Delta Media Server
StackCaptioning

User Guide

7THSENSE

StackCaptioning : User Guide

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Printed: June 2024

This edition is for software version StackCaptioning Bundle 1.2: Trigger 1.0.8, Manager 1.0.13, (Android) Client 1.0.20
Document ref.: M137-10

Introduction

StackCaptioning is an optional module in the Stack web interface, which provides automatic audio and/or visual captioning for rides and attractions, on Android devices: tablets, smart glasses, or similar mobile devices. Please contact support@7thsense.one for compatibility and recommendations.

The Stack web interface is an installed part of the DeltaServer and DeltaGUI installation, and two parts of the Closed Captioning system are added to it:

StackCaptioning Manager is a browser-based application for setting up a **site**, with multiple **attractions**, each of which has a series of staged **scenes** (and/or Subscenes) bearing the caption resources. It is installed either on a Delta server, or a separate control PC.

StackCaptioning Trigger is the app which is UDP-linked to a Delta show timeline to start the sequential scene captions on the mobile devices. It is installed on each Delta server in the network delivering the show.

The third element is **StackCaptioning Client**, an app supplied by 7thSense that is installed on each mobile device, which downloads and plays caption resources when triggered by the Delta server show.

Scenes are defined by timeline position, but caption sources can also be offset.

Overview

Networking and Devices

- Devices running StackCaptioning **Client** must be able to connect with StackCaptioning **Manager** to sync their caption content and config file.

- Devices and servers running StackCaptioning **Trigger** must be on the same flat network of static IP addresses. This is an encrypted TCP link.

- StackCaptioning **Trigger** is licensed by number of Android clients. This shows in the Trigger app:
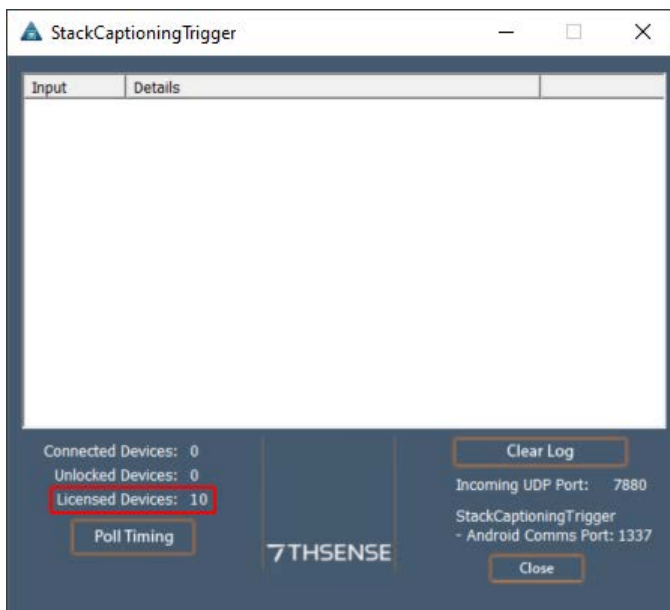
- To lock down the device functionality and enable only Captioning to be used, you will need to purchase a 3rd Party licence. This software is not supplied by 7thSense as part of the Captioning solution, but we recommend SureLock for Android: https://www.42gears.com/products/surelock/

Caption Resources

- **Visual** captions are in .srt format text files (see: SRT (SubRip Subtitles) Files [14]).

- **Audio** captions are in .mp3 format. .wav files are not currently supported.

- Caption display (colour, size, font, background etc.) can be enhanced using custom **HTML** files (see: Styling Captions [16]).

Scene captions can be added in multiple languages. Attraction, site and language are selected on each Android device.

Note: The Stack (web interface) core modules are pre-installed on every Delta Media Server, but please contact us if you have any difficulty with installing them onto a different setup machine if required (see notes below).

Click on areas of the diagrams below to jump to sections of this guide.

Configuration of a StackCaptioning System

StackCaptioning **Manager**: set up Site, Attraction and Scenes

WiFi sync: download Scene resources to devices

Playback Devices carry StackCaptioning **Client** and caption media
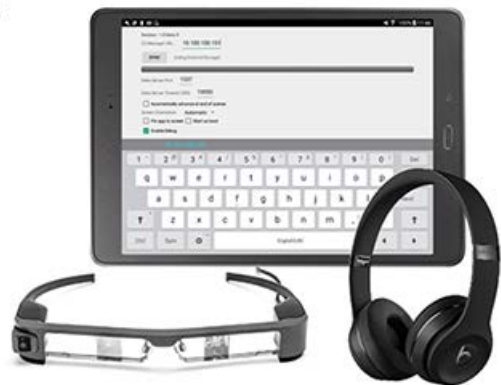
How Captions are Triggered and Displayed

Delta Media Server running timeline, with UDP-linked StackCaptioning **Trigger**

Flat WiFi network: encrypted TCP link

Playback Devices respond to triggers, and play captions

Instructs queued devices to play caption for server's current Scene

Ancient seafaring maps often had pictures of fearsome creatures: "Here be dragons!"

Terminology

|	
attraction	The place or route within a **site** where playback media are experienced. See Attractions [22].
audio description	.mp3 files. The audio equivalent of **SRT files** for text captions. .wav files are not currently supported.
captions	Text or audio overlays to a movie or series of images, describing or transcribing what is displayed.
StackCaptioning Client	Runs on Android client devices to play **captions** when triggered.
StackCaptioning Manager	PC/server app that configures the captioning system and syncs the **client devices**. Contains all settings and assets for captioned sites.
StackCaptioning Trigger	App on each server used in an **attraction** that sends UDP messages to **client devices** to play an **SRT file** or an .mp3 **audio description**.
client (playback) devices	Android devices carried through an **attraction** that play the audio/visual **captions**.
custom HTML	A basic HTML file that adds CSS capability to enhance the appearance of basic SRT content.
offset	Offset when a caption starts, for better syncing with content.
preview	A tool in the captioning app to scroll through and read **captions**, or play an .mp3 file. See Attractions [22].
scene	Part of an **attraction**, a scene may be a movie or series of images that requires associated captions in an **SRT file**, or **audio description** file. See Scenes [25].
server	Delta Media Server playing the media show within an **attraction** on a **site**.
show (Delta)	Movie or series of images for a **scene** or **subscene**.
site	The top-level named location with which one or more **attractions** are associated.
SRT file (SubRip Subtitles)	Text files that contain subtitle information, which includes the sequential number of subtitles, start and end timecode, and subtitle text. See SRT (SubRip Subtitles) Files [14]. Files are triggered to play per **scene** or **subscene**.
Stack	The web interface to Delta **servers** and the Captioning application.
subscene	A **scene** can be divided into two or more subscenes, each of which can **trigger** a different **captions** playback. See Subscenes [26].
sync (client devices)	Upload the required **captions** for a named **attraction** from the **StackCaptioning Manager** to a **client device** ready to be triggered for playback. See Sync Client Devices [35].
trigger	Message sent from a **server** to a **client device**. to play the correct **captions** in sync with the movie or image sequence.

Installing StackCaptioning

StackCaptioning must have Delta Web Platform 2.1.3 and Delta Web Service 2.4.16 already installed.

To find your version of Delta Web Service, go to the server IP in your web browser, and click Help. If you are uncertain, just install these first, or contact support@7thsense.one.

If you need to see your Delta Web Platform version, it is only visible from the Windows registry. If you are unfamiliar with this area, just call us. The Registry setting is in:
Computer\HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Microsoft\Windows\CurrentVersion\Uninstall\DeltaWebPlatform
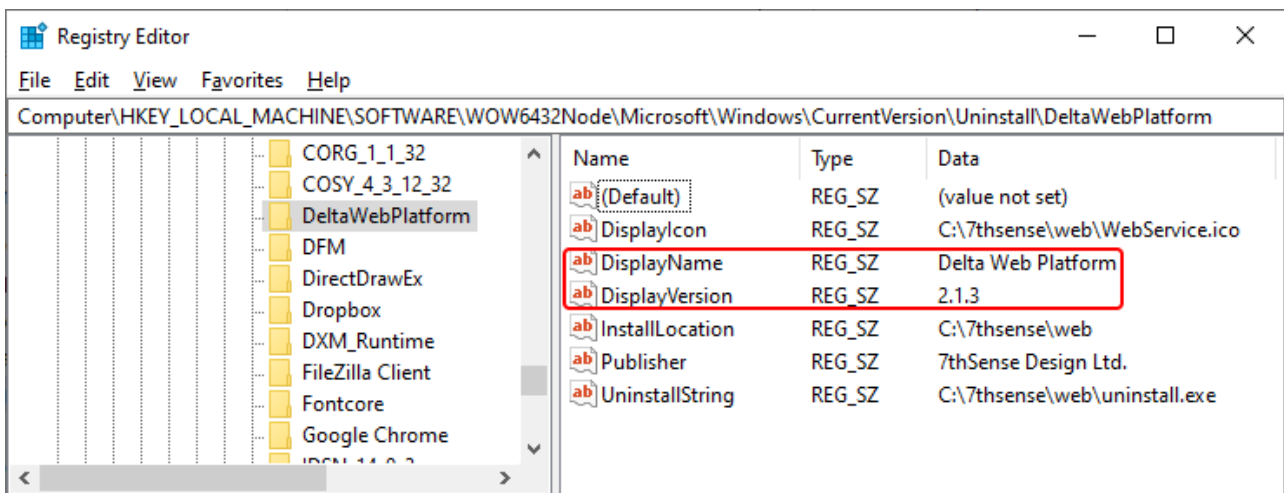
- Copy the required software elements (**StackCaptioning Manager** and **StackCaptioning Trigger**) onto the required PC or Servers, and run the .exe files. StackCaptioning Trigger must be on each server, StackCaptioning Manager can be on a server, or on a control PC, from where you will sync the display devices.

> **Note**: StackCaptioning Trigger must be installed as Administrator, and run as Administrator on Startup.

StackCaptioning Trigger will be added to the system's start-up sequence, and when run the first time, will ask for registration.
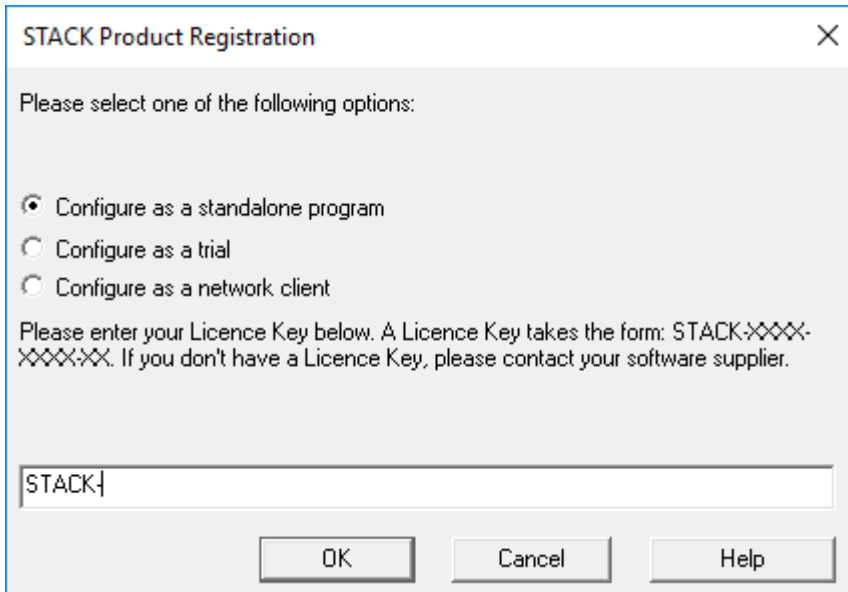
- Choose Standalone and enter your licence key, then click OK.

The system will prompt you to connect to the Internet automatically (or Cancel – see below, if you have no Internet access). Click OK to continue and if requested, complete the required registration details. **Please ensure that you register your software with useful information such as your Company Name and a Works Order number/venue name (not just your first name):**


Once registered, the StackCaptioning Trigger interface will appear on your screen. This will show how many client devices are licensed and how many connected.

It may be useful at this point to create a desktop shortcut for StackCaptioning Trigger. The app can be found in C:\Program Files\7thSense\StackCaptioningTrigger.

If your server has no Internet access

Having clicked Cancel, above, you will see this:
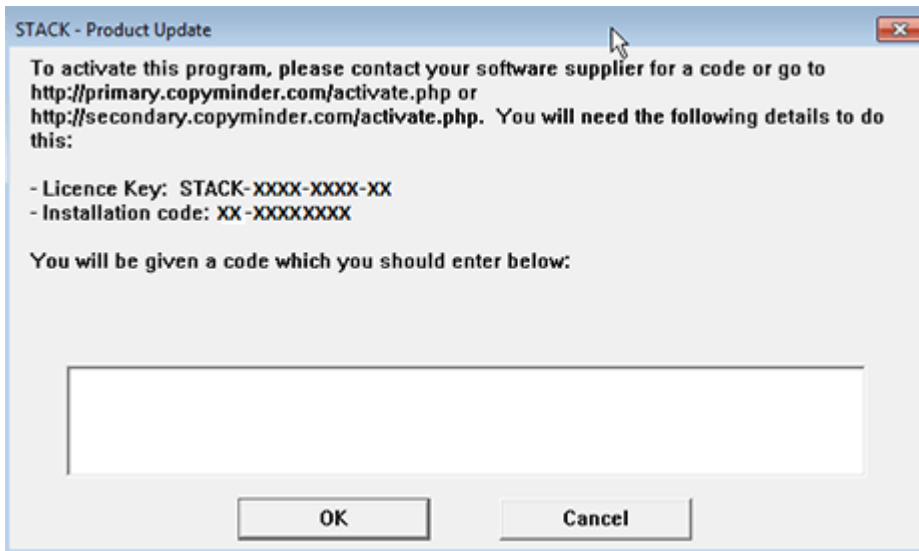
Open a browser window on an Internet-connected device and navigate to http://primary.copyminder.com/activate.php or http://secondary.copyminder.com/activate.php for manual activation. Enter your Licence Key no., and Installation Code, and click Submit.

Copyminder will give you a long manual activation code (9 groups of 4 digits) for you to type into the text box in the Stack activation window above.

Installing the Android StackCaptioning Client

- Install the StackCaptioning Client app as supplied by 7thSense onto each mobile device as required. (The APK application installer is copied or emailed to devices.)

- Go to the device's *Settings > Apps* and find the StackCaptioning Client app with the blue 7thSense logo. Open and find 'Permissions' which will have a single option 'Storage' which must be set to 'on'. (A requirement of more recent versions of Android.)

Planning Your Captioning System

Getting your structure right from the start is important, and helps organise both caption media resources and this StackCaptioning preparation. The order in which you build out your StackCaptioning system will save time so that, for example, Scene names and languages are inherited as you go.

List, and use consistent and logical naming for your:

- Sites
- Attractions
- Scenes
- Subscenes (options)

Across which sites and/or Attractions are you able to offer:

- language options
- visual captioning
- audio captioning?

Workflow

Caption Resource Files

When text caption SRT files are uploaded into StackCaptioning they are converted to an internal format. It is therefore advisable to keep the original files available in case of a need to edit them, where they can be reimported and then resynced to the Android client devices. You might, for example, choose to create a C:\srt-captions\ folder on the same server as StackCaptioning Manager.
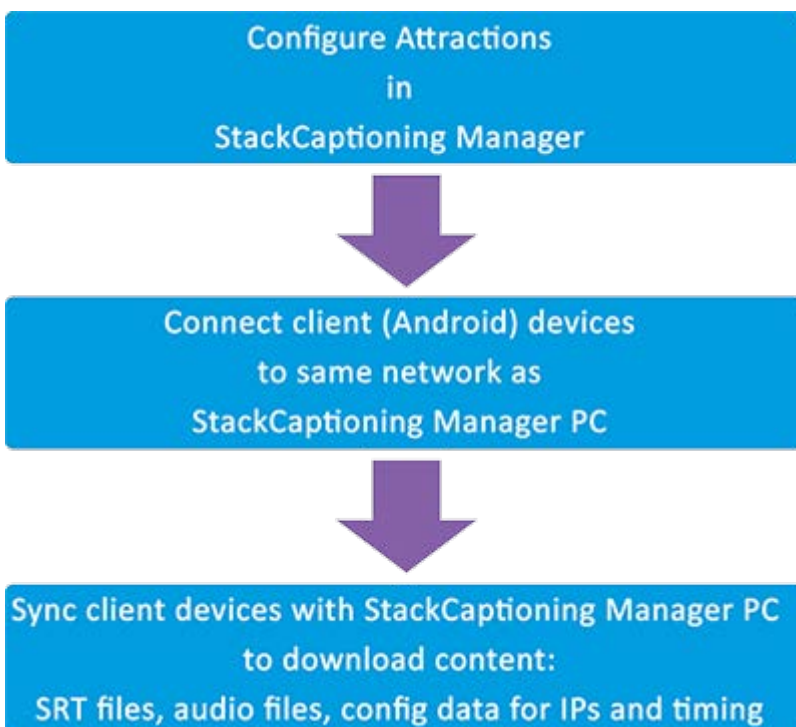
Prepare the client devices

As you prepare for adding closed captioning to your attraction, you should already have the required text or audio files. In configuring the attraction and its scenes and subscenes in StackCaptioning Manager, you will assign and upload these filenames where they are required. The result is that as the Delta show plays, messages will be sent by WiFi to the client devices for which caption files to play.
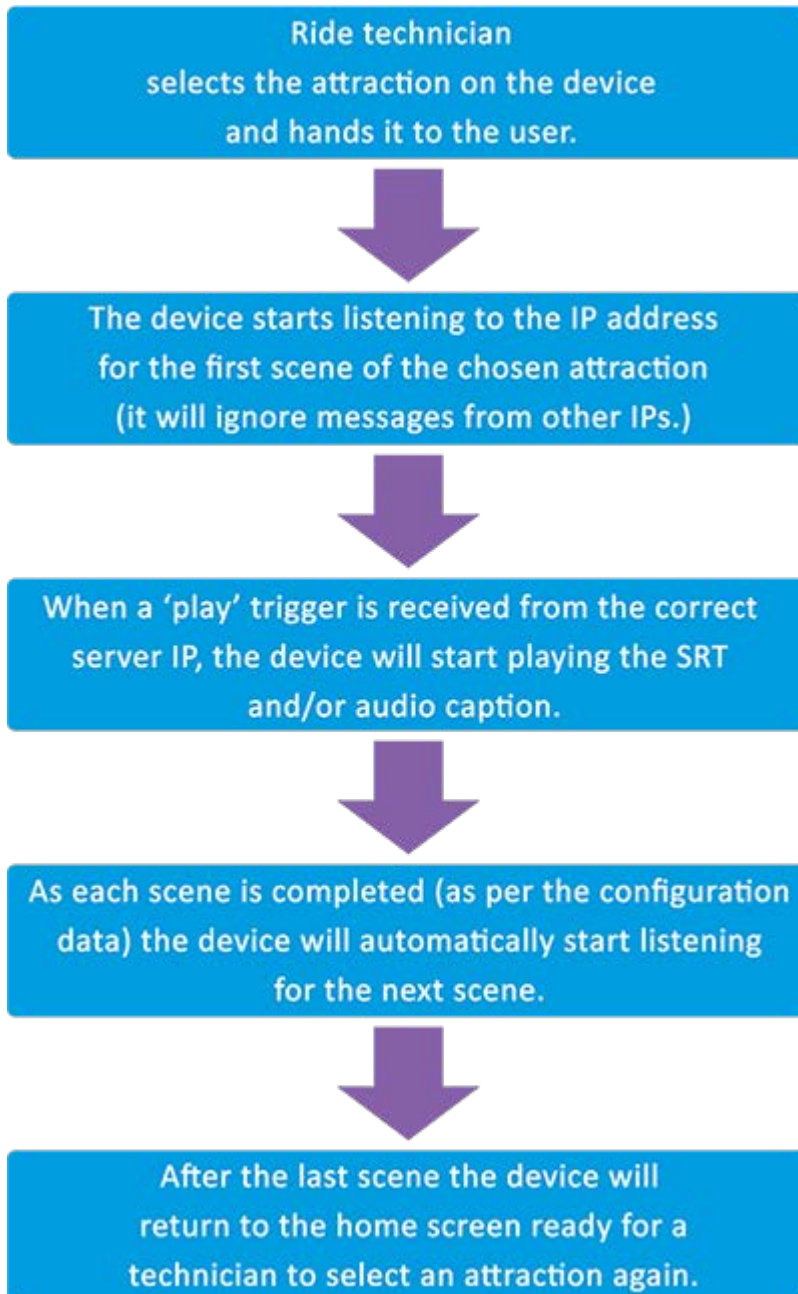
Sync the client devices

The client devices now need to have these files downloaded to them, along with the additional information from the StackCaptioning Manager about when to play and which trigger to listen to. This process is called syncing.

This diagram has links to other pages.

Using the client devices

Once synced, devices simply need to be set for the required attraction and handed to the user. The devices listen for the correct triggers in turn, and when triggered, play the caption files.

Ride technician
selects the attraction on the device
and hands it to the user.

⬇

The device starts listening to the IP address
for the first scene of the chosen attraction
(it will ignore messages from other IPs.)

⬇

When a 'play' trigger is received from the correct
server IP, the device will start playing the SRT
and/or audio caption.

⬇

As each scene is completed (as per the configuration
data) the device will automatically start listening
for the next scene.

⬇

After the last scene the device will
return to the home screen ready for a
technician to select an attraction again.

SRT (SubRip Subtitles) Files

Your content for captions can be created from video transcripts, or in readily available CC software. It is in a standard text-file format, for which there are standard best-practice guidelines, and they can be easily edited.

Syntax notes

The format and syntax of SRT files is strict, so if captions are not working as expected, first check these points are correct throughout:

- The first line cannot be blank; begin the caption sequences from line 1 or the file may be mis-read.

- The file must end with a new line, not end on the last text character.

- The final caption must be followed by a blank line.

- For each caption, the first line is the caption number, the second is the start and end times along the movie timeline in the format: hours:minutes:seconds,milliseconds. The following lines will be displayed as the caption, as text, a hyperlink, or to play an audio file.

- Captions are separated by a single empty line.

```
1
00:00:01,000 --> 00:00:04,074
Subtitles will appear automatically throughout this show.

2
00:00:34,451 --> 00:00:36,744
This is Berk.

3
00:00:36,912 --> 00:00:41,290
It's twelve days north of hopeless and a
few degrees south of freezing to death.

4
00:00:41,458 --> 00:00:45,211
It's located solidly
on the meridian of misery.
```

Line breaks in the caption text will be represented in the device display. Longer lines will wrap within the device screen width.

Caption text in the SRT file is formatted for device browser display by an internal HTML file. This is a built-in default, without which the SRT would not display, but one of the <u>Scene resources</u> [25] you can upload is your own custom HTML, which has required elements. This will overwrite the default.

Editing and updating captions

To edit SRT files, go back to the original source file, then in *Site > Attraction > Scene* delete the file and reselect the edited version. You will then need to resync all the Android devices that carry the revised captions.

Styling Captions

You can easily change the appearance of captions (position, font, size, colour) by uploading your own custom HTML file to your Scene. The custom HTML format is straightforward. If using HTML5 elements, be sure that the device browser is compatible.

> <body>: style the whole display page here (background, common attributes)
> <div>: style the caption text paragraph only (change text colour, style, position etc.)

These files can be applied to individual Scenes or Subscenes, or to the the Attraction as a whole.

Example custom HTML

The style element is shown in blue. In this simple example we place the captions at the bottom of the viewing area, enlarge the regular text and make it default white. We then have added different colours for different voices (narrator and character) in the SRT text file. Any instructions could be 'instruction' style, appearing in red. Everything else would default to white. This file can be saved to a filename of your choice, then added under Scenes [25] > 'Custom HTML'. You can copy the example as a starter template, if you are already familiar with writing css style elements. Edit only the blue text. The red text must not be changed.

```
<html>
<head>
<style>
body { font-family: "Droid Serif"; font-size: 2em; color: white; }
div { position:absolute; bottom:0; }
    .instruction { color: red; }
    .narrator { color: yellow; }
    .character { color: aqua; font-style: italic; }
</style>
<!-- the Javascript for including the caption -->
<script type="text/javascript">
    function setCC(cc)
      {
      document.getElementById("ccText").innerHTML=cc;
      }
</script>
</head>
<body>
<div id="ccText">
<!-- calls the caption content within this required element id to display it with the
styles above -->
</div>
</body>
</html>
```

HTML tags added to the SRT text, when called into the caption container (id="ccText") will be styled according to the css in this file.

Example styled SRT file

Here is an SRT example, using the <span> element to style text using the above css in your custom HTML file:

```
1
00:00:01,000 --> 00:00:04,074
<span class=instruction>Subtitles will appear automatically throughout this
show.</span>

2
00:00:34,451 --> 00:00:36,744
<span class=narrator>This is Berk.</span>

3
00:00:36,912 --> 00:00:41,290
<span class=narrator>It's twelve days north of hopeless and a
few degrees south of freezing to death.</span>

4
00:00:41,458 --> 00:00:45,211
<span class=narrator>It's located solidly
on the meridian of misery.</span>

5
00:00:47,372 --> 00:00:52,408
<span class=character>20 miles to go and I've just got to keep going ...
one step at a time.</span>
```

Syntax Notes

Unlike regular HTML, the <span> class names are not enclosed in quotes. Any text that is neither the 'narrator' (red) nor the 'character' (white) will be displayed in body style (blue).

A note on ruby text in captions

Annotation, to simplify or aid pronunciation, is often used in some East Asian languages, and can be useful in captions. The annotations are usually set above characters when written horizontally, or to the right when vertical. An example of this would be to set Furigana (syllabic) characters against kanji ideographic characters, in Japanese. The annotations are usually smaller, and are referred to as ruby (or rubi) characters.

HTML5 introduced a tag system for ruby text, and most recent browsers can interpret them. The tags can be used such that they degrade gracefully on browsers that cannot interpret them.

In the SRT file the caption as a whole is enclosed by the tag:
<ruby>caption text, any characters</ruby>

Within this, we identify and add the annotation text using the <rt> tag:
<ruby>caption text, any characters<rt>annotation characters</rt></ruby>

The caption may need to be segmented for annotation, so this can simply be repeated for multiple annotations:
<ruby>first caption segment<rt>first annotation</rt>second caption segment<rt>second annotation</rt></ruby> and so on.

To maintain correct spacing, use an empty annotation tag to mark any segment that has no annotation, as the first here:
<ruby>first caption segment<rt></rt>second caption segment<rt>second annotation</rt></ruby> and so on.

For browsers that support ruby, the annotations will be displayed above the caption text in sequence. Browsers that do not support ruby will ignore the tags and show all text in a line:
first caption segmentfirst annotationsecond caption segmentsecond annotation – which is not very readable.

If there is a possibility of this happening, use the ruby parenthesis tag <rp> to enclose separating characters, for example:
<rp> (</rp> before the annotation and <rp>) </rp>
note: include spaces with the text parentheses.

Our complete browser-safe caption, with two elements is now:
<ruby>first caption segment<rp> (</rp><rt>first annotation</rt><rp>) </rp>second caption segment<rp> (</rp><rt>second annotation</rt><rp>) </rp></ruby>

Unlike a regular HTML file, line breaks and leading spaces in the ruby code will affect display. See this Japanese example of kanji with Furigana:

HTML5 tags

```
<ruby>今日<rt>きょう</rt>の<rt></rt>会<rt>かい</rt> 議
<rt>ぎ</rt></ruby>
```

display result

Alternative with browser fall-back parenthesis will appear the same as the HTML5 above in an HTML5 compliant browser

```
<ruby>今日<rp> (</rp><rt>きょう</rt><rp>) </rp>の
<rt></rt>会<rp> (</rp><rt>かい</rt><rp>) </rp>議
<rp> (</rp><rt>ぎ</rt><rp>) </rp></ruby>
```

… but will still be readable in a non-HTML5-compliant browser

Now let's see that in an SRT file example:

```
87
00:07:06,517 --> 00:07:11,229
<ruby>text A<rp> (</rp><rt>annotation A</rt><rp>) </rp>unannotated text B<rt></rt>text
C<rp> (</rp><rt>annotation C</rt><rp>) </rp>text D<rp> (</rp><rt>annotation
D</rt><rp>) </rp></ruby>

88
00:07:11,964 --> 00:07:13,909
<ruby>text E<rp> (</rp><rt>annotation E</rt><rp>) </rp>text F<rp> (</rp><rt>annotation
F</rt><rp>) </rp> unannotated text G<rt></rt></ruby>
```

Occasional annotation

Aside from full annotation, ruby text can be used in any language for occasional annotation of words, in which case it can be applied in a very localised way in the SRT file. This SRT extract of a single caption helps pronounce (read) a word that is difficult for many of us:

`87`	Caption number
`00:07:06,517 --> 00:07:11,229`	start and end times, as hours:minutes:seconds,milliseconds
`The small Icelandic volcanic eruptions in 2010 at <ruby>Eyjafjallajokull<rt>ay-yah-FYAH'-plah-yer-kuh-duhl</rt></ruby> disrupted international air travel.`	Caption text with one term annotated in ruby for pronunciation

Appearance:

The small Icelandic volcanic eruptions in 2010 at
ay-yah-FYAH'-plah-yer-kuh-duhl
Eyjafjallajokull disrupted international air travel.

StackCaptioning Manager: Configure your Site

Open a web browser on the PC or server where you are configuring your captioning with StackCaptioning Manager. Type **localhost** into the address bar to open the Stack web interface to Delta. The default password and username are both 'admin', unless changed to your own.

Choose 'Configure', then 'Add-ons' to find StackCaptioning Manager. Click the URL on the right.

You might also want to bookmark this URL **http://localhost/app/ccm/** in your browser.

You are now in the StackCaptioning Manager module.

Here you will:

- Create a Site

- Create the Attractions that may use the mobile devices

- For each Attraction, create the scenes and subscenes that contain the caption information.

Plan out your structure first, so you get everything in order, and make sure you have the captioning data.

Important: Site Backup

All the content you create will be saved in **C:\7thSense\web\data\app\ccm\data**. Copy the whole of this folder to keep a backup of all your StackCaptioning sites.

Sites

Add a Site

From the top menu, select *Sites > Add Site*. The name will appear in the top left above the Attractions you add, and in the Sites drop-down menu. The Site is just a top-level heading, and carries no other information.

Click Add Site and type in the name:
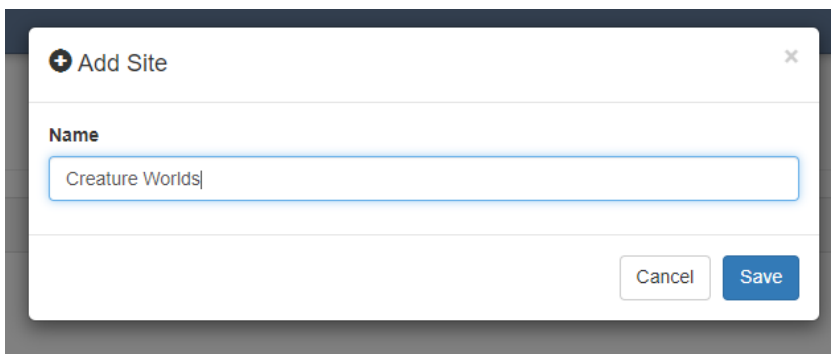
Delete a Site

This same menu permits you to remove the site. When you do this, all data for captions, scenes and attractions is also deleted. If you want to back-up your data before removing a site, take a copy of **C:\7thSense\web\data\app\ccm\data**: all folders and the sites.json file.

Edit a Site Name

Names of Sites can be edited at any time from this menu.

Attractions

Add and remove Attractions for a Site, or edit their names, from the left-side menu.

You may have more than one route for duplicates of the same attraction in the same location; you can copy an Attraction including all its Scenes, Subscenes and language options, then rename the attraction and its parts to suit (Route A, Route B, for example). (Copy Attraction is a featured added in Manager 1.0.13.)

For each Attraction, enter the number of Scenes required. Here, our new site ('Creature Worlds' now listed, top right) has been given three Attractions, and the Attraction 'Marine Monsters' has been give three Scenes. Caption language options have been added for this Attraction:
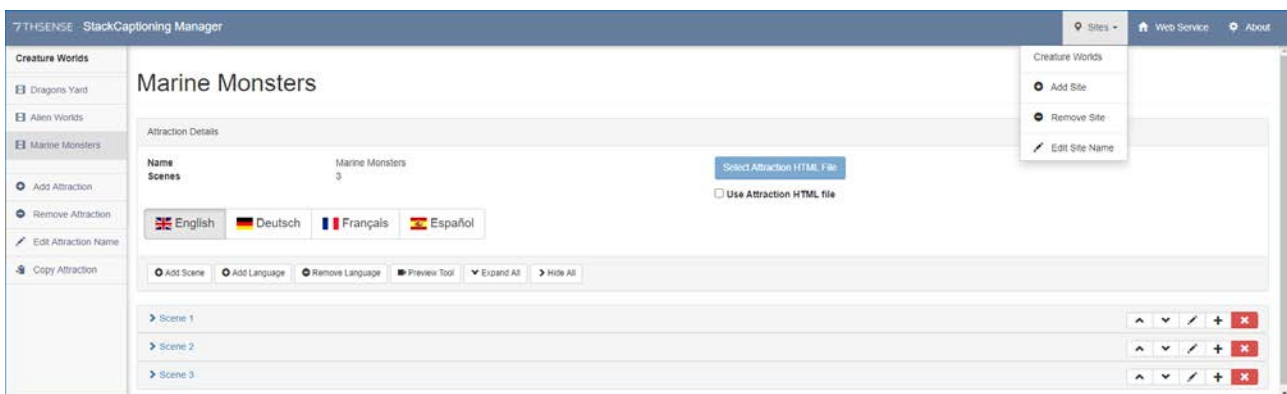
Attraction Details

No further information is needed at the level of Attraction. New Attractions can be added, but their order cannot be changed.

New HTML features with Manager 1.0.13:

Use Attraction HTML File
> Check this if you have a custom HTML wrapper you want to use for all captions, all Scenes and Subscenes, across the whole attraction. See Styling Captions [16].

Select Attraction HTML File
> Select the HTML styling wrapper you want to use for the whole Attraction. This will disable the option to style Scenes individually.

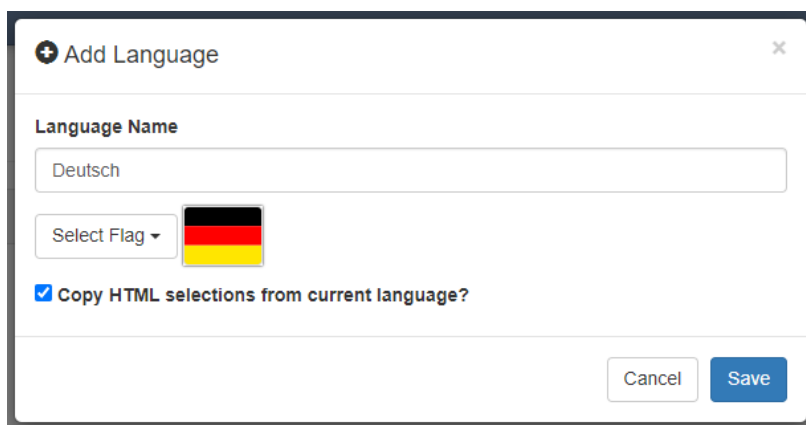You can now add the captioning files to the Scenes. New Scenes and Subscenes can be added, removed and re-ordered.
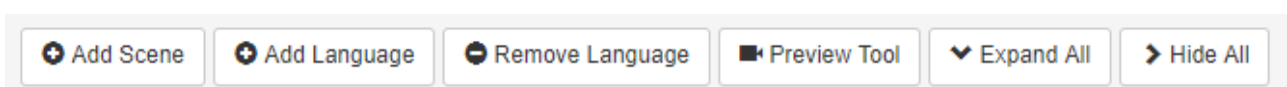
Add Scene

Add a new Scene to the Attraction. Captioning files will next be added to Scenes by expanding each Scene panel.

Add (Remove) Language

You have the option to add languages for each Attraction (it applies to all Scenes and Subscenes). Select the appropriate flag and add the language name in the speaker's language. Captioning assets are added to Scenes for each language separately. Removing a language will delete those assigned caption assets.


Where the styling HTML wrapper is not set Attraction-wide, the option to use the same HTML styling selections for captioning files in this language will save time when setting up the scenes.

Select the language from which you want to copy the HTML settings before adding the language. Unchecked, a language can be styled individually per Scene.

Preview Tool

The Preview tool allows you to step through an Attraction's scenes and Subscene captions in the browser, once they have been assigned. The play controls are common ones and have tooltips.
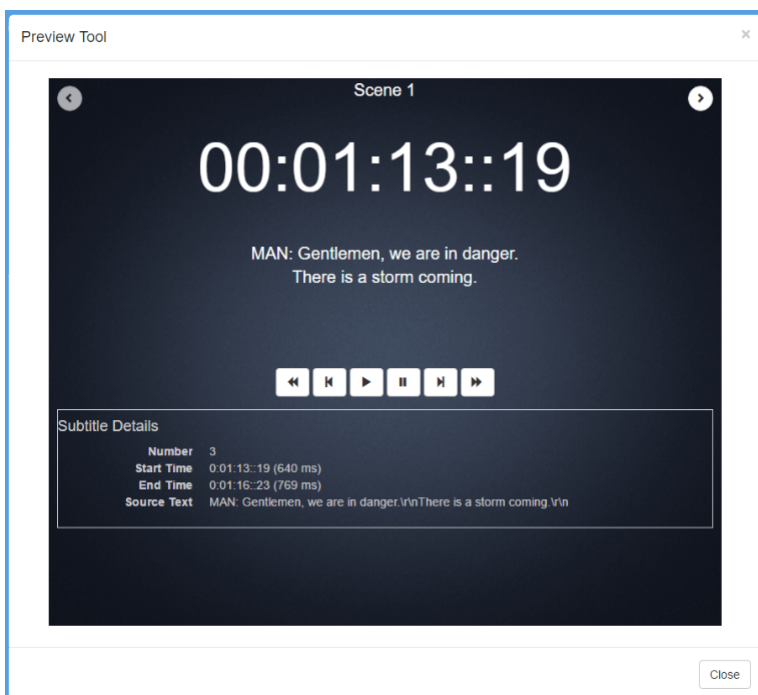
The displayed text is from the .srt file, and audio assets will be played.

To move sequentially between Scenes and Subscenes, use the round arrow buttons in the top corners.

Expand (Hide) Scenes detail
Click on Scene titles individually to expand or hide their details for editing, or click here to expand or hide details of all Scenes at once.

Scenes

- Move Scenes **up** and **down** to reorder them
- Add or **edit** names to Scenes with the 'pencil' button.
- Split a Scene into **Subscenes** with the + button, or
- **delete** the Scene with the red cross button.

Click on a Scene name to expand the panel and populate its **captions**:

Select Trigger IP Address

Uncheck 'Automatic' for the first Scene, and enter the IP address of the StackCaptioning Trigger host. For subsequent scenes using the same IP, check 'Automatic'.

Scene Resources

Browse to selected resources. These are ingested and processed. If you need to edit a resource, go back to the source, then delete and re-select it here. The blue media selector buttons change to red delete buttons. The **Custom HTML** option allows you to change the appearance of the caption display using CSS. Regular style classes can then be used in the SRT files (see Styling Captions ¹⁶). This button will be disabled if a common HTML styling wrapper has been selected for the whole Attraction, and will show 'working (using Attraction HTML'.

Select Length Source

Since visual and audio captions may not the same length, choose which to follow, or set a user-defined length. Use the drop-down selectors for hours, minutes, seconds, milliseconds.

Select Scene Offset

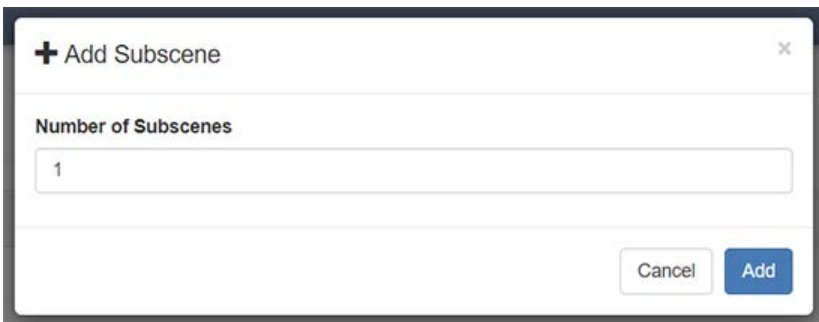Captions can be time-offset for better syncing to the show. Use the drop-down selectors.

Save

Click Save to keep Length and Offset settings (edits to resource files do not require this).

Subscenes (Options)

Adding a Subscene breaks a Scene down into optional Scenes at this position in the Attraction's sequence. For example, you can have three Scenes, with Scene 2 offering one of two or three alternatives.

 Split a Scene into a number of **Subscenes** with the + button

(Note: Prior to Manager 1.0.13, Subscenes had to be added one at a time.)

How it might work

Where participants in a ride can 'vote' for what happens next, the correct caption sequences must follow. The 'vote' sends a sequence to the Delta show timeline, perhaps to enable one movie or layer and disable others. The enabled timeline must therefore be given a UDP command to send back to the StackCaptioning Trigger, which starts the correct Subscene captions on the StackCaptioning Client devices. See Serial Events Controls Syntax [29].

When the first Subscene is added, the Scene is split into two Subscenes, which inherit the Scene name. Adding another creates a third, and so on. The original Scene is not a 'parent' other than in providing the Trigger IP address.

When you populate a Scene without additional Subscenes, you are in fact populating Subscene 1, so additional Subscenes are populated in exactly the same way as a Scene.

Note: To see Subscene changes, you may need to press F5 to refresh the browser page.

Interacting with Delta

To start the captioning for a show, a UDP message needs to be sent from Delta to the StackCaptioning Trigger app. Alternatively you can use a Sequence with the SENDASCIIUDP command. The string for the Sequence follows the same logic as UDP resource.
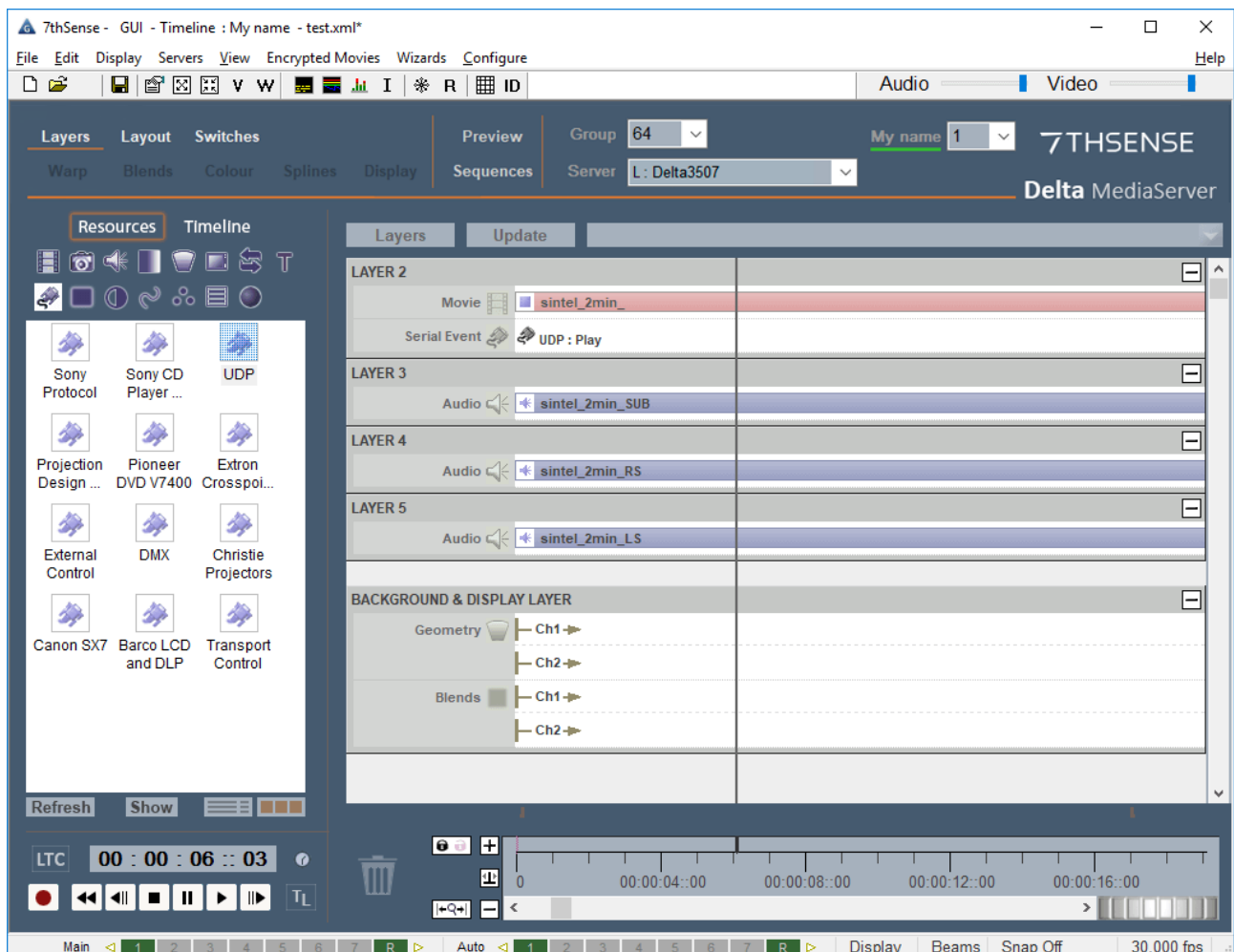
➢ For commands and syntax, see .

Sequence Example

SENDASCIIUDP [server IP] 7880 "Start;Scene=SceneName;\x0D"

UDP Example

From Serial Events resources, drop a generic UDP resource onto the timeline.

Open the UDP properties (double-click on the UDP resource) and set the command start frame to 01, the IP to that of the machine running the StackCaptioning Trigger app and port to 7880 (the UDP listening port for StackCaptioning Trigger):
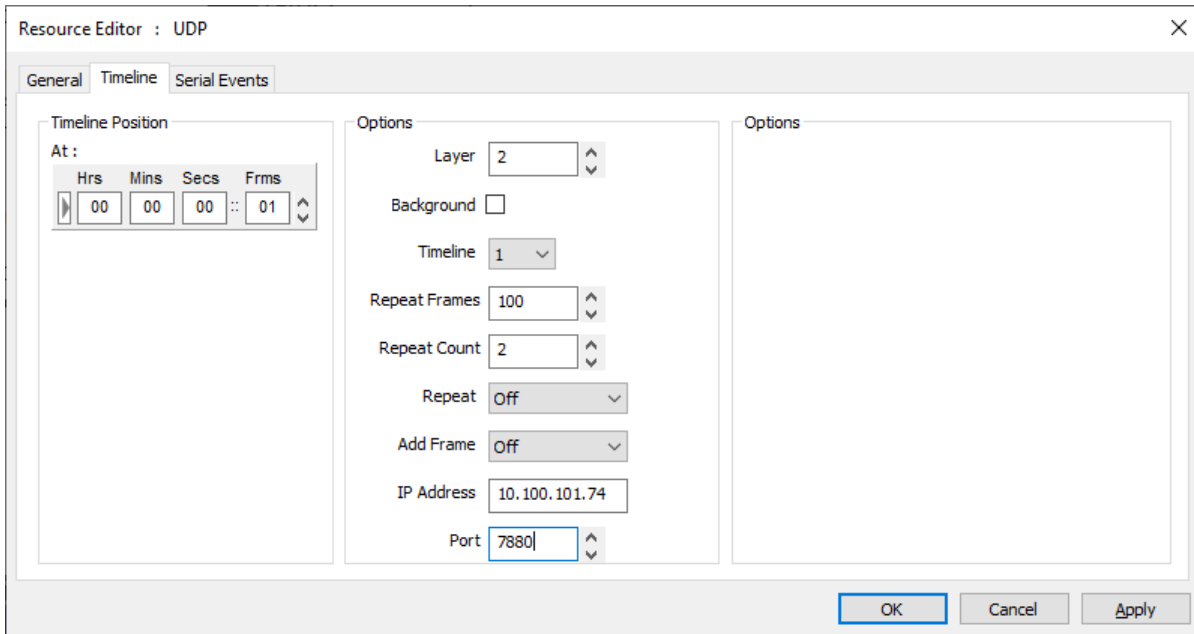
On the Serial Events tab, edit the command text to 'Start' followed by a carriage return control \x0D:
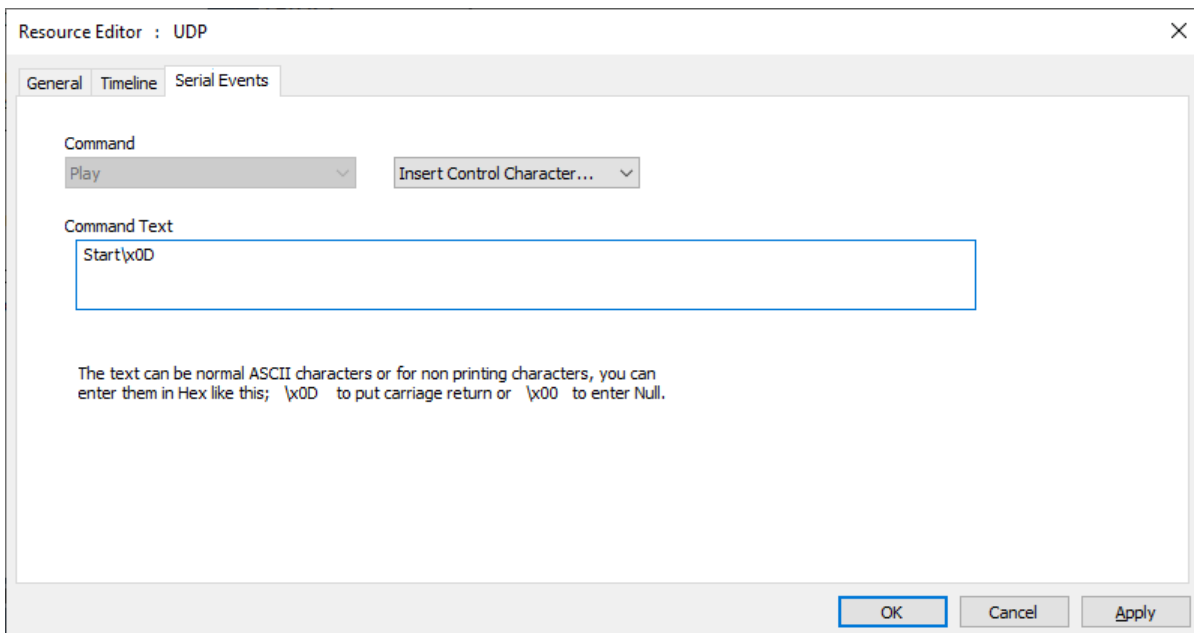
Press OK to save the settings.

If you are using Subscenes and user interaction in the Delta show, then you will use Serial Events to manipulate captions in the same way as the show. For every change in the show, you need to change the captions to stay in sync.

Serial Events Controls Syntax

From StackCaptioningClient Version 1.0 19 – Attractions running in parallel

If named scenes are specified, Serial Events will only affect devices connected in those named Scenes. This allows one Trigger app to manage groups of devices operating in parallel attractions.

Example: Simultaneous tours running parallel Attractions will not be synchronous, but providing the parallel Attractions are each given uniquely-named Scenes (this can be as simple as: 'Scene 1-Tour A' and 'Scene 1-Tour B'; 'Scene 2-Tour A' and 'Scene 2-Tour B' and so on) then only devices in those named Scenes will be triggered. It is the uniqueness of the Scene names that filters which group of devices respond to a trigger.

Basic commands (no additional parameters)

All command strings are terminated with \x0D and are not case-sensitive.

Select
> Go to a referenced Scene or Subscene

Start
> Play

Stop
> Stop playing

Reload
> Go to the beginning of the current Scene or Subscene and stop

Next
> Go to the beginning of the next Scene. If used on the last Scene, this will just reload it.

Previous
> Go to the beginning of the previous Scene. If used on the first Scene, this will just reload it.

Sequential commands: When combining these UDP Serial Events, for example, (1) go to a Scene and (2) play the caption file, place these on consecutive frames on the Delta show timeline.

Optional Parameters

TargetScene=Scene name
TargetSubscene=Subscene name

Target parameters apply the command only to client devices in the named Scene and Subscene. To specify a Subscene, the Scene must also be specified.

Examples with optional parameters (StackCaptioningClient Version 1.0 17)

Select;Scene=Scene name;Subscene=Subscene name;\x0D
     Select loads the captions for the named Scene and Subscene. Use the names you have applied.

Select;TargetScene=Scene name A;TargetSubscene=Subscene name A;Scene=Scene name B;Subscene=Subscene name B;\x0D
     Addresses only devices in the target Scene and Subscene.

     Adding the TargetScene and TargetSubscene parameters load the captions for the named Scene and Subscene.
     Connected devices in other Scenes or Subscenes will ignore the command to select different captions.

Start;TargetScene=Scene name;TargetSubscene=Subscene name;\x0D
     Start will play your current Scene caption file.

     Optional: By adding the TargetScene parameter, only client devices that are currently in [Scene name] will start.
     By also adding the TargetSubcene parameter, only client devices that are currently in [Subscene name] will start.
     Connected devices in other Scenes or Subscenes will ignore the command to start.

Stop;TargetScene=Scene name;\x0D
     Stop will stop your current captions playing.

     Optional: By adding the TargetScene parameter, only client devices that are currently in [Scene name] will stop.
     By also adding the TargetSubcene parameter, only client devices that are currently in [Subscene name] will stop.
     Connected devices in other Scenes or Subscenes will ignore the command to stop.

Reload;TargetScene=Scene name;TargetSubscene=Subscene name;\x0D
     Reload will go back to the beginning of your current playing Scene or Subscene caption file.
     Follow this with a Start event to make it play again.

     Optional: By adding the TargetScene parameter, only client devices that are currently in [Scene name] will reload.
     By also adding the TargetSubcene parameter, only client devices that are currently in [Subscene name] will reload.
     Connected devices in other Scenes or Subscenes will ignore the command to reload.

Next;TargetScene=Scene name;TargetSubscene=Subscene name;Play=True;\x0D
     Next will go to the caption file for the start of the next Scene (not Subscene).

     Optional: By adding the TargetScene parameter, only client devices that are currently in [Scene name] will go to the next Scene.
   By also adding the TargetSubcene parameter, only client devices that are currently in

[Subscene name] will go to the next Subscene in the Scene.
If used on the last Scene or Subscene, this will just reload it.
Connected devices in other Scenes or Subscenes will ignore the command.

If the scene Trigger IP Address is specified rather than 'Automatic': use the Play parameter to set the scene to start playing automatically (True) or not (False) once advanced to the next scene. The default (unspecified) condition is 'False'. If the scene Trigger IP Address is 'Automatic' the scene will always play.

Previous;TargetScene=Scene name;TargetSubscene=Subscene name;Play=True;\x0D
Previous will go to the caption file for the start of the previous Scene (not Subscene).

Optional: By adding the TargetScene parameter, only client devices that are currently in [Scene name] will return to the previous Scene in sequence.
By also adding the TargetSubcene parameter, only client devices that are currently in [Subscene name] will go to the previous Subscene in the Scene.
If used on the first Scene or Subscene, this will just reload it.
Connected devices in other Scenes will ignore the command.

If the scene Trigger IP Address is specified rather than 'Automatic': use the Play parameter to sets the scene to start playing automatically (True) or not (False) once returned to the previous scene. The default (unspecified) condition is 'False'. If the scene Trigger IP Address is 'Automatic' the scene will always play.

Live Captions

It can be useful in a venue to broadcast audio announcements as captions. To do this, a UDP event can be added to the Delta timeline with a command containing the caption as a text string, with a duration for display and subsequent action. This will send the live caption to all devices. Example:
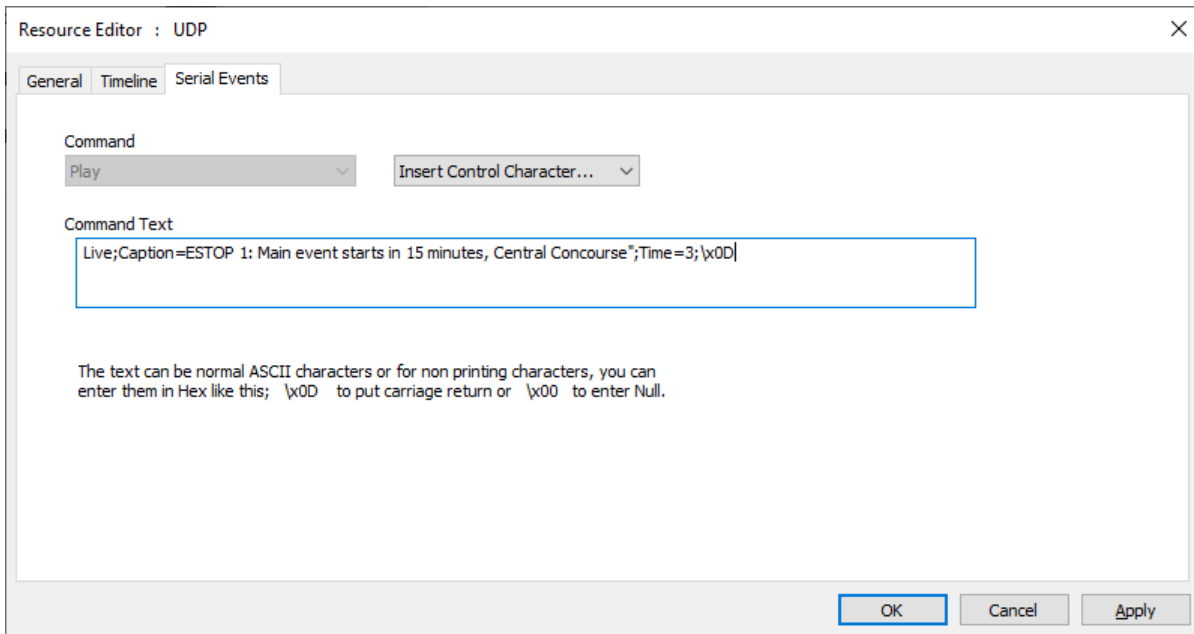
Suggestion: Use the Designer feature in the Stack web interface for standard messages. There you can create a web page with buttons that use sequences to add predefined live captions in serial events, to the timeline.

Commands

All command strings are parsed with semicolons and terminated with \x0D, and are not case-sensitive.

Live
> This is a live caption.

Caption
> Define the live caption mode of interruption and the text to display.

Time
> Define how long the live caption will display in seconds.

Return
> Defines how the live caption reverts to the SRT.

Modes of Operation

ESTOP1

Displays the live caption for the set time given, then returns to showing no caption, not returning to the current SRT.
Example command: Live;Caption=**ESTOP 1**: Caption text to display;Time=3;\x0D

ESTOP2

Displays the live caption, which persists until another action such as a scene/subscene selection. It never returns to the main SRT.
Example command: Live;Caption=**ESTOP 2**: Caption text to display;\x0D

RETURNSMOOTH

Pauses the main SRT playback, displays the live caption for the set duration, then returns to the original SRT sequence. So that it doesn't jump too briefly into the current caption, it skips and waits to display the next in the right place.
Example command: Live;Caption=**RETURNSMOOTH**: Caption text to display;Time=5;Return=Smooth;\x0D

RETURNHARD

Pauses the main SRT playback, displays the live caption for the set duration, then return to the original SRT to display the current caption,however briefly.
Example command: Live;Caption=**RETURNHARD**: Caption text to display;Time=5;Return=Hard;\x0D

Run the StackCaptioning Trigger App

Open StackCaptioning Trigger from from your desktop shortcut, or C:\Program Files\7thSense\StackCaptioningTrigger.
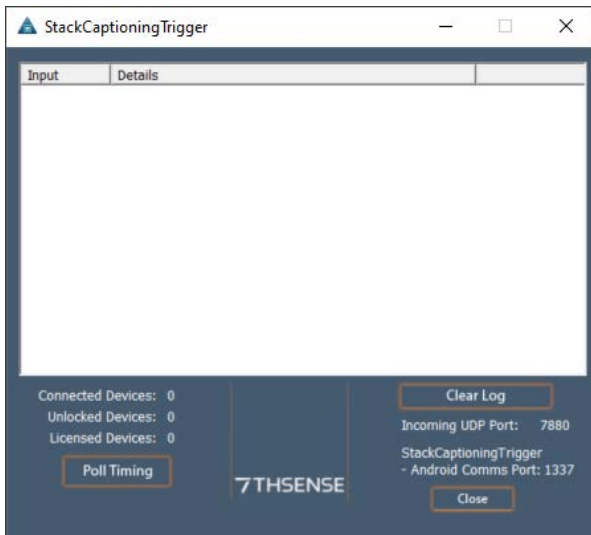
The trigger app appears as above, shows the number of licensed devices, and can now run in the background to display the UDP commands each time they update.

Select the **Poll Timing** button in the bottom left of the dialog to enable StackCaptioning Trigger to communicate with Delta Server. Check 'Enable Polling', select the protocol method (UDP/TCP) and enter the IP and port for the Delta server, and a poll interval in milliseconds. Click OK to apply.
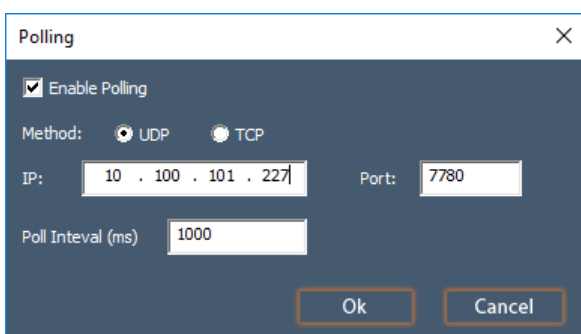
Note: Delta's Default ports are **UDP**: 7780 and **TCP**: 23

> **Important:** The Trigger app can only address a single server. When using one Trigger app to manage multiple attractions, disable polling. In this case the Trigger has to be free run, and scene filter commands used for control instead of timing. See the examples in Serial Events Syntax [27].

Sync Client Devices

With your site now set up, and StackCaptioning Client installed with storage permission set, you are ready to sync the Android captioning devices. Here, a tablet is used as illustration, but the setup is the same for any device.

- Switch the device on. If necessary, select the app. From the Start page, press 'Settings'
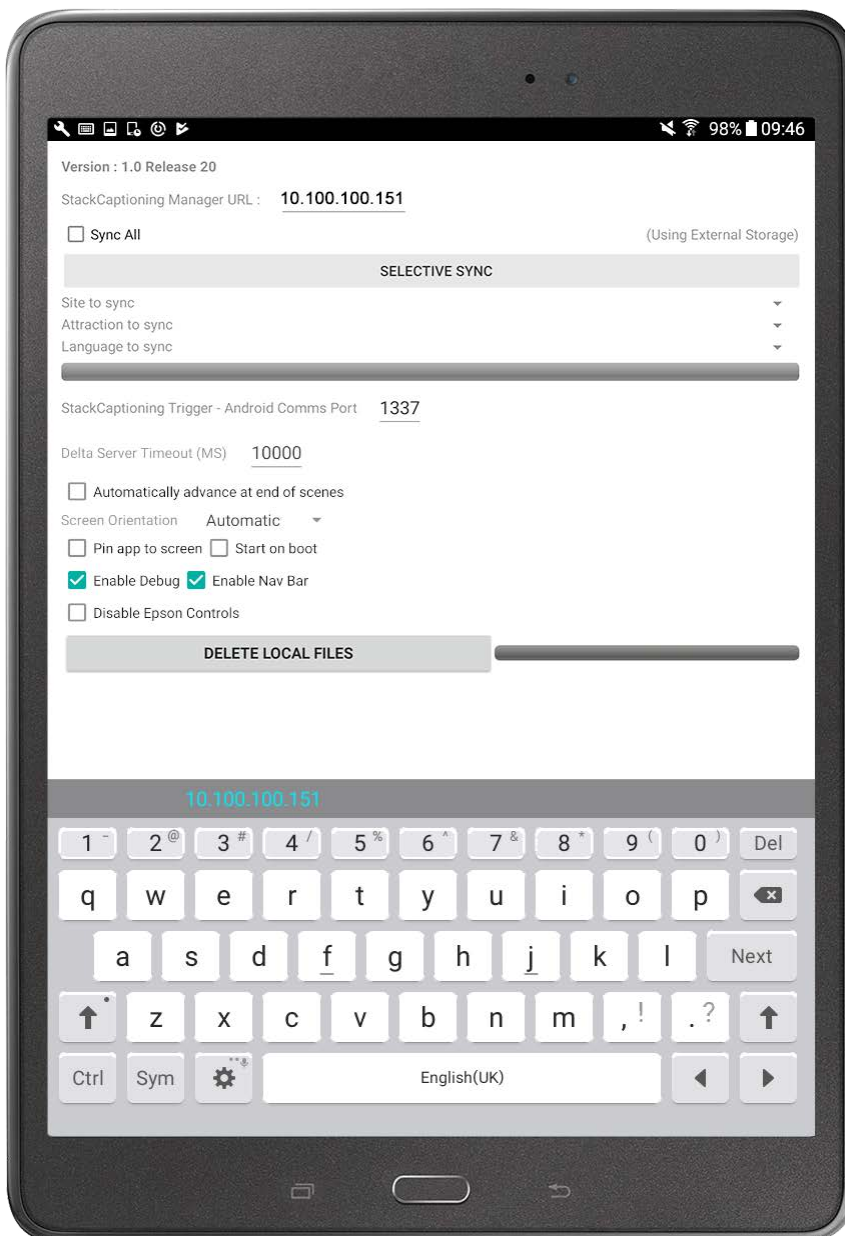
- Enter the StackCaptioning Manager URL

- Change other settings as required

- '**Enable Debug**' will display controls and information so that the captions can be run through forwards on the device. This is not for normal user mode. The display will appear like this below the caption text area:
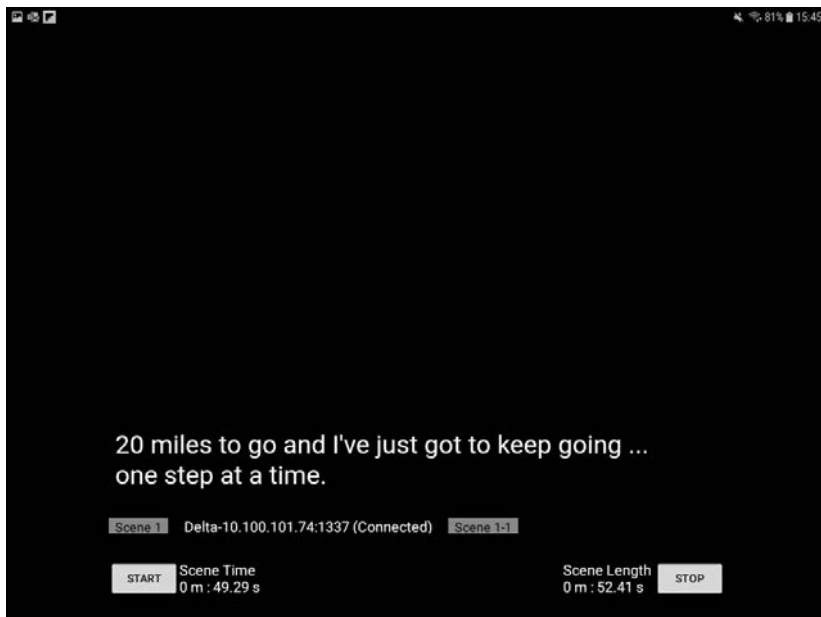
- Tick '**Enable Nav Bar**' for on-screen Android device controls (may be useful with glasses).

Disable Epson (glasses) Controls

The hand-held controller to Epson BT glasses has access to settings controls for the glasses, to which you probably will not want user access. These controls can be disabled by checking the '**Disable Epson Controls**' box here.

To escape the current running show using the controller whilst controls are disabled, double click the DPAD CENTER button in quick succession.

Delete Local Files

Synced files can accumulate on client devices. Keep them tidy when necessary, by clicking Delete Local Files.

Sync the Device

You can sync the whole setup (site architecture) to the client device, which is probably suitable for simple or single-site applications. Devices can be resynced at any time from Settings.

- Check the 'Sync All' box.
- Click **FULL SYNC**.
- Wait for the 'Sync Complete' prompt.

From Client 1.0 Release 20 (illustration here), selective sync is available:

- Make sure 'Sync All' is unchecked.

- Click **SELECTIVE SYNC**.

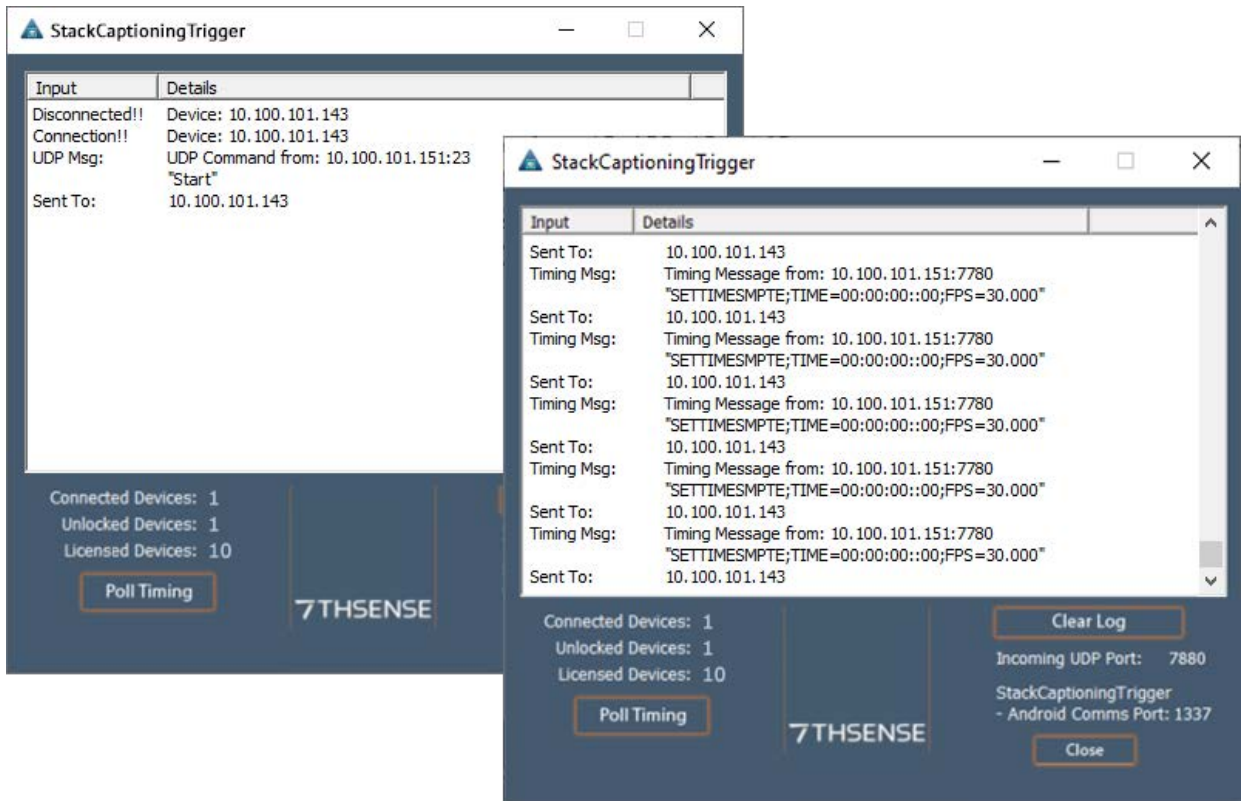- Wait for the 'Sync Complete' prompt.

Start subtitles

- Choose from Site and Attraction drop-downs, and a language flag:
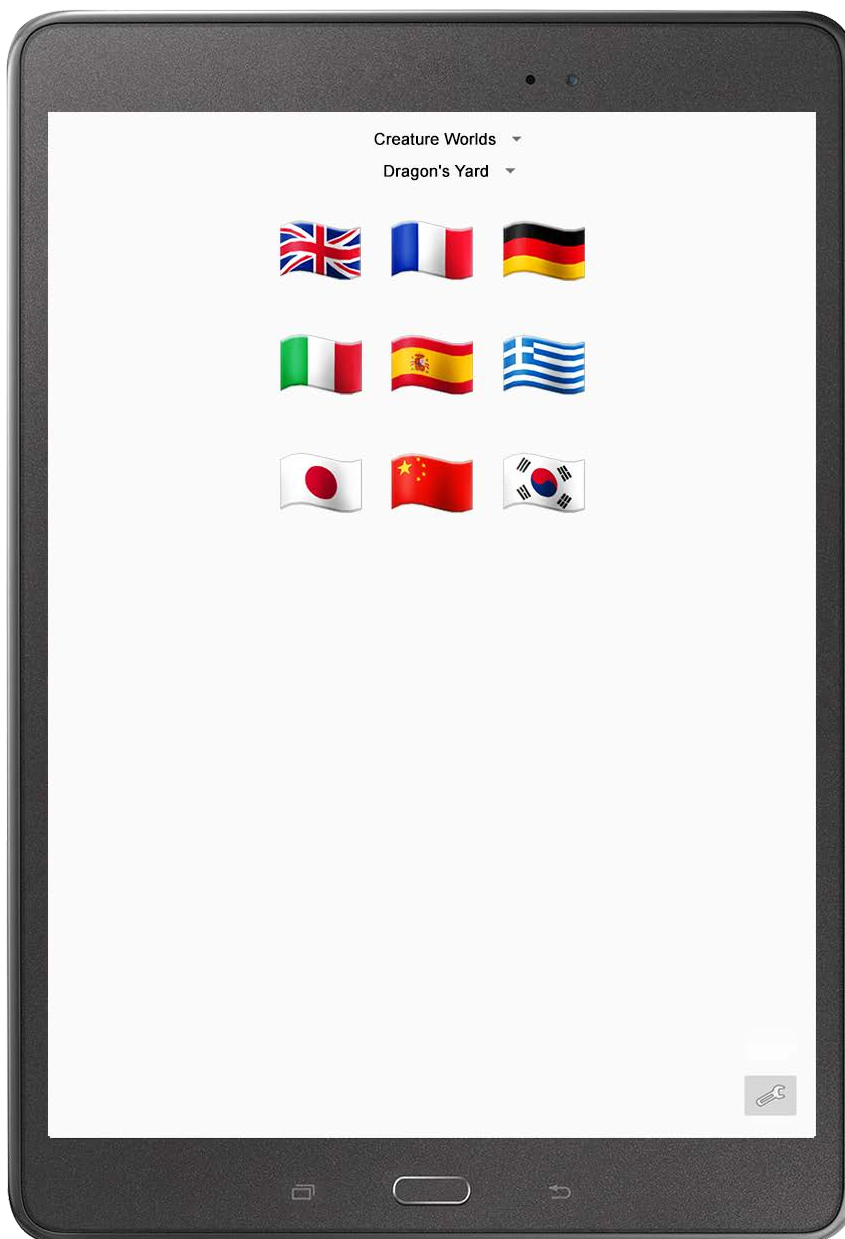
Play your Delta show. The devices will receive the triggers and play captions accordingly.

The Trigger app should now display all UDP activity as your captioning device plays the captions in line with the Delta show.

Document Information

Date	Document edition	Software version	Revision Details	Author/Editor
June 2016	1.0	StackCaptioning (7thClosedCaptioning) 1.0	New release	Helen Ward
November 2016	1.1	StackCaptioning 1.0	New Interface and Poll Timing	Matt Jones
June 2017	2	CC Trigger 1.0.2 CC Manager 0.05 CC Client (Android .apk) 1.0.9	Rewritten, republished	Andie Davidson
November 2018	3	CC Trigger 1.0.2 CC Manager 0.05 CC Client (Android .apk) 1.0.9	Terminology and workflow added	Andie Davidson
April 2019	4	CC Trigger 1.0.2 CC Manager 0.06 CC Client (Android .apk) 1.0.9	Expanded styling of SRT files	Andie Davidson
October 2019	5	CC Trigger 1.0.3 CC Manager 0.08 CC Client (Android .apk) 1.0.11	Product improvements and clarifications	Andie Davidson
December 2019	6	CC Trigger 1.0.3 CC Manager 0.08 CC Client (Android .apk) 1.0.13	Addition of disabling Epson glasses controls in CC Client	Andie Davidson
February 2020	7	StackCaptioning Trigger 1.0.4 StackCaptioning Manager 0.10 StackCaptioning Client (Android .apk) 1.0.14	Product revisions and naming clarification	Andie Davidson
June 2021	8	StackCaptioning Trigger 1.0.8 StackCaptioning Manager 0.11 StackCaptioning Client (Android .apk) 1.0.17	Scene controls in Trigger app linked to device connections	Andie Davidson
November 2021	9	StackCaptioning Bundle 1.2: Trigger 1.0.8 Manager 1.0 13 Client (Android .apk) 1.0.20	Added: whole-Attraction copying; site-wide HTML file management; improved SRT checking, add multiple Subscenes (as for Scenes), improved language management and selective Client sync.	Andie Davidson
June 2024	10	StackCaptioning Bundle 1.2: Trigger 1.0.8 Manager 1.0 13 Client (Android .apk) 1.0.20	Device compatibility advice added.	Andie Davidson

Windows Registry Settings

This document is supplied for informational purposes only. Any modification to Windows Registry values that are not exposed via the DeltaServer or DeltaGUI application interfaces – or otherwise advised by 7thSense personnel – may result in performance degradation and/or complete instability of the products. Any attempt to engage 7thSense for support in troubleshooting may result in the reversal of all Registry settings to the factory default or last known good 7thSense-approved

configuration. **The customer assumes all risk when manually editing any Windows Registry values on any 7thSense product.**

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