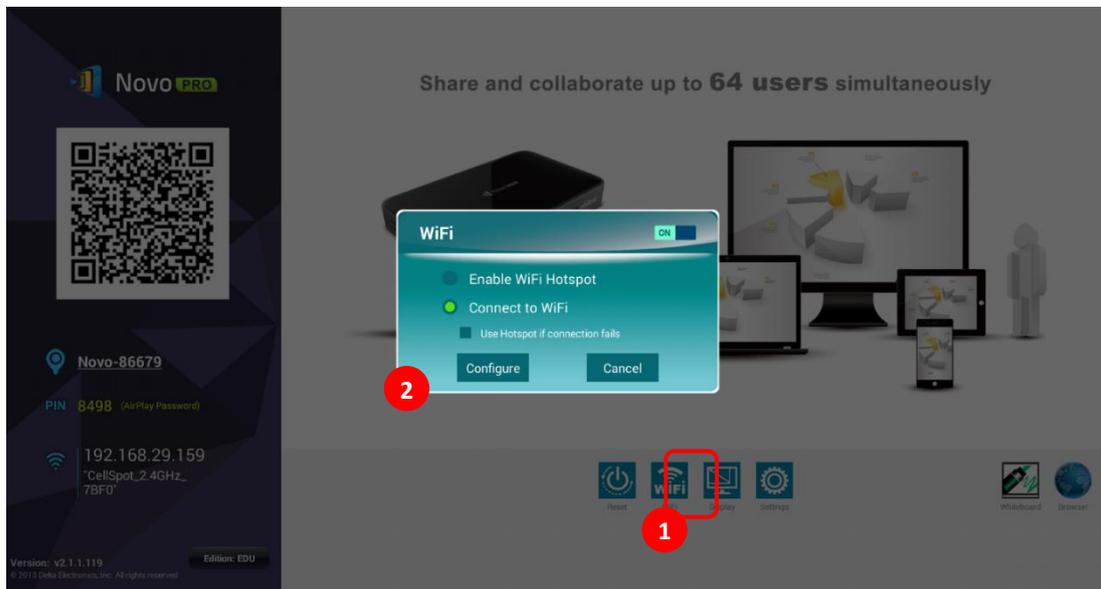
To set up “Static IP” properly, you need to have the following information, as shown in the diagram to the right.

- An unallocated IP address;
- Netmask;
- DNS address;
- Gateway address.



### 2.1.2 WiFi client mode

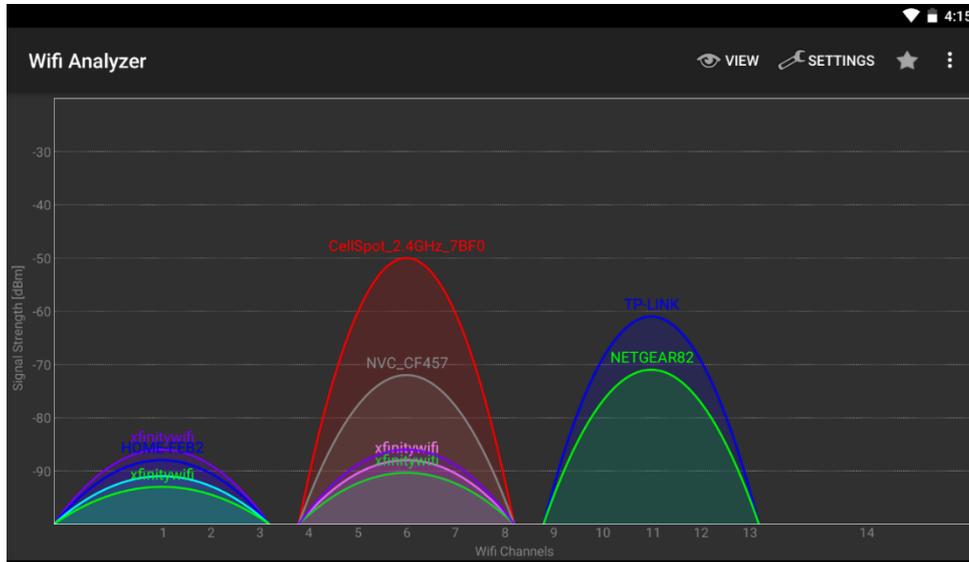
In this mode, NovoCast functions as a client to join an existing WiFi network. As illustrated in the following diagram, to set up the WiFi connection, on NovoCast home screen, click on button WiFi → Connect to WiFi → Configure → Wi-Fi (ON). Then select the desired Wi-Fi SSID (the name associated with the Wi-Fi network) and enter the proper credentials when necessary. You may notice that you have the choice of using “DHCP” or “Static IP” in the connection dialog, which is exactly the same as Ethernet connections.



**WiFi Network Optimization:** To achieve good user experience with NovoCast devices deployed in your organization’s WiFi network, it is recommended that you keep an eye on RF interference, WiFi signal strength, WiFi channel utilization, etc. It is worth mentioning that two popular Apps can help determine whether there is any wireless network channel interference.

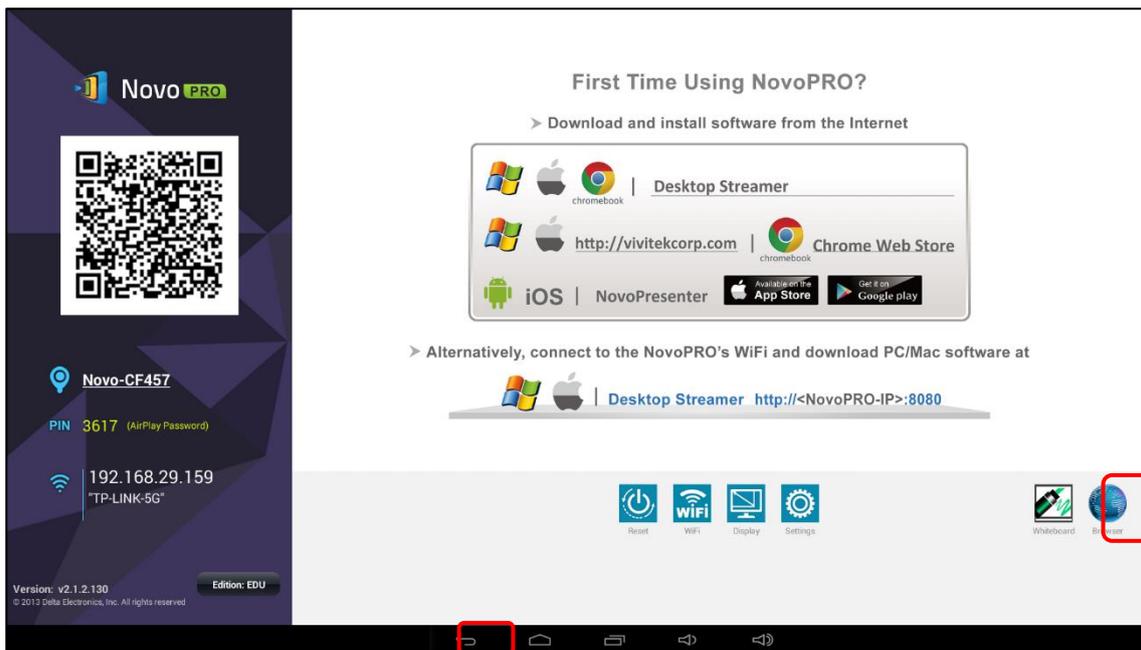
- “WiFi Analyzer” on Android devices;
- “InSSIDer” tool on Windows OS.

The following is a screenshot from the “WiFi Analyzer” App. As you can tell, WiFi channel 6 is heavily utilized. You may want to change to other less-crowded channels.



**Logging in a WiFi Network via Captive Portal:** Some WiFi networks are equipped with a captive portal, which requires users to log in via a web browser before they can access the Internet. When a NovoCast device is connected to this type of network, users can follow the following steps:

- Follow the above configuration steps to connect to the organization’s WiFi network;
- After the WiFi is connected, click on button “Browser” on the home screen (see the picture below);
- Open this web browser and you will be prompted for login credentials.
- Enter the proper username and password, and you will be connected to the network;
- Click the “Back” button on the home screen to return to NovoCast App main interface.

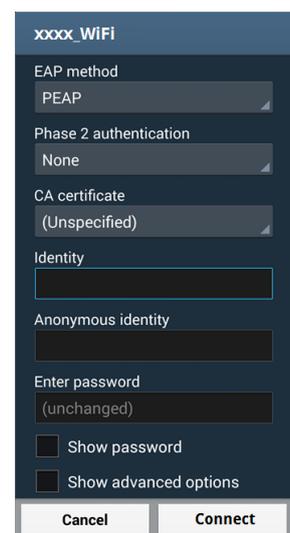


### Logging in a WiFi Network with 802.1x Authentication:

When you connect to a WiFi network with 802.1x authentication (for example, radius servers), you will need to enter the following fields to set up the connection properly:

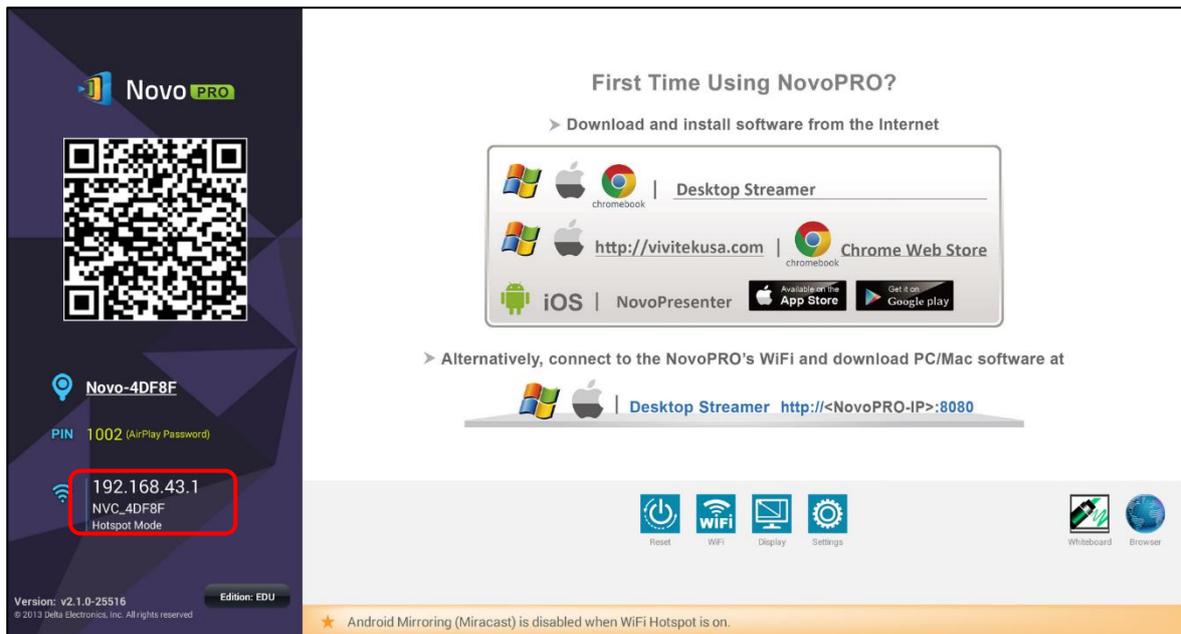
- Network SSID → *Your network*
- Security → *802.1x Enterprise*
- Choose the right settings for
  - *EAP method*
  - *Phase 2 authentication*
- Identity → *Your username (such as DOMAIN\John.Smith)*
- Password → *Your password*

Click on the “Connect” button to start connecting.



### 2.1.3 WiFi hotspot mode

A newly unpacked NovoCast starts up in Wi-Fi Hotspot mode, where you can start using it without any entanglement with network setup. The default SSID for this WiFi Hotspot is “NVC\_XXXXX” (for example, “NVC\_4DF8F” in the following screenshot), where “XXXXX” is a device-generated text string. Please note that Android mirroring (Miracast) is disabled in this mode. In comparison, AirPlay mirroring has no such limitation.



### 2.1.4 Dual-Network Configuration

NovoCast can even be connected to both your organization’s wired network and wireless network simultaneously. This function is extremely useful for organizations with “guest” wireless network setup for external visitors. In such a case, NovoCast’s RJ45 port is connected to a wired EMPLOYEE network for employees to securely access it; at the same time NovoCast’s WiFi is connected to a GUEST network to allow visitors to access it. The following graph describes such a network setup scenario.



By doing so, the GUEST and EMPLOYEE networks are kept separate, while at the same time, the NovoCast device is available to both guest users and employees.

**Notes on Network Security:** Within NovoCast, the WiFi section is completely separated from the Ethernet section, namely, there is no network routing between these two sections. Therefore,

users connecting to the WiFi section will not be able to access any resource on the Ethernet at all, and vice versa. In short, security is not compromised in this configuration.

## 2.2 Port numbers and intranet firewall

NovoCast is a TCP/IP-network-based device, and the communications between a NovoCast device and its client devices (e.g. laptops, tablets, etc.) are achieved through several TCP and UDP ports. The following table summarizes all the port numbers being used.

Port Number	Type	Description
20121	TCP	Port to transfer commands and status reports between the NovoCast unit and users' devices.  (For example, laptops/tablets use this port to establish "connection" to the NovoCast unit.)
20122	TCP	Port to enable "Remote Mouse" functionality
20123	TCP	Port to transfer screen image
20124	UDP	Port to send discovery message (so that the NovoCast unit can be discoverable by laptops/tablets.)
20125	TCP	Port to transfer preview image
20126	TCP	Port to transfer AV-streaming's command data
20127	TCP	Port to transfer AV-streaming's audio data
20128	TCP	Port to transfer AV-streaming's video data
20129	TCP	Port to transfer misc data
20130	TCP	Port for video streaming service
20131	TCP	Port for file transfer service
20141	UDP	Port for device management
20142	UDP	Port for device reporting

To enable successful operations of a NovoCast device, these ports should not be blocked by your network's firewall.

## 3. Making a Presentation

The NovoCast device supports up to 8 concurrent *participants* across a mix of PCs, Chromebooks, tablets, and smart phones. To make a presentation, each *participant's* device will need to connect to the NovoCast to join the presentation session. There are four key features that help facilitate smooth collaboration and coordination of presentations using the NovoCast:

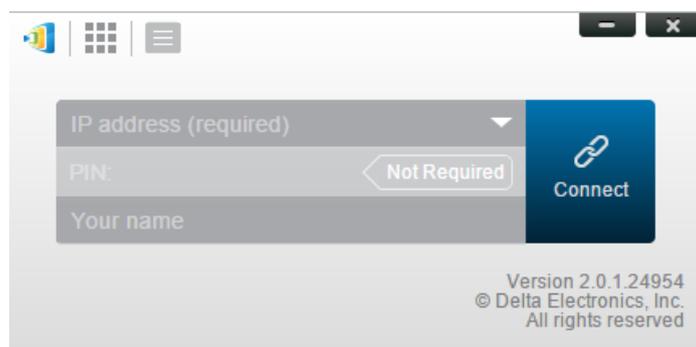
- 1) A *participant* list is included with the individuals' roles indicated by clear graphical representation.
- 2) A specific capability is defined for each role.
- 3) Up to 4 *participants* can show their screen simultaneously through a feature called "4-to-1 projection"
- 4) Annotation tools allow *participants* to highlight, draw or make notations on the display screen.

### 3.1 Presenting with Windows/Mac/Chromebook

Novo *Desktop Streamer* Windows/MAC/Chromebook versions have similar interfaces and operations, except that the Chromebook version has slightly fewer functionalities compared with the other two due to Chrome OS limitations. The Windows *Desktop Streamer* is used to illustrate key operation steps below.

#### Launch Presentation Application

Launch the *Novo Desktop Streamer* Application by double clicking icon . Once launched, the *Desktop Streamer* will appear as follows.

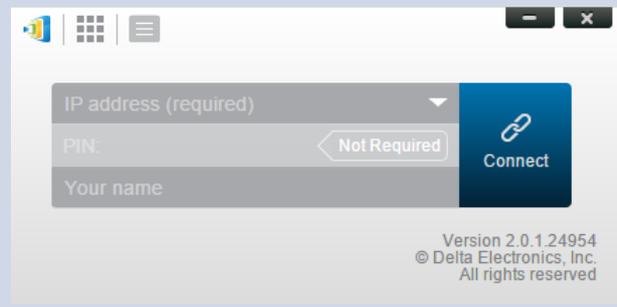
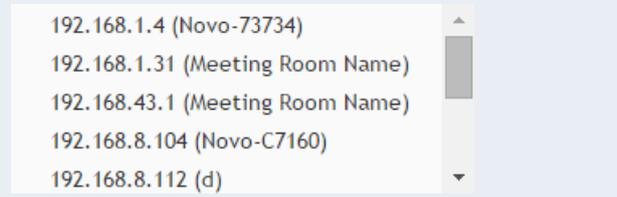
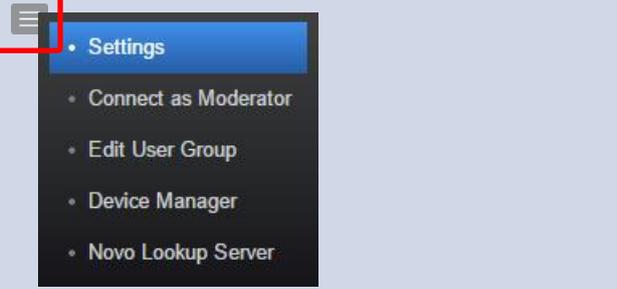


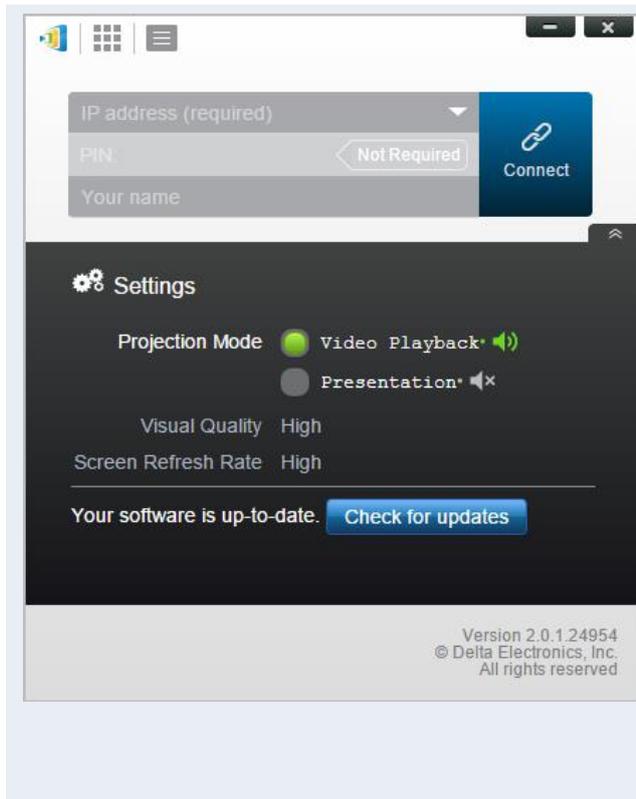
To make a presentation, follow the steps listed below:

- Step 1: Set up session parameters
- Step 2: Connect to your *NovoCast* device
- Step 3: Make a presentation
- Step 4: Manage the presentation

### 3.1.1 Step 1: Set up session parameters

Before clicking on the connection button , some session parameters need to be set up.

Function	Description
	<p>The main window of the <i>Novo Desktop Streamer</i> Application.</p>
	<p>Manually enter the IP address shown on the NovoCast home screen, or select an IP address entry from the drop-down menu that matches the IP address shown on the NovoCast home screen.</p>
	<p>(Optional) Manually enter a name for this computer to be identified in the participant list among other <i>participants</i>. Example: Kevin (Note: If a name is not entered in this field, the default name of your device will be used.)</p>
	<p>If a PIN is required for a presentation session, check the "PIN required" box and enter the four-digit PIN shown on the home screen.</p>
	<p>Click  to expand the Settings tab to access additional setting options.</p>

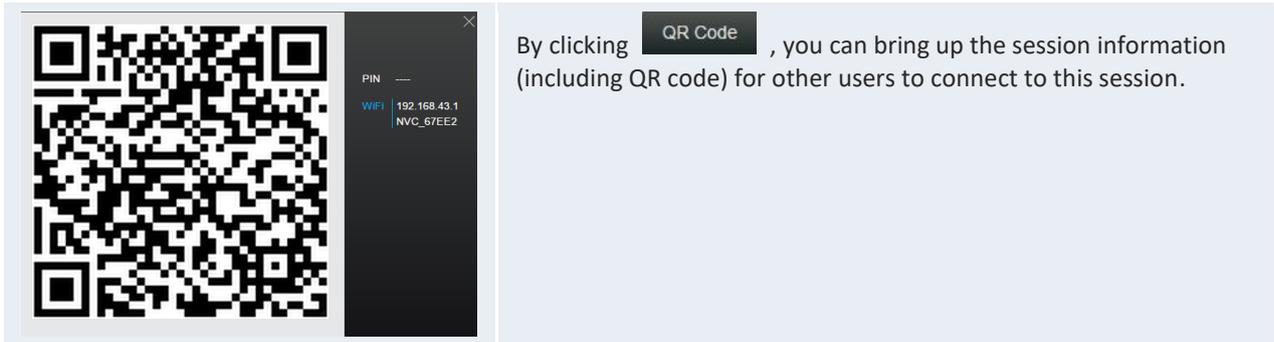


- 1. Projection Mode:**  
*Video Playback:* Select this option for video-quality resolution, with synchronized audio. (You might notice some sluggishness in mouse movement due to buffering to ensure smooth video playback.)  
*Presentation:* Select this option for low-latency and fast-response presentation. Audio signal is not transmitted. Two additional drop-down configurations, *Visual Quality* and *Screen Refresh Rate*, will be enabled.
- 2. Visual Quality:**  
*High:* This setting yields the best visual quality but has the most latency and may result in longer video delay.  
*Normal:* This setting yields normal visual quality with normal CPU consumption.
- 3. Screen Refresh Rate:**  
*High:* This setting yields enhanced visual quality but results in higher CPU consumption.  
*Normal:* This setting yields normal visual quality with normal CPU consumption.
- 4. Check for updates:**  
 Click to check whether *Novo Desktop Streamer* is up to date. If not, initiate an upgrade process.

### 3.1.2 Step 2: Connect to your NovoCast device

Once you have set up session parameters, you are ready to start or join a presentation.

Function	Description
	<p><b>Connect to your NovoCast device.</b></p> <p>Click on button . If you are the first <i>participant</i>, this will start a presentation session. If you are not the first <i>participant</i>, you will be joining a presentation session.</p>
	<p>After a successful connection, you will see the connection tab light up .</p> <p>If you are the first <i>participant</i>, you will see that your desktop is mirrored to NovoCast's display.</p> <p>You can turn on/off the PIN switch to enable/disable the use of a PIN code during the presentation session.</p>



By clicking **QR Code** , you can bring up the session information (including QR code) for other users to connect to this session.

Please note that your PC screen’s resolution may change to match the projector resolution. After disconnecting from the NovoCast device, the original screen resolution will be restored.

### 3.1.3 Step 3: Make a presentation

Once you have started/joined a presentation session you can make a presentation with the content stored on your PC, local network, or the Internet. Your desktop screen will be mirrored to the NovoCast screen regardless of the applications you are running on your PC.

**Notes:** There may be situations where you want to write, highlight, mark, or record video of your presentation. You could install our free software, *NovoScreennote*, to do so. It is available for download at <http://www.vivitekcorp.com>. After you have installed *NovoScreennote*, you can launch it from your Novo Desktop Streamer.

Function	Description
	<p><b>Launch NovoScreennote:</b></p> <p>Click the  tab to bring up the toolbar page, then click <b>Launch NovoScreennote</b>.</p>

### 3.1.4 Step 4: Presentation management

#### 3.1.4.1 Moderator

Function	Description
	<p><b>Manage presentation:</b> The moderator has the capability to select participant(s) for projection.</p>

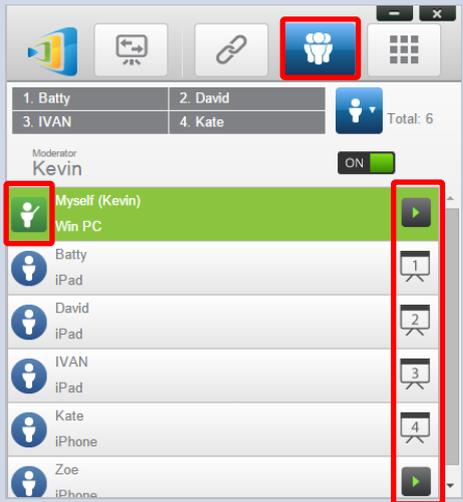
### 3.1.4.2 Role assignment

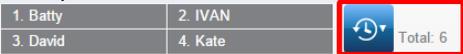
There are three roles in a presentation session, the *moderator*, the *presenter*, and the *participant*.

The first *participant* to start the presentation session is assigned as the *moderator*. Individuals that join subsequently are *participants*.

By default, the *moderator* assumes the *presenter* role until he hands it over to another *participant*.

To show all current *participants* who have joined the presentation session, click the  tab.

Function	Description
	<p>Click the  tab to show the participant list.</p> <ul style="list-style-type: none"> <li> : the <i>moderator</i></li> <li> : <i>participant</i></li> <li> : current <i>presenter</i>.</li> <li> : current <i>presenter</i> that is being projected in one of the screen quadrants (4-to-1 projection). (The icon shown here is for a <i>presenter</i> that is presenting in quadrant #1).</li> </ul> <p>The <i>moderator</i> can preview screens of all participants.</p>

<p><b>Example 1:</b></p>  <p><b>Example 2:</b></p> 	<p>Indicate the names of the presenters, the participant list sorting method, and the total number of <i>participants</i>.</p> <p>Sorting in the participant list</p> <ul style="list-style-type: none"> <li> : sort by participants' name</li> <li> : sort by "join" time (most recent on top).</li> </ul> <p>Toggle between  or  to change sorting method.</p> <p><b>Example 1:</b> Kevin is the only <i>presenter</i>. The participant list is sorted by participants' name. There are currently 6 <i>participants</i>.</p> <p><b>Example 2:</b> Batty, Ivan, David and Kate are 4 <i>presenters</i>. The participant list is sorted by "join" time (most recent on top). And there are currently 6 <i>participants</i>.</p>
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### 3.1.4.3 Role change, screen preview, and 4-to-1 projection

(Note: The moderator can preview screens of all participants.)

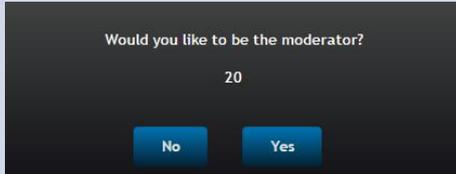
Function	Description
	<p><b>Role change: transfer the moderator role</b></p> <p>Click the  tab to list all participants. If you want to transfer the <i>moderator</i> role to another <i>participant</i>, click on the participant's  icon.</p> <p><i>Note: only the moderator is allowed to perform this operation.</i></p>

The *moderator's* screen:



A dialog box pops up to ask for your confirmation. You have 20 seconds to click the **Yes** button to accept or click the **No** button to reject the requested *role change*.

The *participant's* screen:

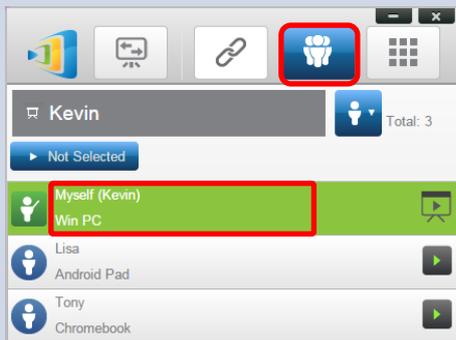


At the same time, a dialog box will appear on that *participant's* screen to ask for his/her confirmation. The *participant* has 20 seconds to click the **Yes** button to accept or click the **No** button to reject the requested *role change*.



**Full-Screen Projection**

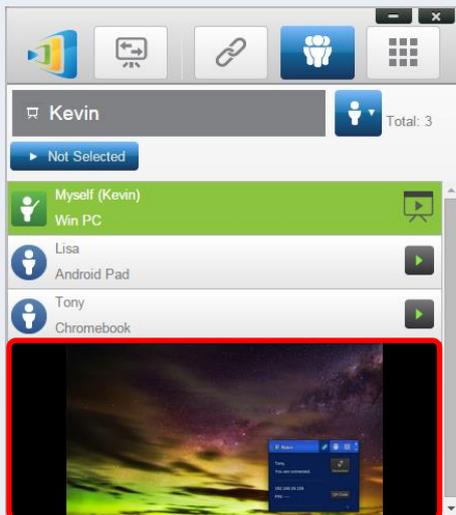
Click the  tab to list all *participants*. If you want to promote one *participant* to be a presenter, click on the *participant's*  icon. A bigger icon window pops up, where you can click the center button to pass presentation role to that *participant*.



**Screen preview:**

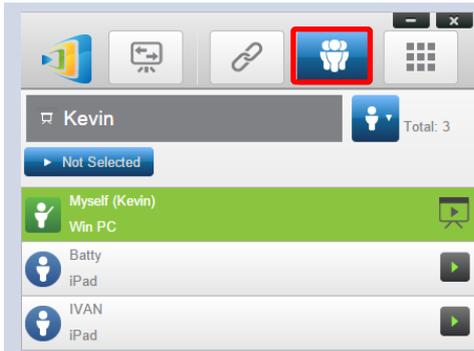
1. Click the  tab to view the *participant* list.
2. Click on the *participant's* name.

*Note: Only the moderator can preview the participant's screen.*



That *participant's* screen will be shown below his/her name.

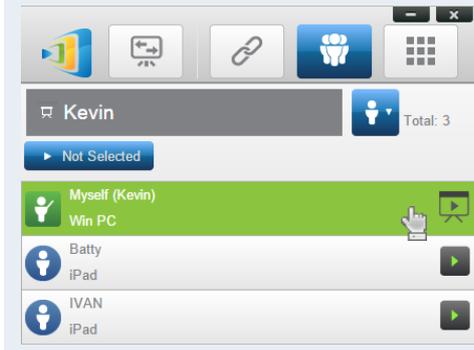
You can click on the *participant's* name again to close the screen preview.



**4-to-1 Projection:**

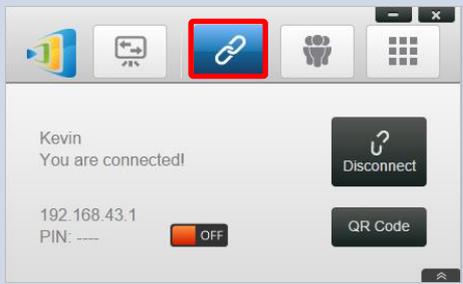
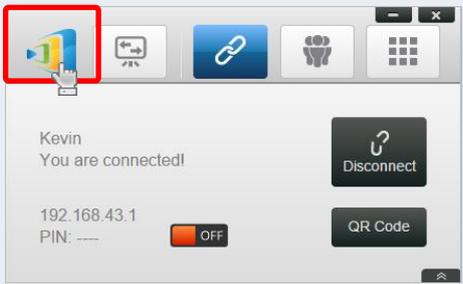
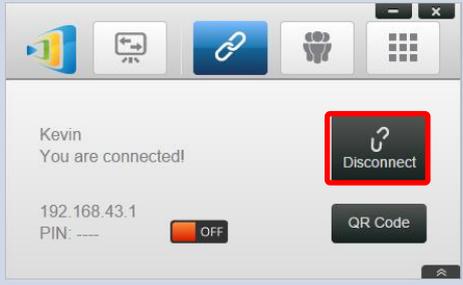
Click the  tab to view the *participant* list.

1. Move cursor over to highlight *participant* Kevin.



2. Click on a numbered box  to assign the *presenter* to be projected at the corresponding screen quadrant.

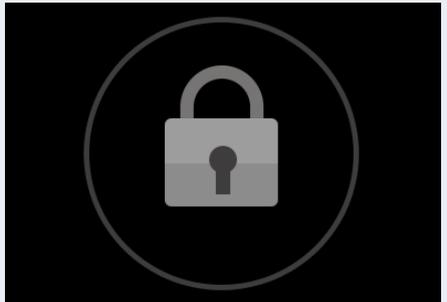
**3.1.4.4 Pause, resume, and disconnect**

Function	Description
	<p><b>To pause/resume a presentation:</b></p> <p>Click the  tab to bring up the presentation control page.</p>
	<p><b>Pausing and resuming a presentation:</b></p> <p>Move your mouse cursor to hover on the icon . Toggle between  and  to pause and resume a presentation respectively.</p>
	<p><b>To disconnect from a presentation session:</b></p> <p>Click the  button to exit the presentation session.</p> <p>If the <i>moderator</i> exits a presentation session without handing over the <i>moderator</i> role, all <i>participants</i> will receive a message prompting them to take over the <i>moderator</i> role.</p>

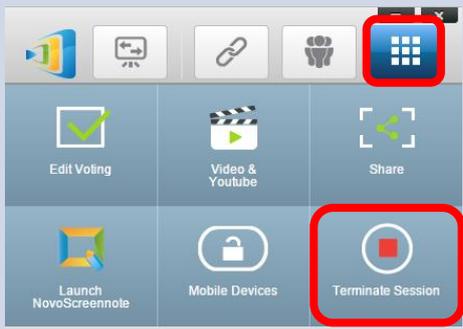
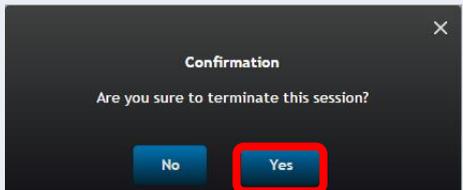
The first to respond to the prompt will assume the *moderator* role.

### 3.1.4.5 Lock/Unlock students' tablets/phones

This feature allows the moderator to lock down student tablets.

Function	Description
	<p><b>To lock/unlock mobile devices:</b></p> <p>Click the  tab to bring up the toolbar page, then click <b>Mobile Devices</b> to lock or unlock mobile devices.</p> <p> : mobile devices are unlocked.</p> <p> : mobile devices are locked.</p>
	<p><b>Mobile device locked:</b></p> <p>A lock icon will pop up on all mobile device' screens to show that the screen has been locked.</p>

### 3.1.4.6 Terminate session

Function	Description
	<p><b>To terminate the session:</b></p> <p>Click the  tab to bring up the toolbar page, then click <b>Terminate Session</b>.</p>
	<p><b>Confirmation:</b></p> <p>Click <b>Yes</b> to terminate the session. All devices will be disconnected.</p>

## 3.2 Presenting with Android/iOS Devices

*NovoPresenter* App has similar functionalities as Desktop Streamer software. It is available for both iOS and Android devices. An iPad is used as an example to illustrate its key functions below.

### Launch Presentation Application

Launch the *NovoPresenter* application by clicking on the *NovoPresenter* app icon  on your iPad.

To make a presentation, follow the steps below:

- Step 1: Connect to your NovoCast device
- Step 2: Make a presentation
- Step 3: Manage the presentation

#### 3.2.1 Step 1: Connect to your NovoCast device

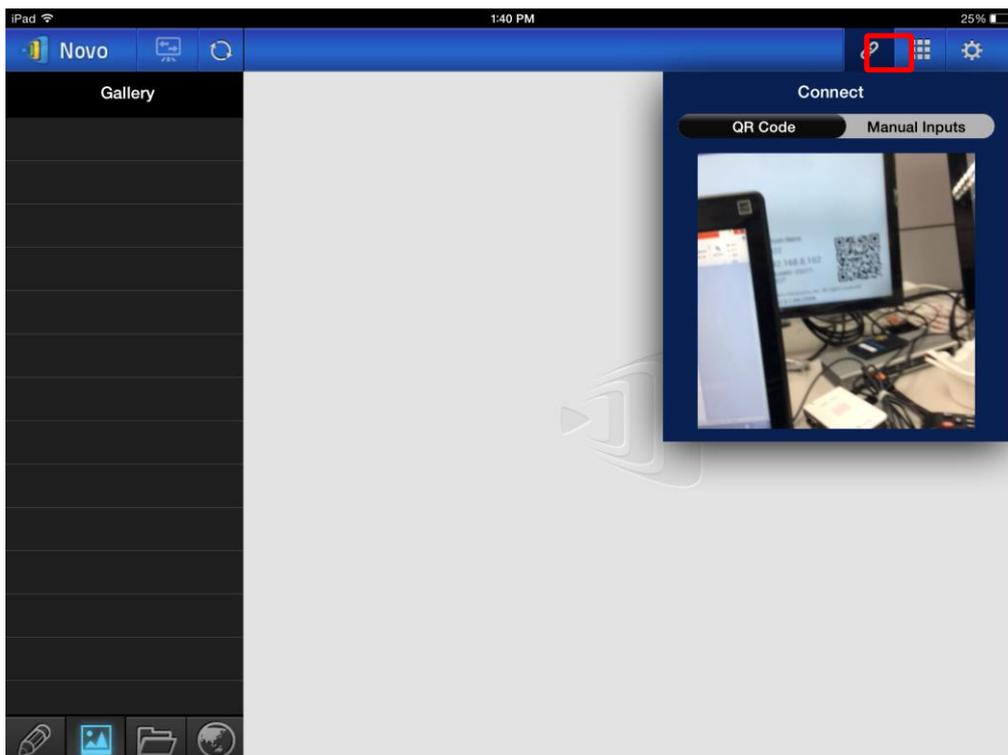
There are two ways to connect to your NovoCast device:

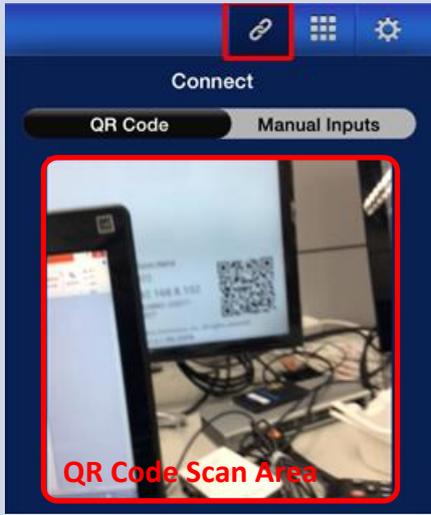
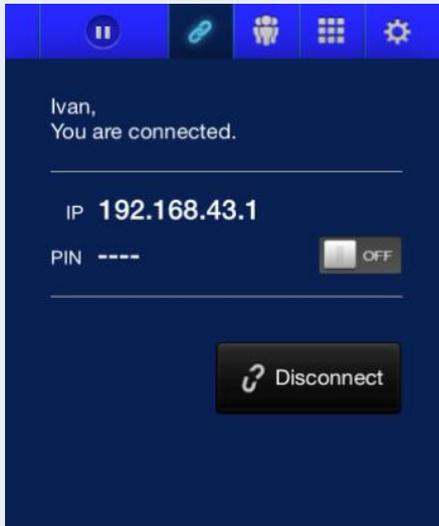
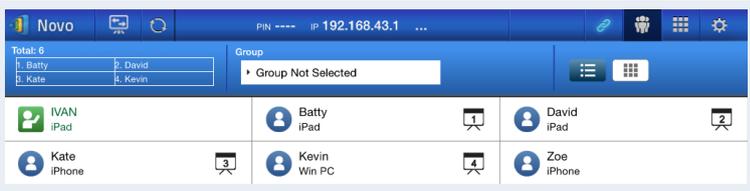
1. Connect to your NovoCast device automatically via QR code.
2. Connect to your NovoCast device manually.

##### 3.2.1.1 Connect via QR Code

The easiest way to connect to your NovoCast is to use the QR-code scan feature in

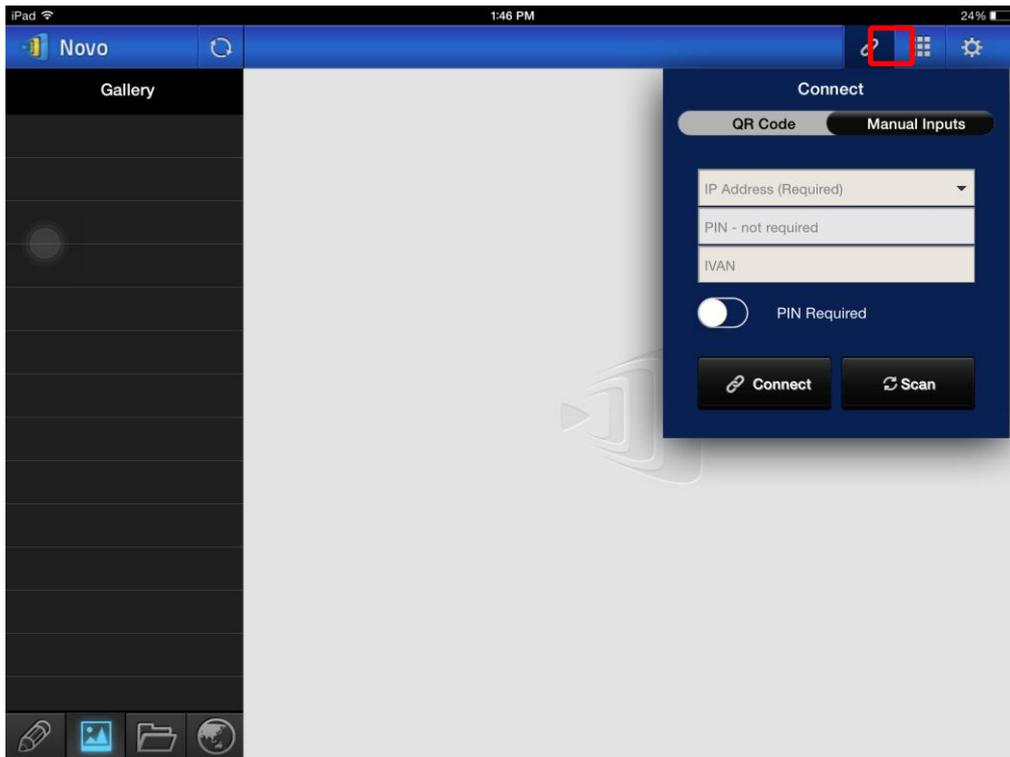
*NovoPresenter* After launching the app, tap the  tab (as seen in the screenshot below).

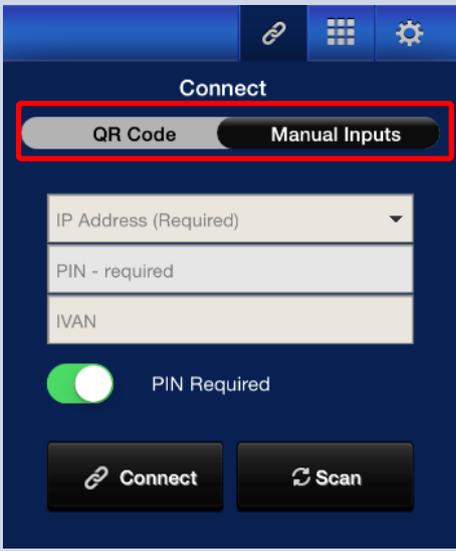


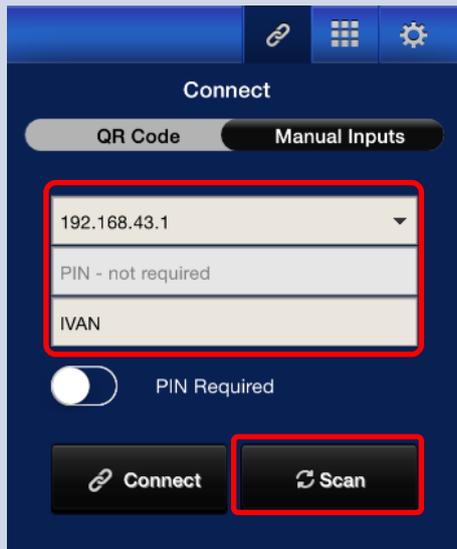
Function	Description
	<p><b>Connect via QR Code:</b></p> <ul style="list-style-type: none"> <li>• The <b>QR Code / Manual Inputs</b> switch will be in the <b>QR Code</b> position by default (if not, just tap the switch once).</li> <li>• Aim your tablet's camera at the QR code.</li> <li>• If the network connection is set up properly, <i>NovoPresenter</i> will automatically login to your NovoCast.</li> </ul> <p>Should automatic login fail, you may check for your network connection or try manual login (Section 3.2.1.2).</p>
	<p><b>Successful Connection:</b></p> <p>After <i>NovoPresenter</i> is connected successfully to your NovoCast, the connection tab will light up .</p> <p>If you are the first <i>participant</i>, you will see that your iPad screen is mirrored to the NovoCast's screen.</p> <p>You can toggle the PIN switch to enable/disable the use of the PIN code for the presentation session.</p>
	<p><b>View participants list:</b></p> <p>You can tap the  tab to see the <i>participant</i> list.</p> <p>Example: There are a total of six <i>participants</i> in the presentation group shown at left.</p> <ul style="list-style-type: none"> <li>• The <i>moderator</i> is Ivan.</li> <li>• Ivan is not making a presentation</li> <li>• Batty, David, Kate, and Kevin are assigned to be the four <i>presenters</i>.</li> </ul>

### 3.2.1.2 Connect via Manual Input

Use this method if you need to configure some login information before connecting to NovoCast. After launching the app, tap the  tab (as seen in the screenshot below).



Function	Description
	<p><b>Manual configuration option:</b> Toggle the <b>QR Code / Manual Inputs</b> switch to the <b>Manual Inputs</b> position.</p>

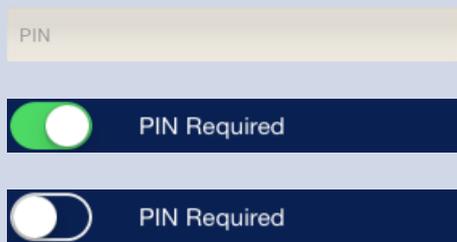


**IP Address:**

Manually enter the IP address shown on your NovoCast home screen, or select an entry from the drop down menu that matches the IP address shown on your NovoCast home screen.

You can tap the **Scan** button to scan the IP addresses of all available NovoCasts within the same subnet. Select the drop-down menu to see the available NovoCasts within your area.

Example: [192.168.43.1](http://192.168.43.1).



**PIN:**

- If a PIN code is required to connect to the NovoCast, slide the **PIN Required** switch to the ON position and enter the PIN shown on the NovoCast home screen.
- If the PIN code is not required, slide the **PIN Required** switch to the OFF position.

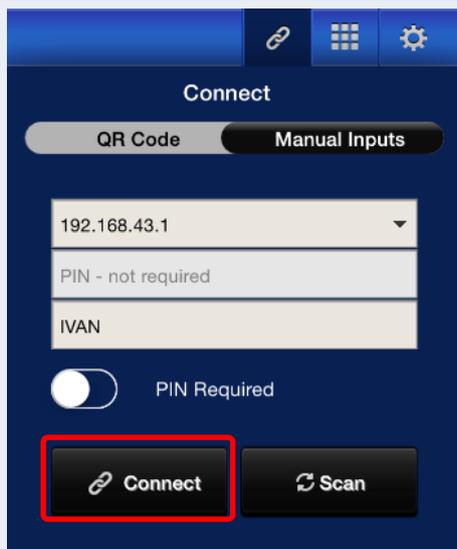


**Your Name:**

(Optional) Manually enter a name for this tablet to be identified by in this presentation session.

Example: Jennifer.

(Note: If a name is not entered in this field, your iPad's default will be used.)

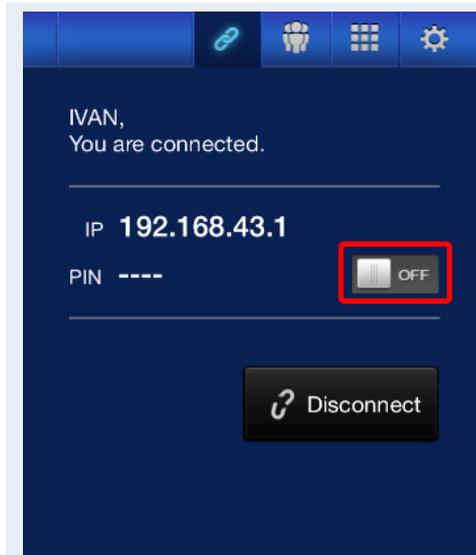


**Make Connection:**

Tap the **Connect** button.

If you are the first *participant*, this will start a presentation session on your NovoCast.

If you are not the first *participant*, you will be joining a presentation session.

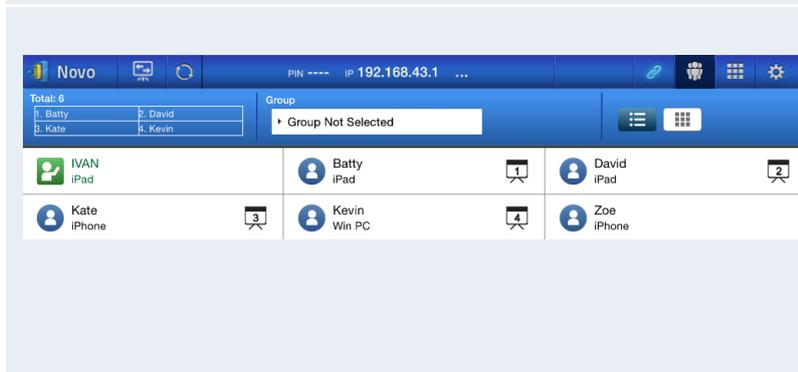


**Successful Connection:**

After your *NovoPresenter* app connects successfully to your NovoCast, the connection tab will light up .

If you are the first *participant*, you will see that your iPad screen is mirrored to the NovoCast's screen.

You can toggle the PIN switch to enable/disable the use of the PIN code for the presentation session.



**View participants list:**

You can tap the  tab to see the current participant list.

Example: There are a total of six *participants* in the presentation group shown at left.

- The *moderator* is Ivan.
- Ivan is not making a presentation
- Batty, David, Kate, and Kevin are assigned to be the four *presenters*.

**3.2.2 Step 2: Make a presentation**

Once you have started/joined a presentation session, you can present the content stored on your iPad, local network, or the Internet. There are four tabs at the bottom left corner of the *NovoPresenter* home screen:

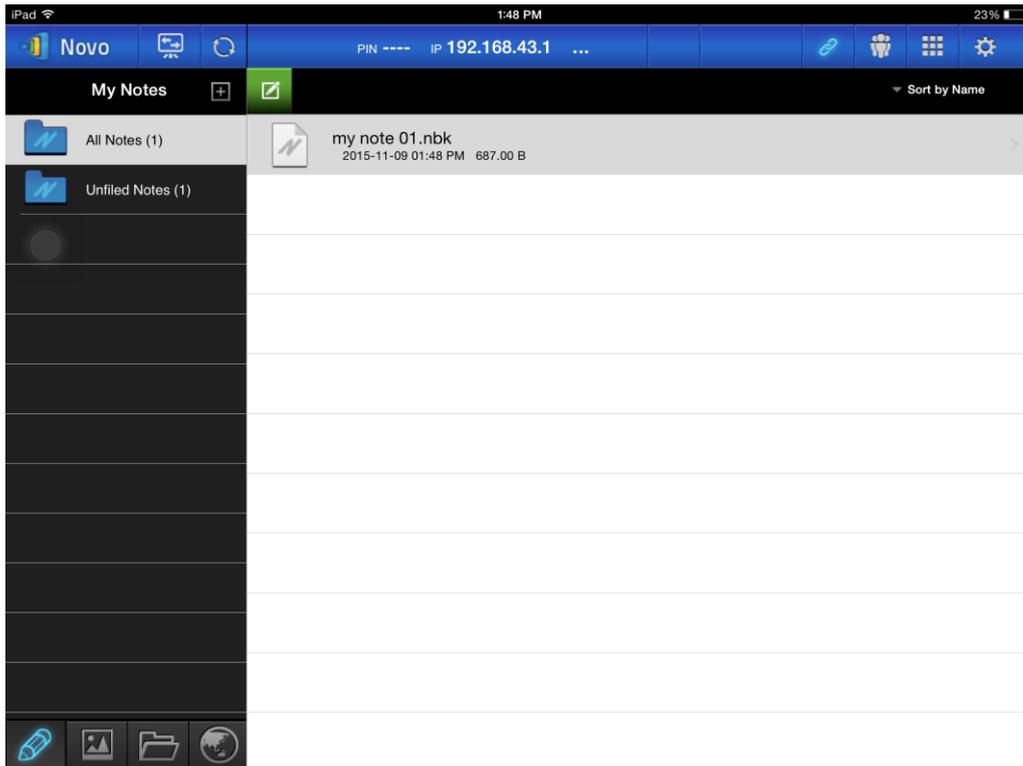
 : MyNotes – create and share screen notes

 : Gallery – browse and show images/videos stored on your iPad

 : Documents – browse and show documents stored on your iPad

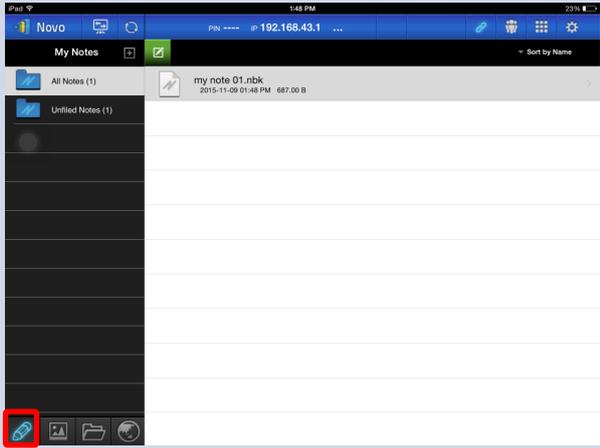
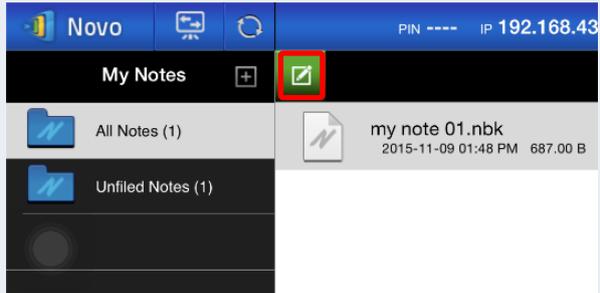
 : Web – browse the Internet

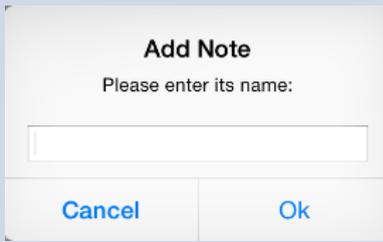
### 3.2.2.1 My Notes



#### Create and share custom screen notes

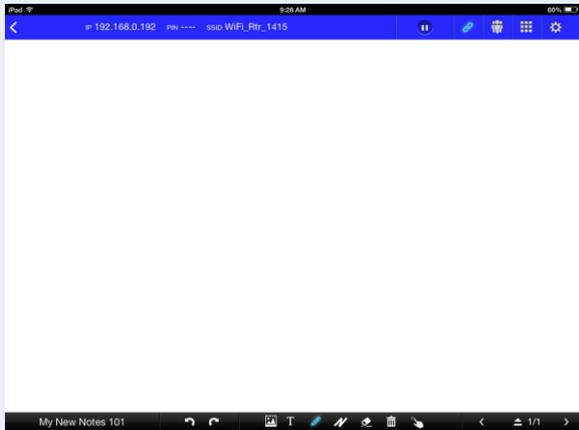
This is a virtual whiteboard that allows tablet users to create, edit and display.

Function	Description
	<p><b>Launch My Notes:</b></p> <p>Tap  at the bottom left corner of the screen</p>
	<p><b>Create a new Note:</b></p> <p>Tap  at the top of the screen.</p>



**Enter a name for the new Note:**

Type a name for your note in the “Add Note” dialog box and tap **Yes**.



**Start making a note:**

A blank note is ready.



**Use the note tools:**

The note tools are located at the bottom of the screen.

-  Picture insertion
-  Text insertion (You can reposition your text by dragging it across your screen with your finger.)
-  Pen
-  Highlighter
-  Eraser
-  Clear All
-  Move an image
-  Undo
-  Redo



**Add new pages:**

The "Page Control" locates at the right side of the screen.

 Open the "Page Control" pane.

 Close the "Page Control" pane.

 Add a new page.

 Select a page by tapping its thumbnail.

 Delete the selected page.

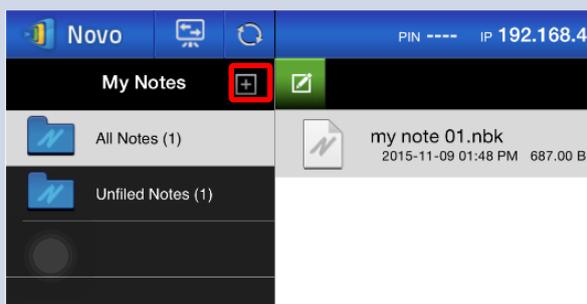
 Move the selected page up.

 Move the selected page down



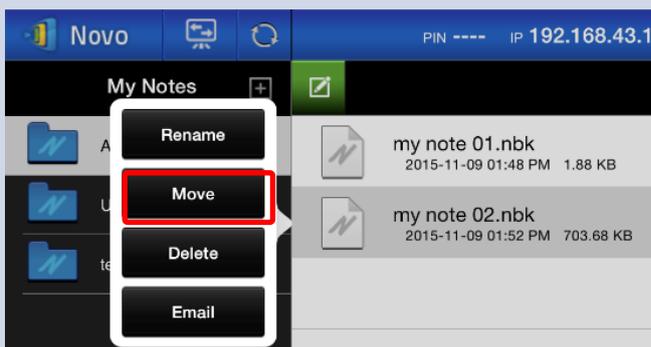
**Close and save changes:**

Tap  to exit editing. The changes will be saved automatically.



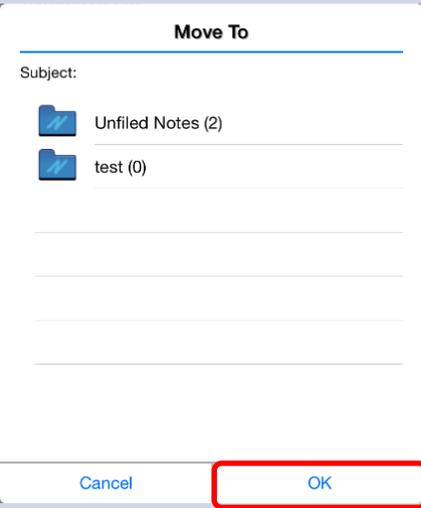
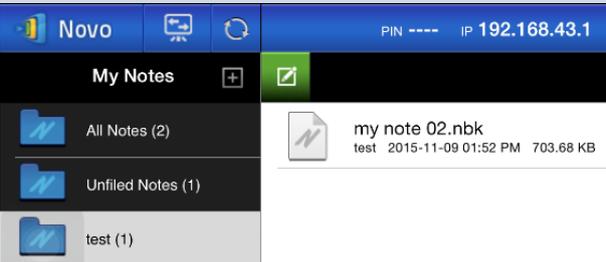
**Organize your notes with Subject folders** 

Tap this icon to add a subject (folder). When the "Add Subject" dialog box appears, enter the name for the new subject.

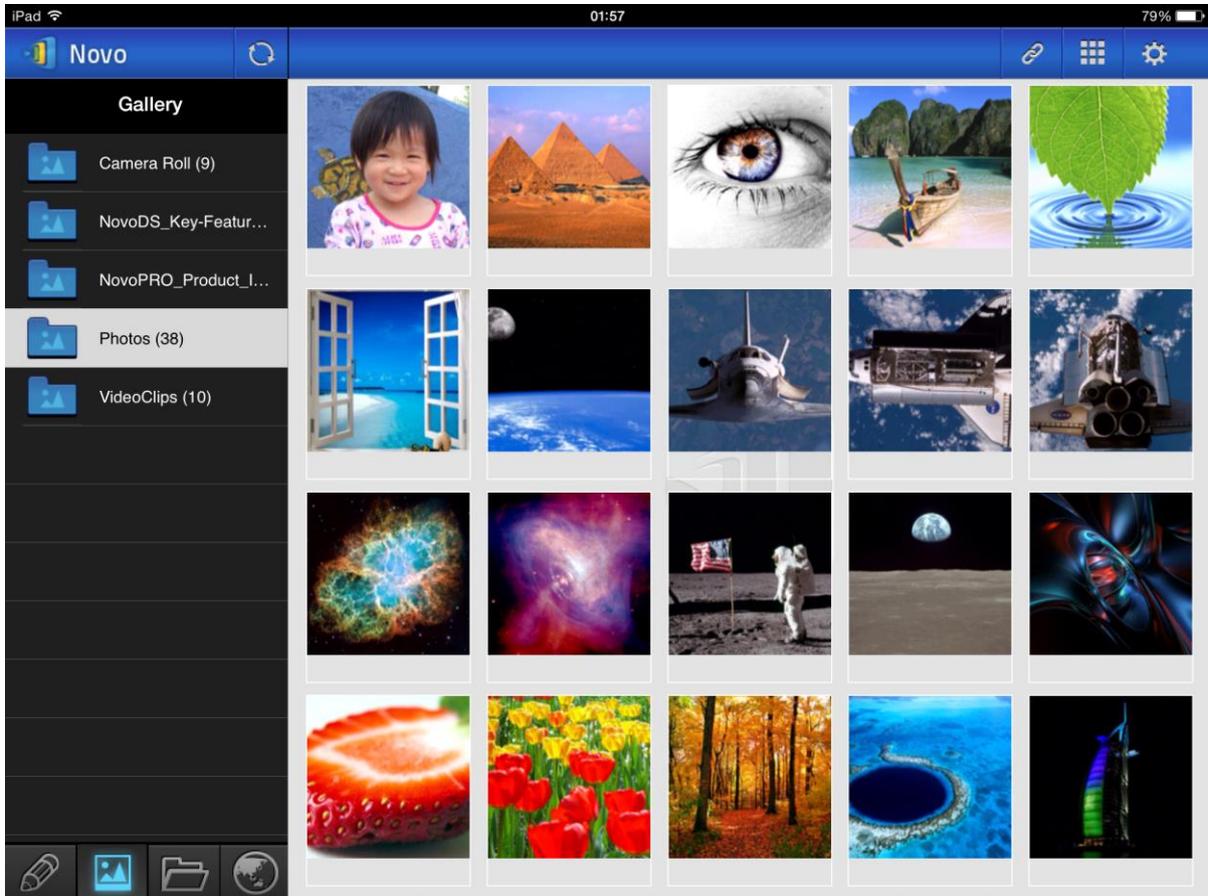


To move a note under a subject, long press the note until a popup menu appears. Then tap

 button.

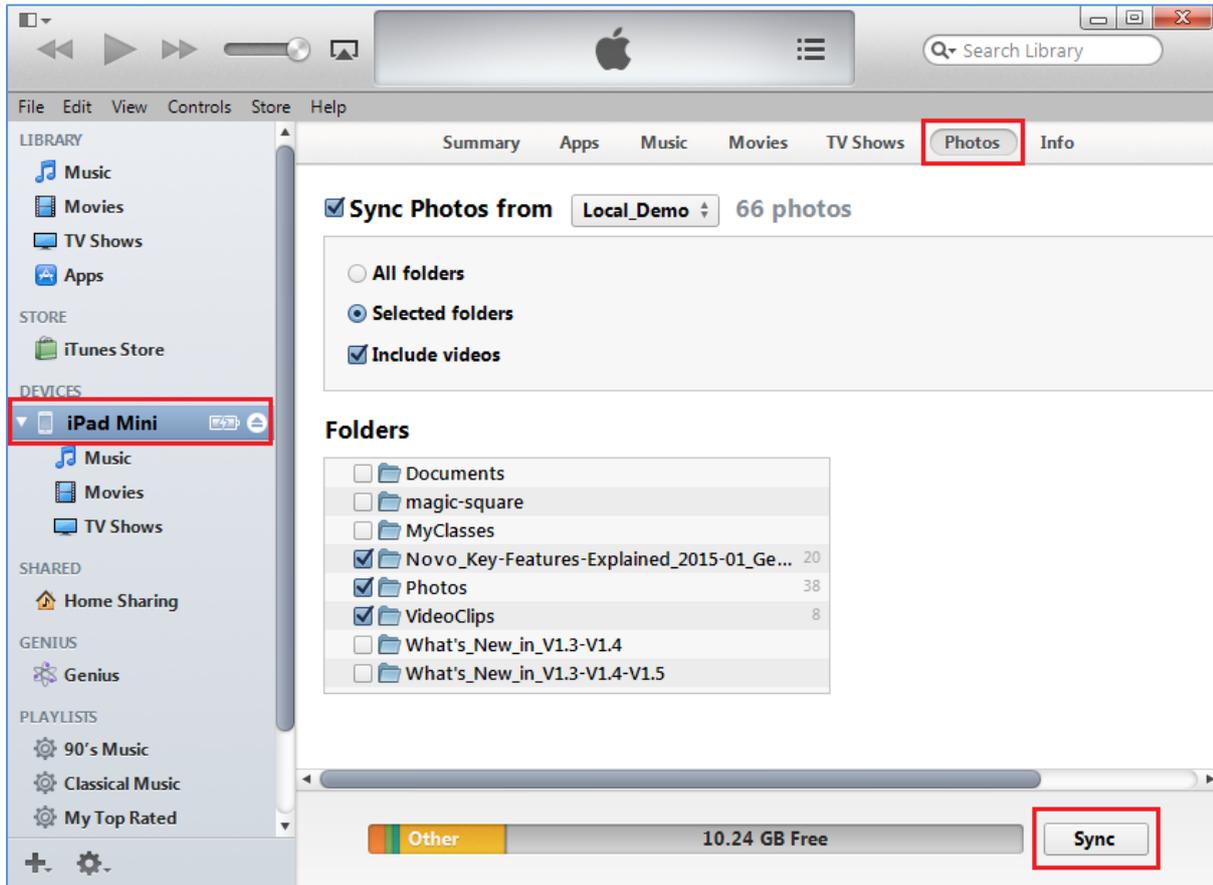
	<p>When the “Move to” window pops up, select a subject (folder) and then tap “Ok”.</p>
	<p>The chosen file has been moved to the selected subject (folder).</p>

### 3.2.2.2 Gallery

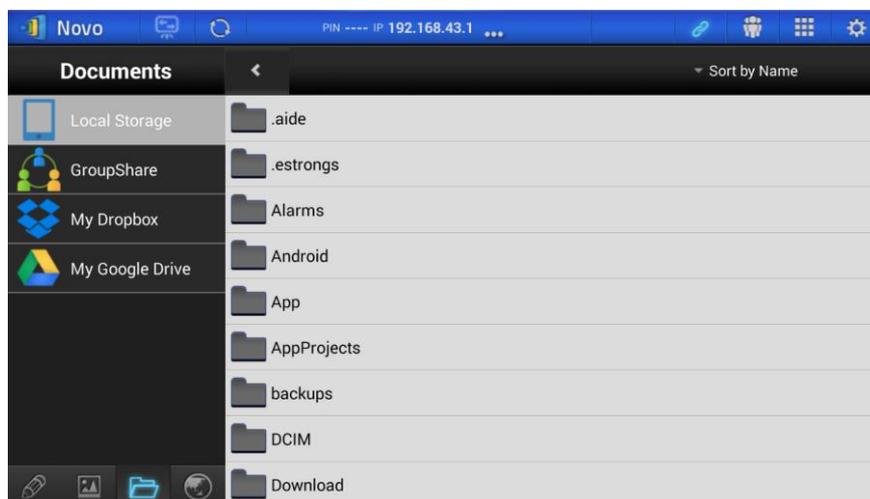


To import images/videos to an iPad, you can follow the steps described below.

- (1) Connect your iPad to your computer.
- (2) In iTunes, select your device (“iPad Mini” in this case), and click the **Photos** button at the center-top area.
- (3) Select the folders we want to sync’ the photos/videos from.
  - Please check “Include videos” if you want to sync’ videos to your iPad
- (4) Click “**Sync**” to start synchronization process.



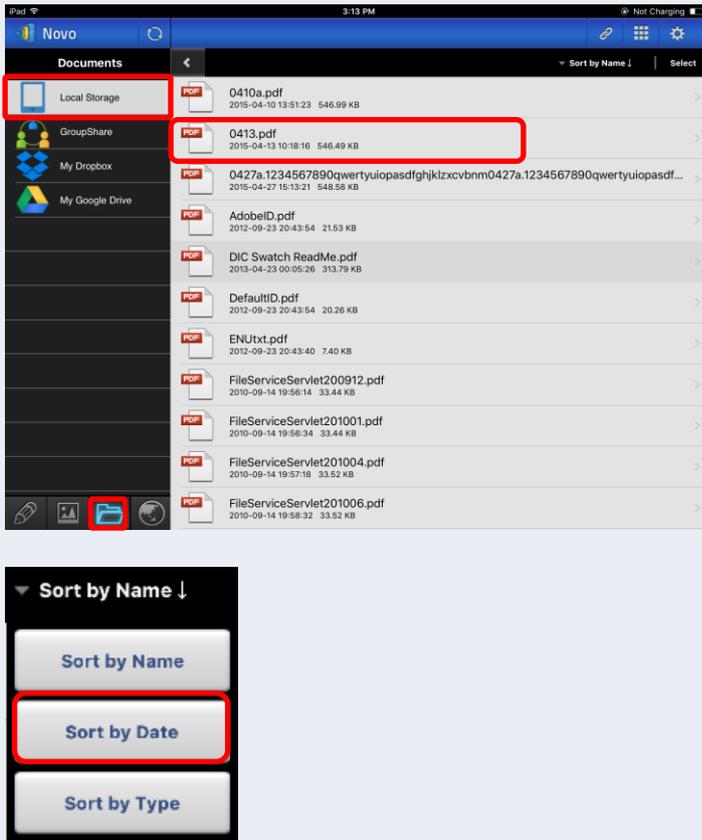
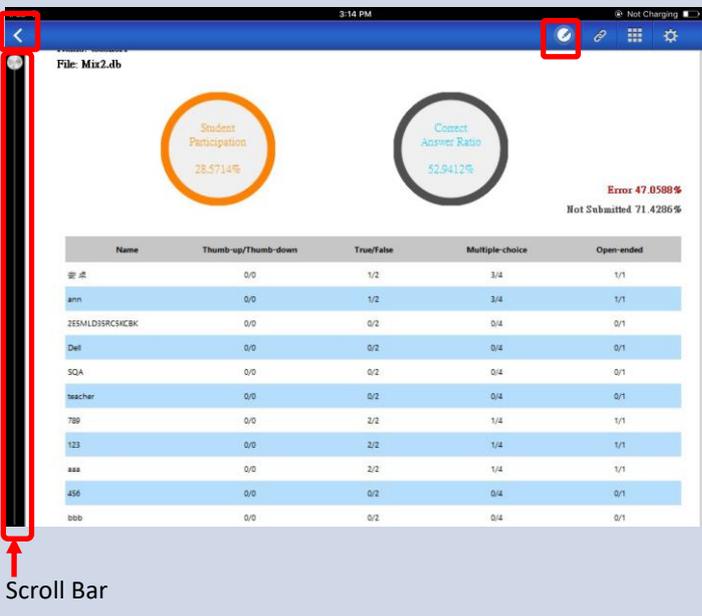
### 3.2.2.3 Documents (Local Storage)



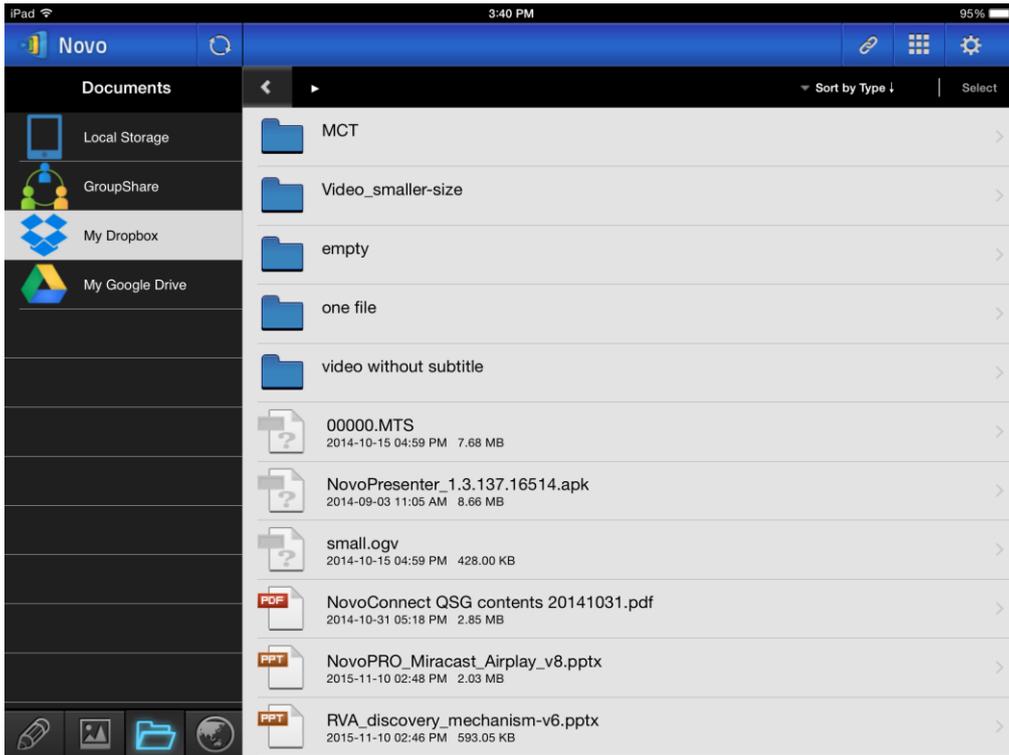
To import images/videos to an iPad, you can follow the steps described below.

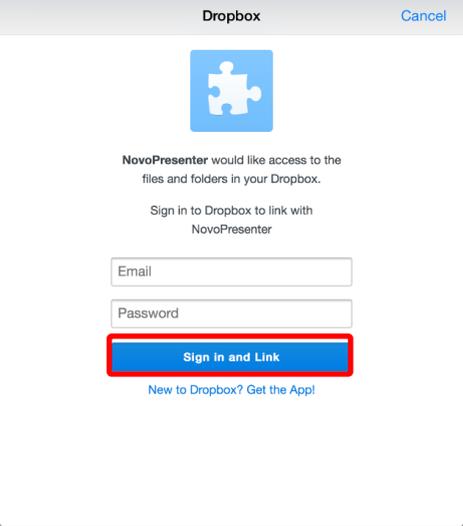
- (1) Connect your iPad to your computer.
- (2) In iTunes, select your device (“iPad Mini” in this case), and click the **Apps** button at the center-top area.
- (3) Below File Sharing, select **NovoPresenter** from the Apps list.
  - Then you can specify the files for transfer by either clicking button “**Add File...**” or dragging files into the Document list.
  - If you want to delete existing files, highlight them and press “Delete” button on the keyboard.
- (4) Click “**Sync**” to start transferring the selected files.

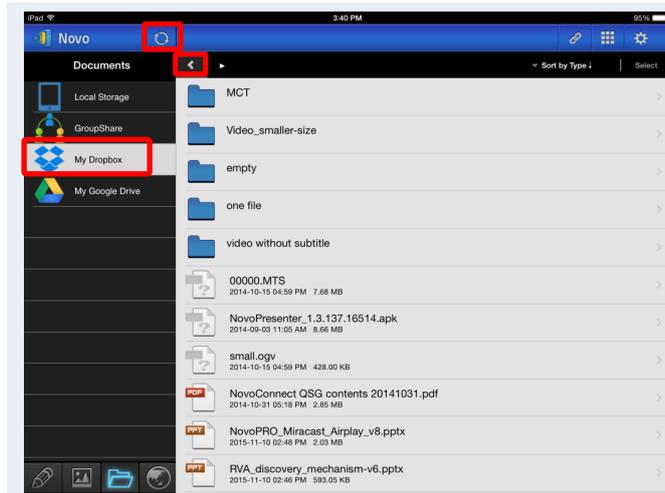


Function	Description
	<p><b>Navigate document list:</b></p> <p>Tap  tab to access Documents. The folder icon will become lit up.</p> <p>For local storage, tap . Documents will be listed on the right pane. Tap the desired one to open for viewing.</p> <p>You can change sorting method by tapping button <b>Sort by...</b> The following sort-by methods are supported:</p> <ul style="list-style-type: none"> <li>- Sort by Name (default)</li> <li>- Sort by Date</li> <li>- Sort by Extension</li> </ul> <p><i>Note: You can tap the  tab to refresh the document list.</i></p>
	<p><b>View documents:</b></p> <p>The selected document will be opened in full screen.</p> <p>You can zoom in and out by pinching your fingers.</p> <p>To scroll down or move to the next page, slide your finger up or drag the scroll bar down. To scroll up or move to the previous page, slide your finger down or drag the scroll bar up.</p> <p>To return to the <i>Document List</i> page, tap .</p> <p>To use the on-screen annotation tools, tap .</p>

### 3.2.2.4 Documents (Dropbox)



Function	Description
	<p><b>Select Dropbox as the document source:</b></p> <p>Tap  tab to access Documents. The folder icon will become lit up.</p> <p>For Dropbox, tap .</p>
	<p><b>First time using Dropbox in NovoPresenter:</b></p> <p>When using this feature for the very first time, an authentication dialog will be popped up.</p> <p>Enter your e-mail address and password associated with your Dropbox account, <i>and then tap</i> the <b>Sign In</b> button.</p>



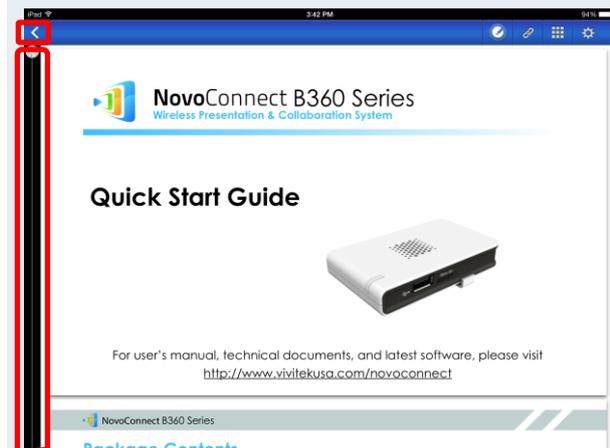
**Navigate document list:**

By default, your Dropbox's home directory is shown. Navigate to a folder by tapping the desired folder.

You can change sorting method by tapping button **Sort by...**

*Note:*

- Tap the  tab to return to the parent folder.
- You can tap the  tab to go back to Dropbox's home directory.
- You can tap the  tab refresh the document list.



**View document:**

The selected document will be opened in full screen.

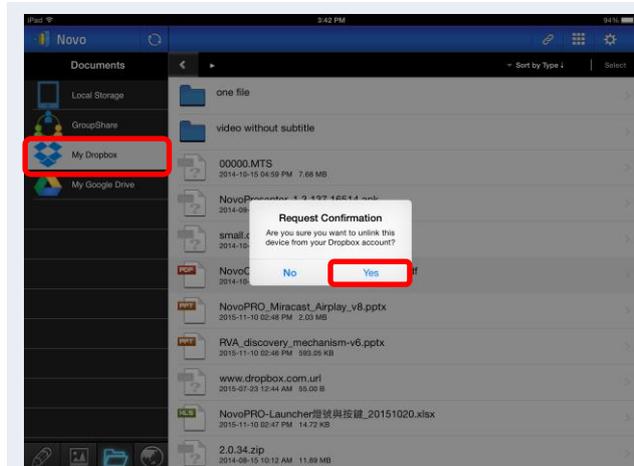
You can zoom in and out by pinching your fingers

To scroll down or move to the next page, slide your finger up or drag the scroll bar down. To scroll up or move to the previous page, slide your finger down or drag the scroll bar up.

To return to the *Document List* page, tap .

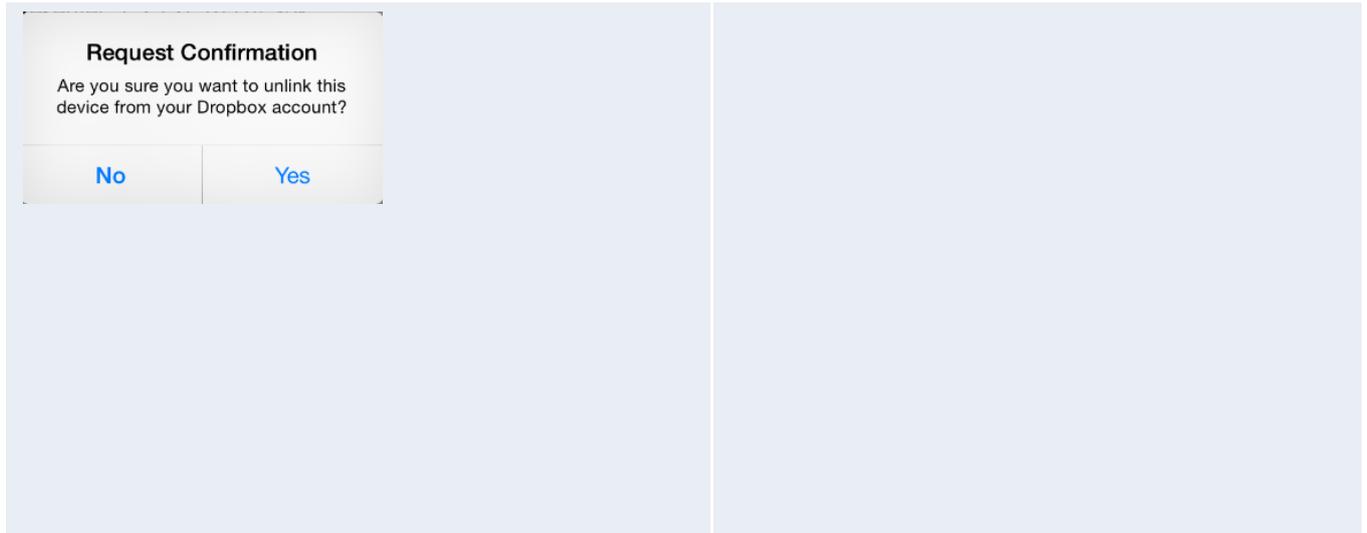
To use the on-screen annotation tools, tap .

Scroll Bar



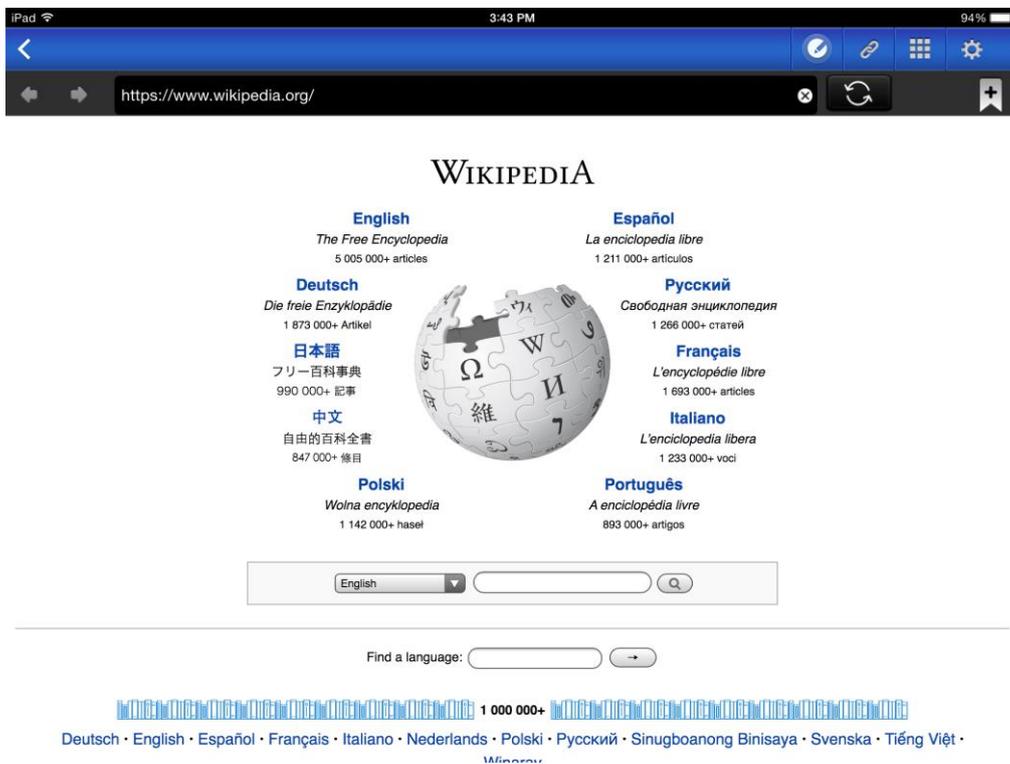
**Unlink the Dropbox account:**

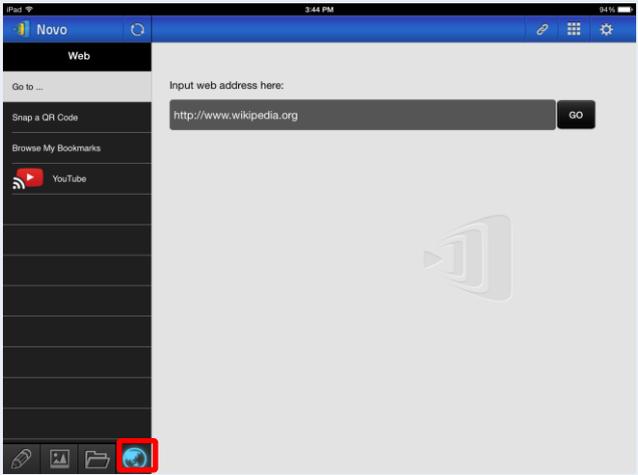
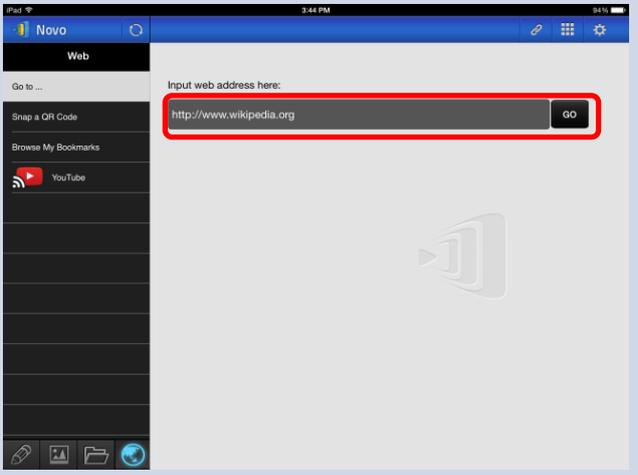
If you need to unlink the Dropbox account, tap and hold the  tab for a few seconds. When the *Request Confirmation* appears, tap **Yes** to proceed.

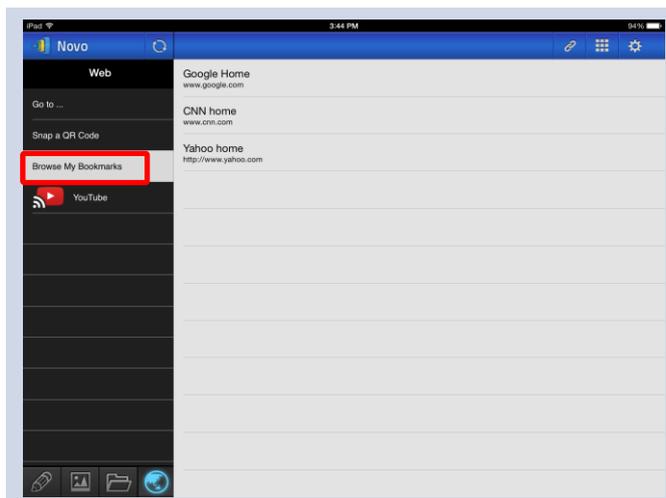


### 3.2.2.5 Web

You can open any website for sharing with *NovoPresenter*. An example screen is shown below.



Function	Description
	<p><b>Browse a webpage:</b></p> <p>Tap the internet tab . It will light up blue. Select one of the three options to access a Web page:</p> <ul style="list-style-type: none"> <li>- Go to... (enter webpage address[default])</li> <li>- Snap a QR Code</li> <li>- Browse My Bookmarks (Web site bookmarks)</li> </ul>
	<p><b>Go to...:</b></p> <p>Tap the <b>Go to...</b> tab. Enter the webpage address and tap <b>Go</b>. Example: Enter the URL <a href="http://www.wikipedia.org">www.wikipedia.org</a> and click on button <b>Go</b></p>
	<p><b>Snap QR code:</b></p> <ul style="list-style-type: none"> <li>• Tap button <b>Snap QR Code</b>.</li> <li>• Aim your iPad's camera at the desired QR code.</li> </ul>

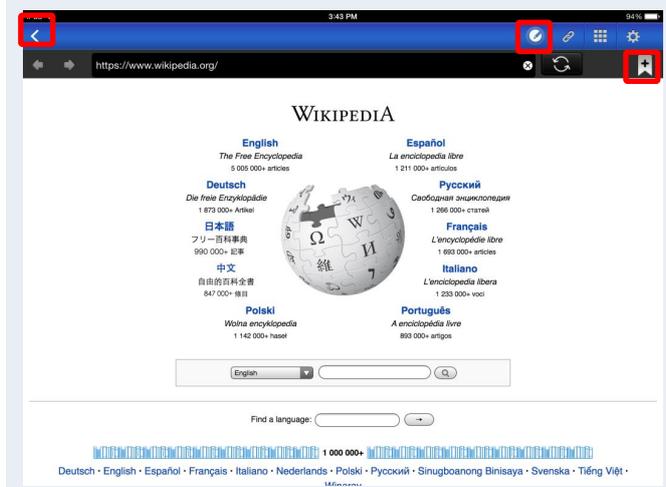


**Browse my Bookmarks:**

Tap the **Browse my Bookmarks** tab.  
From the bookmark list at the right, tap the desired one to open the corresponding webpage.

Tap and hold a bookmark for two seconds to edit or delete the bookmark.

*Note: The bookmark list may initially be empty. You can add a webpage to the bookmark list while browsing.*



**Web page presentation:**

The selected Web page will be shown in full screen.

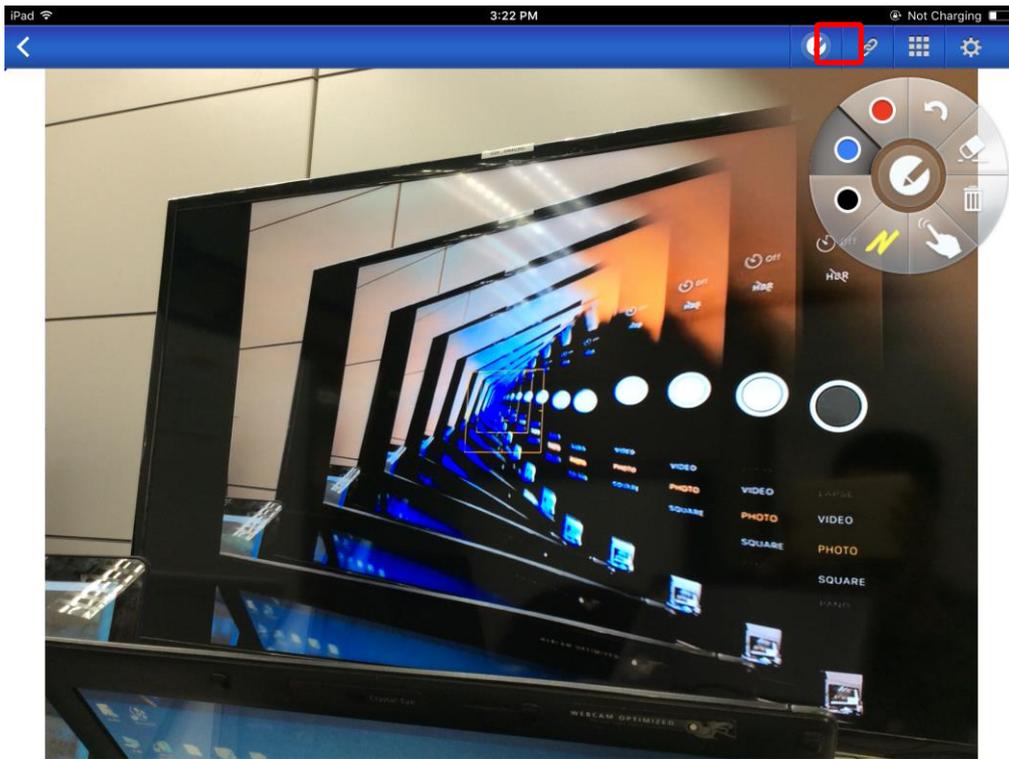
To add this webpage to the bookmark list, tap .

To return to the *Web menu page*, tap .

To use the on-screen annotation tools, tap .

**3.2.2.6 Annotation**

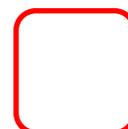
*NovoPresenter* has a built-in drawing tool for on-screen annotation, such as handwriting and highlighting. You can bring up this tool by tapping , as shown below.

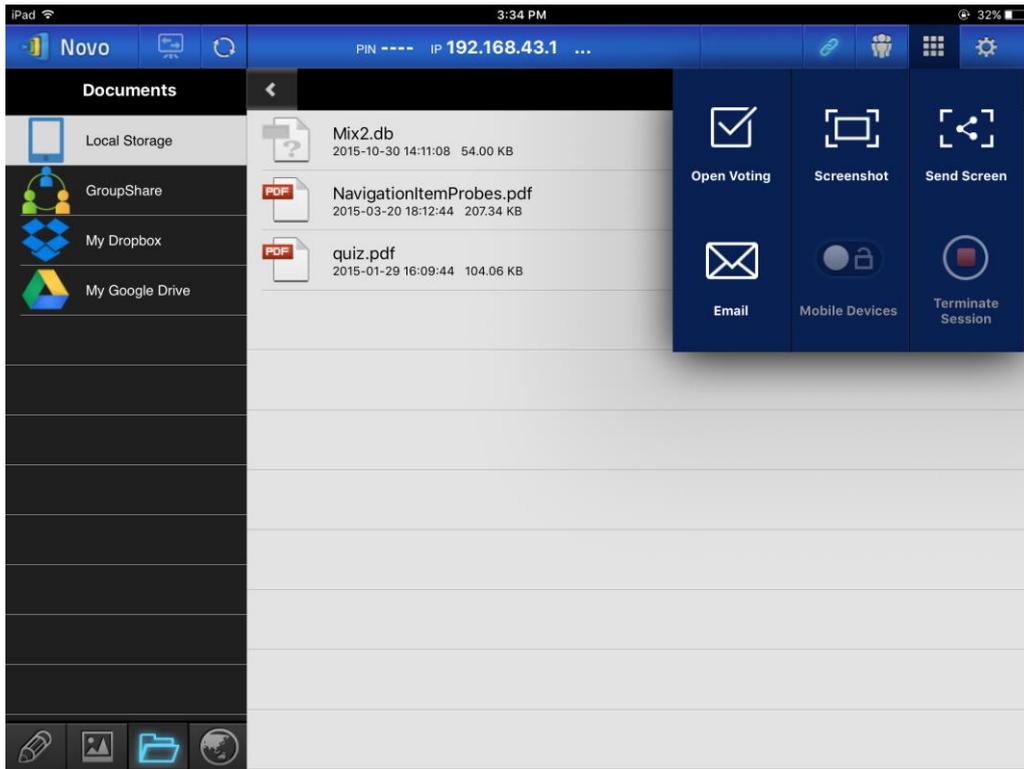


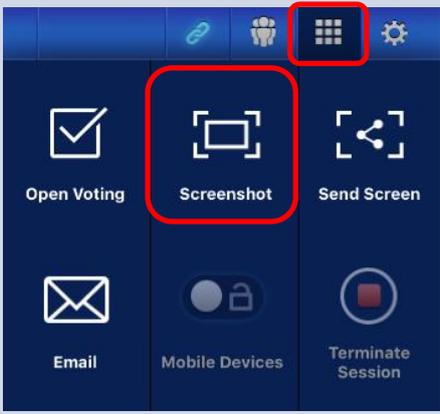
Function	Description
	<p>Tap the  tab to enable the annotation tool.</p> <ul style="list-style-type: none"> <li> Pen: red</li> <li> Pen: blue</li> <li> Pen: black</li> <li> Highlighter</li> <li> Toggle between annotation mode and touch mode</li> <li> Clear All</li> <li> Eraser</li> <li> Undo</li> </ul>

### 3.2.2.7 Screenshot

This feature allows users to take tablet screenshots.

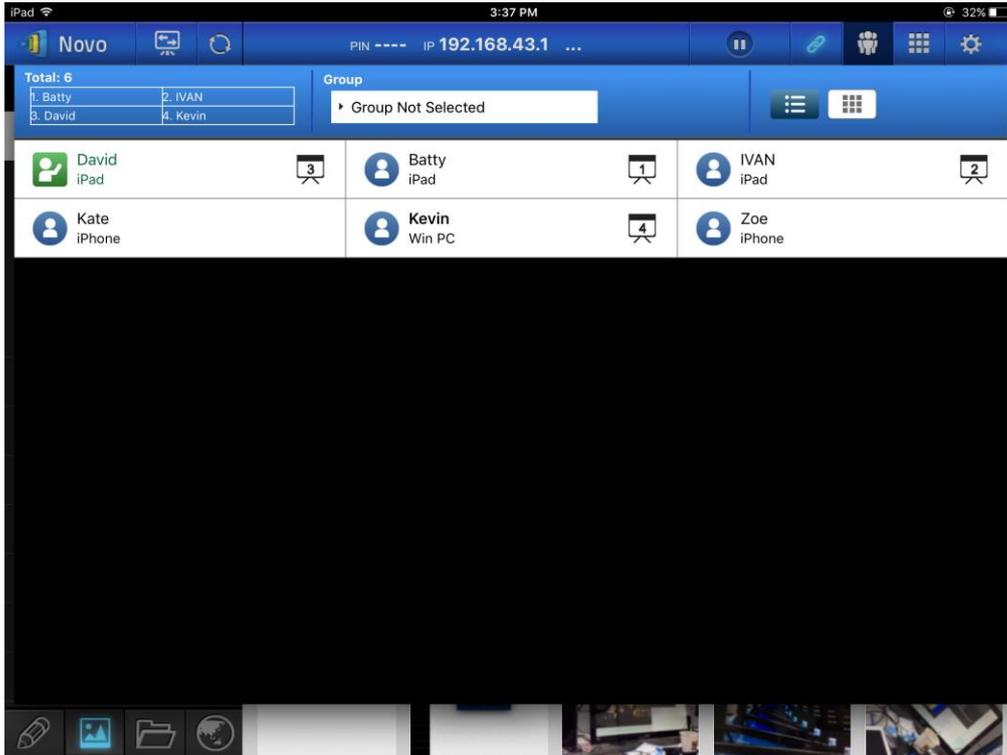




Function	Description
	<p><b>Take a screenshot:</b> Tap the <b>Screenshot</b> button and the current screenshot will be saved in local storage.</p>

### 3.2.3 Step 3: Manage the presentation

You can manage the presentation through the *participants* panel, as shown in the figure below.



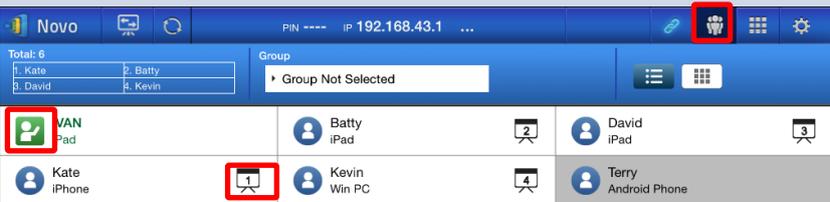
#### 3.2.3.2 Role assignment

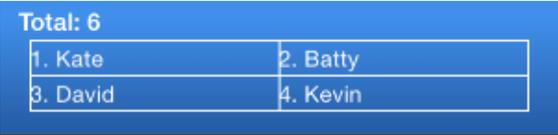
There are three roles in a presentation session, the *moderator*, the *presenter*, and the *participant*.

The first *participant* to start the presentation session is assigned as the *moderator*. Individuals that join subsequently are *participants*.

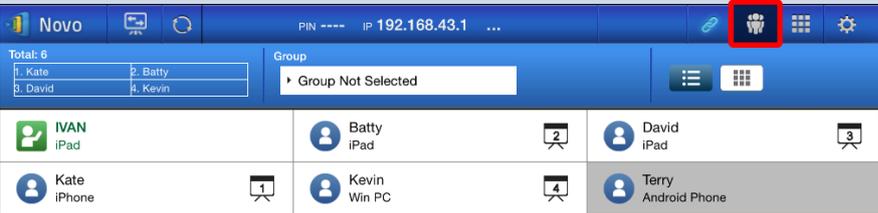
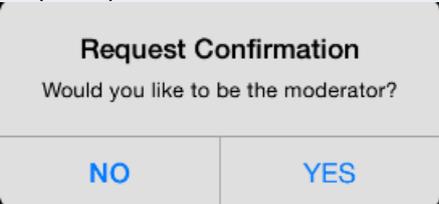
By default, the *moderator* assumes the *presenter* role until he hands it over to another *participant*.

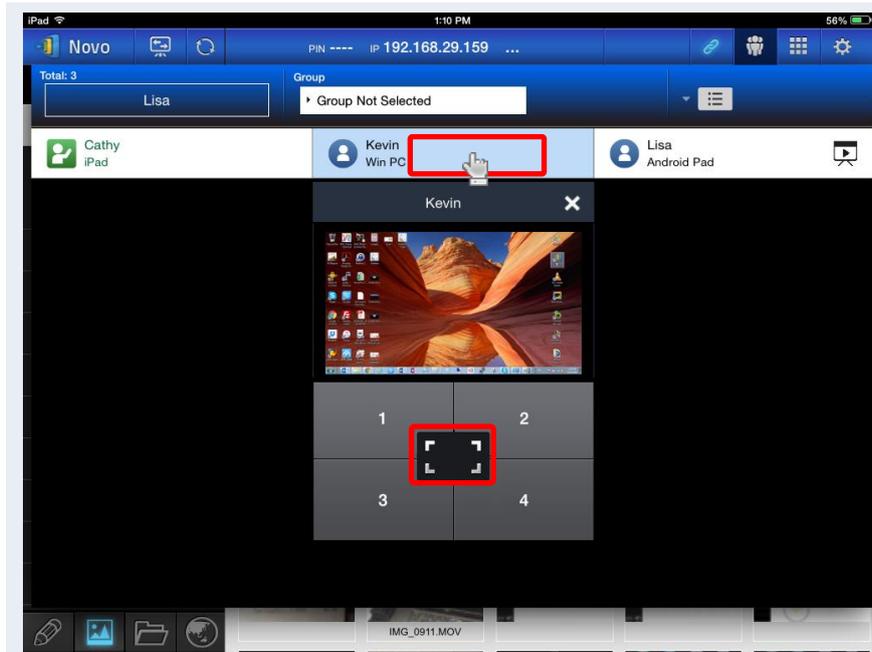
To show all current *participants* who have joined the presentation session, click the  tab.

Function	Description
	<p>Select the  tab to show the <i>participant</i> list.</p> <ul style="list-style-type: none"> <li> : the <i>moderator</i></li> <li> : current <i>presenter</i></li> <li> : current <i>presenter</i> that is being projected in one of the screen quadrants (4-to-1 projection). (The</li> </ul>

	<p>icon shown here is for a <i>presenter</i> that is presenting in quadrant #1).</p> <p>Example: There are six <i>participants</i> in the presentation session (3 iPads, 1 Windows PC, 1 Android phone, and 1 iPhone.) Kate, Batty, David, and Kevin are <i>presenters</i> in 4-to-1 projection.</p>
<p>Example 1:</p>  <p>Example 2:</p> 	<p>Total <i>participants</i> and current presenter(s).</p> <p>Example 1: Currently there are 2 <i>participants</i> and Ivan is the only <i>presenter</i> in full-screen projection.</p> <p>Example 2: Currently there are 6 <i>participants</i>. Kevin, Kate, Batty, and David are 4 <i>presenters</i> in 4-to-1 projection.</p>

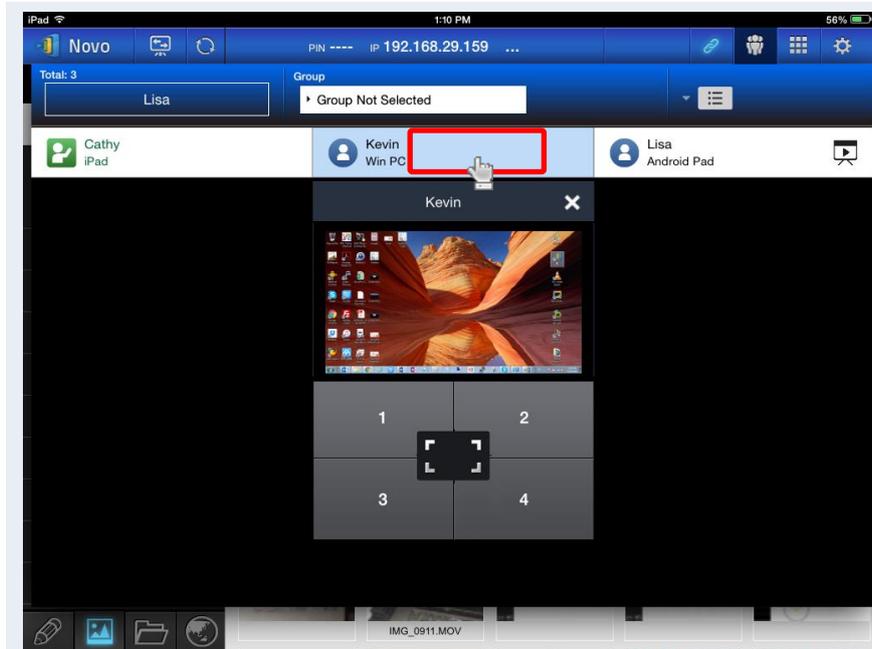
### 3.2.3.3 Role change, screen preview, and four-way split screen

Function	Description
	<p><b>Role change: transfer the moderator role</b></p> <p>Tap  tab to show the <i>participant</i> list. Then tap icon  of the <i>participant</i> you want to transfer <i>moderator</i> role to.</p> <p><i>Note: only the moderator can perform this operation.</i></p>
<p>On moderator's screen:</p>  <p>On participant's screen:</p> 	<p>A confirmation dialog pops up. You have 20 seconds to respond.</p> <p>After the moderator confirms the role transfer, a dialog box will appear on the <i>participant's</i> screen to ask his/her confirmation. The <i>participant</i> has 20 seconds to respond.</p>



**Full-Screen Projection**

- 1) Tap the *participant* (e.g. Kevin) to bring up the control panel
- 2) Tap  to set Kevin as the full-screen presenter.

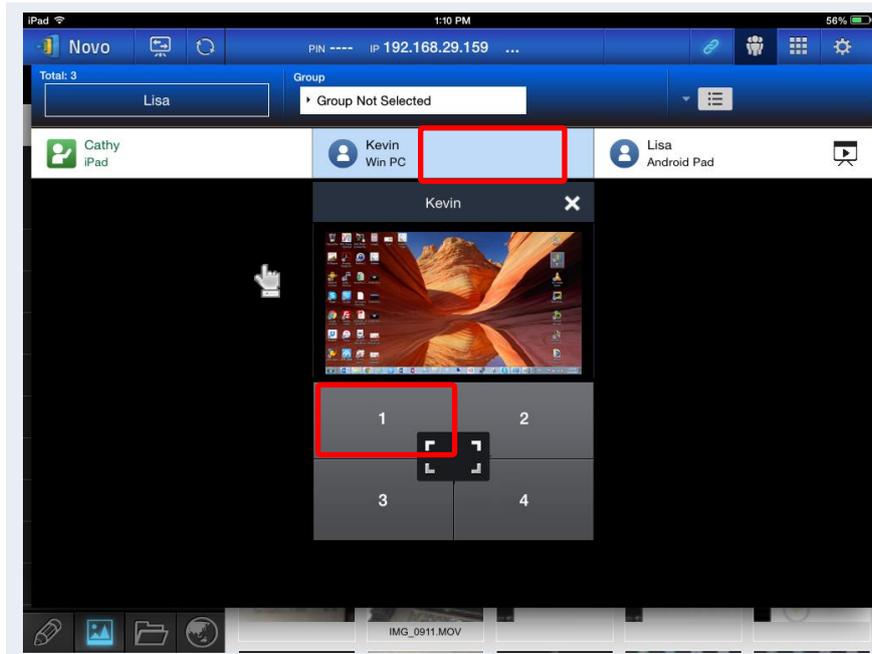


**Screen preview:**

For the *Education Edition*, the moderator can preview desktop screens of all *participants*.

To preview a *participant's* screen, tap the corresponding entry. Wait for a few seconds for the screen to appear.

In this example, Kevin's Windows PC is selected to be previewed.



**4-to-1 Projection**

- 1) Tap the *participant* (e.g. Kevin) to bring up the control panel
- 2) Tap button “1”, “2”, “3”, or “4” to put the participant in the corresponding quadrant.

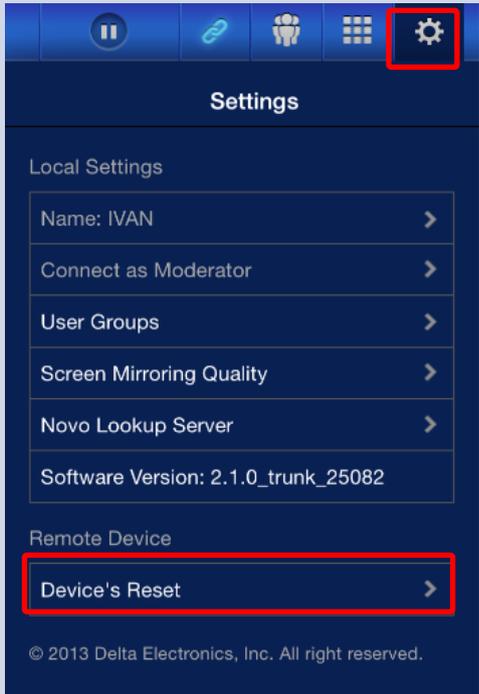
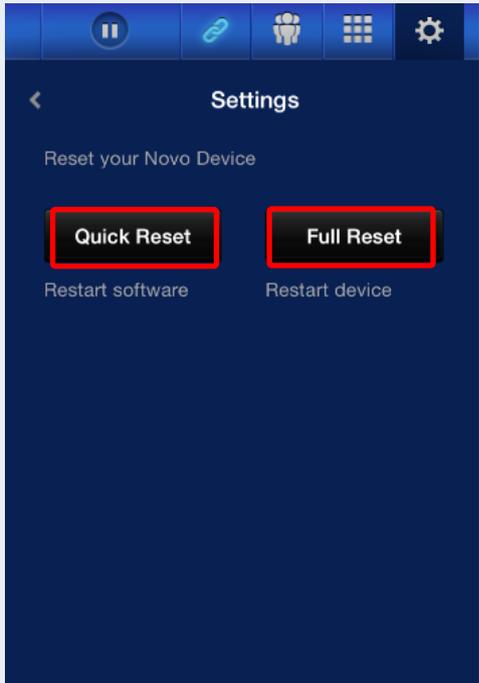
In this example, Kevin is assigned to make a presentation in Box #1.

**3.2.3.4 Pause, resume, and disconnect**

Function	Description
	<p><b>Pause and resume a presentation:</b> While presenting, the <i>presenter</i> can toggle between  and  to pause and resume the presentation respectively.</p>
	<p><b>Disconnect from a presentation session:</b> Tap <b>Disconnect</b> button to exit the presentation session.</p> <p>If the <i>moderator</i> exits the presentation session without handing over the <i>moderator</i> role, all <i>participants</i> will receive a message prompting them to take over moderator role. The first to respond to the prompt will assume the role of <i>moderator</i>.</p>

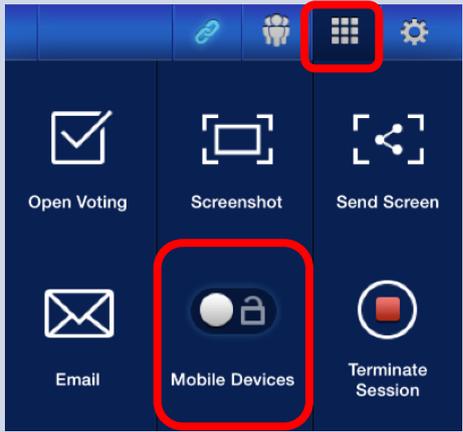
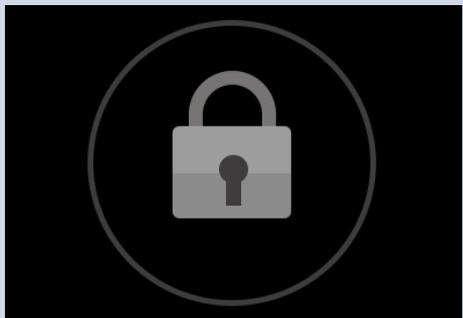
**3.2.3.5 Reset**

In case you run into cases where the NovoCast may have locked up or exhibiting strange behavior, you could reset NovoCast from your iPad.

Function	Description
	<p><b>Reset NovoCast:</b></p> <p>First tap  tab and tap  arrow of the <b>Device's Reset</b> window.</p>
	<p><b>Quick Reset and Full Reset:</b></p> <ul style="list-style-type: none"> <li>• Tap <b>Quick Reset</b> to do a soft reset (restarting the software on NovoCast).</li> <li>• Tap <b>Full Reset</b> to do a hard reset (restarting the NovoCast device)</li> </ul> <p>Conflicts may occur when multiple <i>participants</i> simultaneously attempt to reset the NovoCast. The reset priorities are as follows:</p> <ol style="list-style-type: none"> <li>1. <i>Moderator</i>: The <i>moderator</i> has the sole privilege to <b>Quick Reset</b> and <b>Full Reset</b> when the <i>moderator</i> stays connected to the NovoCast.</li> <li>2. <i>Presenter</i>: If the <i>moderator</i> loses connection to the NovoCast, the current <i>presenter</i> inherits the privilege to <b>Quick Reset</b> and <b>Full Reset</b>.</li> <li>3. <i>Participant</i>: If the <i>moderator</i> and all <i>presenters</i> lose connection to the NovoCast, any <i>participant</i> can perform <b>Quick Reset</b> and <b>Full Rest</b>.</li> </ol>

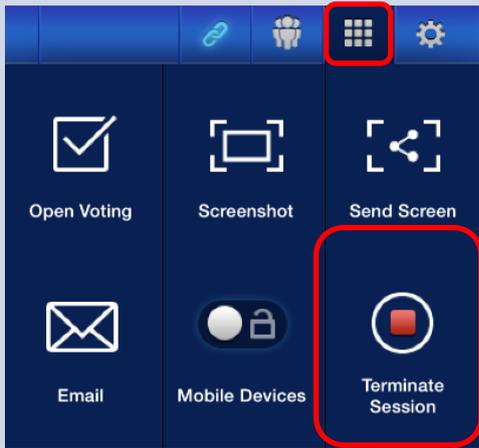
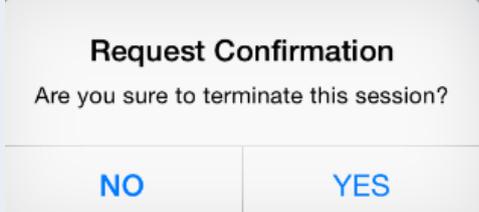
### 3.2.3.6 Lock/Unlock students' tablets

This feature allows the moderator to lock down student tablets/phones.

Function	Description
	<p><b>To lock/unlock students' tablets:</b></p> <p>Click the  tab to bring up the toolbar page, then click <b>Mobile Devices</b> to lock or unlock the students' tablets.</p> <p> Student tablets/phones are unlocked.</p> <p> Student tablets/phones are locked.</p>
	<p><b>Student tablets locked:</b></p> <p>A lock icon will appear on the students' tablets/phones.</p>

### 3.2.3.7 Terminate session

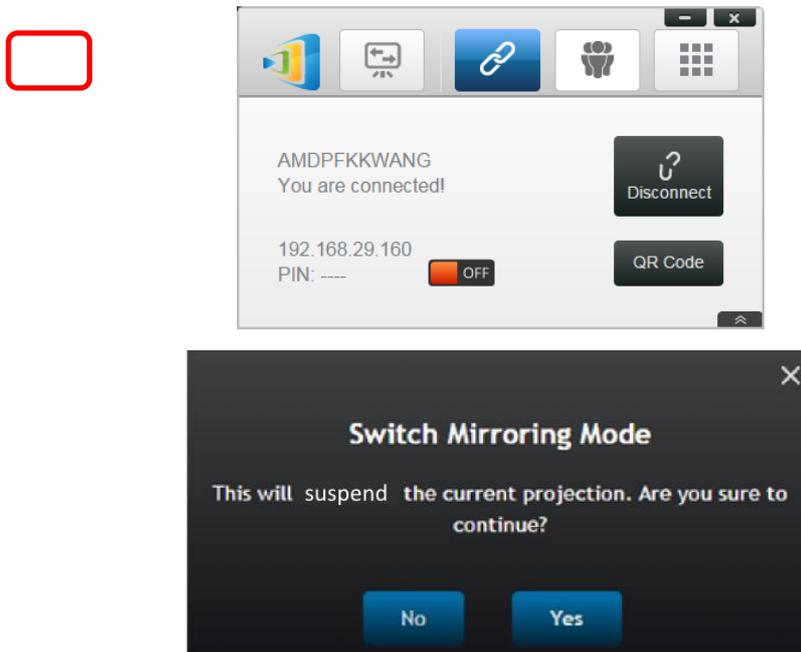
The moderator can disconnect all devices with one touch. This feature is only available in the *Education Edition*.

Function	Description
	<p><b>To terminate a session:</b></p> <p>Tap the  tab and tap <b>Terminate Session</b>.</p>
	<p><b>Confirmation:</b></p> <p>Click <b>Yes</b> to terminate the session. All devices will be disconnected.</p>

### 3.3 iOS/Android Full Mirroring

When NovoCast is in its home screen, it can receive requests from either a collaboration connection described in section 3.1 and 3.2, or iOS/Android full mirroring request. This is true even when collaboration connections are already set up using *Desktop Streamer* or *NovoPresenter* app. To do so,

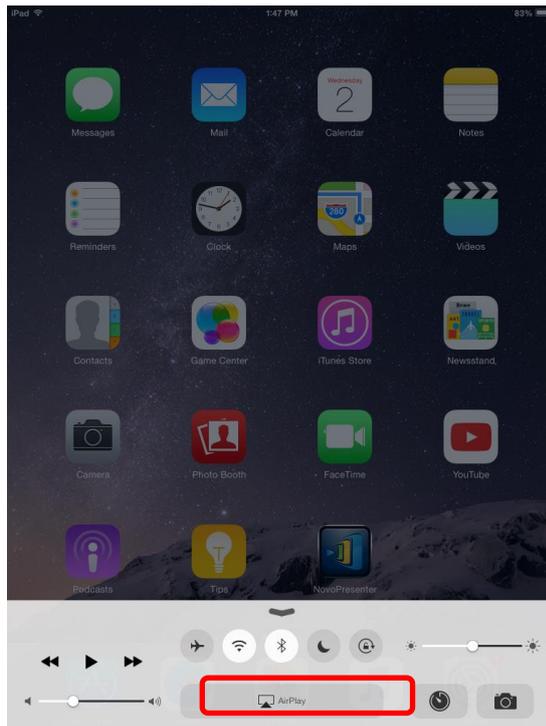
- 1) The *moderator* should click the “mode switch” button in the left figure below.
- 2) Then a pop up window asks you to confirm you’d like to switch to mirroring mode. Once you click the “Yes” button, the NovoCast will return back to its home screen to allow you to start iOS/Android full mirroring.



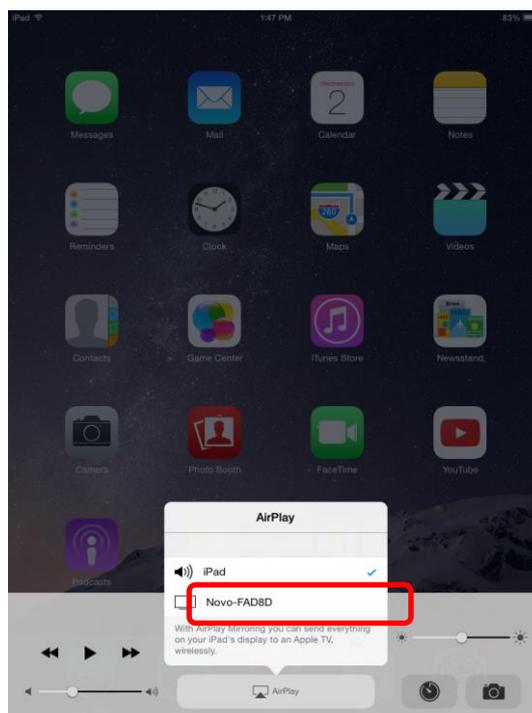
#### 3.3.1 iOS Full Mirroring

All participants using iPads/iPhones can mirror their screens to NovoCast by using iPad/iPhone’s built-in Airplay service. No software installation is required in this case. To do so,

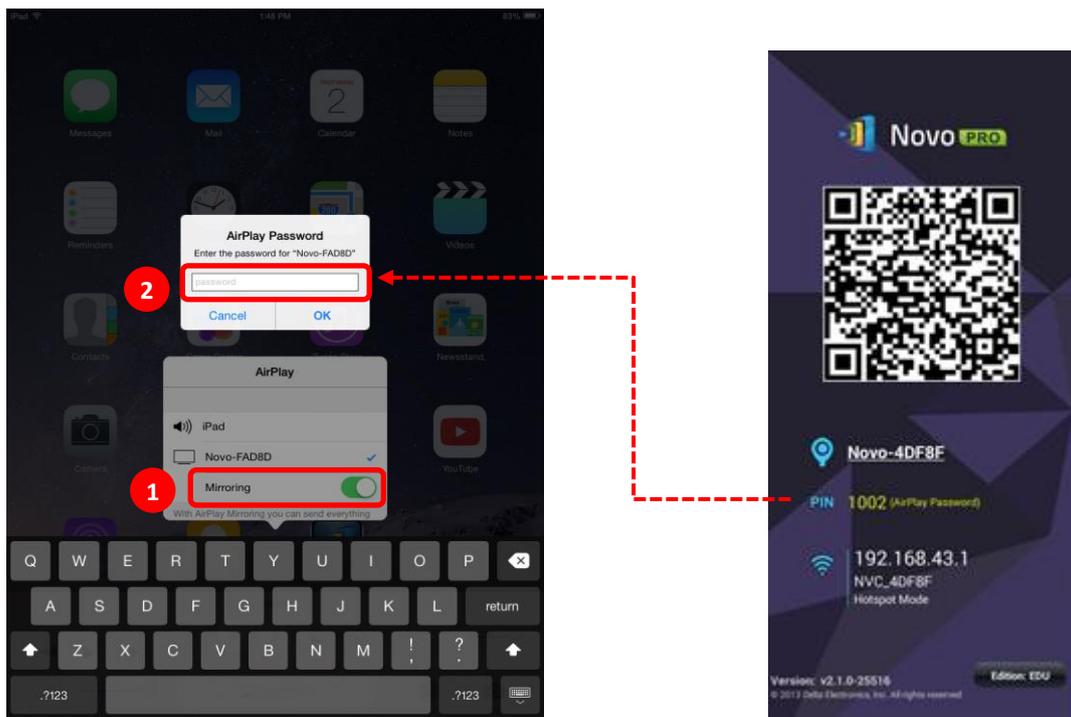
1. Connect your iPad/iPhone to the same network where your NovoCast device stays.
2. Swipe up from the bottom of the iPad or iPhone to show the Control Center.



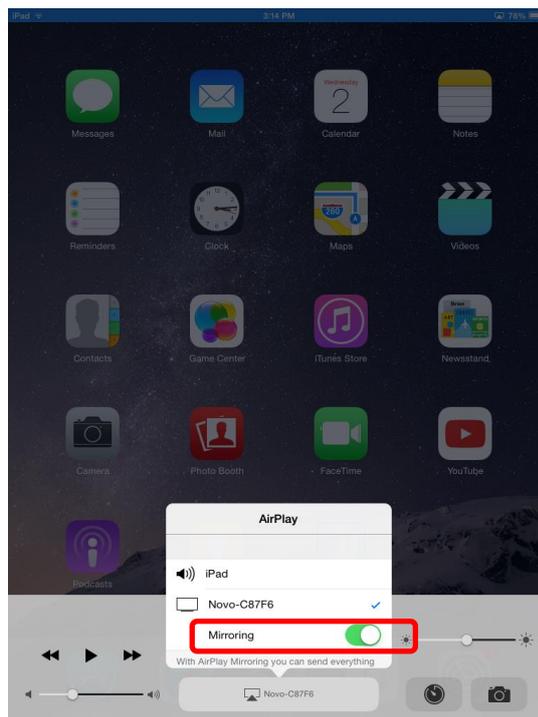
3. Click AirPlay and select NovoCast’s AirPlay device name. By default NovoCast’s AirPlay device is named as “Novo-XXXXX”, where XXXXX is a device-generated name.



4. Switch on “Mirroring” option. Then an “Airplay Password” prompt pops up. Enter the 4-digit “AirPlay password” shown on NovoCast’s home screen (illustrated below). Once the correct password is entered, your iPad/iPhone will be mirrored to the NovoCast’s screen.



5. To stop mirroring your iPad/iPhone, you should swipe up from the bottom of the iPad/iPhone to access the “AirPlay” menu. Tap “Novo-XXXXX” name, and then switch off mirroring function.

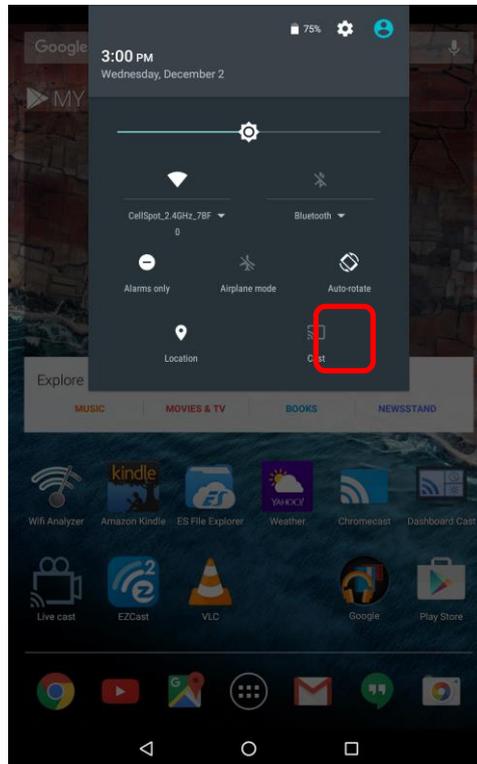


### 3.3.2 Android Full Mirroring

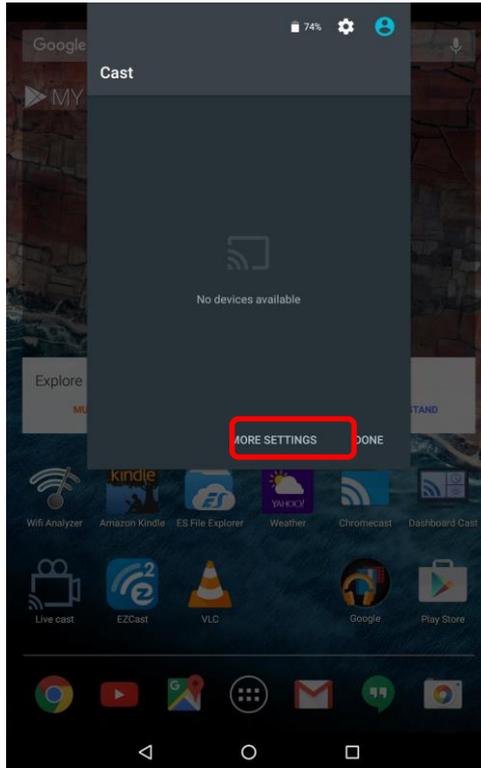
All participants using Android tablets or phones can mirror their screens to NovoCast by using tablets/phones’ Miracast service. No software installation is required in this case.

*Please note: the actual operation steps might vary due to different Android OS releases and/or manufacturers' Android customization. The following steps are illustrated using Google's Nexus 7 Android tablet.*

1. Connect your Nexus 7 the same network as your NovoCast.
2. Swipe down from the top of Nexus 7 to show the Control Center, and then tap **Cast** button.



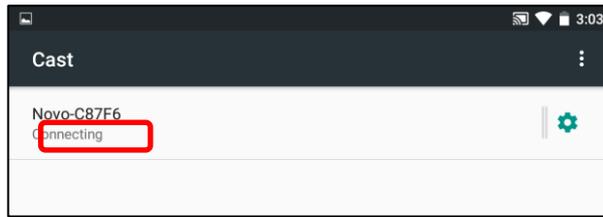
3. You will see a list of devices you can cast your Nexus 7 to. If this is the first time you set up such a connection, the list may be empty. If you don't see the desired NovoCast in the list, tap "MORE SETTINGS".



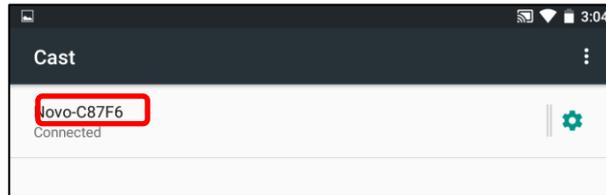
4. A new list will pop up with all available Miracast-capable devices you can cast to. In this case, "Novo-C87F6" is the desired NovoCast unit. Tap on it and continue.



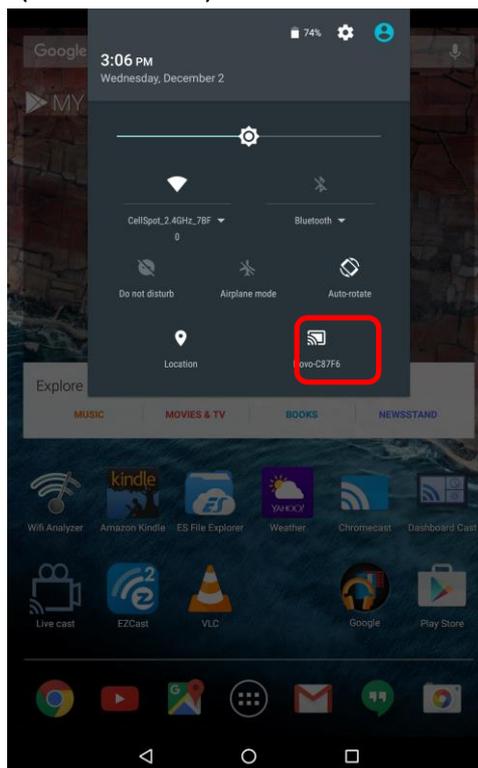
5. Establishing such a connection could take up to 15 seconds. The following "Connecting..." message may appear.



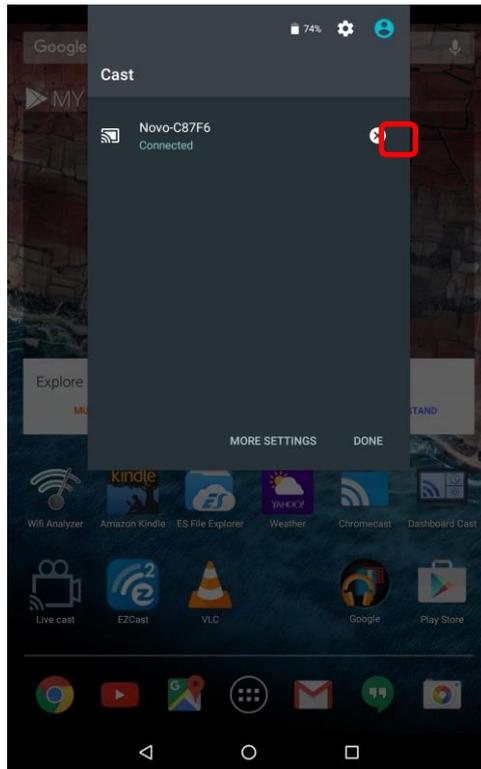
6. If the connection is successful (i.e. a Miracast session is started successfully), the status message will change to **“Connected”**. At this moment, your Nexus 7 should be mirrored to the NovoCast’s screen.



7. To stop mirroring, please swipe down from the top of the Android device to show the Control Center, and then tap **Cast** Icon. Please note that “Cast” is changed to NovoCast’s device name (“Novo-xxxx”).



8. Tap  icon to stop the Miracast session.



### 3.4 Presenting with NovoCast

Your NovoCast device allows you to make presentations with the computing power of the device itself without the assistance of a computer. Your presentation files may reside in a microSD card, USB memory drive, the internal storage of your NovoCast device, or in your Dropbox online storage account (Internet connection required for Dropbox access).

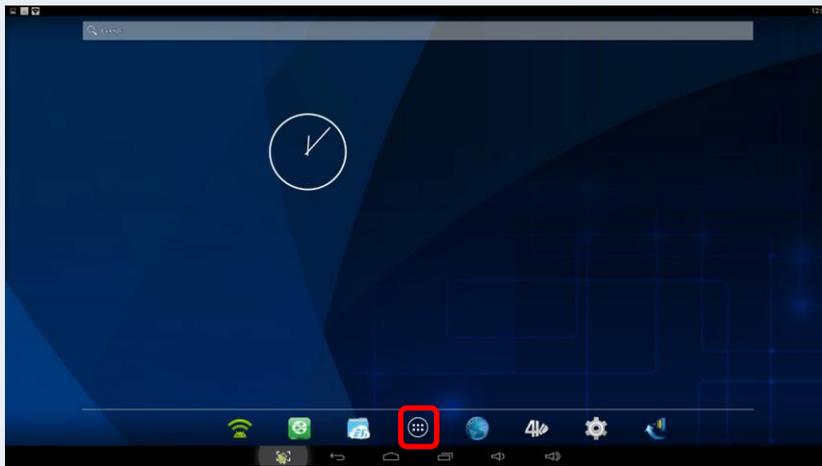
The steps for making a presentation with only your NovoCast are as follows:



- 1) If your presentations are stored on a microSD card, please insert the microSD card into the microSD card slot.
- 2) If your presentations are stored on a USB thumb drive, please first connect a USB hub to your NovoCast device, then connect a mouse and a USB thumb drive to the USB hub.
- 3) You can also save your presentation files in the local storage of your NovoCast or in your Dropbox online.
- 4) Connect a USB mouse to the NovoCast. Or, if you use a touch-screen panel, you can connect its USB output to the NovoCast.

You are now ready to make a presentation with your NovoCast.

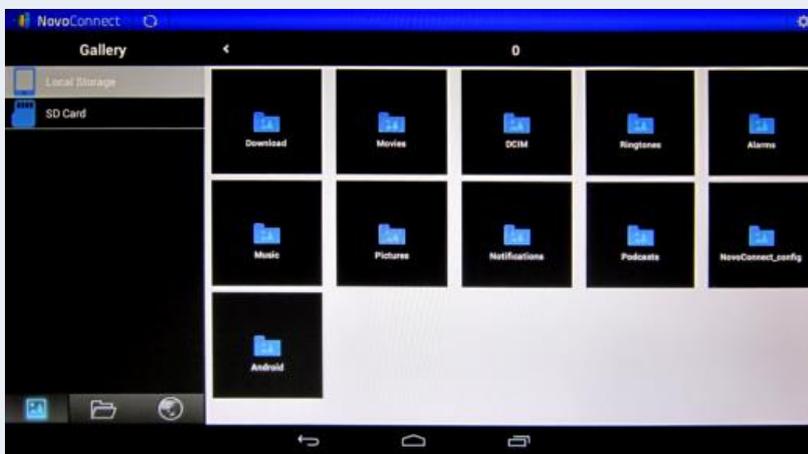
Function	Description
	<p><b>Present with NovoPresenter</b></p> <p>(1) Click an empty spot on the NovoCast home screen. Then click the home button .</p>



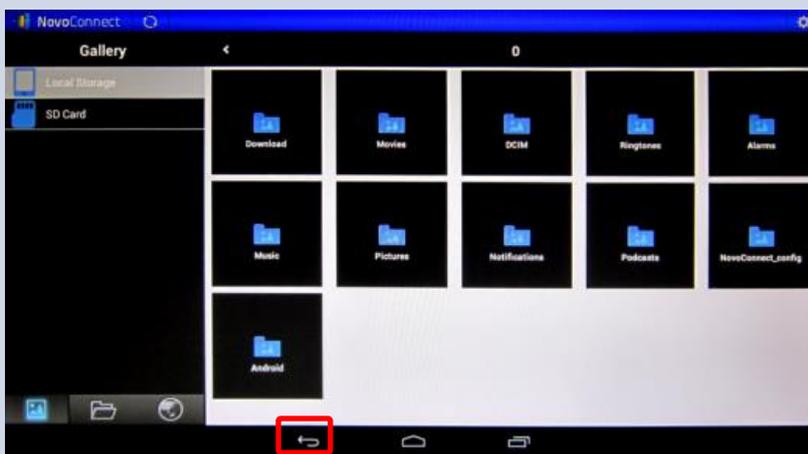
(2) Click the apps button .



(3) Click *NovoPresenter* .



(4) Now you can navigate to and open the desired files.



**Return to NovoCast Home Screen**

(1) Click the back key  one or more times until you exit *NovoPresenter*.

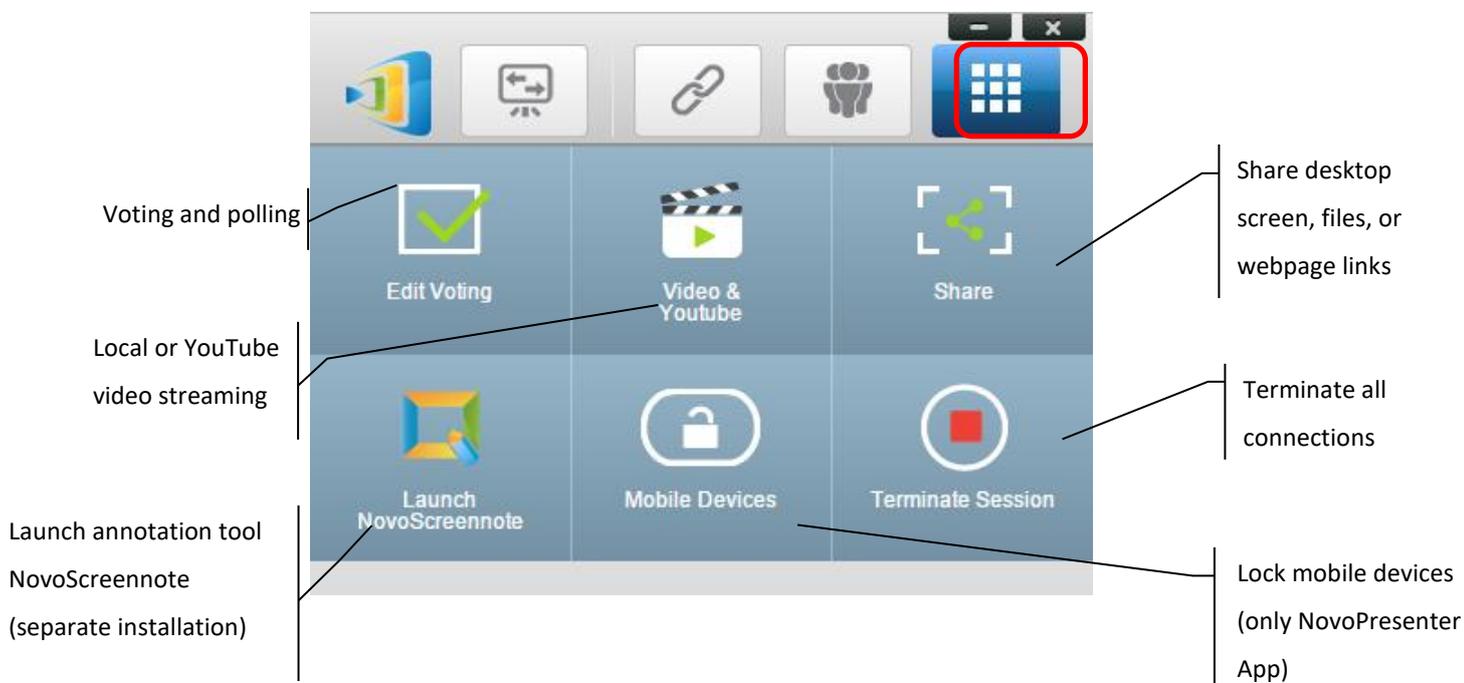


(2) Click **Remote Viewer** .

(3) Click the back key  one or more times until the system bar disappears.

## 4. Collaboration Tools

NovoCast is not only a wired/wireless presentation device, but also a collaboration system with a set of built-in tools. You can access these tools by clicking the “Tools” button.



The bottom 3 tools are straightforward and self-explanatory, and this chapter will focus on the 3 tools shown on the top row. In addition, a new concept, User Group, is described in details as well.

### 4.1 Video Clips and YouTube Streaming

This feature allows you to smoothly stream your local video clips or YouTube videos to NovoCast.

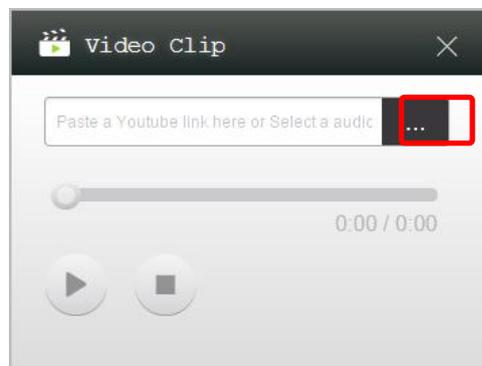
Please note that only the presenter in full-screen projection is able to use this feature. (Presenters in 4-to-1 projection are not able to do so.)

#### 4.1.1 Streaming local video files

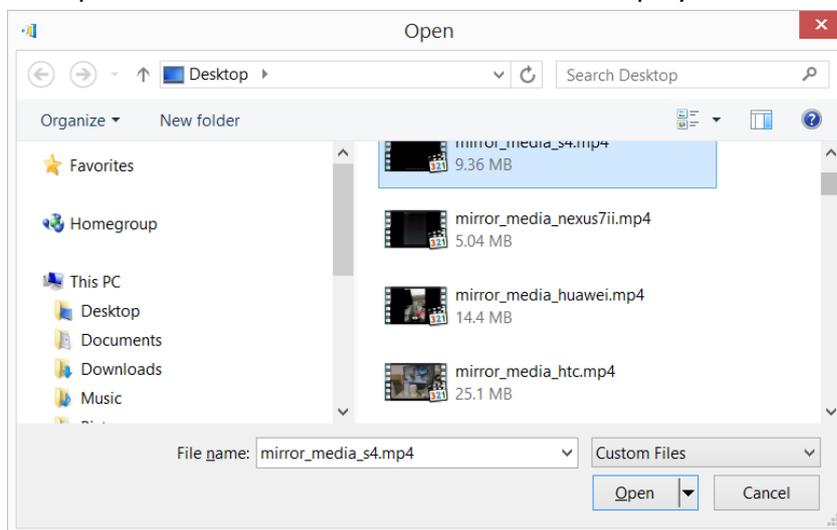
1. From the “Tools” menu, click on the “Video & YouTube” button.



2. When the “Video Clip” panel shows up, click the Browse button to locate the video clip on your computer.



3. Select the video clip and click on the PLAY button to start the playback.

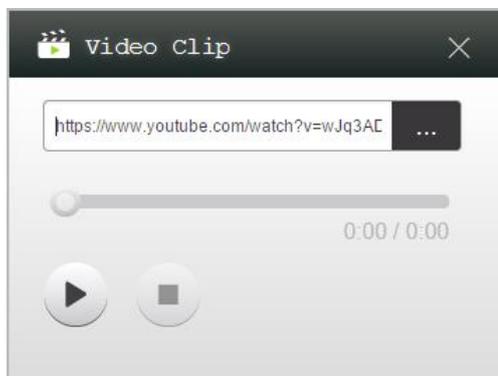


### 4.1.2 Streaming YouTube video

1. From the “Tools” menu, click on and launch the “Video & YouTube” tool.



- When the video player bar open, paste or type the URL for the YouTube video you wish to play in the window.



- Click on the PLAY button to start the playback.

### 4.1.3 Video controls

 : Start/Pause/Resume playback

 : Stop playback

 : Progress bar. You can skip forward/backward by moving its control knob.

## 4.2 File Sharing

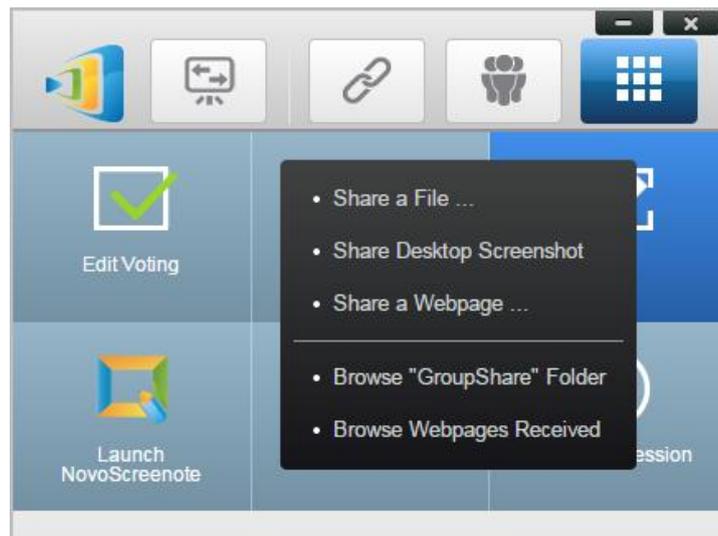
This feature allows the *moderator* and *participants* to share resources (like files, screenshots, and webpage links) between their devices. The *moderator* can send resources to all *participants* while a *participant* can only send resources to the *moderator*.

### 4.2.1 File Sharing in Desktop Streamer

1. To open the File Sharing feature, click the tools tab. The File Sharing tool is labeled as “Share”.

*Note: The file sharing button will only be activated when there is at least one other participant connected to the session besides the moderator.*

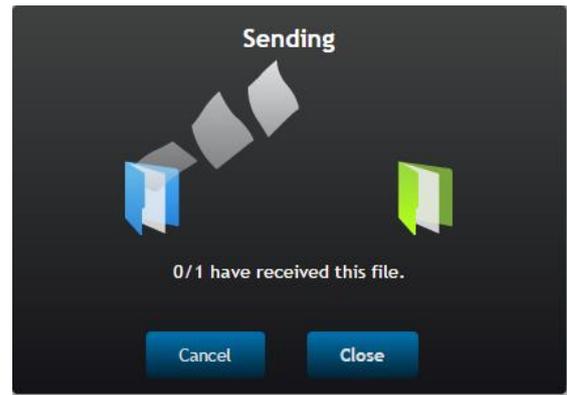
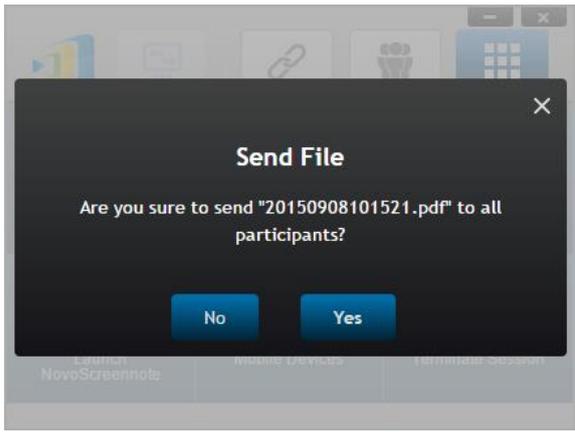
2. Clicking on this button will bring up five options
  - a. Share a File: Select a file for sharing
  - b. Send Desktop Screenshot: Send the current desktop screenshot for sharing.
  - c. Share a Webpage: Send a webpage link for sharing.
  - d. Browse “GroupShare” Folder: Open the default folder at “C:\Users\\GroupShare”
  - e. Browse Webpages Received: View the webpage links received from others.



#### 4.2.1.1 Sending

##### Share a File

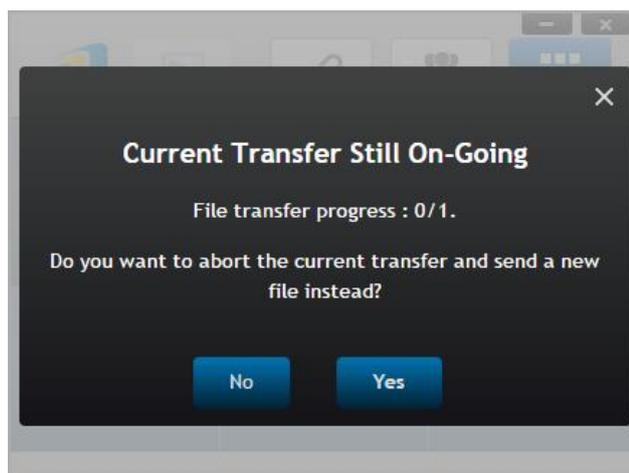
1. To share a file, click on “Share File” to bring up a file explorer. Select the desired one to continue. You will be prompted with the following dialog on the left. If you click on “Yes”, a status dialog (on the right) will appear. You have the option to click on “Cancel” to abort the transfer.



- When a transfer is active, the  will appear next to the "Share" tool button. Clicking on it will bring up the transfer status dialog, as shown in previous item.

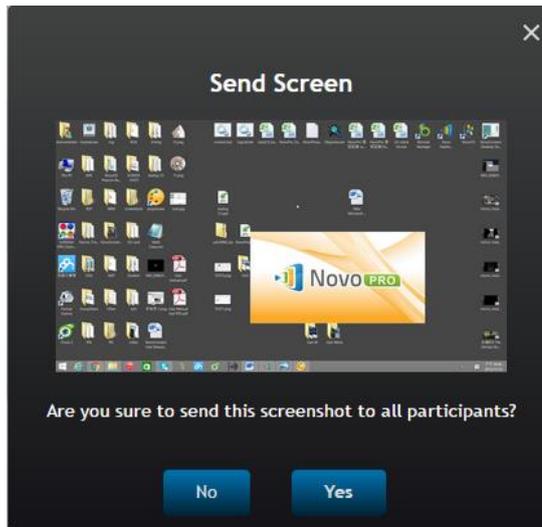


- If you start sending a new file while the previous one is still in progress, you will be prompted with the following warning.



Share Desktop Screenshot

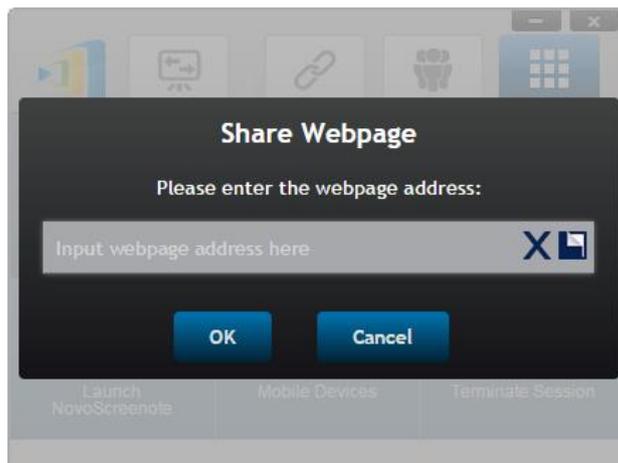
- To send the current desktop screenshot, click on "Share Desktop Screenshot" to start the process. A dialog box will appear after a few seconds, as shown below.



2. Click on "Yes" to start the transfer.

Share a Webpage

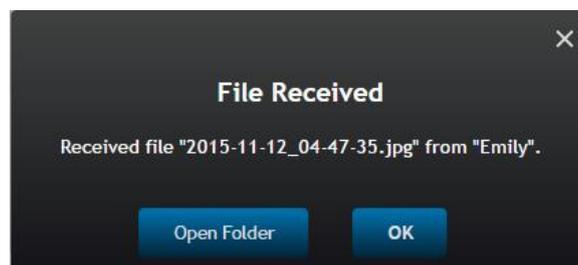
1. To send a webpage link, click on "Share a Webpage..." to start the process. A dialog box will be prompted for the user to enter the webpage link, as shown below.



2. Click on "Yes" to start the transfer.

**4.2.1.2 Receiving**

Once your computer receives a file, a desktop screenshot, or a webpage link, you will be prompted with a notification dialog, as shown below. ("File Received" is used as an example here.)

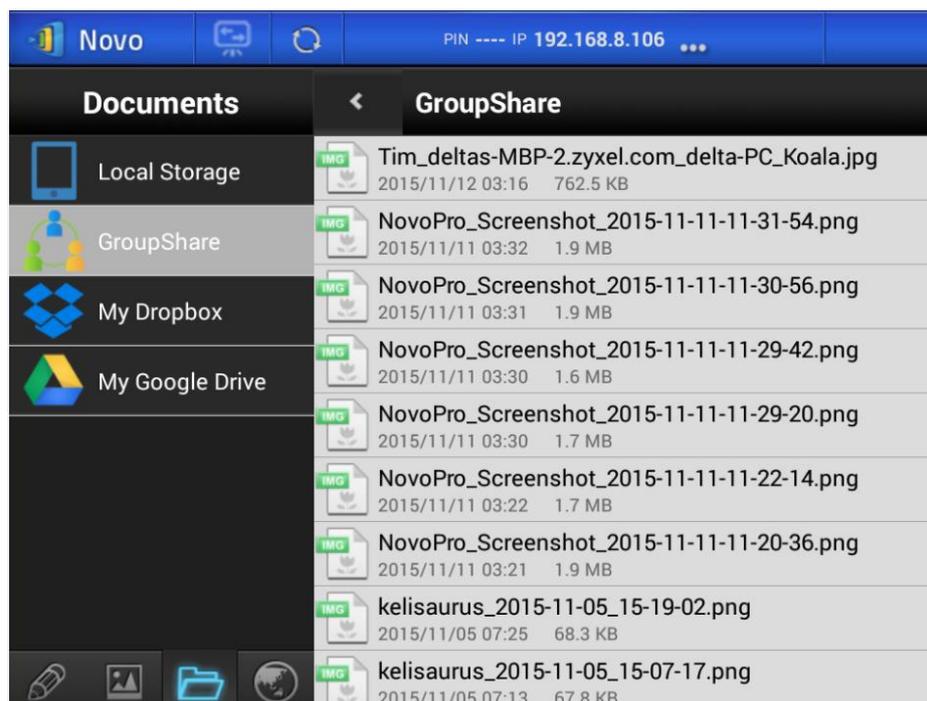


You have the options of opening the storage folder or opening the webpage link with your default browser.

*Note: The file is named after “sender-name\_original-filename”.*

## 4.2.2 File Sharing in NovoPresenter App

Folder “GroupShare” is dedicated to this feature, which is used to store received files. You can locate it in “Documents” tab.



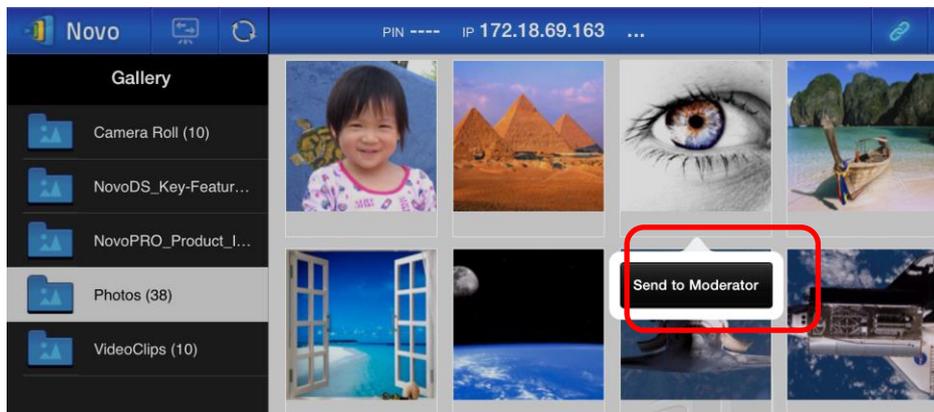
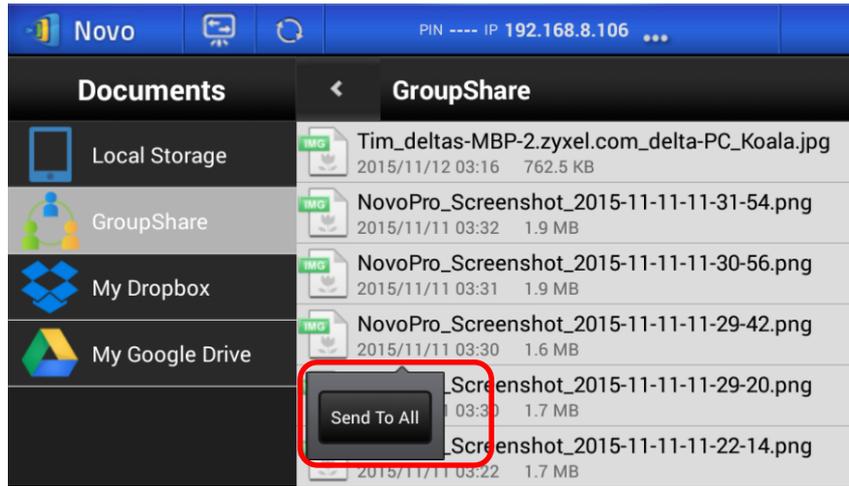
### 4.2.2.1 Sending

#### Share a File/Image

To send a file or an image, long-press on the item until a popup menu shows up.

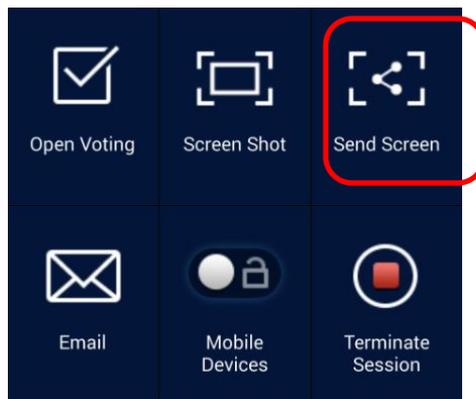
- As the *moderator*, you can send it to all *participants*
- As a regular *participant*, you can send it to the *moderator* only.

Then follow the on-screen instructions to start the transfer process.



Share a Screenshot

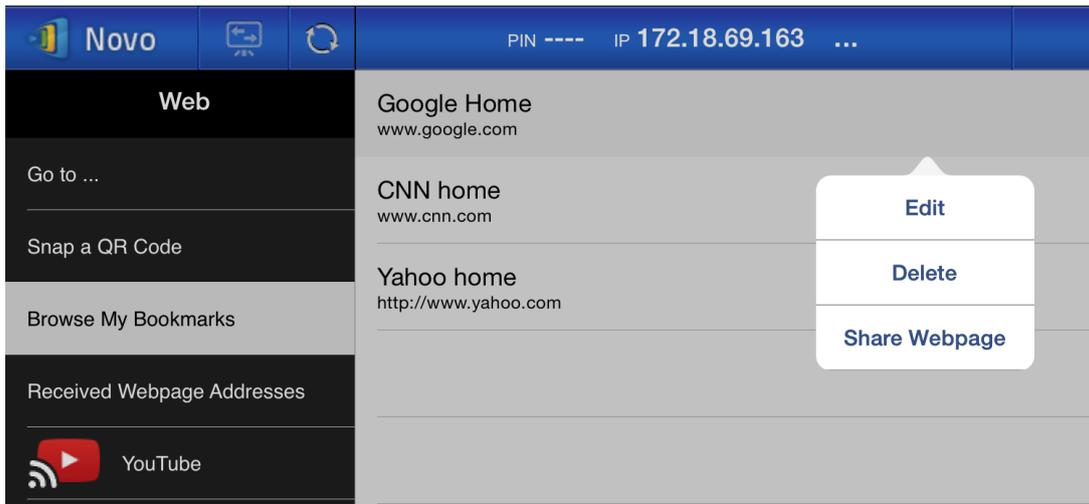
Click on button “Send Screen” to start the transfer process.



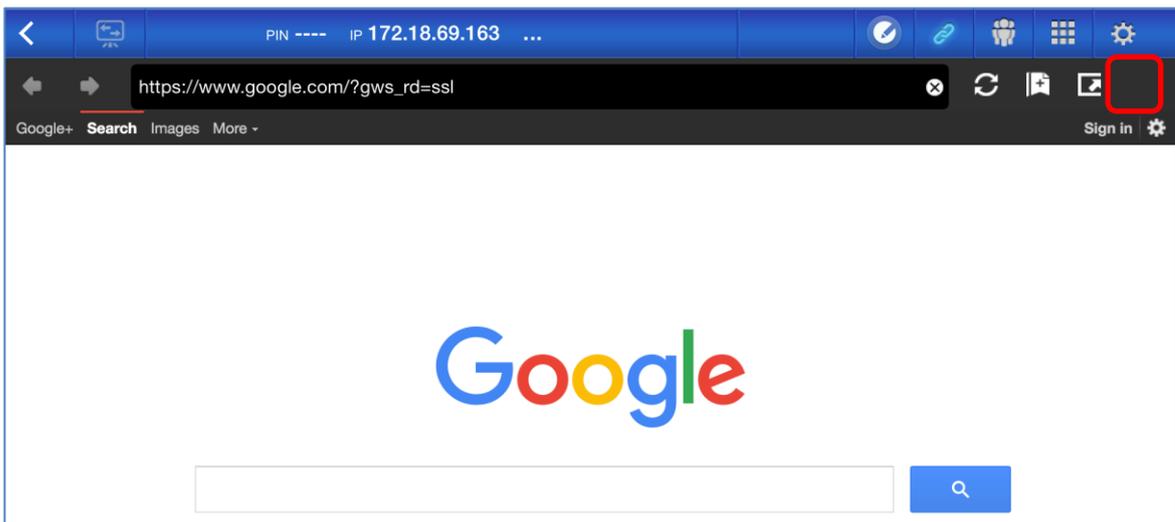
Share a Webpage

There are two ways to initiate sharing a webpage link.

- Long-press on a webpage bookmark in “My Bookmarks”



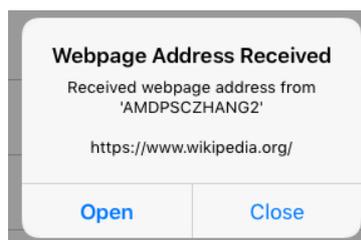
- In the browser screen, click on “Share” button, as highlighted in the following figure.



*Notes: When sending a file, the system will check to make sure any prior file transfer is completed. If not, an error message will pop up. You will have to resend the file when the current transfer is completed.*

#### 4.2.2.2 Receiving

Upon receiving a file, a screenshot, or a webpage link, you will be prompted with a notification dialog, such as the following.



### 4.2.3 Troubleshooting and rules about File Sharing

1. If you attempt to share a file while nobody else is in the session, you will be prompted with message: "No recipient. Nobody else is online."
2. If you attempt to start a file transfer when a prior transfer is still in progress you will be prompted with message: "System is busy. Please try again later."
3. File transfer is limited to 10 MB. If the transfer size exceeds this limit, you will be prompted with message: "Failed to Send; file exceeds size limit (10 MB)."

## 4.3 User groups

This feature allows the *moderator* to organize and monitor *participants*.

### 4.3.1 Organizing a Group

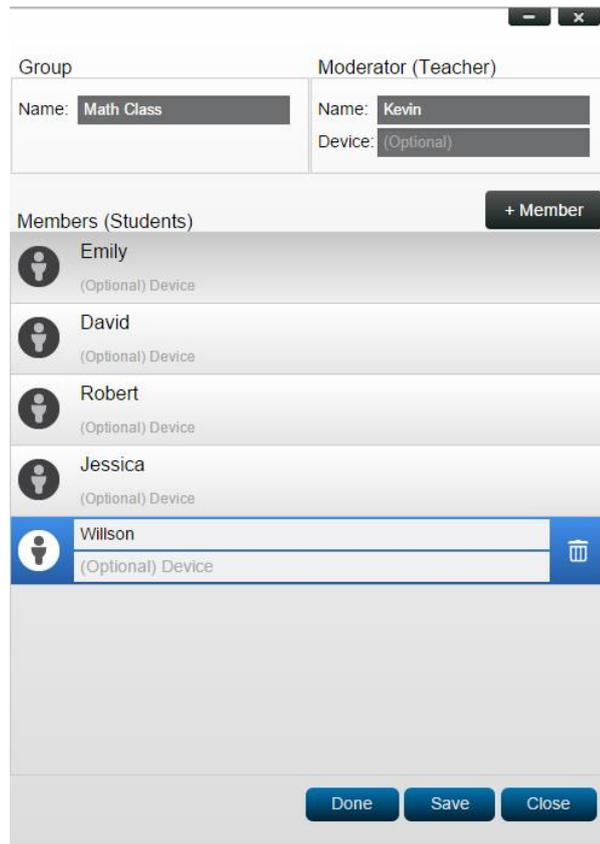
A Group consists of a group name, the *moderator*, and some members.

- Group name and moderator are self-explanatory.
- A member's entry has two fields, Name and Device
  - Field "Name": member's name
  - Field "Device": device's name or some sort of number (like student ID)

There are two ways to organize a group.

#### 1. Use Member Name

In the following figure, "Device" fields are left empty. *Participants* will use their name to connect to a NovoCast session. In this case, only participants with a matching name can connect successfully.



The screenshot displays a NovoCast interface window with the following elements:

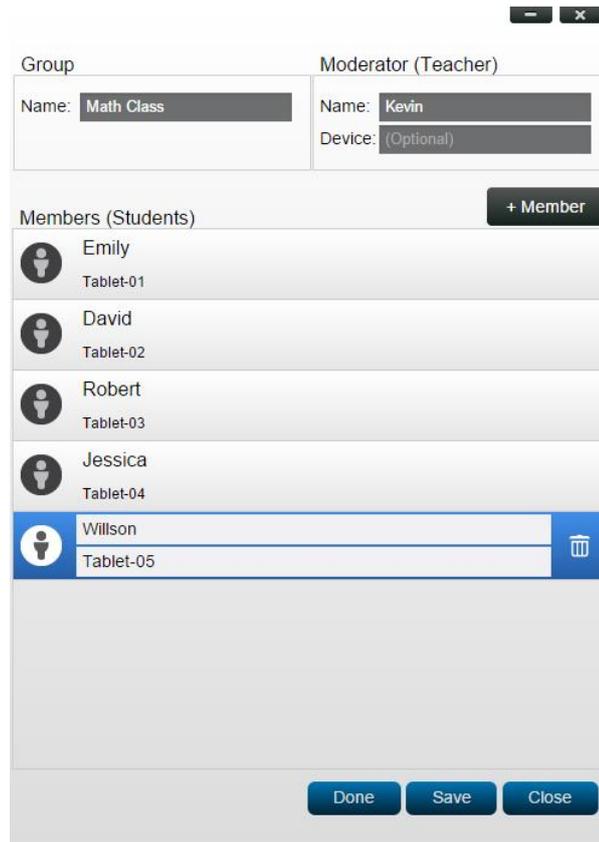
- Group Information:**
  - Group Name: Math Class
- Moderator (Teacher) Information:**
  - Moderator Name: Kevin
  - Moderator Device: (Optional)
- Members (Students) List:**
  - Emily (Optional) Device
  - David (Optional) Device
  - Robert (Optional) Device
  - Jessica (Optional) Device
  - Willson (Optional) Device (highlighted in blue)
- Buttons:**
  - + Member (to add a new member)
  - Done, Save, Close (at the bottom)

## 2. Use Device name

In the following figure, “Device” field is filled. For a classroom teacher, the “Device” field could be student ID or a series of numbers, such as Tablet-01, Tablet-02, etc.

In this case, *participants* will use these IDs to connect to a NovoCast session. The *moderator* will use this group feature to turn them into “human-readable” names (Emily, Jerry, etc.) instead of Tablet-01 & Tablet-02 in the *participant* list.

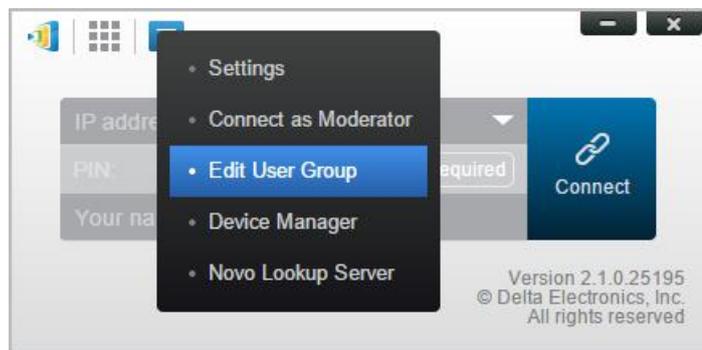
Only devices with matching name can connect successfully.



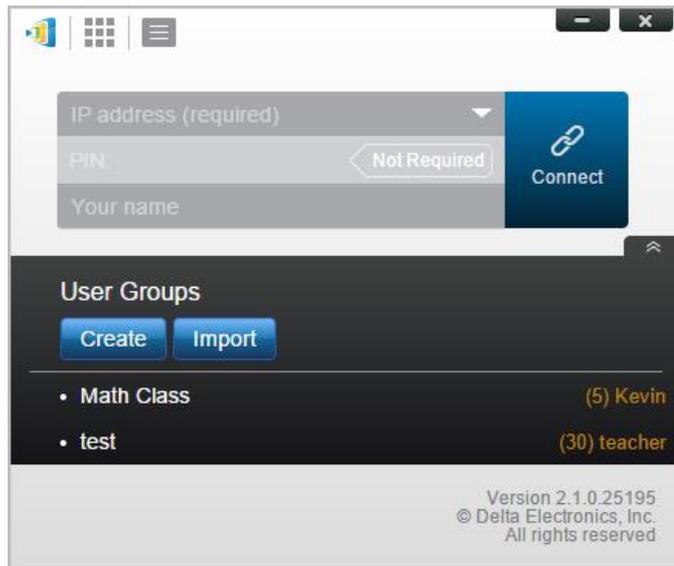
### 4.3.2 Creating User Group

*Notes: This feature is available to NovoCast PC/Mac software but not Chromebook/tablet/phone Apps.*

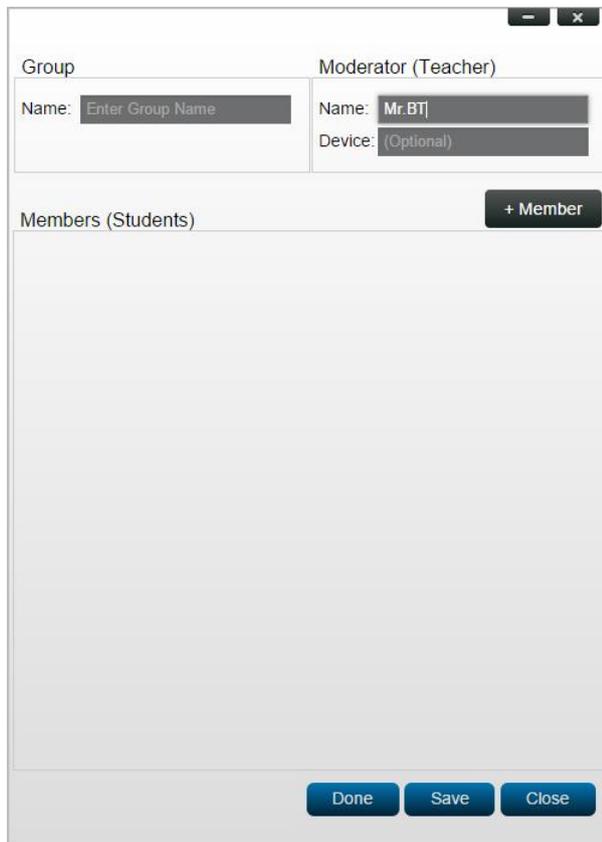
1. Open the *NovoCast Desktop Streamer* application and expand “Settings” tab. Click on button “Edit” to add, change, and delete user groups.



2. Click on button “Create” to add a new user group.



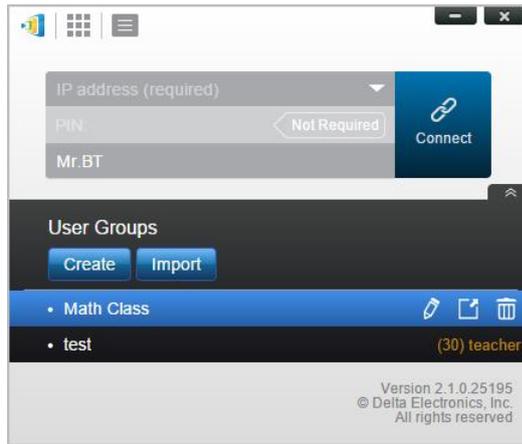
3. A new window, “Edit User Group”, will pop up. In this window, you will be able to edit group name, moderator information, and member information.



4. Once you have finished adding members to a group, click “Save” and “Done” to return to the “User Groups” list. This new group should appear in the list of user groups.

### 4.3.3 Managing Existing User Group

Click on one of the user groups and three action buttons will become visible on the right.

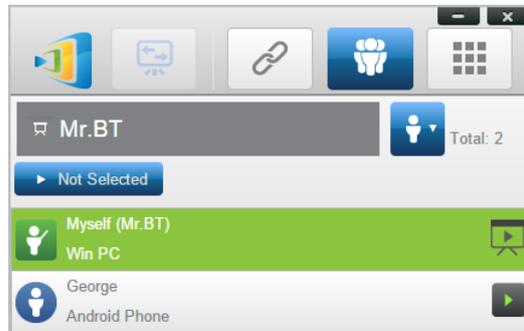


	<b>(Edit)</b>	Open “Edit User Group” window, allowing users to make changes.
	<b>(Export)</b>	Export a User Group as an XML file, which can be loaded to any mobile devices and other PC/Mac.
	<b>(Delete)</b>	Delete a User Group

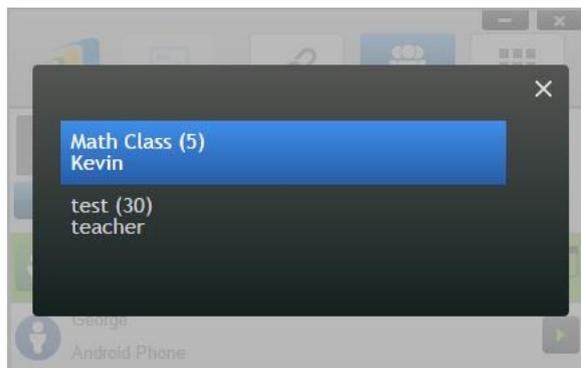
### 4.3.4 Applying User Group

#### Windows/Mac

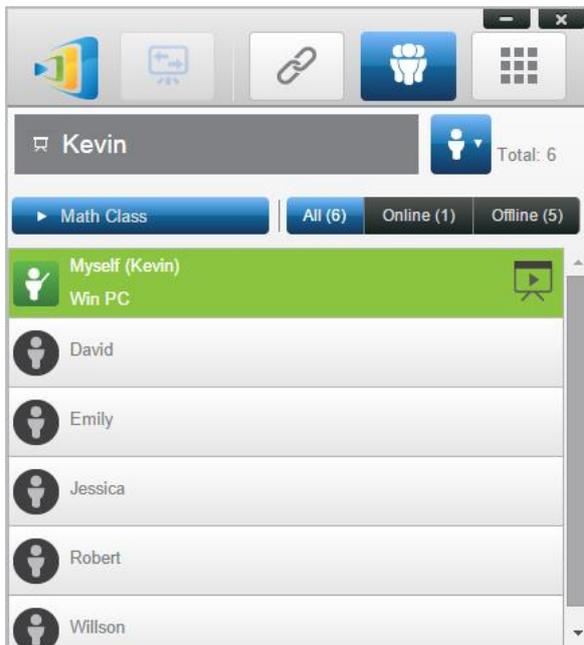
1. When you connect to a NovoCast device, the Group will be displayed as “Not Selected”.



2. Click on “Not Selected” to display list of available groups, and then select the desired group and press button “OK”.



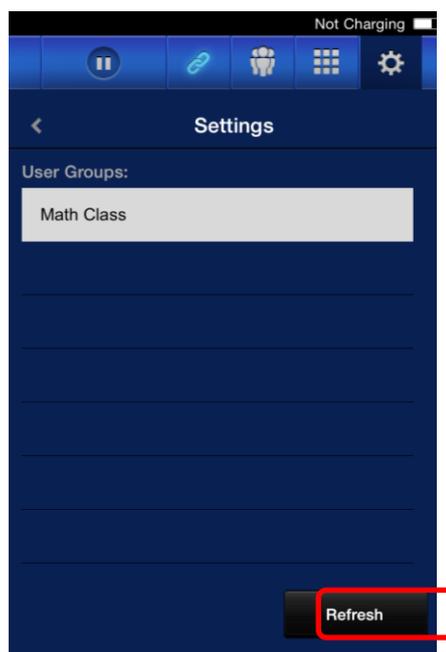
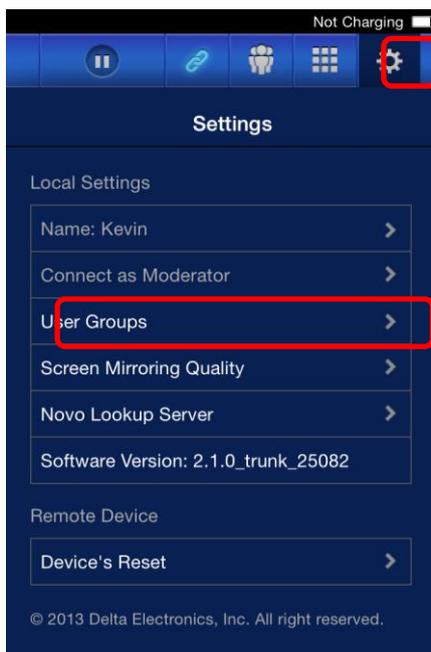
3. A user list will be displayed for the group you selected. Tabs “All”, “Online”, and “Offline” are a quick sorting based on participants’ status.



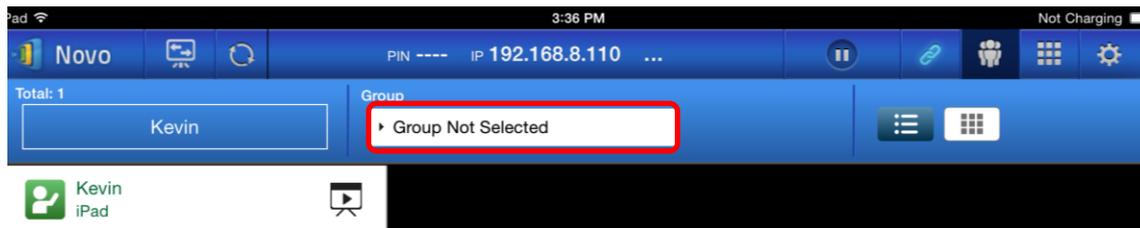
4. To de-select this group, click on icon .

**iPads**

1. Copy the user group files (\*.xml) to NovoPresenter App.
  - These User Group files are generated by using the Export function on the PC/Mac software.
  - Refer to Section 3.2.2.3 on how to copy files to iPad
2. Launch NovoPresenter. Go to “Settings” → “User Groups” → “Refresh” to import the User Group files you just copy.



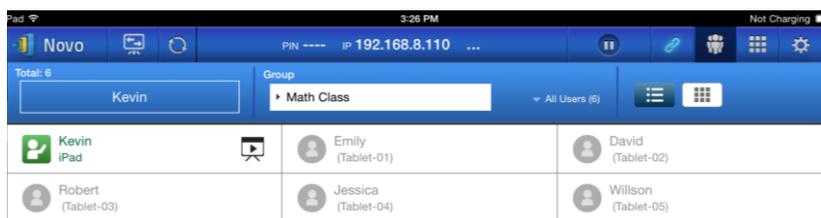
- After connecting to the NovoCast device, the Group will be displayed as “Not Selected”.



- Click on “Not Selected” to display list of available groups, and then select the desired group and press button “OK”.



- A user list will be displayed for the group you selected. Using tabs “All”, “Online”, and “Offline” is a quick way to sort users based on their status.



- To de-select this group, click on icon  .

### **Android Tablets**

- Connect your Android tablet to your computer.
- Copy User Group files (\*.xml) to tablet’s folder “<home>/NovoPresenter/UserGroups”.

The rest of the operation is the same as the iPad’s.

## 5. Configuring NovoCast

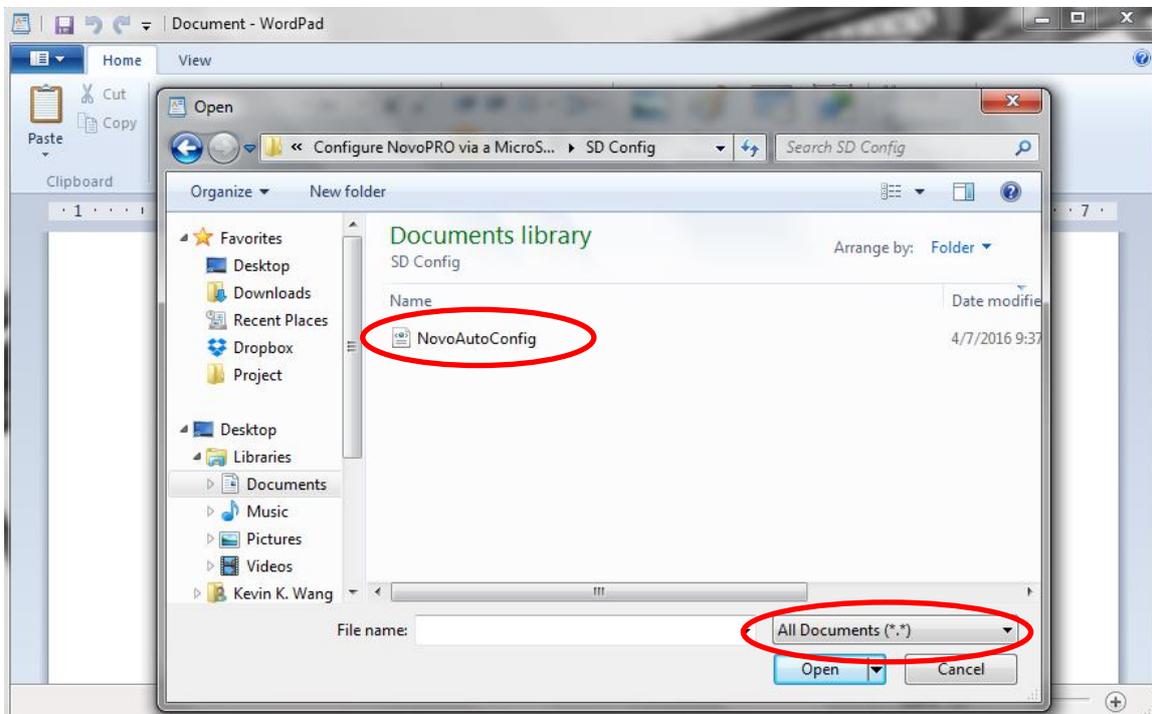
As described in Section 1.3, you can configure a NovoCast device from its home screen. On the other hand, you can also configure the device using a MicroSD card.

### 5.1 Configuring NovoCast via a MicroSD card

This function allows users to create and install a custom configuration file to automatically configure NovoCast's settings via a microSD card.

#### Download and open NovoAutoConfig.xml template file

1. Visit Vivitek website (<http://www.vivitekcorp.com>) and download the zip file "SD Configuration". Extract the "NovoAutoConfig.xml" file from the zip archive.
2. Using either WordPad or another XML editing program, open the file "NovoAutoConfig.xml".
3. If you are using WordPad, follow these steps. Otherwise follow the procedures of your preferred XML editor.
4. Launch WordPad and open the template file. Use the view "All Documents" option when the Open File window appears.



#### Fill in the values of some settings:

1. When opened, the text will look like this:

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<configuration>
  <NovoCast>
    <edition>EDU</edition>
    <wifi-ssid>example_wifi</wifi-ssid>
    <wifi-password>example_wifi_password</wifi-password>
    <remote-manager-ip-address>0.0.0.0</remote-manager-ip-address>
    <remote-manager-port-number>20142</remote-manager-port-number>
  </NovoCast>
</configuration>
```

2. Change appropriate setting value according to your setup environment, and delete the ones you don't need. The following table describes each setting in details.

Key	Value (example)	Explanation
<b>edition*</b>	EDU	Edition value. NovoCast only supports Education Edition
<b>wifi-ssid</b>	(example_wifi)	Wifi network SSID name
<b>wifi-password</b>	(example_wifi_password)	Wifi network password
<b>remote-manager-ip-address*</b>	(0.0.0.0)	IP address of Remote Manager software
<b>remote-manager-port-number*</b>	20142	The port number used by Remote Manager software to listen to device reporting. 20142 is the default number. You need change it to match your Remote Manager's setting.

*Note: Settings marked with "\*" are supported in NovoCast software release V2.2 and above.*

3. Save your changes to the template.

### Copy and install files

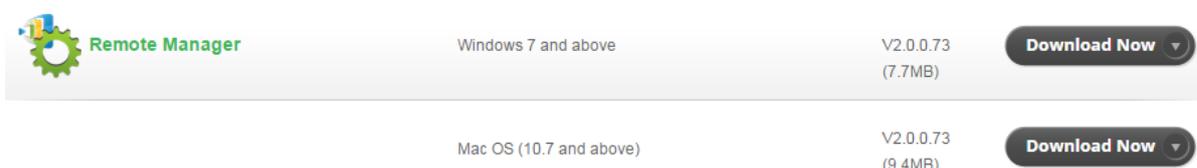
1. Copy NovoAutoConfig.xml file to a microSD card.
2. Insert the microSD card in the NovoCast device.
3. Press the "reset" button to reboot the NovoCast device.
4. After the reboot, those settings will be applied to the NovoCast device.

## 6. NovoCast Management

“Remote manager” is a stand-alone Windows/Mac application that enable system administrators to manage multiple NovoCast devices from a single PC, making it ideal for corporations, schools or other large institutions.

### 6.1 Software setup

1. Download the installation package from the Vivitek website (<http://www.vivitekcorp.com>).



2. Click on the installation package and follow the on-screen instructions.

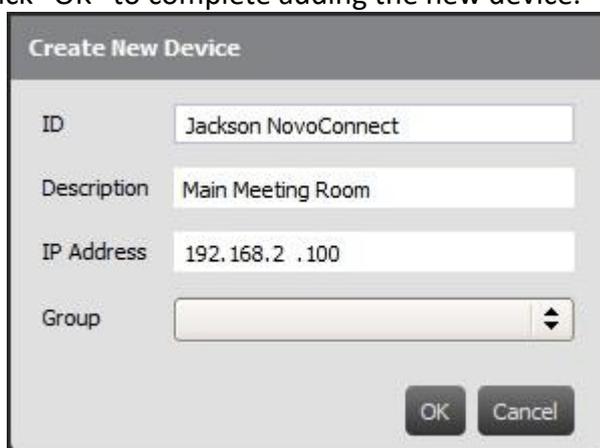
### 6.2 Adding/Removing/Grouping devices

#### Adding a device

1. To add a new device to the device list, click on the “+ Device” button at the top of the screen.



2. This will open the “Create New Device” window. Enter the device’s ID, description (such as location), and IP address. You can also select a group (optional) from the group list pull-down menu. Click “OK” to complete adding the new device.



3. When the new device is successfully added it will appear in the device list.

- If the device is currently connected, the connection indicator will become green. Otherwise, it is in red.

### Connected



### Disconnected



## Removing a device

- To remove a device from the device list, click on the device you wish to remove from the list then click the  icon.
- A confirmation menu will pop up. Click “Yes” to confirm or “No” to cancel.

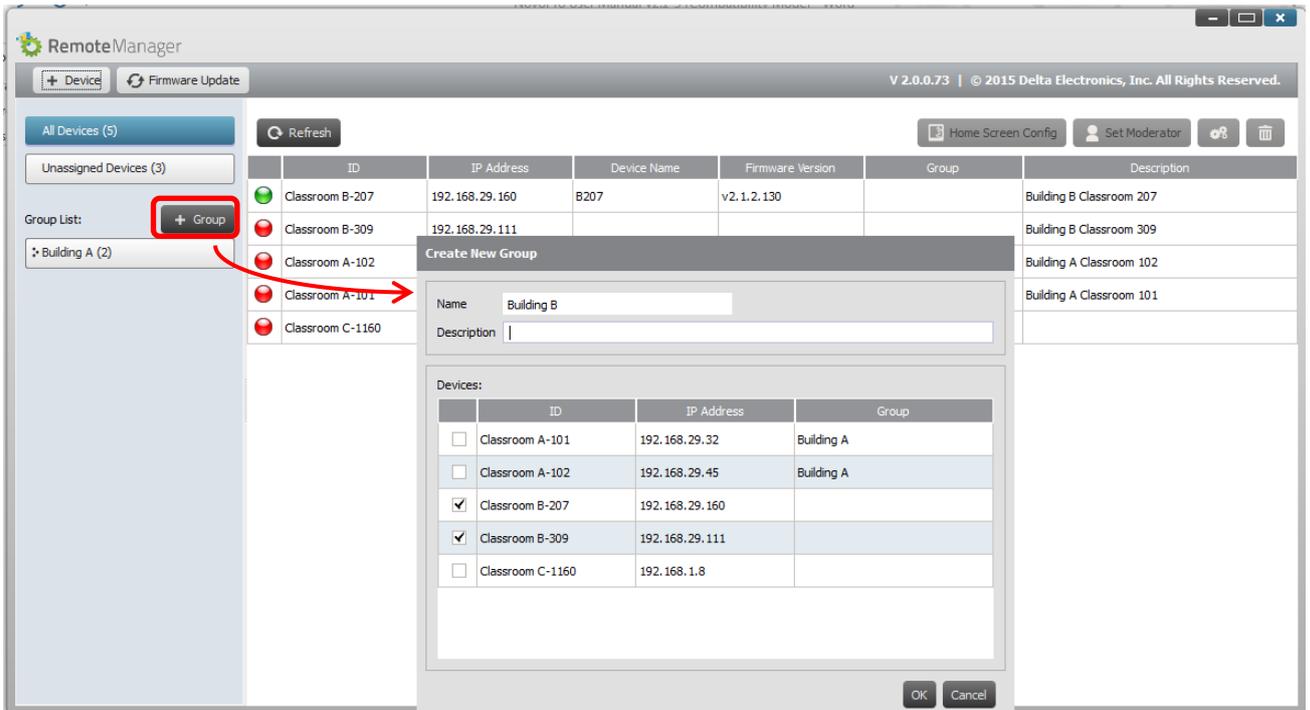
## Refreshing device list

To refresh the list of devices in Remote Manager, click the “Refresh” in the upper left corner of the program interface.

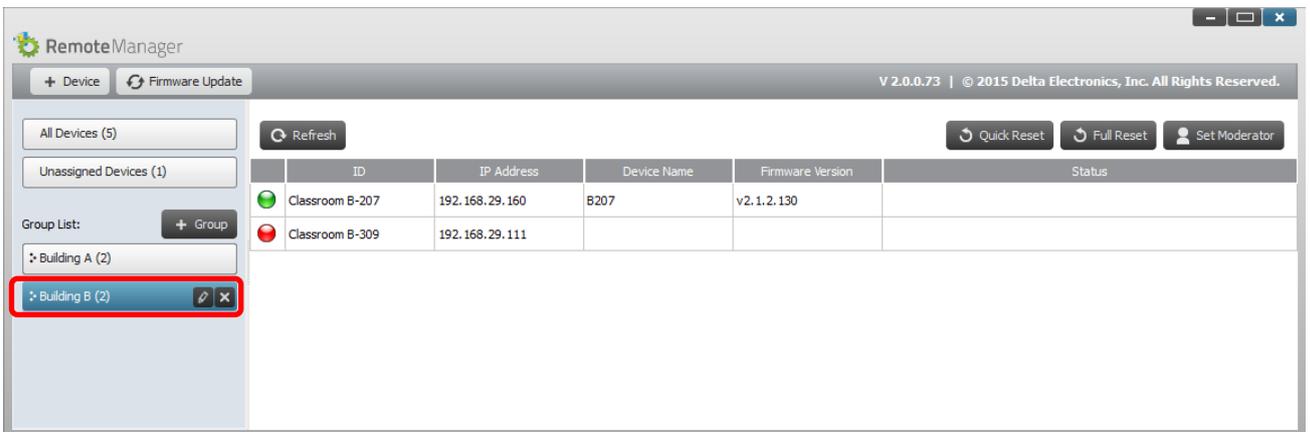


## Grouping devices

Click the “+ Group” button to add a new group, and then give a group name, description and add devices into the group.

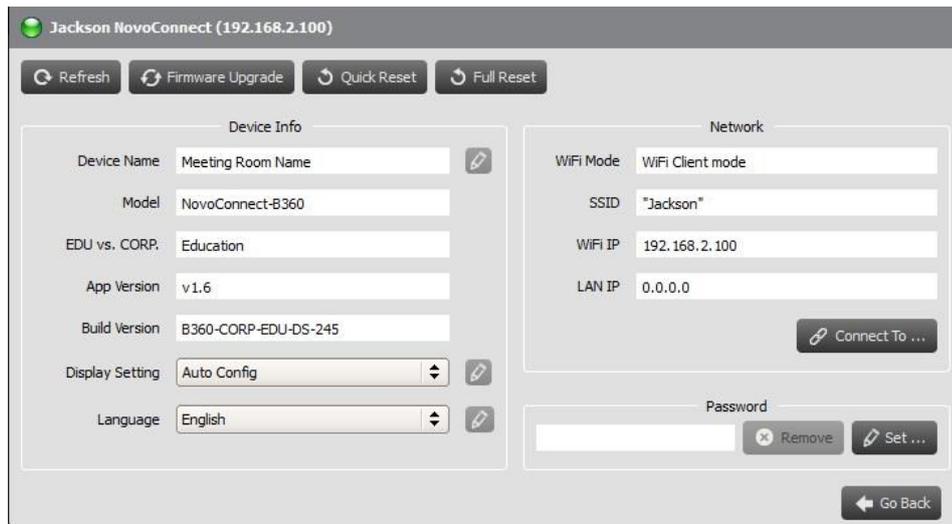


Once the group is defined, you can click the group name to view group device list and apply the settings to the group. In addition, you can click the button  and  to change and delete groups respectively.



### 6.3 Managing device settings

1. By selecting a device and clicking the device settings button  you will be taken to the device settings management screen. From there you will be able to remotely view and/or configure the settings for each NovoCast device on your network.
  - a. Editable fields are Device Name, Display Setting, Language, and Password (for Settings Protection).
  - b. View-only fields are Model, Edition, App Version, Build Version, Wi-Fi Mode, SSID, Wi-Fi IP, and LAN IP.

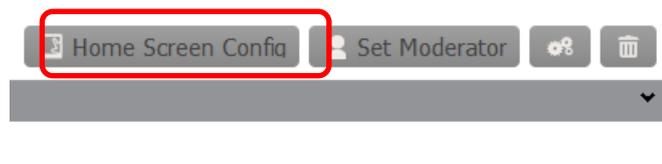


2. To edit the editable settings, click on button edit  to start.
3. Click “Refresh” to update the settings information.
4. Click “Firmware Upgrade” to check for the latest device firmware. If an upgrade package is available, the upgrade process will be triggered.
5. Click “Quick Reset” to reset the application.
6. Click “Full Reset” to reboot the device.
7. Click “Go Back” to return to the main screen.

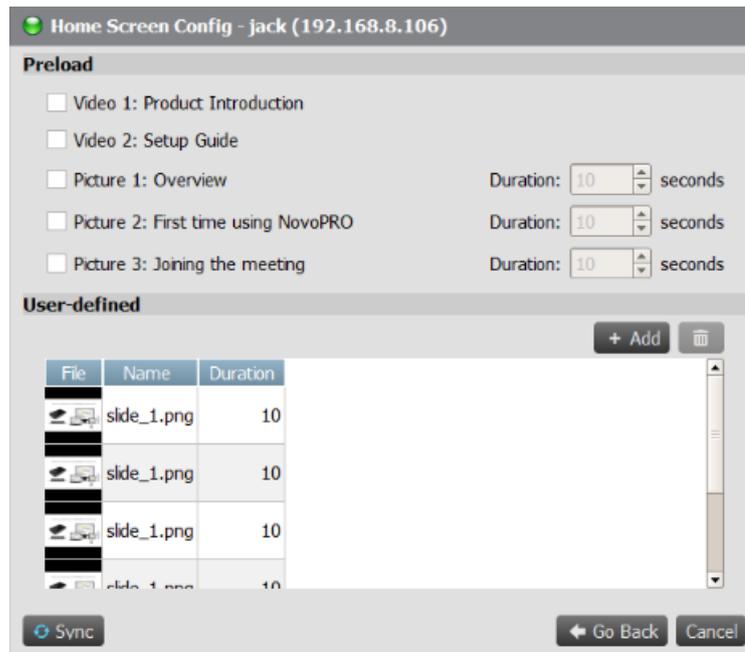
## 6.4 Customizing Home Screen

The top-right region of the NovoCast’s Home Screen is a slideshow area that you can customize with your pictures and videos. Follow the steps below to customize your Home Screen.

1. Click on the “Home Screen Config” button



2. Then a configuration menu pops up, with two sections, “Preload” and “User-defined.”
  - a. Section “Preload”: the built-in content. It consists of two video clips and 3 pictures. You can enable/disable their playback as well as adjust their playback duration.
  - b. Section “User-defined”: the customization content. Users can edit the “playlist” for this slideshow area. The “playlist” consists of any numbers of pictures and videos.



3. Click on the “Sync” button to commit the changes to the NovoCast device (including uploading the content.)

## 6.5 Updating firmware

Remote Manager allows you to initiate firmware upgrade for multiple NovoCast devices by clicking on one button.

1. Click “Firmware Update” on the home screen to go the Firmware Update screen.



2. A list of connect devices will be displayed with check boxes in the left column. Select the device or devices you wish to check for updates, or click “Select All” to check all devices on the list. Click “Unselect All” to remove all checks.



3. Once you have selected the devices to update, click “Update Now.”

## 6.6 Setting moderator credentials

When using NovoCast, the first connected user is assigned as the meeting moderator by default. However, this may not be the intended result in real world as the “real” moderator may not be the first user to join the session. The feature “Moderator Credentials” is designed to address this issue.

Here is how it works:

1. Moderator Credentials, consisting of a list of moderators and the corresponding passwords, are stored on NovoCast units. (Moderator Credentials are managed via software Remote Manager.)
2. When a user device connects to a NovoCast unit, the user device send its moderator password (if any) to the NovoCast unit. If the password matches the one stored on the NovoCast unit, the user device will be assigned as the moderator, regardless it is the first device to connect or not.

The picture below illustrates the process.



### Setting up Moderator Credentials in Remote Manager:

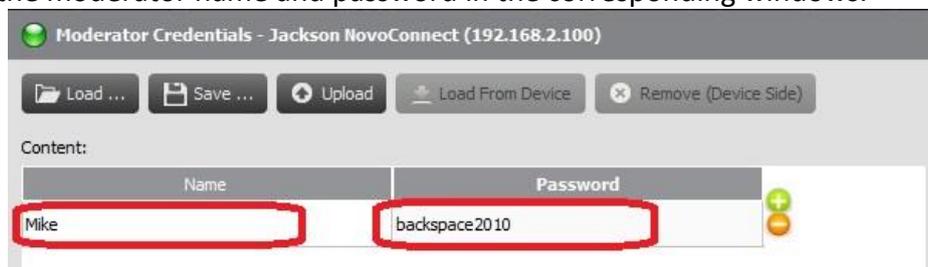
1. To set moderator credentials for a device, select the device from the device list and click “Set Moderator.”



2. This will open the Moderator Credentials window. Note: For changes to take effect, make sure the green connection indicator is lit in the upper left corner of the window.



3. Enter the moderator name and password in the corresponding windows.



4. Use the   buttons to add or delete moderators from the list.
5. Click "Save" to save the moderator credential file to the local PC.
6. Click "Upload" to upload the new moderator credential file to the device.
7. Click "Load from Device" to download a file saved on the device.
8. Click "Load" to load a moderator credential file stored on local storage.
9. Click "Remove (Device Side)" to remove moderator credentials currently stored on device.

*Note: Moderator credential files will be stored in the XXXX.NCMC file format.*

## 7. Specifications

Hardware Specifications	
Power Supply	5.0VDC, 2A
Power Consumption	< 10W
Output Resolutions	1024x768 (XGA), 1280x720 (HD), 1280x800 (WXGA), 1920x1080 (Full HD), Auto Config
CPU (SoC)	ARM Quad-Core 1.6GHz
Memory	DDR 1024MB
Storage	Internal: 8GB (eMMC Flash) External: microSD Card Slot
Wi-Fi	802.11 a/b/g/n/ac (2.4GHz & 5GHz)
Input/Output	USB Input USB Type A x 1 Video Output HDMI x 1 Card Reader microSD Card Slot x 1 Ethernet 10/100 RJ45 type x 1 Power Input Micro USB (5.35V 2A)
LED Indicator	Green (System Power On) , Red (System Stand By) , Blue( Network Activity)
Button/Switch	Reset
Dimensions	120x 75 x 18 mm (L x W x H)
Weight	128 g
PC/Notebook Application Requirements	
CPU	Intel Pentium, 2GHz (Intel Core i3 and above are preferred)
Operating System	Windows XP, Windows 7, Windows 8 /10 (32 bits and 64 bits), Mac 10.6 and above
RAM	4 GB
Android Mobile Device Application Requirements	
Operating System	Android 3.2 and above (Android 4.0 and above are recommended)
Resolution	1024x768, 1280x800, or higher are recommended
iOS Mobile Device Application Requirements	
Operating System	iOS 5.1 and above
Device Type	iPad, iPad 2, iPad 3, iPad 4, iPad mini, and iPad Air

## 8. Troubleshooting

**Q: NovoCast does not power up or operate.**

A: Check if the proper DC power supply with the appropriate operating voltage and sufficient operating current (5VDC, 2A) is connected to the Micro-USB port of the NovoCast.

**Q: My PC cannot link to NovoCast wirelessly.**

A: For your PC to link to NovoCast, your PC must either have a built-in a Wi-Fi module or an external Wi-Fi adapter, and Wi-Fi must be enabled. If the NovoCast is set to Hotspot Mode (factory default mode), choose NovoCast's SSID from the available SSID list. If NovoCast is set to Client Mode and is connected to a specific Wi-Fi AP, choose that AP's SSID from the available SSID list.

**Q: The play/pause buttons do not work.**

A: These buttons are functional only for the current *presenters*.

**Q: I cannot connect to the Internet on NovoCast.**

A: This is normal if the NovoCast is set to Hotspot Mode, since NovoCast by itself does not support WAN (wireless wide area network) access. To access the Internet for tasks such as Web browsing on NovoCast, please set the Wi-Fi to Client Mode and connect to a Wi-Fi AP that that is connected to the Internet.

**Q: My PC or mobile device has failed to connect to NovoCast.**

A: First, make sure that Wi-Fi is enabled on your device. If NovoCast is set to Hotspot Mode (factory default mode), choose the NovoCast's SSID from the available SSID list. If NovoCast is set to Client Mode and is connected to a Wi-Fi router, choose that router's SSID from the available SSID list.

**Q: I cannot choose to present in full screen or in one of the split screens.**

A: Only the *host* has the authority to decide whether your presentation is to be seen in full screen or one of the split screens. You may be invited to be the *host*: 1) if the Reset button is clicked on the NovoCast, 2) if the *host* explicitly hands over *host* control to you, or 3) if all other *presenters* have disconnected from NovoCast.

**Q: I am the *host*, but I cannot preview other *participants'* screens.**

A: To preview a *participant's* screen before sending a presentation invitation, that *participant* must have screen preview enabled on his device.

**Q: My device's on-screen display looks stretched or compressed on NovoCast's screen output.**

A: There may be an aspect ratio mismatch between the NovoCast's chosen output resolution and your device's screen aspect ratio (e.g. your device's screen has the 4:3 aspect ratio, and you have set NovoCast's output resolution to a 16:9 or 16:10 option). Try to set the

display resolution on the NovoCast so that it has an aspect ratio that either matches that of your device or is as close to your device's screen aspect ratio as possible. You have the option of letting NovoCast automatically determine the best output resolution by selecting Auto Config in the display settings.

**Q: During the presentation, my PC/Mac computer's cursor is flickering.**

**A:** You can try a different screen resolution for your PC/Mac computer. You can also try different settings for Projection Mode, Visual Quality, and Screen Refresh Rate (which need to be set before you connect your PC/Mac computer to your NovoCast) until the problem disappears or is minimized.

## 9. Safety Information

Refer to the manual and take note of the safety instructions before operating your device.

- Ensure that the power source's output voltage matches your device's operating voltage.
- To prevent the risk of electric shock, do not operate this device near water or in environments of high moisture.
- Do not disassemble or try to repair this device by yourself. Contact your local Delta service center for assistance.
- Keep the device's plastic packages out of the reach of children.

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