# Remote Control

The digital signage software ***FrontFace for Public Displays*** and the interactive kiosk software ***FrontFace for Touch Kiosks*** can be extended by plugins that add additional functionality. This way you can e.g. display special content types, integrate external data sources or systems and add entirely new features to the software.

**Description:**

The Remote Control Plugin is an event source plugin that allows starting playlists ad-hoc remotely on player PC(s). Apart from starting playlists, the plugin also allows stopping playlists, displaying onscreen notifications (text messaging) and some additional maintenance actions like shutting down or rebooting the player PC(s).

The Remote Control Plugin package consists of four main components:

1.) The **Remote Control Event Source Plugin** is an event source plugin for *FrontFace for Public Displays* which allows selecting playlists in the *Display Assistant* so that they can be controlled remotely by using one of the following components.
2.) The **Remote Control Service** is part of the *FrontFace* player application that needs to be enabled and configured in order to use the remote control features.
3.) The **Remote Control App** is a Windows application that can be used to easily perform remote actions on the player PC(s) using an intuitive user interface with fully-customizable "buttons". The Remote Control App offers most of the features for interacting with the Remote Control Service.
4.) The **Text File Messaging Endpoint** is an application that can be used to show onscreen notifications using a simple text file. This application mimics the functionality of the discontinued "Messaging Extension" that has been available for *FrontFace for Public Displays* in the past.

**Installation:**

Please refer to the user manual of *FrontFace for Public Displays* or *FrontFace for Touch Kiosks* on detailed information on how to install a plugin.

**Caution:** This plugin is an Event Source Plugin that cannot be used with *FrontFace for Touch Kiosks*! Event Source Plugins are only supported by *FrontFace for Public Displays*!

> **Notice:** If you have previously downloaded and installed the trial version of the plugin, you have to install the full version over the existing trial version in order to get the full version running. The procedure is exactly the same as for installing a new plugin. If you already used the trial version of plugin in your project, all settings will remain after installing the full version!

**Setup and Usage:**

Once the Remote Control Plugin has been installed in your *FrontFace* project, navigate to the **"Scheduling"** menu of the *Display Assistant* and activate the scheduling feature. Then head over to the **"Events"** tab and add a new event source. Select **"Remote Control"** as event source and then assign a playlist to the event source. This playlist can then be triggered remotely using the Remote Control Service or the Remote Control App once you have published the project to your player PC(s).

The Remote Control Service also needs to be enabled and configured on the player PC. First, open the XML configuration file **"FrontFace Player.exe.config"** and look for the following configuration option:

```
<setting name="EnableRemoteControlService" serializeAs="String">
      <value>False</value>
</setting>
```

Change the value from **"False"** to **"True"** and then save the file (Notice: you need full administrator privileges to save the file!).

Then start the shortcut **"FrontFace Player Setup"** from the Windows start menu, click on **"Initialize RCS"** and select **"Register Service"**. You will then be prompted to enter the user name of the Windows account under which the *FrontFace* player application is executed. Once you confirmed that, please make sure that the console Window which is shown then reports a successful registration of the Remote Control Service.
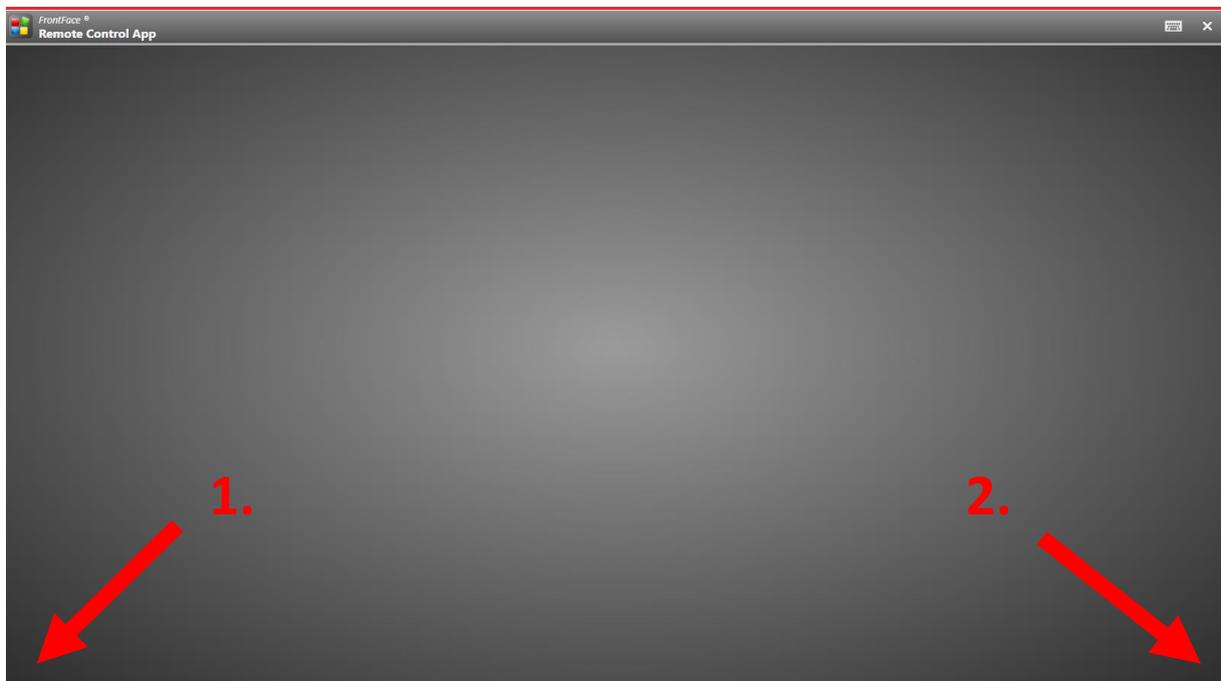
Finally, you can start the *FrontFace* player application as usual. The Remote Control Service is now active. In case you use a firewall other than the Windows-integrated firewall, please make sure that you open port 8066 for external communication.

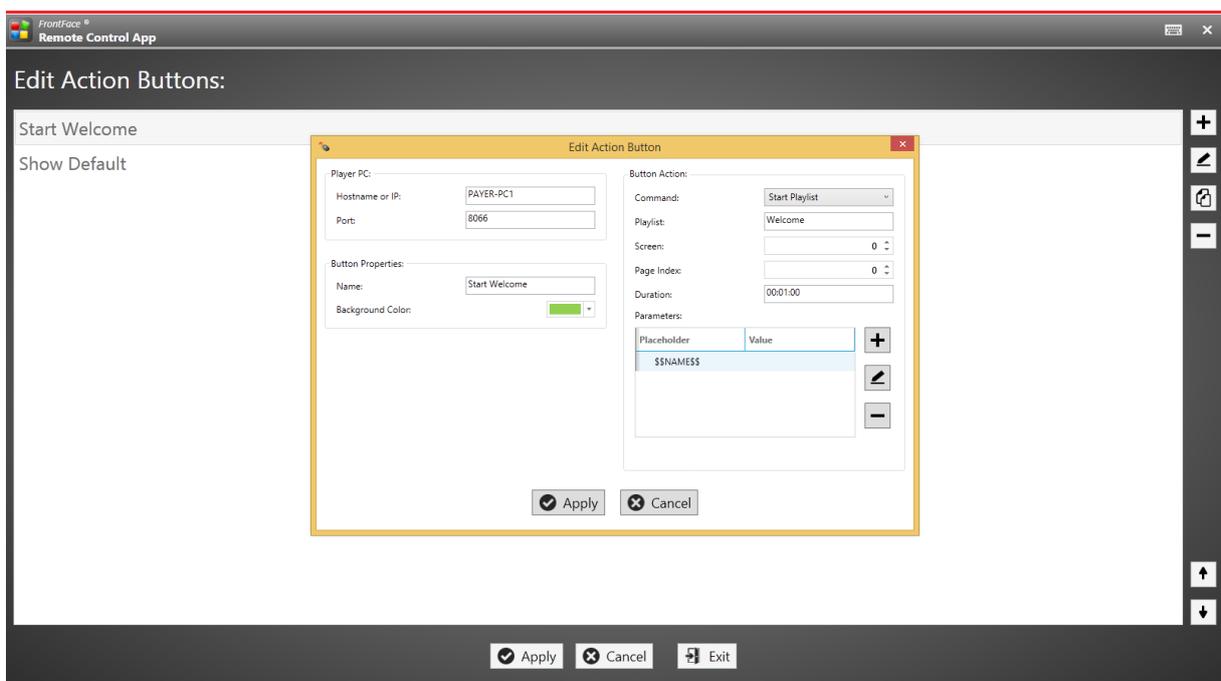Now you use the Remote Control Service in one of the following ways:

### *Using the Remote Control App (for Windows)*

The Remote Control App (**"FrontFace Remote Control.exe"**) can be run on any Windows-based PC (please note that .NET Framework 4.5 or higher needs to be installed!). For a HTML5-based app, please see the last section of this manual.

When the application is started, the main menu is shown that is initially empty on first start. Click on the lower left corner of the screen and then on the lower right corner of the screen to enter the editing mode.
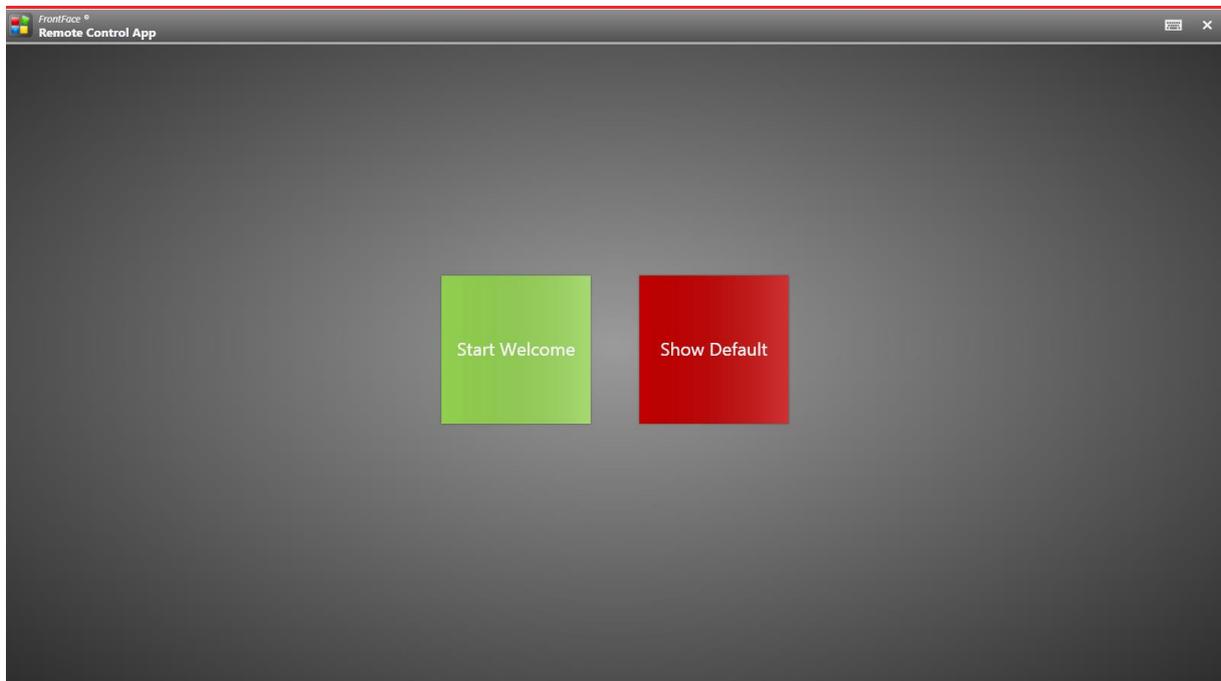


You can now create "action buttons" that perform certain remote actions on the player PC(s). You have to enter the IP address or network name of the player PC you would like to address for each action button you create.



In addition to that you can enter a text that is shown as caption of the button, a color for the button and finally the action as is supposed to be performed when the button is clicked. Depending on the action that you select, you have to enter additional information. E.g. when you select to start a playlist you have

to enter the name of the playlist in exactly the same way as the name of it in the *Display Assistant*. Apart from that also the screen (if you have multiple screens attached to your player PC), the starting index of the playlist and the display duration can be defined.

It is also possible to provide placeholder values for playlists. You can either pre-enter the placeholder values or you can just enter the placeholder name without a value. In that case, you will be prompted to enter the value for the placeholder when then button you created is actually clicked. If you want to enter multi-line text, please enter the pipe ("|") as replacement for the line break.
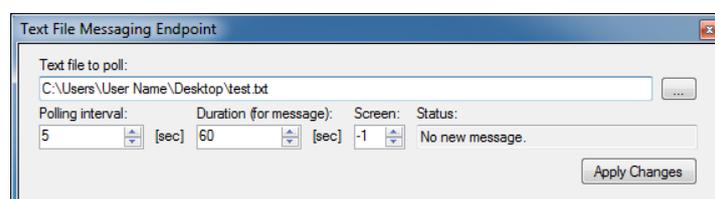


Once you have created the action buttons you can exit the editing mode by clicking on "**Apply**" and return to the main menu. Here you now see the action buttons you have created. By pressing a button, you can perform the pre-configured action on the player PC.

### Using the Text File Messaging End Point

The Text File Messaging End Point allows you to display onscreen messages (notifications) on the screen while a playlist is running. You can also use the Remote Control App for this purpose. However, the Text File Messaging End Point uses a simple text file to control the messages on the screen which can be helpful if you need a simple interface to interoperate with 3rd party applications or if you are a legacy user of the "Notification Extension" that has been available for *FrontFace for Public Displays* prior to version 3.6.8.

Create a text file (e.g. "**mymessages.txt**") using an editor like e.g. "**Notepad.exe**". This text file should be created on a network share in order to be able to remotely update it. Make sure that you save the file with UTF-8 encoding to be able to also support special characters and umlauts (öäü)!

Next copy "**Text File Messaging Endpoint.exe**" into the installation folder of the *FrontFace* player application and start it. Select the text file you have created and define a polling interval for the text file. This is interval after which the application will check the text file for changes.

Furthermore, you can define display duration of the message (after this duration the message will disappear automatically). If you control more than one screen with the *FrontFace* player application, you can define the number of the screen which is supposed to show the text message (-1 is the default screen; 0 is the first screen, 1 is the second, etc.).

In order to work correctly the "`Text File Messaging Endpoint.exe`" application must be run on the player PC at the same time when "`FrontFace Player.exe`" is running. Therefore, it is recommended to create a shortcut to "`Text File Messaging Endpoint.exe`" in the Autostart folder of the Windows start menu. You can also define in the shortcut settings that the application is supposed to be started in minimized mode.

When both "`Text File Messaging Endpoint.exe`" and "`FrontFace Player.exe`" are running on the player PC you can (remotely) edit the text file you have configured in the previous step. Once the polling interval has elapsed, the application will detect the changes and shows the text on the screen. After the previously configured duration has elapsed, the message will again disappear from the screen. Alternatively, you can clear all text from the text file and save it. This will also hide any current text messages on the screen.
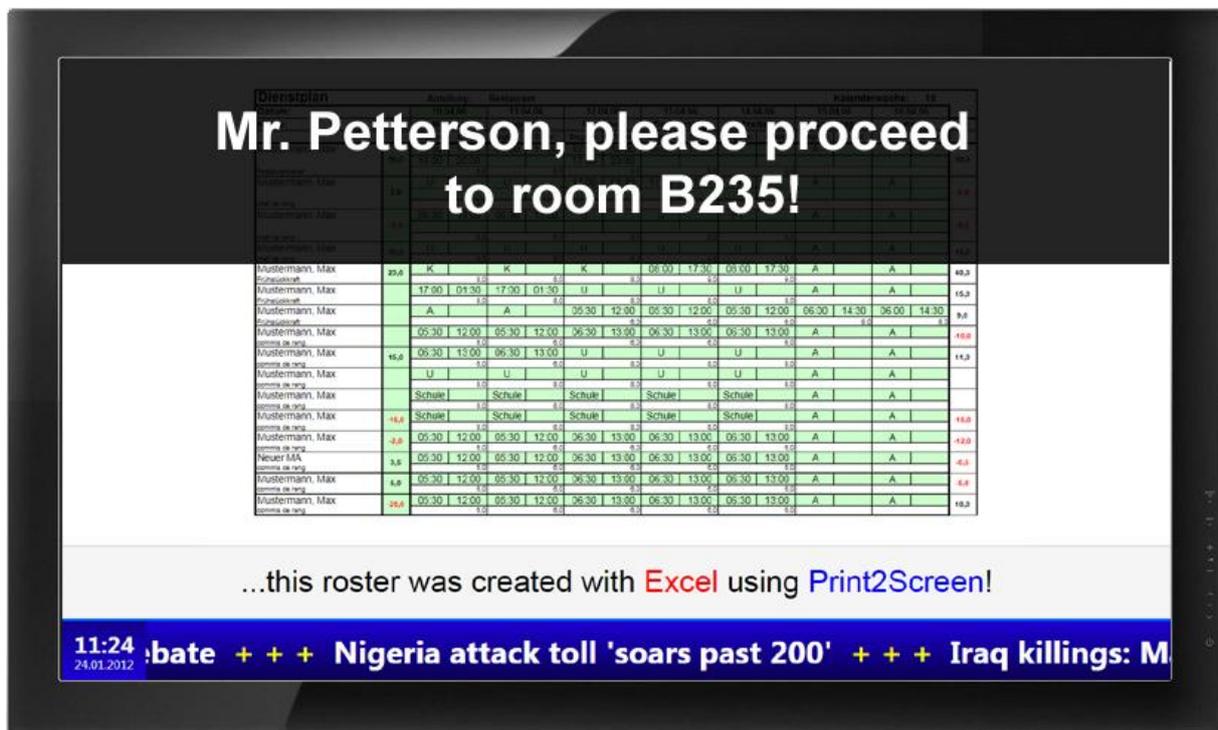


**Fig.: A screen showing a normal playlist in the background and an onscreen message**

### Using the Remote Control Service API with your own Applications

The *FrontFace* player application offers a REST-based Web service when the Remote Control Service is configured and activated (see "Setup and Usage"). You can consume this service using any application or programming environment that supports either REST Web Services or at least performing simple HTTP GET requests. The URL of the service is:

http://<player-host-name-or-ip>:8066/FrontFace/rest

By calling this URL in a normal Web browser you will be redirected to an online documentation that explains the various methods that are available. Here is an overview of the supported methods:

| Method | URI and Parameters |
|--------|--------------------|
| GET | DisplayOnscreenNotificationMessage?text={TEXT}&screen={SCREEN}&duration={DURATION} |
| GET | DisplayOnscreenNotificationMessageFullscreen?text={TEXT}&screen={SCREEN}&duration={DURATION} |
| GET | GetPlayerPCName |
| GET | GetPlaylists |
| GET | HideOnscreenNotificationMessage?screen={SCREEN} |
| GET | RestartPlayerApplication |
| GET | RestartPlayerPC |
| GET | ShowNextPage |
| GET | ShowPageByPageShortcut?pageShortcut={PAGESHORTCUT} |
| GET | ShowPageByShortcut?shortcut={SHORTCUT} |
| GET | ShowPreviousPage |
| GET | ShutdownPlayerPC |
| GET | StartPlaylist?playlistName={PLAYLISTNAME}&screen={SCREEN}&pageIndex={PAGEINDEX}&duration={DURATION}&parameters={PARAMETERS} |
| GET | StopPlaylist?screen={SCREEN} |

A possible use case for the Remote Control Service is a mobile app that is used to start playlists or to show ad-hoc onscreen notification messages. But also the integration into 3rd party systems that are supposed to control what is currently shown on the screen can make use of the Remote Control Service API in order to interact with the *FrontFace* player application.

### Showcase HTML5 App:

The included file "**FrontFace Remote Control App (HTML5).html**" represents a simple showcase HTML5 app that uses the REST Web Service API to control playlists. You can use this HTML page as template or reference for creating your own, custom user interface in order to control the *FrontFace* application from any computer, tablet or smartphone that comes with a HTML5 browser.

**Help and Support:**

If you need help or technical support when using this plugin or the *FrontFace* software, you can contact our support. For more information, please visit: http://www.mirabyte.com/en/support/