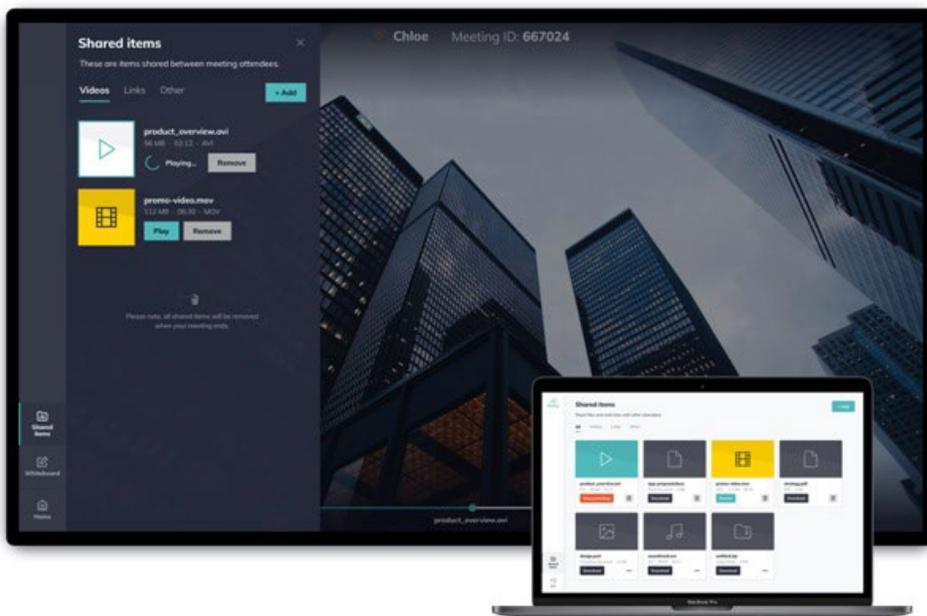


About Newline Cast

Our wireless presentation software is comprised of two component parts: Newline Cast receiver and DisplayNote app.



Newline Cast is simple to use. With one click, you're wirelessly presenting your screen. It works with all modern laptops, tablets, phones, and comes with browser support.

With Newline Cast, anyone can share their screen without the need to pass cables or remove anyone else from the session.

With a dedicated app for guests and extended browser support, your students or meeting attendees can also connect and present as easily as you do.

Newline Cast supports dual network connectivity and enables collaboration among users on primary and guest networks, or among students accessing your network.

It works securely with any network configuration, including corporate Wi-Fi, school Wi-Fi, guest Wi-Fi, mobile data, a hotspot or any combination.

Newline Cast Receiver

Newline Cast is a receiver software application for Android OS that receives wireless presentations from a variety of mobile devices.

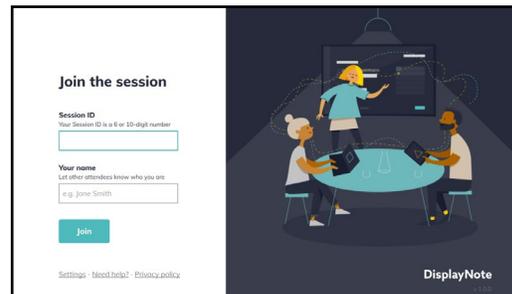
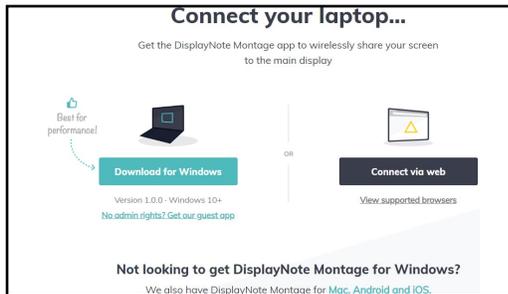
DisplayNote Apps

DisplayNote apps provide users with the ability to connect to Newline Cast receivers, for the purposes of wireless presentation. The image above shows the DisplayNote app running on a laptop.

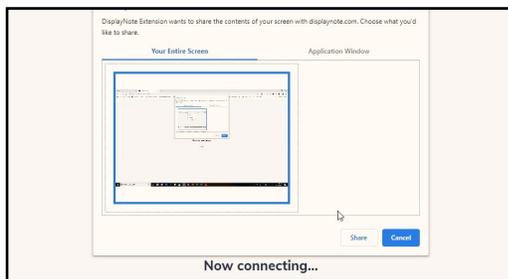
Connecting to Newline Cast from a Windows laptop

Using a Web Browser

1. Open the Newline Cast app on your display
2. Visit www.displaynote.com/join on your laptop
3. Select "Connect via web"
4. Type in the Session ID you see on the display
5. Type in your Name
6. Select "Join" once both Session ID and Name are filled in

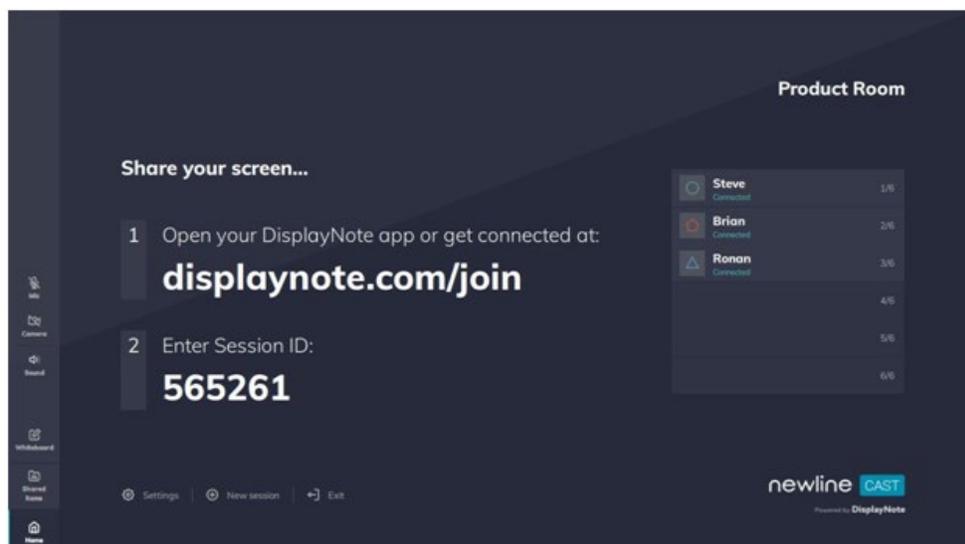


7. When asked, select whether you want to share your entire screen, or just a specific application window.
8. Click "Share"



Home Screen User Interface

Once the Newline Cast receiver is installed and launched, users are presented with the main application's home screen. The screenshot below shows the Newline Cast receiver home screen with three meeting attendees.



A description of the user interface and core functionality of the receiver application is outlined in upcoming sections of this document

Joining Instructions

Available at the center of the home screen, joining instructions includes:

1. Instructions and URL for access to displaynote.com/join
2. Instructions and six-digit meeting ID, for clients to join the meeting.

Six-digit Session ID

A unique six-digit session ID is generated for each session, which is used as a means for attendees to connect to that secure session.

Connections using a six-digit session ID are established locally (within the same network), or over the cloud when local connections are not available.

Ten-digit Session ID

When no internet is available, a ten-digit session ID is generated using the device's IP address, and allows connections from devices that are on the same network.

Meeting Attendee List

After users have joined the meeting using the six-digit session ID, they will be listed to the right of the receiver screen. Each attendee displayed here can be prompted to start sharing, or alternatively they can be removed from the meeting.

Receiver Home Screen Options

Home Option

Option to return to the home screen that can be used when a meeting attendee is presenting, or when the whiteboard is open.

Shared Items

Items shared by the receiver or meeting attendees are shown here. These might include audio files, documents, PDFs, videos and zip files.

Whiteboard

Option to access the application whiteboard for free-form annotations, more information available later in this document.

Exit

Option to end the meeting and exit the application.

Sound, Camera, Mic (on select models)

Enable or disable the sound, camera or mic, and adjust the sound volume for the receiver.

Settings

Settings configuration for Newline Cast receiver, more information available later in this document.

New Session

Option to end the current meeting and start a new session with a fresh session ID.

Receiver Presenter Options

When a session attendee is sharing their screen or when the receiver whiteboard is in use, additional presenter options are available:

Capture

The capture option takes a screenshot of the whiteboard or attendee screen that is being presented. The screenshot is automatically added to the shared items.

Pen

The pen option enables presenter annotations, which can be added over the top of a whiteboard or wireless presentation.

Clear

Clears all annotations from the receiver and attendee screens.

Settings

The receiver settings can be accessed via the settings option on the home screen of the receiver. The following settings are available:

General

Includes device information, such as version, language selection, serial number and IP address. Allows user to edit and save the room name, making the solution easily recognizable if the user has more than one version deployed.

Security

Users can choose to allow local connections only (i.e. attendees will only be able to connect to sessions while on the same network). They can enable or disable a PIN, adding an extra layer of security for those connecting to a session. There is also the option for an IT admin to lock down all settings, so users cannot change settings.

Network and Connections

The user can choose to turn on/off AirPlay connections, Cloud connections, and Proxy connections. When the user clicks on AirPlay, further details such as AirPlay name and code are displayed.

Audio and Video

The user can select which speakers, microphone and camera to set up and use during their session. Users can change video or audio outputs during a session, without disrupting the flow of the session.

Whiteboard

While Newline Cast focuses on wireless presentation, it also includes features that boost collaboration during meetings.

The whiteboard option on the receiver opens a blank canvas to allow meeting attendees to draw and take notes- perfect for quickly bringing ideas together visually. From here, the home button returns the user to the home screen.

Annotations and sketches can be made from the main display, and users can see these annotations from their own device. Users can also annotate or sketch from their own device, and their annotations are shown in real-time on the main display.

DisplayNote desktop and web apps provide users with the ability to connect to Newline Cast receivers, for the purposes of wireless presentation.

These apps are available for desktop on Windows and Mac for web using the Google Chrome browser.

Supported Operating Systems

- Windows Client: Windows 10
- Web Client: Chrome browser
- OSX Client: Sierra 10.12

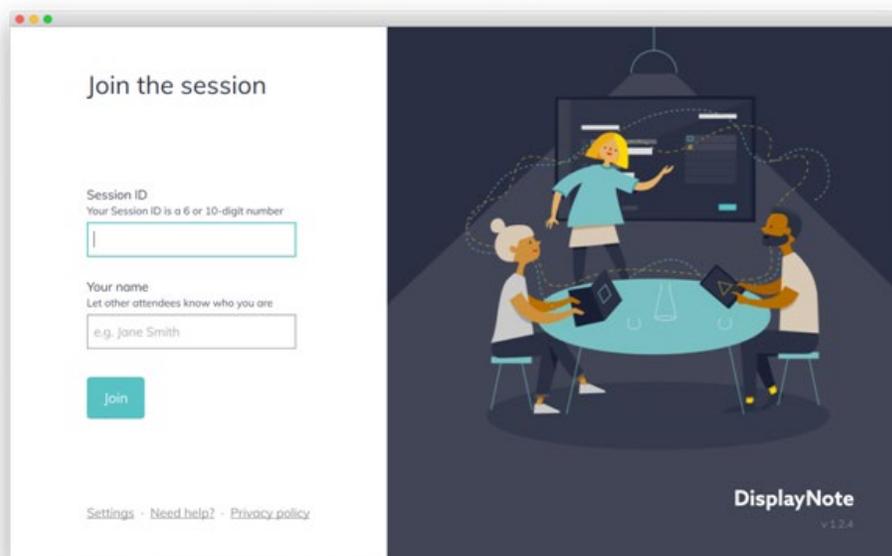
App Download

The DisplayNote app does not require a licence key and can be downloaded from the DisplayNote website. Note that users may also join via the web client, which simply requires the installation of a Google Chrome web extension.

To download client apps or join via the web client, please visit: displaynote.com/join

Joining a Session Using the Desktop App

To join a session, ensure the desktop app is open and simply enter the session ID (displayed on the Newline Cast receiver home screen) along with your name. The screenshot below shows the join screen for the desktop app



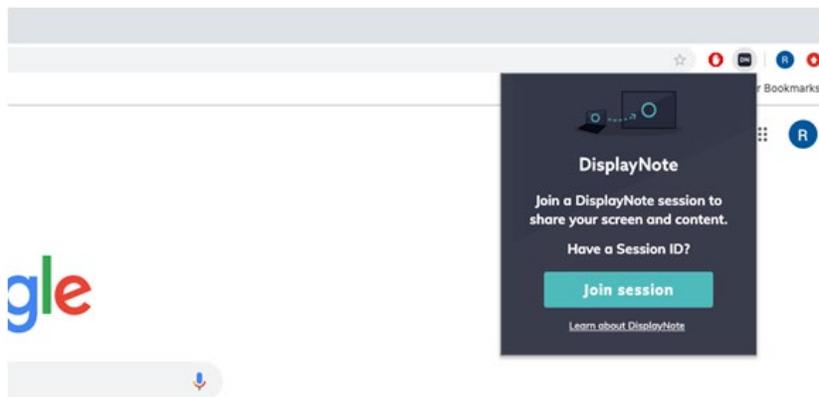
Joining a Session Using the Web App

To join a session, open your Chrome browser and visit displaynote.com/join, where users will be prompted to enter the session ID (displayed on the Newline Cast receiver home screen) and your name.

The first time a session is joined, users are required to install the DisplayNote extension for Google Chrome. This is required to authorize your browser to share your screen when using the DisplayNote web app.

The DisplayNote extension for Google Chrome is available from the Chrome web store: [DisplayNote extension for Google Chrome](#)

Once the extension is installed, users can access the displaynote.com/join page using the DisplayNote extension shortcut, as illustrated in the screenshot below. Before joining the session, users are prompted to choose how they wish to share their screen: The entire screen, or a specific application window



Home Screen User Interface

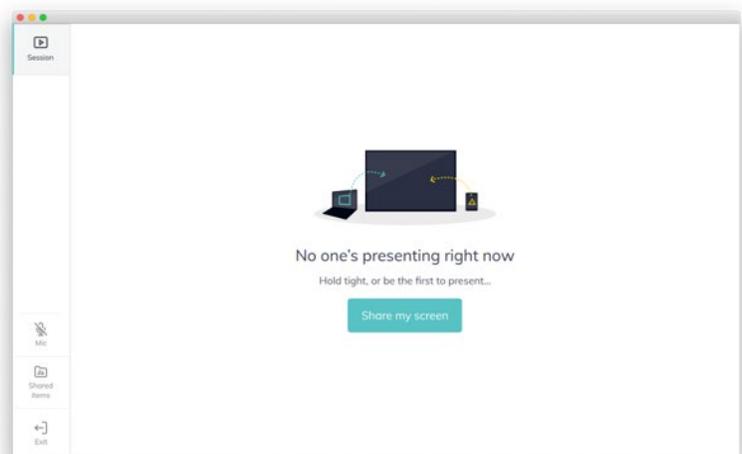
When a session has been joined, the DisplayNote app home screen will be shown. The app home screen has two main sections: A sidebar for navigation purposes, and a main section.

Session: Session (topmost item in the sidebar) provides access to the session's current activity, which might include a user wirelessly presenting, a whiteboard, a URL link being presented, etc.

Mic: A microphone option in the sidebar is available to enable or disable use of the microphone.

Shared items: Access to the shared items section, providing access to files that have been shared by session attendees. More on this in the upcoming section.

Exit: Option to leave the session at any time and return to the join screen.



Shared Items

Session attendees have the ability to access and share files to the session, including audio files, documents, PDF, videos and zip files. From this section, any session attendee can download shared files, or present videos and URLs directly to the Newline Cast receiver.

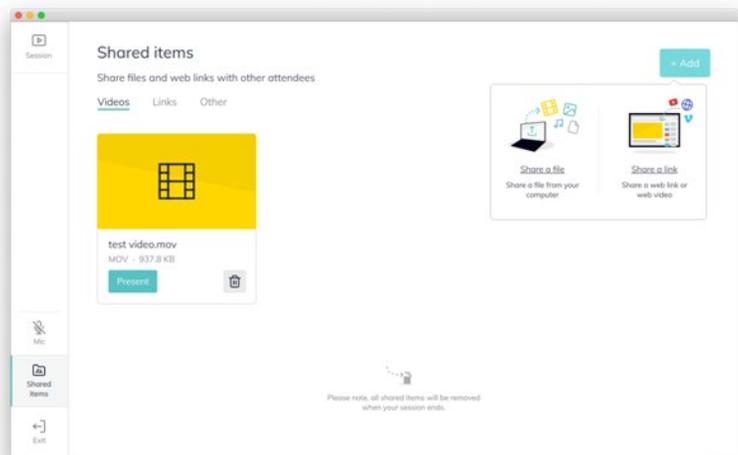
The screen shown below shows the shared items section, which contains a video that can be presented. Also note the 'add' options to the top-right of the screen, which allows DisplayNote app users to add a file or a link to the shared items.

Please note that for security purposes, all shared items are removed when the session ends. The following file formats can be shared to the session's shared items:

Documents (.doc, .docx, .xls, .xlsx, .ppt, .pptm, .pptx, .txt, .odt, .ods, .odp)

Images (.jpg, .png, .pdf)

Videos (.avi, .mov, .mp4), zips (.zip)



Shared Items

Session attendees can share their screen at any time during the session. When another attendee is sharing, attendees will be prompted to confirm that they wish to take over the presentation.

When sharing, the device's current screen content will be shared to the Newline Cast receiver and all connected attendees. The DisplayNote client app will automatically minimize, and a new set of presenter options will be shown, as per the following screenshot.



Stop: Stops sharing the screen and shows the DisplayNote client app.

Pause: Pauses the screen share, informing all session attendees. Once pressed, the presenter has can resume.

Sound: Toggle system sound on or off.

Mic: Toggle system microphone on or off.

Cursor: Hides annotations and switches to the cursor, from the pen tool.

Pen: Hides annotations and switches to the pen, from the cursor tool .

Clear: Clears all annotations.

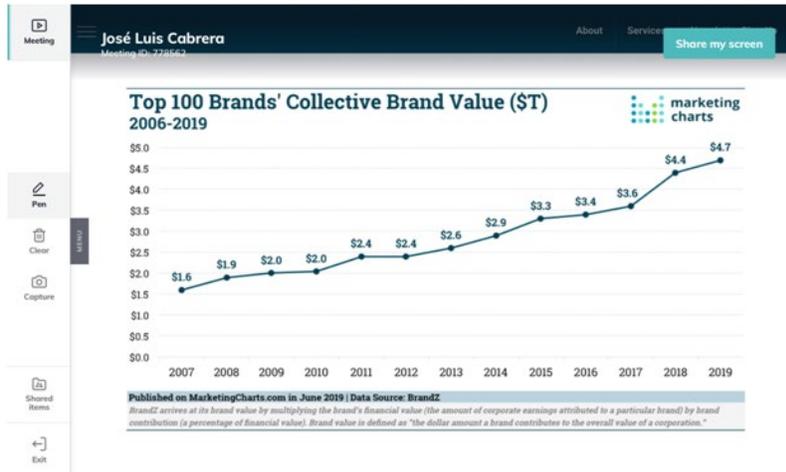
Capture: Captures a screenshot of the current screen, sharing it to all session attendees via the shared items.

Viewing a Presentation

Session attendees can view the current session activity. This can be another attendee sharing their screen, or the Newline Cast receiver making use of the whiteboard.

To view the current session activity, simply access the 'Session' item from the side navigation.

While viewing the session's current activity, users have the ability to annotate using the pen tool, capture the screen (including annotations) or remove all annotations.



Desktop App Settings

Audio & Video

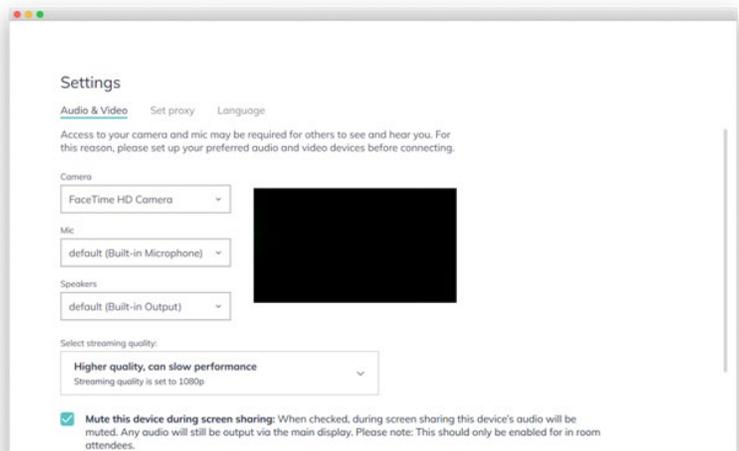
Allows users to choose the correct hardware to be used for the camera, mic and speakers. Additionally, users can choose the quality of the presentation stream. Lastly, a preferential option to mute the device when presenting is also available.

Set Proxy

Allows users to set proxy details.

Language

Allows users to choose the application language: English, German, Spanish, French, Chinese (traditional and simplified), Russian, Japanese.



DisplayNote mobile apps provide users with the ability to connect to Newline Cast receivers, for the purposes of wireless presentation.

Supported Operating Systems

- Android Client: Android 5.1.1
- iOS Client: iOS 12.1

App Download

The DisplayNote mobile app does not require a licence key and can be downloaded from the DisplayNote website.

To download client apps or join via the web client, please visit: displaynote.com/join.

Alternatively, the DisplayNote mobile apps can be downloaded directly from Google Play and Apple stores:

- [Google Play store download](#)
- [iOS App Store download](#)

Joining a Session

To join a session, ensure the DisplayNote mobile app is open, and simply enter the session ID (displayed on the Newline Cast receiver home screen) and your name.

Joining via Airplay

iOS device users can also join a session via Airplay. To join a session, users can take the following steps:

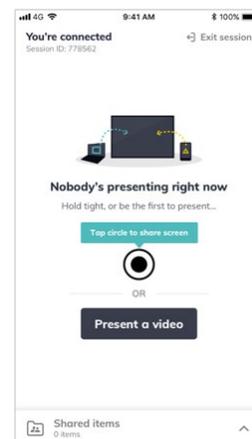
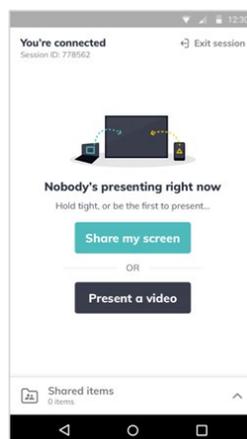
1. Swipe up from the bottom of the iOS device.
2. Select the option labelled "screen mirroring"
3. Select the Newline Cast receiver from the list (name of the receiver is shown to the top-right of the receiver home screen)
4. You will be prompted to enter an Airplay code. The Airplay code is the session ID shown on the Newline Cast receiver home screen.

Home Screen User Interface

When a session has been joined, the DisplayNote client app home screen will be shown.

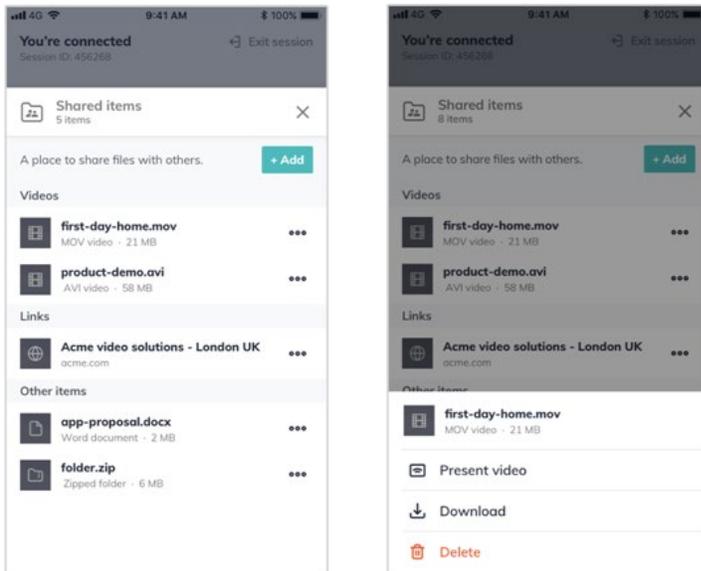
Left screenshot: Android app

Right screenshot: iOS



Shared Item

Much like the DisplayNote desktop and web apps, the mobile apps have access to the session's shared items. From here, users can share audio files, documents, PDF and image files, videos and zip files. The screenshots below show the shared items and download or present capabilities for a video file that has been shared to the session



Sharing Your Screen with Android App

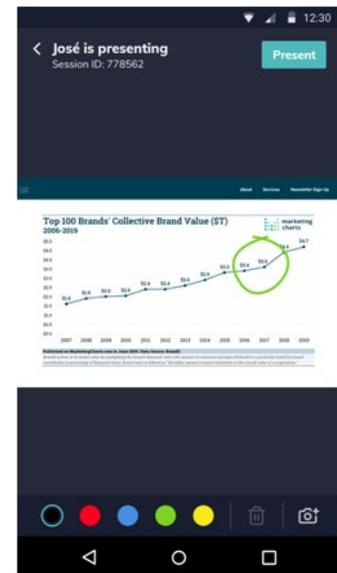
The steps required for sharing your screen using the DisplayNote mobile app for Android are identical to the desktop apps. In other words, simply press the "Share my screen" option from the mobile app home screen.

Viewing a Presentation

Session attendees can view the current session activity. This can be another attendee sharing their screen, or the Newline Cast receiver making use of the whiteboard.

To view the current session activity from the DisplayNote mobile app, simply press the 'View presentation' option from the home screen.

While viewing the session's current activity, users have the ability to annotate using a selection of colors, capture the screen (including annotations) or remove all annotations.



Firewall

For remote connections, receiver and clients need to be able to access the Internet through these ports:

- TCP 80
- TCP 443
- UDP 53

For local connections (i.e. clients on the same network or connecting through an Access Point) the following ports are used:

- TCP 1-65535 (It will be selected from available ones)
- UDP 1025 – 65535
- TCP 4700, 7000, 7100 (For Airplay connections)

If there is Layer 7 filtering or proxy with protocol filtering on these ports then the following protocols will need to be allowed:

- HTTP
- HTTPS
- DTLS
- XMPP
- Bonjour protocols
- SRTP
- DNS
- STUN
- TURN
- ICE

Our SaaS provides services at the following FQDNs:

- netcheck.joinmontage.com
- montage.displaynote.com
- xmpp.displaynote.com
- stunturn-prod-ireland.displaynote.com
- stunturn-prod-mumbai.displaynote.com
- stunturn-prod-singapore.displaynote.com
- stunturn-prod-virginia.displaynote.com
- stunturn-prod-california.displaynote.com

Proxy

Newline Cast and Windows software support proxy configuration. The following proxy types are supported:

- HTTP Proxy (with or without authentication)
- SOCKS 5 (with or without authentication)
- Proxy with Auto-Configuration File (PAC) (with or without authentication)
- System proxy - to inherit proxy settings from Windows

Contact Us

Still need additional assistance? Contact our Technical Support Team at 833-469-9520, ext 5000 or support@newline-interactive.com.