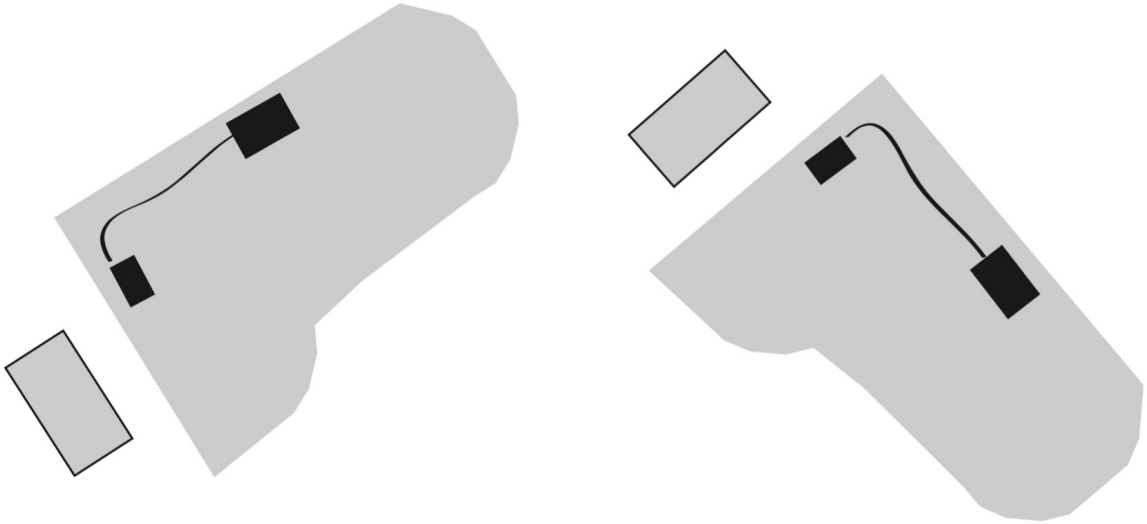
Disposition of the pianos on stage:



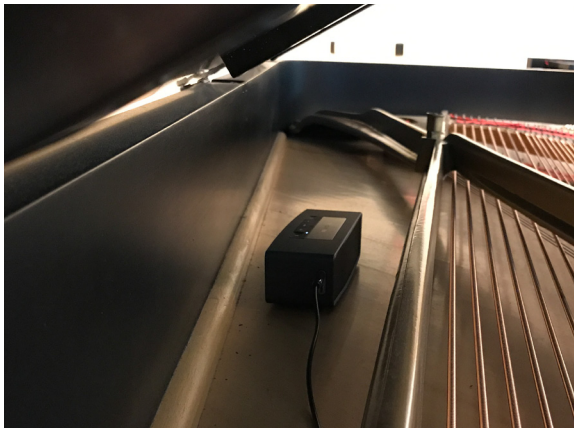
It is important to keep the lids of both pianos on. They serve as reflectors of the electronics and ensure a good sound fusion between the live instruments and the playback of the prepared sound files.

The above setup allows the pianists to communicate visually with each other.

electronics

Two iPads are used to play back the electronics for Irrgaerten.
The electronics are divided into separate events, to be triggered by the musician at the indicated moments in the score.
There is no other method of synchronization and no use of a click track. I prefer that the musicians are interpreting their parts and that the electronics are re-aligned at the beginning of each event to them.
Triggering the events can be done in several ways:
using a sustain pedal with the MidiExpression pedal converter,
using BlueBoard with a sustain pedal
or
using an AirTurn PED pedal
(explanations on each connection scheme are given below)

The electronics are best played through two “Bose Soundlink mini” loudspeakers (one in each piano).
The speaker will be placed on the soundboard, left of the metal frame of the low strings - the speaker facing the audience.



The mini-jack output of the iPad is connected to the Bose Speaker with a cable TRS 1/8 inch male – TRS 1/8 inch male.

Position the iPad as flat as possible to minimize the visual distraction for the audience.

There is no need for microphones nor additional loudspeakers in the concert hall.
The pianists control the electronics without the need of a technician or assistant.
As iPad and Bose speakers are battery powered, installation is very quick and almost invisible to the audience.

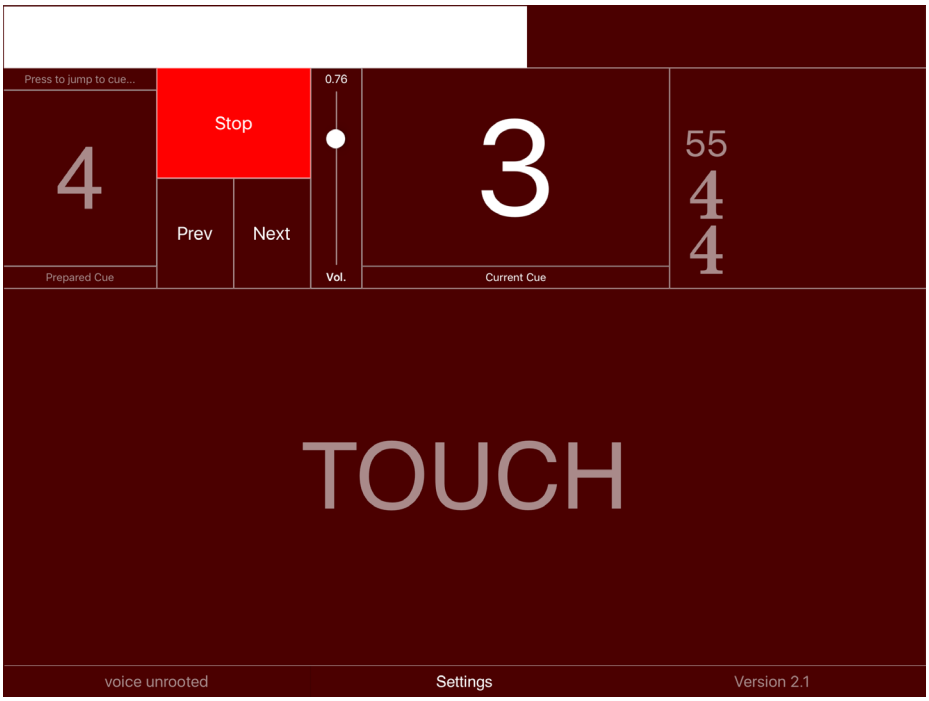
installing the software

Each pianist needs the corresponding application for his/her part.
Piano 1 needs to run the app “Irrgaertenone”, piano 2 runs “Irrgaertentwo”.
Download the application from the Apple AppStore. After launching it for the first time, the sound files need to be downloaded. Press OK.

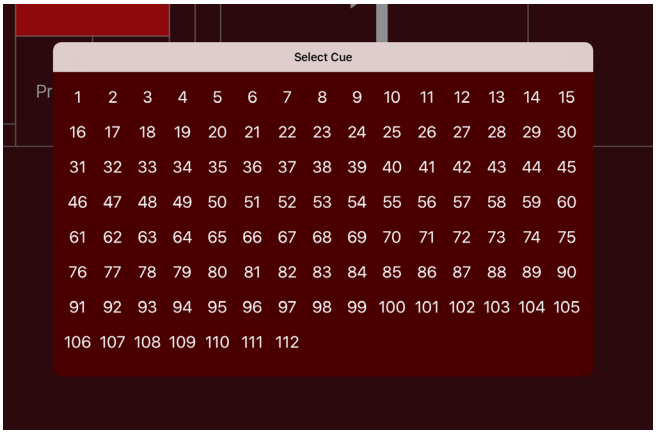
iPad interface

The main screen contains the following elements:

The white progress bar on the top scrolls from left to right over the ‘ideal’ duration of the event. If the performers choose a slightly faster tempo, the following event can be triggered early. The previous event will fade out to ensure a continuous sound from the electronics. If the performers play at a slower tempo, the electronics of the current event will continue for a few seconds. When they reach the next event in the score, he/she triggers and re-synchronizes the electronics to their performance.
After starting an event, the touch button and pedal are disengaged till two seconds before the next event to avoid accidental triggering.
The large number in the center indicates the current event.
The ‘prepared cue’ on the upper left shows the next event to be triggered. Touching that number brings up the cue selection screen to maneuver to a different event during the rehearsal process.



main screen

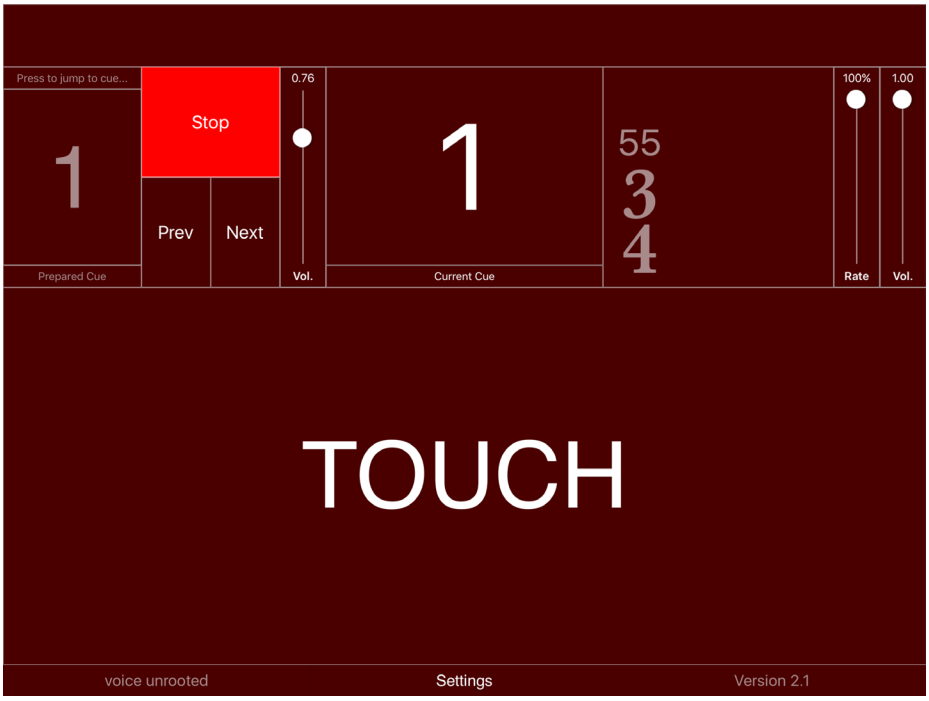


selecting a cue during rehearsals: touch the prepared cue number and select an event from the list

One can also go to adjacent events with the Prev/Next buttons. The volume slider controls the general playback volume.
The upper right area holds information about the bar structure and tempo. It can also be used as a visual metronome, where downbeats flash the full surface of the rectangle with a white color, whereas upbeats only fill the rightmost third of the rectangle. The visual metronome needs to be enabled in the settings dialog (see below).

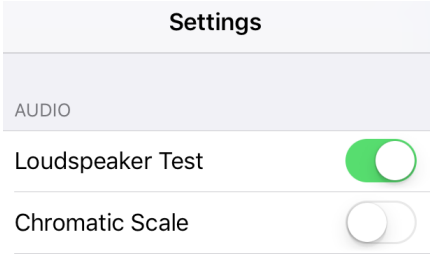
The application also provides an audible metronome for rehearsal purposes. If activated in the settings (see below), two additional sliders appear at the upper right.

The volume slider controls the volume of the metronome. By bringing the volume of the electronics (next to the stop button) to zero, one can rehearse with the metronome only. The rate slider permits to rehearse at a slower tempo (50-100%). If the rate is not at 100%, playback of the electronics is muted.



control sliders for audible metronome at the upper right

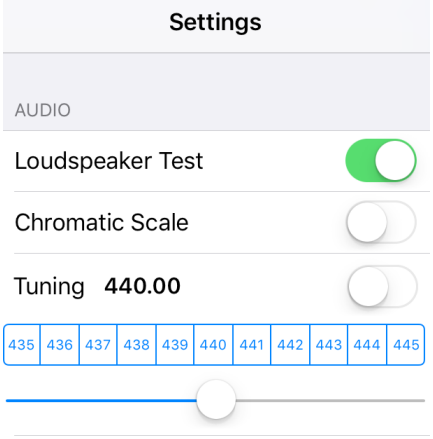
Settings dialog (press on Settings at the bottom of the main screen)



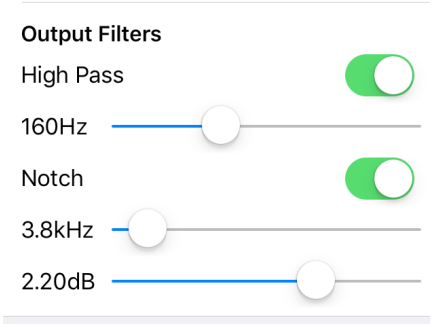
The *loudspeaker test* should be performed to check that the cabling of the speaker is performed correctly. Both channels come out the same device when using the Bose speakers.
Chromatic scale plays a sound file to check on the sound quality of the speaker.
Turn the iPad volume to maximum.

When connecting the mini-jack cable to the Bose Speaker, the small AUX indicator should lite up. Press the volume PLUS button repeatedly to set the speaker volume to maximum.

Press the two buttons below the AUX symbol for several seconds until a voice prompt says “auto off setting is disabled”. This ensures that sound is always playing, even after long moments of silence.

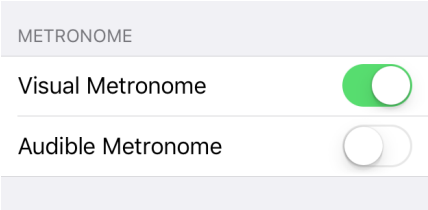


Use the tuning sound to tune the iPad to the piano. Tuning and other settings are retained when closing the app. Tuning only needs to be performed during rehearsal and is then ready for the concert.

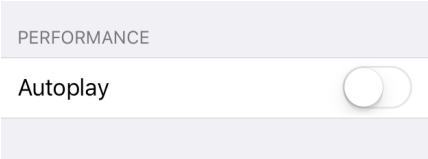


As the Bose Speakers tend to emphasise low frequencies, use the Output Filters in the settings to adapt the sound. Set High Pass to approx. 160 Hz. The Notch Filter can be used to increase the presence of the high frequencies. Set the frequency to 3.8 kHz with a 2-decibel boost.

These two switches control the visual and audible metronome for rehearsals.



Autoplay is another option for rehearsals, where all events are triggered without input from the touch button or pedal.

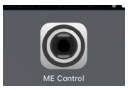


Using the MIDIExpression converter with MIDI sustain pedal (https://www.audiofront.net/MIDIExpression.php)
This is the preferred method as it does not introduce any latency between pedal action and sound start.

The MIDI sustain pedal connects to the MIDIExpression pedal converter and with a USB micro-USB cable and a lightning USB adapter to the iPad.
One can use either the single or the 4-pedal converter.

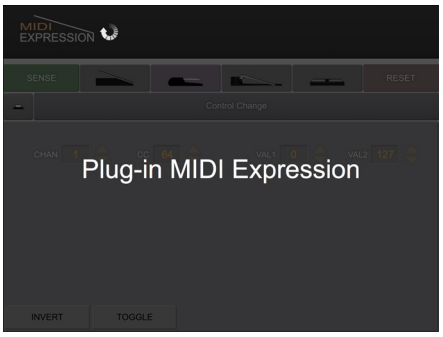
Position the MIDI sustain pedal on the left side of the piano pedals.

First start the MIDIExpression application



Test the pedal. The graphics should follow the pedal movement and show the value 127 when pressed.

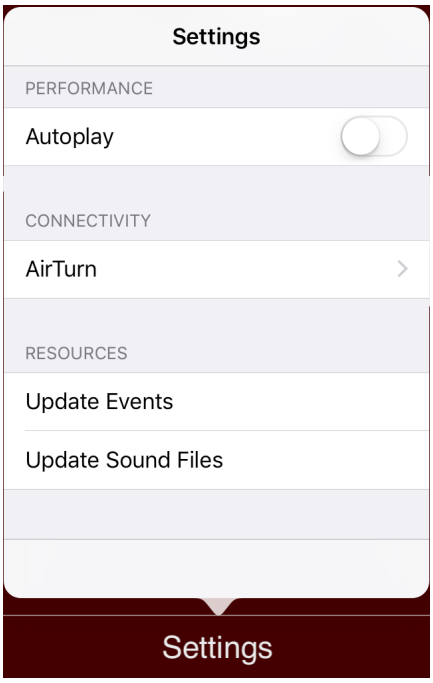
If the MIDIExpression app was already active and comes back to the foreground, press the curved arrow in the upper left to get to the main screen.



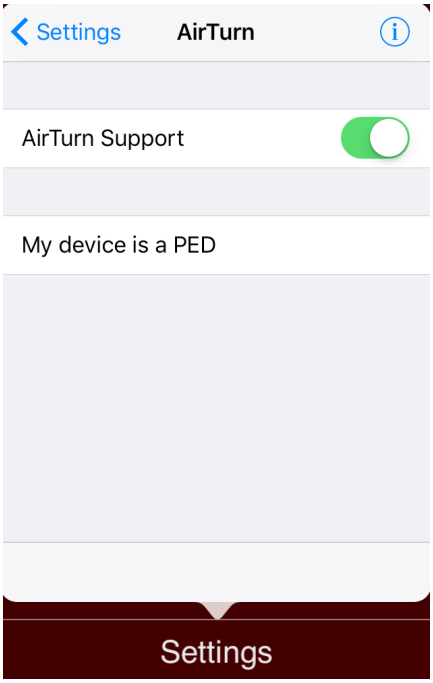
Using AirTurn with BlueTooth

AirTurn brings up the menu to pair an AirTurn PED pedal.

The first generation of AirTurn (BT-105) is not supported as the BlueTooth protocol is different and triggering introduces an unpredictable delay between the action and the start of the sound file.

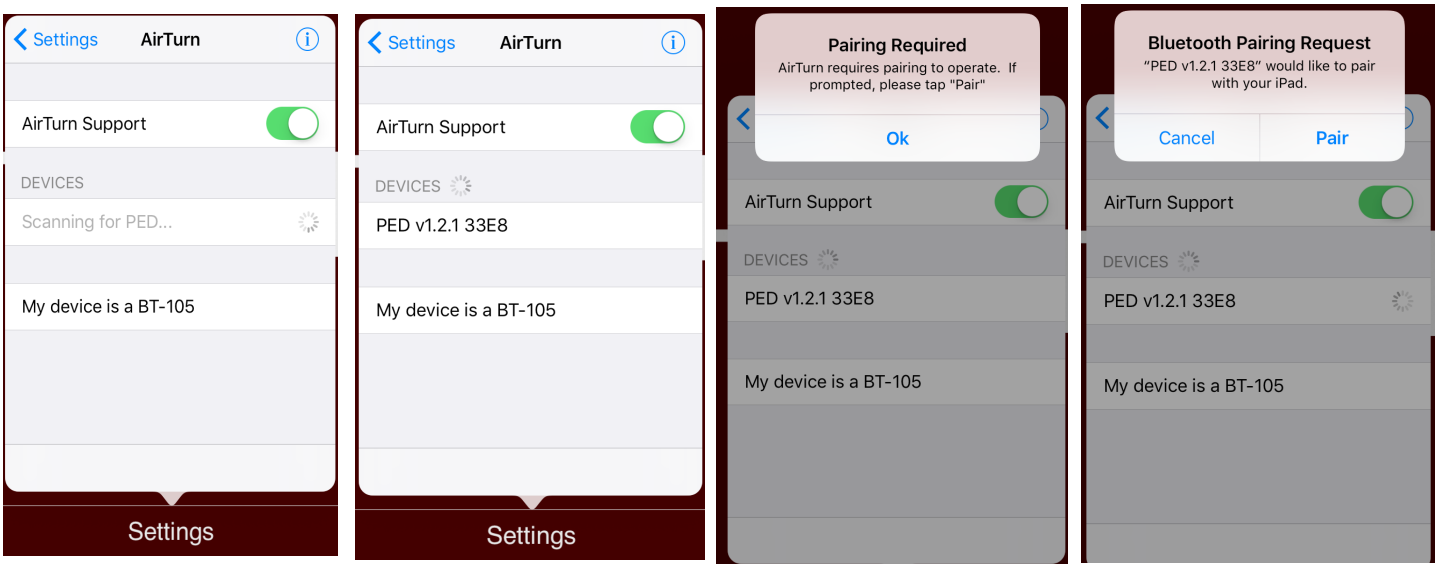


To pair the AirTurn PED, enable the AirTurn Support and press 'My device is a PED.'



Press the on/off button (1) on the PED. Press button 2 and release after the first red flash on the battery symbol. This switches the PED into PED-APP-Direct mode.

If no device is found, press button 1 on the AirTurn for 7 seconds to reset Bluetooth pairing. After the device turns off, press button 1 again. Once the AirTurn is found, the following messages need to be confirmed.



Upon successful pairing, exit the settings dialog by tapping on a different area of the main screen.

Using the BlueBoard with a sustain pedal

An alternate way of triggering the sound files is by using the BlueBoard and attaching a MIDI sustain pedal to the external input one.

Start the BlueBoard application before opening the application for Irrgaerten.

Calibrate the foot pedal for EXT 1, then open 'Irrgaertenone' (or 'Irrgaertentwo').
Pressing the sustain pedal will trigger the next event by listening to the MIDI messages sent from the BlueBoard application.

update events

The electronic score is stored in a database on the device, independent of the sound files. Each event is marked in the musical score with a number (the same as the bar number). Each event contains the information as to which sound file to play, volume, durations, etc. If corrections to this electronic score become necessary, the musician can download a new database. This provides a possibility for corrections, without downloading the entire application anew. The location of this updated file is known to the application. Thus no further information is necessary. Just press the button and wait for the confirmation message. For the update to work, you need obviously a connection to the internet – through the phone provider or WIFI.

update sound files
Similarly to the events, sound files can be updated to the latest version.

website
http://www.tutschku.com/irrgarten-post/

summary of needed technology

- two iPad devices (batteries fully charged)
- two Bose Soundlink mini loudspeakers (batteries fully charged)
- two 1/8 inch TRS - 1/8 inch TRS cables

depending on the used pedals, the following items are needed:

using the MIDIExpression converter
(this is the preferred method as it does not introduce any latency between pedal action and sound start)
- two MIDI sustain pedals
- two MIDIExpression converters + iPad Application
- two USB-USBmicro cables
- two Apple lightning-USB adapters

The following two methods connect the pedal through BlueTooth, which introduces a slight latency.

using the BlueBoard
- two MIDI sustain pedals
- two BlueBoard devices

using the AIRTurn
- two AirTurn PED devices

explanations and symbols

All accents should be played clearly louder than the dynamics of the sourrounding notes.

All alterations are valid for the entire measure. Repetitions of alterations are only printed as reading aids.

Many sections of the piano part are notated on a "double" system. The treble clef is extended upwards and reads 2 octaves above the normal treble clef, the bass clef is extended downwards two octaves. This makes fast switches between registers easier to read.