Midi Player Tool Kit for Unity

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  Script for the prefab MidiFilePlayer. Play a selected midi file. List of Midi file must be defined with Midi Player Setup (see Unity menu MPTK).
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  Singleton class to manage all global features of MPTK.
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- class MPTKListItem
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- class TrackMidiEvent
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Enumerations

- enum MPTKCommand : byte { MPTKCommand.NoteOff = 0x80, MPTKCommand.NoteOn = 0x90, MPTKCommand.KeyAfterTouch = 0xA0, MPTKCommand.ControlChange = 0xB0, MPTKCommand.PatchChange = 0xC0, MPTKCommand.ChannelAfterTouch = 0xD0, MPTKCommand.PitchWheelChange = 0xE0, MPTKCommand.Sysex = 0xF0, MPTKCommand.Eox = 0xF7, MPTKCommand.TimingClock = 0xF8, MPTKCommand.StartSequence = 0xFA, MPTKCommand.ContinueSequence = 0xFB, MPTKCommand.StopSequence = 0xFC, MPTKCommand.AutoSensing = 0xFE, MPTKCommand.MetaEvent = 0xFF }
- *MIDI command codes* enum MPTKController : byte { MPTKController.BankSelect = 0, MPTKController.Modulation = 1, MPTKController.BreathController = 2, MPTKController.FootController = 4, MPTKController.MainVolume = 7, MPTKController.Pan = 10, MPTKController.Expression = 11, MPTKController.BankSelectLsb = 32, MPTKController.Sustain = 64, MPTKController.Portamento = 65, MPTKController.Sostenuto = 66, MPTKController.SoftPedal = 67, MPTKController.LegatoFootswitch = 68, MPTKController.ResetAllControllers = 121, MPTKController.AllNotesOff = 123, MPTKController.AllSoundOff = 120 }
- *MidiController enumeration http://www.midi.org/techspecs/midimessages.php#3* enum MPTKMeta : byte { MPTKMeta.TrackSequenceNumber = 0x00, MPTKMeta.TextEvent = 0x01, MPTKMeta.Copyright = 0x02, MPTKMeta.SequenceTrackName = 0x03, MPTKMeta.TrackInstrumentName = 0x04, MPTKMeta.Lyric = 0x05, MPTKMeta.Marker = 0x06, MPTKMeta.CuePoint = 0x07, MPTKMeta.ProgramName = 0x08, MPTKMeta.DeviceName = 0x09, MPTKMeta.MidiChannel = 0x20, MPTKMeta.MidiPort = 0x21, MPTKMeta.EndTrack = 0x2F, MPTKMeta.SetTempo = 0x51, MPTKMeta.SmpteOffset = 0x54, MPTKMeta.TimeSignmature = 0x58, MPTKMeta.KeySignature = 0x59, MPTKMeta.SequencerSpecific = 0x7F }

MIDI MetaEvent Type

Enumeration Type Documentation

enum MidiPlayerTK.MPTKCommand : byte [strong]

MIDI command codes

Enumerator:

NoteOff	Note Off
NoteOn	Note On
KeyAfterTouch	Key After-touch
ControlChange	Control change
PatchChange	Patch change
ChannelAfterTouch	Channel after-touch
PitchWheelChange	Pitch wheel change
Sysex	Sysex message
Eox	Eox (comes at end of a sysex message)
TimingClock	Timing clock (used when synchronization is required)
StartSequence	Start sequence
ContinueSequence	Continue sequence
StopSequence	Stop sequence
AutoSensing	Auto-Sensing

MetaEvent	Meta-event

enum MidiPlayerTK.MPTKController : byte [strong]

MidiController enumeration http://www.midi.org/techspecs/midimessages.php#3

Enumerator:

BankSelect	Bank Select (MSB)
Modulation	Modulation (MSB)
BreathController	Breath Controller
FootController	Foot controller (MSB)
MainVolume	Main volume
Pan	Pan
Expression	Expression
BankSelectLsb	Bank Select LSB ** not implemented **
Sustain	Sustain
Portamento	Portamento On/Off
Sostenuto	Sostenuto On/Off
SoftPedal	Soft Pedal On/Off

LegatoFootswitch	Legato Footswitch
ResetAllControllers	Reset all controllers
AllNotesOff	All notes off
AllSoundOff	All sound off

enum MidiPlayerTK.MPTKMeta : byte `[strong]`

MIDI MetaEvent Type

Enumerator:

TrackSequenceNumber	Track sequence number
TextEvent	Text event
Copyright	Copyright
SequenceTrackName	Sequence track name
TrackInstrumentName	Track instrument name
Lyric	Lyric
Marker	Marker
CuePoint	Cue point

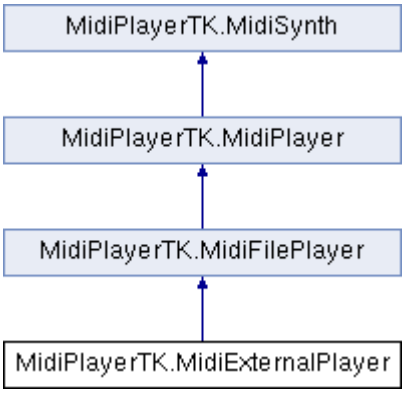
ProgramName	Program (patch) name
DeviceName	Device (port) name
MidiChannel	MIDI Channel (not official?)
MidiPort	MIDI Port (not official?)
EndTrack	End track
SetTempo	Set tempo
SmpteOffset	SMPTE offset
TimeSignmature	Time signature
KeySignature	Key signature
SequencerSpecific	Sequencer specific

Data Structure Documentation

MidiPlayerTK.MidiExternalPlayer

PRO Version - Script for the prefab MidiExternalPlayer. See full example TestMidiExternalPlayer.cs with a light sequencer. Play a midi file from a path on the local deskop or from a web site

Inheritance diagram for MidiPlayerTK.MidiExternalPlayer:



Public Member Functions

- override void MPTK_Play ()
  Play the midi file defined in MPTK_MidiName
- override void MPTK_Next ()
  Play next Midi - NO EFFECT for external
- override void MPTK_Previous ()
  Play previous Midi - NO EFFECT for external
- virtual void MPTK_Stop ()
  Stop playing
- virtual void MPTK_RePlay ()
  Restart playing of the current midi file
- virtual void MPTK_Pause (float timeToPauseMS=-1f)
  Pause the current playing
- void MPTK_ReSyncTime ()
  In case of delay in the application, resync is usefull to avoid multi tock play at the same time
- MPTKEvent.EnumLength MPTK_NoteLength (MPTKEvent note)
  Return note length as https://en.wikipedia.org/wiki/Note_value
- MidiLoad MPTK_Load ()
  Load the midi file defined with MPTK_MidiName or MPTK_MidiIndex. It's an optional action before playing a midi file witk MPTK_Play.
- void MPTK_InitSynth (int channelCount=16)
  Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.
- void MPTK_ClearAllSound (bool destroyAudioSource=false)
  Clear all sound

Data Fields

- EventNotesMidiClass OnEventNotesMidi
  Define unity event to trigger when notes available from the Midi file.
- EventStartMidiClass OnEventStartPlayMidi
  Define unity event to trigger at start of playing the Midi.
- EventEndMidiClass OnEventEndPlayMidi
  Define unity event to trigger at end of playing the midi.
- EventSynthClass OnEventSynthAwake
  Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.
- EventSynthClass OnEventSynthStarted
  Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.

- bool MPTK_PauseOnDistance
  Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance
- bool MPTK_EnablePanChange
  Should change pan from Midi Events or from SoundFont ?
- bool MPTK_WeakDevice
  Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.
- float MPTK_ReleaseTimeMin = 50f
  Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

Properties

- override string MPTK_MidiName `[get, set]`
  Full path to Midi file or URL to play. must start with file:// or http:// or https://.
- override int MPTK_MidiIndex `[get, set]`
  Index Midi to play or playing - NO EFFECT for external
- virtual bool MPTK_PlayOnStart `[get, set]`
  Should the Midi start playing when application start ?
- virtual bool MPTK_Loop `[get, set]`
  Should automatically restart when Midi reach the end ?
- virtual double MPTK_Tempo `[get]`
  Get default tempo defined in Midi file or modified with Speed. Return QuarterPerMinuteValue similar to BPM (Beat Per Measure)
- virtual float MPTK_Speed `[get, set]`
  Speed of playing. Between 0.1 (10%) to 5.0 (500%). Set to 1 for normal speed.
- virtual double MPTK_Position `[get, set]`
  Set or Get midi position time from 0 to lenght time of midi playing (in millisecond)
- virtual bool MPTK_IsPaused `[get]`
  Is Midi file playing is paused ?
- virtual bool MPTK_IsPlaying `[get]`
  Is Midi file is playing ?
- virtual TimeSpan MPTK_Duration `[get]`
  Value updated only when playing in Unity (for inspector refresh)
- virtual long MPTK_TickLast `[get]`
  Last tick position in Midi: Value of the tick for the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.
- virtual long MPTK_TickCurrent `[get, set]`
  Current tick position in Midi: Time of the current midi event expressed in number of "ticks". MPTK_TickCurrent / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.
- virtual double MPTK_PulseLenght `[get]`
  Lenght in millisecond of a quarter
- virtual TimeSpan MPTK_PlayTime `[get]`
  Updated only when playing in Unity (for inspector refresh)
- virtual bool MPTK_LogEvents `[get, set]`
  Log midi events
- virtual bool MPTK_EnableChangeTempo `[get, set]`
  Should accept change tempo from Midi Events ?

- virtual bool MPTK_KeepNoteOff `[get, set]`
  Should keep note off event Events ?
- virtual bool MPTK_DirectSendToPlayer `[get, set]`
  If true (default) then Midi events are sent automatically to the midi player. Set to false if you want to process events without playing sound. OnEventNotesMidi Unity Event can be used to process each notes.
- virtual int MPTK_Quantization `[get, set]`
  Level of quantization :
- virtual List< TrackMidiEvent > MPTK_MidiEvents `[get]`
  Get all the raw midi events available in the midi file [DEPRECATED] use rather MPTK_Load then midiloaded.MPTK_ReadMidiEvents();
- virtual int MPTK_DeltaTicksPerQuarterNote `[get]`
  Delta Ticks Per Quarter Note. Indicate the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.
- virtual bool MPTK_EnablePresetDrum `[get, set]`
  Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.
- virtual float MPTK_MaxDistance `[get, set]`
  MaxDistance to use for PauseOnDistance
- virtual float MPTK_Volume `[get, set]`
  Volume of midi playing. Must be >=0 and <= 1
- virtual int MPTK_Transpose `[get, set]`
  Transpose note from -24 to 24

Detailed Description

PRO Version - Script for the prefab MidiExternalPlayer. See full example TestMidiExternalPlayer.cs with a light sequencer. Play a midi file from a path on the local deskop or from a web site

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Member Function Documentation

void MidiPlayerTK.MidiPlayer.MPTK_ClearAllSound (bool *destroyAudioSource* = false)[inherited]

Clear all sound

Parameters:

destroyAudioSource	Destroy also audioSource (default:false)

```
if (GUILayout.Button("Clear"))
   midiStreamPlayer.MPTK_ClearAllSound(true);
```

void MidiPlayerTK.MidiPlayer.MPTK_InitSynth (int *channelCount* = 16)[inherited]

Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.

Parameters:

channelCount	Number of channel to create

MidiLoad MidiPlayerTK.MidiFilePlayer.MPTK_Load () `[inherited]`

Load the midi file defined with MPTK_MidiName or MPTK_MidiIndex. It's an optional action before playing a midi file witk MPTK_Play.

```
 private void GetMidiInfo()
 {
    MidiLoad midiloaded = midiFilePlayer.MPTK Load();
    if (midiloaded != null)
    {
       infoMidi = "Duration: " + midiloaded.MPTK_Duration.TotalSeconds + "
seconds\n";
       infoMidi += "Tempo: " + midiloaded.MPTK InitialTempo + "\n";
       List<MPTKEvent> listEvents = midiloaded.MPTK ReadMidiEvents();
       infoMidi += "Count Midi Events: " + listEvents.Count + "\n";
       Debug.Log(infoMidi);
    }
 }
!
```

Returns:

MidiLoad to access all the properties of the midi loaded

override void MidiPlayerTK.MidiExternalPlayer.MPTK_Next () `[virtual]`

Play next Midi - NO EFFECT for external

Reimplemented from MidiPlayerTK.MidiFilePlayer.

MPTKEvent.EnumLength MidiPlayerTK.MidiFilePlayer.MPTK_NoteLength (MPTKEvent *note*) `[inherited]`

Return note length as https://en.wikipedia.org/wiki/Note_value

Parameters:

note	

Returns:

MPTKEvent.EnumLength

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_Pause (float *timeToPauseMS* = -1f) `[virtual], [inherited]`

Pause the current playing

Parameters:

timeToPauseMS	time to pause in milliseconds. default: indefinitely

override void MidiPlayerTK.MidiExternalPlayer.MPTK_Play () [virtual]

Play the midi file defined in MPTK_MidiName

```
 MidiExternalPlayer midiExternalPlayer = FindObjectOfType<MidiExternalPlayer>();
 MidiExternalPlayer.MPTK MidiName = @"C:\Users\xxx\Midi\Bach The Art of Fugue -
No1.mid";
     //or
 MidiExternalPlayer.MPTK MidiName =
"http://www.midiworld.com/midis/other/bach/bwv1060b.mid";
 MidiExternalPlayer.MPTK_Play();
!
```

Reimplemented from MidiPlayerTK.MidiFilePlayer.

override void MidiPlayerTK.MidiExternalPlayer.MPTK_Previous () [virtual]

Play previous Midi - NO EFFECT for external

Reimplemented from MidiPlayerTK.MidiFilePlayer.

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_RePlay () [virtual], [inherited]

Restart playing of the current midi file

void MidiPlayerTK.MidiFilePlayer.MPTK_ReSyncTime () [inherited]

In case of delay in the application, resync is usefull to avoid multi tock play at the same time

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_Stop () [virtual], [inherited]

Stop playing

Field Documentation

bool MidiPlayerTK.MidiSynth.MPTK_EnablePanChange [inherited]

Should change pan from Midi Events or from SoundFont ?

bool MidiPlayerTK.MidiSynth.MPTK_PauseOnDistance [inherited]

Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance

float MidiPlayerTK.MidiSynth.MPTK_ReleaseTimeMin = 50f [inherited]

Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

bool MidiPlayerTK.MidiSynth.MPTK_WeakDevice [inherited]

Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.

EventEndMidiClass MidiPlayerTK.MidiFilePlayer.OnEventEndPlayMidi [inherited]

Define unity event to trigger at end of playing the midi.

```
MidiFilePlayer midiFilePlayer = FindObjectOfType<MidiFilePlayer>();
        ...
if (!midiFilePlayer.OnEventEndPlayMidi.HasEvent())
{
   // No listener defined, set now by script. EndPlay will be called.
   midiFilePlayer.OnEventEndPlayMidi.AddListener(EndPlay);
}
        ...
public void EndPlay(string midiname, EventEndMidiEnum reason)
{
   Debug.LogFormat("End playing midi {0} reason:{1}", midiname, reason);
}
```

EventNotesMidiClass MidiPlayerTK.MidiFilePlayer.OnEventNotesMidi [inherited]

Define unity event to trigger when notes available from the Midi file.

```
 MidiFilePlayer midiFilePlayer = FindObjectOfType<MidiFilePlayer>();
         ...
 if (!midiFilePlayer.OnEventNotesMidi.HasEvent())
 {
    // No listener defined, set now by script. NotesToPlay will be called for each
new notes read from Midi file
    midiFilePlayer.OnEventNotesMidi.AddListener(NotesToPlay);
 }
         ...
 public void NotesToPlay(List<MPTKEvent> notes)
 {
    Debug.Log(notes.Count);
    foreach (MPTKEvent midievent in notes)
    {
         ...
    }
 }
!
```

EventStartMidiClass MidiPlayerTK.MidiFilePlayer.OnEventStartPlayMidi [inherited]

Define unity event to trigger at start of playing the Midi.

```
MidiFilePlayer midiFilePlayer = FindObjectOfType<MidiFilePlayer>();
        ...
if (!midiFilePlayer.OnEventStartPlayMidi.HasEvent())
{
   // No listener defined, set now by script. StartPlay will be called.
   midiFilePlayer.OnEventStartPlayMidi.AddListener(StartPlay);
}
        ...
public void StartPlay(string midiname)
{
   Debug.LogFormat("Start playing midi {0}", midiname);
}
```

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthAwake [inherited]

Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventSynthAwake.HasEvent())
   midiStreamPlayer.OnEventSynthAwake.AddListener(StartLoadingSynth);
...
public void StartLoadingSynth(string name)
{
    Debug.LogFormat("Synth {0} loading", name);
}
```

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthStarted [inherited]

Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventStartSynth.HasEvent())
   midiStreamPlayer.OnEventStartSynth.AddListener(EndLoadingSynth);
...
public void EndLoadingSynth(string name)
{
   Debug.LogFormat("Synth {0} loaded", name);
   midiStreamPlayer.MPTK_PlayEvent(
      new MPTKEvent() { Command = MPTKCommand.PatchChange, Value =
CurrentPatchInstrument, Channel = StreamChannel});
}
```

Property Documentation

virtual int MidiPlayerTK.MidiFilePlayer.MPTK_DeltaTicksPerQuarterNote [get], [inherited]

Delta Ticks Per Quarter Note. Indicate the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_DirectSendToPlayer [get], [set], [inherited]

If true (default) then Midi events are sent automatically to the midi player. Set to false if you want to process events without playing sound. OnEventNotesMidi Unity Event can be used to process each notes.

virtual TimeSpan MidiPlayerTK.MidiFilePlayer.MPTK_Duration [get], [inherited]

Value updated only when playing in Unity (for inspector refresh)

Get duration of current Midi with current tempo

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_EnableChangeTempo [get], [set], [inherited]

Should accept change tempo from Midi Events ?

virtual bool MidiPlayerTK.MidiPlayer.MPTK_EnablePresetDrum [get], [set], [inherited]

Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_IsPaused [get], [inherited]

Is Midi file playing is paused ?

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_IsPlaying [get], [inherited]

Is Midi file is playing ?

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_KeepNoteOff [get], [set], [inherited]

Should keep note off event Events ?

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_LogEvents `[get], [set], [inherited]`

Log midi events

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_Loop `[get], [set], [inherited]`

Should automatically restart when Midi reach the end ?

virtual float MidiPlayerTK.MidiSynth.MPTK_MaxDistance `[get], [set], [inherited]`

MaxDistance to use for PauseOnDistance

virtual List<TrackMidiEvent> MidiPlayerTK.MidiFilePlayer.MPTK_MidiEvents `[get], [inherited]`

Get all the raw midi events available in the midi file [DEPRECATED] use rather MPTK_Load then midiloaded.MPTK_ReadMidiEvents();

override int MidiPlayerTK.MidiExternalPlayer.MPTK_MidiIndex `[get], [set]`

Index Midi to play or playing - NO EFFECT for external

override string MidiPlayerTK.MidiExternalPlayer.MPTK_MidiName `[get], [set]`

Full path to Midi file or URL to play. must start with file:// or http:// or https://.

```
 MidiExternalPlayer midiExternalPlayer = FindObjectOfType<MidiExternalPlayer>();
 MidiExternalPlayer.MPTK_MidiName = @"C:\Users\xxx\Midi\Bach The Art of Fugue -
No1.mid";
     //or
 MidiExternalPlayer.MPTK MidiName =
"http://www.midiworld.com/midis/other/bach/bwv1060b.mid";
 MidiExternalPlayer.MPTK_Play();
!
```

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_PlayOnStart `[get], [set], [inherited]`

Should the Midi start playing when application start ?

virtual TimeSpan MidiPlayerTK.MidiFilePlayer.MPTK_PlayTime `[get], [inherited]`

Updated only when playing in Unity (for inspector refresh)

Time from the start of playing the current midi

virtual double MidiPlayerTK.MidiFilePlayer.MPTK_Position `[get], [set], [inherited]`

Set or Get midi position time from 0 to lenght time of midi playing (in millisecond)

virtual double MidiPlayerTK.MidiFilePlayer.MPTK_PulseLenght `[get], [inherited]`

Lenght in millisecond of a quarter

virtual int MidiPlayerTK.MidiFilePlayer.MPTK_Quantization `[get], [set], [inherited]`

Level of quantization :

- `0` = None
- `1` = Quarter Note
- `2` = Eighth Note
- `3` = 16th Note
- `4` = 32th Note
- `5` = 64th Note

virtual float MidiPlayerTK.MidiFilePlayer.MPTK_Speed `[get], [set], [inherited]`

Speed of playing. Between 0.1 (10%) to 5.0 (500%). Set to 1 for normal speed.

virtual double MidiPlayerTK.MidiFilePlayer.MPTK_Tempo `[get], [inherited]`

Get default tempo defined in Midi file or modified with Speed. Return QuarterPerMinuteValue similar to BPM (Beat Per Measure)

virtual long MidiPlayerTK.MidiFilePlayer.MPTK_TickCurrent `[get], [set], [inherited]`

Current tick position in Midi: Time of the current midi event expressed in number of "ticks". MPTK_TickCurrent / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

virtual long MidiPlayerTK.MidiFilePlayer.MPTK_TickLast `[get], [inherited]`

Last tick position in Midi: Value of the tick for the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

virtual int MidiPlayerTK.MidiSynth.MPTK_Transpose `[get]`, `[set]`, `[inherited]`

Transpose note from -24 to 24

virtual float MidiPlayerTK.MidiSynth.MPTK_Volume `[get]`, `[set]`, `[inherited]`

Volume of midi playing. Must be >=0 and <= 1

MidiPlayerTK.MidiFileLoader

Script for the prefab MidiFilePlayer. Play a selected midi file. List of Midi file must be defined with Midi Player Setup (see Unity menu MPTK).
Inherits MonoBehaviour.

Public Member Functions

- virtual void MPTK_Load (byte[] midiBytesToLoad=null)
  Load the midi file defined with MPTK_MidiName or MPTK_MidiIndex or from a array of bytes
- List< MPTKEvent > MPTK_ReadMidiEvents (long fromTicks=0, long toTicks=long.MaxValue)
  Read the list of midi events available in the Midi from a ticks position to an end position.
- virtual void MPTK_Next ()
  Play next Midi from the list of midi defined in MPTK (see Unity menu Midi)
- virtual void MPTK_Previous ()
  Play previous Midi from the list of midi defined in MPTK (see Unity menu Midi)
- MPTKEvent.EnumLength MPTK_NoteLength (MPTKEvent note)
  Return note length as https://en.wikipedia.org/wiki/Note_value

Properties

- virtual string MPTK_MidiName `[get, set]`
  Midi name to play. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.
- virtual int MPTK_MidiIndex `[get, set]`
  Index Midi. Find the Index of Midi file from the popup in MidiFilePlayer inspector. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK. return -1 if not found
- virtual TimeSpan MPTK_Duration `[get]`
  Get duration of current Midi with current tempo
- virtual long MPTK_TickLast `[get]`

Last tick position in Midi: Value of the tick for the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

- virtual double MPTK_PulseLenght `[get]`
  Lenght in millisecond of a quarter
- virtual bool MPTK_LogEvents `[get, set]`
  Updated only when playing in Unity (for inspector refresh)
- virtual bool MPTK_KeepNoteOff `[get, set]`
  Should keep note off event Events ?
- virtual int MPTK_Quantization `[get, set]`
  Level of quantization :
- virtual List< TrackMidiEvent > MPTK_MidiEvents `[get]`
  Get all the raw midi events available in the midi file [DEPRECATED] use rather MPTK_Load then midiloaded.MPTK_ReadMidiEvents();
- virtual int MPTK_DeltaTicksPerQuarterNote `[get]`
  Delta Ticks Per Quarter Note. Indicate the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.

Detailed Description

Script for the prefab MidiFilePlayer. Play a selected midi file. List of Midi file must be defined with Midi Player Setup (see Unity menu MPTK).

Member Function Documentation

virtual void MidiPlayerTK.MidiFileLoader.MPTK_Load (byte [] *midiBytesToLoad* = null)`[virtual]`

Load the midi file defined with MPTK_MidiName or MPTK_MidiIndex or from a array of bytes

Parameters:

midiBytesToLoad	

virtual void MidiPlayerTK.MidiFileLoader.MPTK_Next ()`[virtual]`

Play next Midi from the list of midi defined in MPTK (see Unity menu Midi)

MPTKEvent.EnumLength MidiPlayerTK.MidiFileLoader.MPTK_NoteLength (MPTKEvent *note*)

Return note length as https://en.wikipedia.org/wiki/Note_value

Parameters:

note	

Returns:

MPTKEvent.EnumLength

virtual void MidiPlayerTK.MidiFileLoader.MPTK_Previous () `[virtual]`

Play previous Midi from the list of midi defined in MPTK (see Unity menu Midi)

List<MPTKEvent> MidiPlayerTK.MidiFileLoader.MPTK_ReadMidiEvents (long *fromTicks* = `0`, long *toTicks* = `long.MaxValue`)

Read the list of midi events available in the Midi from a ticks position to an end position.

Parameters:

fromTicks	ticks start
toTicks	ticks end

Returns:

Property Documentation

virtual int MidiPlayerTK.MidiFileLoader.MPTK_DeltaTicksPerQuarterNote `[get]`

Delta Ticks Per Quarter Note. Indicate the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.

virtual TimeSpan MidiPlayerTK.MidiFileLoader.MPTK_Duration `[get]`

Get duration of current Midi with current tempo

virtual bool MidiPlayerTK.MidiFileLoader.MPTK_KeepNoteOff `[get]`, `[set]`

Should keep note off event Events ?

virtual bool MidiPlayerTK.MidiFileLoader.MPTK_LogEvents `[get]`, `[set]`

Updated only when playing in Unity (for inspector refresh)

Log midi events

virtual List<TrackMidiEvent> MidiPlayerTK.MidiFileLoader.MPTK_MidiEvents `[get]`

Get all the raw midi events available in the midi file [DEPRECATED] use rather MPTK_Load then midiloaded.MPTK_ReadMidiEvents();

virtual int MidiPlayerTK.MidiFileLoader.MPTK_MidiIndex [get], [set]

Index Midi. Find the Index of Midi file from the popup in MidiFilePlayer inspector. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK. return -1 if not found

Parameters:

index	

virtual string MidiPlayerTK.MidiFileLoader.MPTK_MidiName [get], [set]

Midi name to play. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.

```
midiFilePlayer.MPTK_MidiName = "Albinoni - Adagio";
```

virtual double MidiPlayerTK.MidiFileLoader.MPTK_PulseLenght [get]

Lenght in millisecond of a quarter

virtual int MidiPlayerTK.MidiFileLoader.MPTK_Quantization [get], [set]

Level of quantization :

- 0 = None
- 1 = Quarter Note
- 2 = Eighth Note
- 3 = 16th Note
- 4 = 32th Note
- 5 = 64th Note

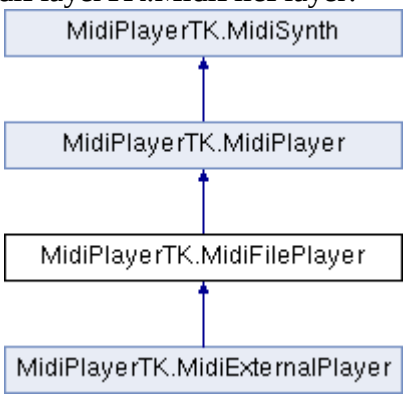
virtual long MidiPlayerTK.MidiFileLoader.MPTK_TickLast [get]

Last tick position in Midi: Value of the tick for the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

MidiPlayerTK.MidiFilePlayer

Script for the prefab MidiFilePlayer. Play a selected midi file. List of Midi file must be defined with Midi Player Setup (see Unity menu MPTK).

Inheritance diagram for MidiPlayerTK.MidiFilePlayer:



Public Member Functions

- virtual void MPTK_Play ()
  Play the midi file defined with MPTK_MidiName or MPTK_MidiIndex
- virtual void MPTK_Stop ()
  Stop playing
- virtual void MPTK_RePlay ()
  Restart playing of the current midi file
- virtual void MPTK_Pause (float timeToPauseMS=-1f)
  Pause the current playing
- virtual void MPTK_Next ()
  Play next Midi from the list of midi defined in MPTK (see Unity menu Midi)
- virtual void MPTK_Previous ()
  Play previous Midi from the list of midi defined in MPTK (see Unity menu Midi)
- void MPTK_ReSyncTime ()
  In case of delay in the application, resync is usefull to avoid multi tock play at the same time
- MPTKEvent.EnumLength MPTK_NoteLength (MPTKEvent note)
  Return note length as https://en.wikipedia.org/wiki/Note_value
- MidiLoad MPTK_Load ()
  Load the midi file defined with MPTK_MidiName or MPTK_MidiIndex. It's an optional action before playing a midi file witk MPTK_Play.
- void MPTK_InitSynth (int channelCount=16)
  Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.
- void MPTK_ClearAllSound (bool destroyAudioSource=false)
  Clear all sound

Data Fields

- EventNotesMidiClass OnEventNotesMidi
  Define unity event to trigger when notes available from the Midi file.
- EventStartMidiClass OnEventStartPlayMidi
  Define unity event to trigger at start of playing the Midi.
- EventEndMidiClass OnEventEndPlayMidi
  Define unity event to trigger at end of playing the midi.
- EventSynthClass OnEventSynthAwake
  Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.

- EventSynthClass OnEventSynthStarted
  Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.
- bool MPTK_PauseOnDistance
  Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance
- bool MPTK_EnablePanChange
  Should change pan from Midi Events or from SoundFont ?
- bool MPTK_WeakDevice
  Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.
- float MPTK_ReleaseTimeMin = 50f
  Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

Properties

- virtual string MPTK_MidiName `[get, set]`
  Midi name to play. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.
- virtual int MPTK_MidiIndex `[get, set]`
  Index Midi. Find the Index of Midi file from the popup in MidiFilePlayer inspector. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK. return -1 if not found
- virtual bool MPTK_PlayOnStart `[get, set]`
  Should the Midi start playing when application start ?
- virtual bool MPTK_Loop `[get, set]`
  Should automatically restart when Midi reach the end ?
- virtual double MPTK_Tempo `[get]`
  Get default tempo defined in Midi file or modified with Speed. Return QuarterPerMinuteValue similar to BPM (Beat Per Measure)
- virtual float MPTK_Speed `[get, set]`
  Speed of playing. Between 0.1 (10%) to 5.0 (500%). Set to 1 for normal speed.
- virtual double MPTK_Position `[get, set]`
  Set or Get midi position time from 0 to lenght time of midi playing (in millisecond)
- virtual bool MPTK_IsPaused `[get]`
  Is Midi file playing is paused ?
- virtual bool MPTK_IsPlaying `[get]`
  Is Midi file is playing ?
- virtual TimeSpan MPTK_Duration `[get]`
  Value updated only when playing in Unity (for inspector refresh)
- virtual long MPTK_TickLast `[get]`
  Last tick position in Midi: Value of the tick for the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.
- virtual long MPTK_TickCurrent `[get, set]`
  Current tick position in Midi: Time of the current midi event expressed in number of "ticks". MPTK_TickCurrent / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.
- virtual double MPTK_PulseLenght `[get]`
  Lenght in millisecond of a quarter

- virtual TimeSpan MPTK_PlayTime `[get]`
  Updated only when playing in Unity (for inspector refresh)
- virtual bool MPTK_LogEvents `[get, set]`
  Log midi events
- virtual bool MPTK_EnableChangeTempo `[get, set]`
  Should accept change tempo from Midi Events ?
- virtual bool MPTK_KeepNoteOff `[get, set]`
  Should keep note off event Events ?
- virtual bool MPTK_DirectSendToPlayer `[get, set]`
  If true (default) then Midi events are sent automatically to the midi player. Set to false if you want to process events without playing sound. OnEventNotesMidi Unity Event can be used to process each notes.
- virtual int MPTK_Quantization `[get, set]`
  Level of quantization :
- virtual List< TrackMidiEvent > MPTK_MidiEvents `[get]`
  Get all the raw midi events available in the midi file [DEPRECATED] use rather MPTK_Load then midiloaded.MPTK_ReadMidiEvents();
- virtual int MPTK_DeltaTicksPerQuarterNote `[get]`
  Delta Ticks Per Quarter Note. Indicate the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.
- virtual bool MPTK_EnablePresetDrum `[get, set]`
  Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.
- virtual float MPTK_MaxDistance `[get, set]`
  MaxDistance to use for PauseOnDistance
- virtual float MPTK_Volume `[get, set]`
  Volume of midi playing. Must be >=0 and <= 1
- virtual int MPTK_Transpose `[get, set]`
  Transpose note from -24 to 24

Detailed Description

Script for the prefab MidiFilePlayer. Play a selected midi file. List of Midi file must be defined with Midi Player Setup (see Unity menu MPTK).

Member Function Documentation

void MidiPlayerTK.MidiPlayer.MPTK_ClearAllSound (bool *destroyAudioSource* = false) `[inherited]`

Clear all sound

Parameters:

destroyAudioSource	Destroy also audioSource (default:false)

```
if (GUILayout.Button("Clear"))
```

```
   midiStreamPlayer.MPTK_ClearAllSound(true);
```

void MidiPlayerTK.MidiPlayer.MPTK_InitSynth (int *channelCount* = 16) [inherited]

Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.

Parameters:

channelCount	Number of channel to create

MidiLoad MidiPlayerTK.MidiFilePlayer.MPTK_Load ()

Load the midi file defined with MPTK_MidiName or MPTK_MidiIndex. It's an optional action before playing a midi file witk MPTK_Play.

```
 private void GetMidiInfo()
 {
    MidiLoad midiloaded = midiFilePlayer.MPTK Load();
    if (midiloaded != null)
    {
       infoMidi = "Duration: " + midiloaded.MPTK Duration.TotalSeconds + "
seconds\n";
       infoMidi += "Tempo: " + midiloaded.MPTK InitialTempo + "\n";
       List<MPTKEvent> listEvents = midiloaded.MPTK ReadMidiEvents();
       infoMidi += "Count Midi Events: " + listEvents.Count + "\n";
       Debug.Log(infoMidi);
    }
 }
!
```

Returns:

MidiLoad to access all the properties of the midi loaded

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_Next () [virtual]

Play next Midi from the list of midi defined in MPTK (see Unity menu Midi)

Reimplemented in MidiPlayerTK.MidiExternalPlayer.

MPTKEvent.EnumLength MidiPlayerTK.MidiFilePlayer.MPTK_NoteLength (MPTKEvent *note*)

Return note length as https://en.wikipedia.org/wiki/Note_value

Parameters:

note	

Returns:

MPTKEvent.EnumLength

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_Pause (float *timeToPauseMS* = -1f) [virtual]

Pause the current playing

Parameters:

timeToPauseMS	time to pause in milliseconds. default: indefinitely

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_Play () [virtual]

Play the midi file defined with MPTK_MidiName or MPTK_MidiIndex

Reimplemented in MidiPlayerTK.MidiExternalPlayer.

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_Previous () [virtual]

Play previous Midi from the list of midi defined in MPTK (see Unity menu Midi)

Reimplemented in MidiPlayerTK.MidiExternalPlayer.

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_RePlay () [virtual]

Restart playing of the current midi file

void MidiPlayerTK.MidiFilePlayer.MPTK_ReSyncTime ()

In case of delay in the application, resync is usefull to avoid multi tock play at the same time

virtual void MidiPlayerTK.MidiFilePlayer.MPTK_Stop () [virtual]

Stop playing

Field Documentation

bool MidiPlayerTK.MidiSynth.MPTK_EnablePanChange [inherited]

Should change pan from Midi Events or from SoundFont ?

bool MidiPlayerTK.MidiSynth.MPTK_PauseOnDistance [inherited]

Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance

float MidiPlayerTK.MidiSynth.MPTK_ReleaseTimeMin = 50f [inherited]

Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

bool MidiPlayerTK.MidiSynth.MPTK_WeakDevice [inherited]

Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.

EventEndMidiClass MidiPlayerTK.MidiFilePlayer.OnEventEndPlayMidi

Define unity event to trigger at end of playing the midi.

```
MidiFilePlayer midiFilePlayer = FindObjectOfType<MidiFilePlayer>();
        ...
if (!midiFilePlayer.OnEventEndPlayMidi.HasEvent())
{
   // No listener defined, set now by script. EndPlay will be called.
   midiFilePlayer.OnEventEndPlayMidi.AddListener(EndPlay);
}
        ...
public void EndPlay(string midiname, EventEndMidiEnum reason)
{
   Debug.LogFormat("End playing midi {0} reason:{1}", midiname, reason);
}
```

EventNotesMidiClass MidiPlayerTK.MidiFilePlayer.OnEventNotesMidi

Define unity event to trigger when notes available from the Midi file.

```
 MidiFilePlayer midiFilePlayer = FindObjectOfType<MidiFilePlayer>();
         ...
 if (!midiFilePlayer.OnEventNotesMidi.HasEvent())
 {
    // No listener defined, set now by script. NotesToPlay will be called for each
new notes read from Midi file
    midiFilePlayer.OnEventNotesMidi.AddListener(NotesToPlay);
 }
         ...
 public void NotesToPlay(List<MPTKEvent> notes)
 {
    Debug.Log(notes.Count);
    foreach (MPTKEvent midievent in notes)
    {
         ...
    }
 }
!
```

EventStartMidiClass MidiPlayerTK.MidiFilePlayer.OnEventStartPlayMidi

Define unity event to trigger at start of playing the Midi.

```
MidiFilePlayer midiFilePlayer = FindObjectOfType<MidiFilePlayer>();
        ...
if (!midiFilePlayer.OnEventStartPlayMidi.HasEvent())
{
   // No listener defined, set now by script. StartPlay will be called.
   midiFilePlayer.OnEventStartPlayMidi.AddListener(StartPlay);
}
        ...
public void StartPlay(string midiname)
{
   Debug.LogFormat("Start playing midi {0}", midiname);
}
```

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthAwake [inherited]

Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventSynthAwake.HasEvent())
   midiStreamPlayer.OnEventSynthAwake.AddListener(StartLoadingSynth);
...
public void StartLoadingSynth(string name)
{
    Debug.LogFormat("Synth {0} loading", name);
}
```

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthStarted [inherited]

Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventStartSynth.HasEvent())
   midiStreamPlayer.OnEventStartSynth.AddListener(EndLoadingSynth);
...
public void EndLoadingSynth(string name)
{
   Debug.LogFormat("Synth {0} loaded", name);
   midiStreamPlayer.MPTK PlayEvent(
      new MPTKEvent() { Command = MPTKCommand.PatchChange, Value =
CurrentPatchInstrument, Channel = StreamChannel});
}
```

Property Documentation

virtual int MidiPlayerTK.MidiFilePlayer.MPTK_DeltaTicksPerQuarterNote [get]

Delta Ticks Per Quarter Note. Indicate the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_DirectSendToPlayer `[get], [set]`

If true (default) then Midi events are sent automatically to the midi player. Set to false if you want to process events without playing sound. OnEventNotesMidi Unity Event can be used to process each notes.

virtual TimeSpan MidiPlayerTK.MidiFilePlayer.MPTK_Duration `[get]`

Value updated only when playing in Unity (for inspector refresh)

Get duration of current Midi with current tempo

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_EnableChangeTempo `[get], [set]`

Should accept change tempo from Midi Events ?

virtual bool MidiPlayerTK.MidiPlayer.MPTK_EnablePresetDrum `[get], [set], [inherited]`

Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_IsPaused `[get]`

Is Midi file playing is paused ?

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_IsPlaying `[get]`

Is Midi file is playing ?

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_KeepNoteOff `[get], [set]`

Should keep note off event Events ?

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_LogEvents `[get], [set]`

Log midi events

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_Loop [get], [set]

Should automatically restart when Midi reach the end ?

virtual float MidiPlayerTK.MidiSynth.MPTK_MaxDistance [get], [set], [inherited]

MaxDistance to use for PauseOnDistance

virtual List<TrackMidiEvent> MidiPlayerTK.MidiFilePlayer.MPTK_MidiEvents [get]

Get all the raw midi events available in the midi file [DEPRECATED] use rather MPTK_Load then midiloaded.MPTK_ReadMidiEvents();

virtual int MidiPlayerTK.MidiFilePlayer.MPTK_MidiIndex [get], [set]

Index Midi. Find the Index of Midi file from the popup in MidiFilePlayer inspector. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK. return -1 if not found

Parameters:

index	

virtual string MidiPlayerTK.MidiFilePlayer.MPTK_MidiName [get], [set]

Midi name to play. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.

```
midiFilePlayer.MPTK_MidiName = "Albinoni - Adagio";
```

virtual bool MidiPlayerTK.MidiFilePlayer.MPTK_PlayOnStart [get], [set]

Should the Midi start playing when application start ?

virtual TimeSpan MidiPlayerTK.MidiFilePlayer.MPTK_PlayTime [get]

Updated only when playing in Unity (for inspector refresh)

Time from the start of playing the current midi

virtual double MidiPlayerTK.MidiFilePlayer.MPTK_Position [get], [set]

Set or Get midi position time from 0 to lenght time of midi playing (in millisecond)

virtual double MidiPlayerTK.MidiFilePlayer.MPTK_PulseLenght `[get]`

Lenght in millisecond of a quarter

virtual int MidiPlayerTK.MidiFilePlayer.MPTK_Quantization `[get]` `[set]`

Level of quantization :

- `0` = None
- `1` = Quarter Note
- `2` = Eighth Note
- `3` = 16th Note
- `4` = 32th Note
- `5` = 64th Note

virtual float MidiPlayerTK.MidiFilePlayer.MPTK_Speed `[get]` `[set]`

Speed of playing. Between 0.1 (10%) to 5.0 (500%). Set to 1 for normal speed.

virtual double MidiPlayerTK.MidiFilePlayer.MPTK_Tempo `[get]`

Get default tempo defined in Midi file or modified with Speed. Return QuarterPerMinuteValue similar to BPM (Beat Per Measure)

virtual long MidiPlayerTK.MidiFilePlayer.MPTK_TickCurrent `[get]` `[set]`

Current tick position in Midi: Time of the current midi event expressed in number of "ticks". MPTK_TickCurrent / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

virtual long MidiPlayerTK.MidiFilePlayer.MPTK_TickLast `[get]`

Last tick position in Midi: Value of the tick for the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

virtual int MidiPlayerTK.MidiSynth.MPTK_Transpose `[get]` `[set]` `[inherited]`

Transpose note from -24 to 24

virtual float MidiPlayerTK.MidiSynth.MPTK_Volume `[get]`, `[set]`, `[inherited]`

Volume of midi playing. Must be >=0 and <= 1

MidiPlayerTK.MidiFileWriter

PRO Version - Write a midi file from differents sources based on NAudio frawemork. See full example TestMidiWriter.cs with a light sequencer.

Public Member Functions

- MidiFileWriter ()
  Create an empty MidiFileWriter
- MidiFileWriter (int deltaTicksPerQuarterNote, int midiFileType)
  Create a MidiFileWriter with an empty Midi Event list
- bool MPTK_LoadFromMPTK (List< TrackMidiEvent > MidiSorted)
  Create a MidiFileWriter from a MPTK list of midi events. A midi file must be loaded before from a MidiFilePlayer gameobject (as in example) or from a call to MidiFileWriter.MPTK_LoadFromFile(filename).
- bool MPTK_LoadFromMidiDB (int indexMidiDb)
  Create a MidiFileWriter from a Midi found in MPTK MidiDB
- void MPTK_CreateTrack (int count)
  Create tracks
- void MPTK_EndTrack (int trackNumber)
  Close the track (mandatory for a well formed midi file)
- void MPTK_AddEvent (int track, MidiEvent midievent)
  Add a generic Midi event
- void MPTK_AddNote (int track, long absoluteTime, int channel, int note, int velocity, int duration)
  Add a note event. the corresponding Noteoff is automatically created.
- bool MPTK_LoadFromFile (string filename)
  Load a Midi file from OS system file (could be dependant of the OS)
- bool MPTK_WriteToFile (string filename)
  Write Midi file to an OS folder
- bool MPTK_WriteToMidiDB (string filename)
  Write Midi file to MidiDB. To be used only in edit mode not in a standalone application.

Static Public Member Functions

- static int MPTK_GetMicrosecondsPerQuaterNote (int bpm)
  Convert BPM to duration or a quarter in microsecond

Properties

- int MPTK_DeltaTicksPerQuarterNote `[get]`
  Get the DeltaTicksPerQuarterNote of the loaded midi
- int MPTK_TrackCount `[get]`
  Get the track count of the loaded midi

- int MPTK_MidiFileType `[get]`
  Get the midi file type of the loaded midi (0,1,2)

Detailed Description

PRO Version - Write a midi file from differents sources based on NAudio frawemork. See full example TestMidiWriter.cs with a light sequencer.

Constructor & Destructor Documentation

MidiPlayerTK.MidiFileWriter.MidiFileWriter ()

Create an empty MidiFileWriter

MidiPlayerTK.MidiFileWriter.MidiFileWriter (int *deltaTicksPerQuarterNote*, int *midiFileType*)

Create a MidiFileWriter with an empty Midi Event list

Parameters:

deltaTicksPerQuarterNote	
midiFileType	

Member Function Documentation

void MidiPlayerTK.MidiFileWriter.MPTK_AddEvent (int *track*, MidiEvent *midievent*)

Add a generic Midi event

Parameters:

track	
midievent	

void MidiPlayerTK.MidiFileWriter.MPTK_AddNote (int *track*, long *absoluteTime*, int *channel*, int *note*, int *velocity*, int *duration*)

Add a note event. the corresponding Noteoff is automatically created.

Parameters:

track	
absoluteTime	
channel	
note	

velocity	
duration	

void MidiPlayerTK.MidiFileWriter.MPTK_CreateTrack (int *count*)

Create tracks

Parameters:

count	number of tracks to create

void MidiPlayerTK.MidiFileWriter.MPTK_EndTrack (int *trackNumber*)

Close the track (mandatory for a well formed midi file)

Parameters:

trackNumber	Track number to close

static int MidiPlayerTK.MidiFileWriter.MPTK_GetMicrosecondsPerQuaterNote (int *bpm*) `[static]`

Convert BPM to duration or a quarter in microsecond

Parameters:

bpm	beat per measure

Returns:

bool MidiPlayerTK.MidiFileWriter.MPTK_LoadFromFile (string *filename*)

Load a Midi file from OS system file (could be dependant of the OS)

Parameters:

filename	

Returns:

bool MidiPlayerTK.MidiFileWriter.MPTK_LoadFromMidiDB (int *indexMidiDb*)

Create a MidiFileWriter from a Midi found in MPTK MidiDB

Parameters:

indexMidiDb	

bool MidiPlayerTK.MidiFileWriter.MPTK_LoadFromMPTK (List< TrackMidiEvent > *MidiSorted*)

Create a MidiFileWriter from a MPTK list of midi events. A midi file must be loaded before from a MidiFilePlayer gameobject (as in example) or from a call to MidiFileWriter.MPTK_LoadFromFile(filename).

Parameters:

MidiSorted	

bool MidiPlayerTK.MidiFileWriter.MPTK_WriteToFile (string *filename*)

Write Midi file to an OS folder

Parameters:

filename	filename of the midi file

Returns:

bool MidiPlayerTK.MidiFileWriter.MPTK_WriteToMidiDB (string *filename*)

Write Midi file to MidiDB. To be used only in edit mode not in a standalone application.

Parameters:

filename	filename of the midi file without any folder and any extension

Returns:

Property Documentation

int MidiPlayerTK.MidiFileWriter.MPTK_DeltaTicksPerQuarterNote `[get]`

Get the DeltaTicksPerQuarterNote of the loaded midi

int MidiPlayerTK.MidiFileWriter.MPTK_MidiFileType `[get]`

Get the midi file type of the loaded midi (0,1,2)

int MidiPlayerTK.MidiFileWriter.MPTK_TrackCount `[get]`

Get the track count of the loaded midi

MidiPlayerTK.MidiListPlayer

PRO Version - Script for the prefab MidiListPlayer. Play a list of pre-selected midi file from the dedicated inspector. List of Midi files must exists in MidiDB. See Midi Player Setup (Unity menu MPTK).
Inherits MonoBehaviour.

Data Structures

- class MPTK_MidiPlayItem
  Define a midi to be added in the list

Public Member Functions

- virtual void MPTK_AddMidi (string name)
  Add a Midi name to the list. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.
- virtual void MPTK_RemoveMidi (string name)
  Remove a Midi name from the list. Use the exact name defined in Unity resources folder MidiDB without any path or extension.
- virtual void MPTK_ReIndexMidi ()
  Recalculate the index of the midi from the list.
- virtual void MPTK_Play ()
  Play the midi file defined in MPTK_MidiName
- virtual void MPTK_Stop ()
  Stop playing
- virtual void MPTK_RePlay ()
  Restart playing the current midi file
- virtual void MPTK_Pause (float timeToPauseMS=-1f)
  Pause the current playing
- virtual void MPTK_Next ()
  Play next Midi in list
- virtual void MPTK_Previous ()
  Play previous Midi in list

Data Fields

- List< MPTK_MidiPlayItem > MPTK_PlayList
  Play list
- UnityEvent OnEventStartPlayMidi
  Define unity event to trigger at start
- UnityEvent OnEventEndPlayMidi
  Define unity event to trigger at end
- MidiFilePlayer MPTK_MidiFilePlayer_1
  MidiFilePlayer to play the Midi

Properties

- int MPTK_PlayIndex `[get, set]`
  Play a specific Midi in the list.
- virtual bool MPTK_PlayOnStart `[get, set]`
  Should the Midi start playing when application start ?
- virtual bool MPTK_Loop `[get, set]`

Should automatically restart when Midi reach the end ?

- virtual bool MPTK_IsPaused [get]
  Is Midi file playing is paused ?
- virtual bool MPTK_IsPlaying [get]
  Is Midi file is playing ?

Detailed Description

PRO Version - Script for the prefab MidiListPlayer. Play a list of pre-selected midi file from the dedicated inspector. List of Midi files must exists in MidiDB. See Midi Player Setup (Unity menu MPTK).

Member Function Documentation

virtual void MidiPlayerTK.MidiListPlayer.MPTK_AddMidi (string *name*) [virtual]

Add a Midi name to the list. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.

```
midiListPlayer.MPTK_AddMidi("Albinoni - Adagio");
```

virtual void MidiPlayerTK.MidiListPlayer.MPTK_Next () [virtual]

Play next Midi in list

virtual void MidiPlayerTK.MidiListPlayer.MPTK_Pause (float *timeToPauseMS* = -1f) [virtual]

Pause the current playing

Parameters:

timeToPauseMS	time to pause in milliseconds. default: indefinitely

virtual void MidiPlayerTK.MidiListPlayer.MPTK_Play () [virtual]

Play the midi file defined in MPTK_MidiName

virtual void MidiPlayerTK.MidiListPlayer.MPTK_Previous () [virtual]

Play previous Midi in list

virtual void MidiPlayerTK.MidiListPlayer.MPTK_ReIndexMidi () [virtual]

Recalculate the index of the midi from the list.

virtual void MidiPlayerTK.MidiListPlayer.MPTK_RemoveMidi (string *name*) [virtual]

Remove a Midi name from the list. Use the exact name defined in Unity resources folder MidiDB without any path or extension.

```
midiListPlayer.MPTK_RemoveMidi("Albinoni - Adagio");
```

virtual void MidiPlayerTK.MidiListPlayer.MPTK_RePlay () [virtual]

Restart playing the current midi file

virtual void MidiPlayerTK.MidiListPlayer.MPTK_Stop () [virtual]

Stop playing

Field Documentation

MidiFilePlayer MidiPlayerTK.MidiListPlayer.MPTK_MidiFilePlayer_1

MidiFilePlayer to play the Midi

List<MPTK_MidiPlayItem> MidiPlayerTK.MidiListPlayer.MPTK_PlayList

Play list

UnityEvent MidiPlayerTK.MidiListPlayer.OnEventEndPlayMidi

Define unity event to trigger at end

UnityEvent MidiPlayerTK.MidiListPlayer.OnEventStartPlayMidi

Define unity event to trigger at start

Property Documentation

virtual bool MidiPlayerTK.MidiListPlayer.MPTK_IsPaused [get]

Is Midi file playing is paused ?

virtual bool MidiPlayerTK.MidiListPlayer.MPTK_IsPlaying [get]

Is Midi file is playing ?

virtual bool MidiPlayerTK.MidiListPlayer.MPTK_Loop [get], [set]

Should automatically restart when Midi reach the end ?

int MidiPlayerTK.MidiListPlayer.MPTK_PlayIndex [get], [set]

Play a specific Midi in the list.

virtual bool MidiPlayerTK.MidiListPlayer.MPTK_PlayOnStart [get], [set]

Should the Midi start playing when application start ?

MidiPlayerTK.MidiLoad

Base class for loading a Midi file. No seqencer, no synthetizer. Usefull to load all tje Midi events from a Midi.

Public Member Functions

- bool MPTK_Load (int index)
  Load Midi from midi MPTK referential (Unity resource). The index of the Midi file can be found in the windo "Midi File Setup". Display with menu MPTK / Midi File Setup
- bool MPTK_Load (byte[] datamidi)
  Load Midi from an array of bytes
- bool MPTK_Load (string midiname)
  Load Midi from a Midi file from Unity resources. The Midi file must be present in Unity MidiDB ressource folder.
- bool MPTK_Load (string pathfilename, bool strict)
  Load Midi from a folder anywhere on the desktop.
- List< MPTKEvent > MPTK_ReadMidiEvents (long fromTicks=0, long toTicks=long.MaxValue)

Read the list of midi events available in the Midi from a ticks position to an end position.

- double MPTK_ConvertTickToTime (long tick)
  Convert the tick duration to a real time duration in millisecond regarding the current tempo.
- long MPTK_ConvertTimeToTick (double time)
  Convert a real time duration in millisecond to a number of tick regarding the current tempo.

Data Fields

- double MPTK_InitialTempo
  Initial tempo found in the Midi
- TimeSpan MPTK_Duration
  Duration of the midi. Updated when ChangeSpeed is called.
- long MPTK_TickLast
  Last tick position in Midi: Time of the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.
- long MPTK_TickCurrent
  Current tick position in Midi: Time of the current midi event expressed in number of "ticks". MPTK_TickCurrent / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.
- int MPTK_NumberBeatsMeasure
  From TimeSignature event: The numerator counts the number of beats in a measure. For example a numerator of 4 means that each bar contains four beats. This is important to know because usually the first beat of each bar has extra emphasis. http://www.deluge.co/?q=midi-tempo-bpm
- int MPTK_NumberQuarterBeat
  From TimeSignature event: number of quarter notes in a beat. Equal 2 Power TimeSigDenominator. http://www.deluge.co/?q=midi-tempo-bpm
- int MPTK_TimeSigNumerator
  From TimeSignature event: The numerator counts the number of beats in a measure. For example a numerator of 4 means that each bar contains four beats. This is important to know because usually the first beat of each bar has extra emphasis. In MIDI the denominator value is stored in a special format. i.e. the real denominator = 2^[dd] http://www.deluge.co/?q=midi-tempo-bpm
- int MPTK_TimeSigDenominator
  From TimeSignature event: The denominator specifies the number of quarter notes in a beat. 2 represents a quarter-note, 3 represents an eighth-note, etc. . http://www.deluge.co/?q=midi-tempo-bpm
- int MPTK_TicksInMetronomeClick
  From TimeSignature event: The standard MIDI clock ticks every 24 times every quarter note (crotchet) so a [cc] value of 24 would mean that the metronome clicks once every quarter note. A [cc] value of 6 would mean that the metronome clicks once every 1/8th of a note (quaver). http://www.deluge.co/?q=midi-tempo-bpm
- int MPTK_No32ndNotesInQuarterNote
  From TimeSignature event: This value specifies the number of 1/32nds of a note happen every MIDI quarter note. It is usually 8 which means that a quarter note happens every quarter note. http://www.deluge.co/?q=midi-tempo-bpm
- int MPTK_MicrosecondsPerQuarterNote
  From the SetTempo event: The tempo is given in micro seconds per quarter beat. To convert this to BPM we needs to use the following equation:BPM = 60,000,000/[tt tt tt] http://www.deluge.co/?q=midi-tempo-bpm
- int MPTK_DeltaTicksPerQuarterNote
  Midi Header: Delta Ticks Per Quarter Note. Represent the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.

Detailed Description

Base class for loading a Midi file. No seqencer, no synthetizer. Usefull to load all tje Midi events from a Midi.

Member Function Documentation

double MidiPlayerTK.MidiLoad.MPTK_ConvertTickToTime (long *tick*)

Convert the tick duration to a real time duration in millisecond regarding the current tempo.

Parameters:

tick	duration in ticks

Returns:

duration in milliseconds

long MidiPlayerTK.MidiLoad.MPTK_ConvertTimeToTick (double *time*)

Convert a real time duration in millisecond to a number of tick regarding the current tempo.

Parameters:

time	duration in milliseconds

Returns:

duration in ticks

bool MidiPlayerTK.MidiLoad.MPTK_Load (int *index*)

Load Midi from midi MPTK referential (Unity resource). The index of the Midi file can be found in the windo "Midi File Setup". Display with menu MPTK / Midi File Setup

Parameters:

index	

```
public MidiLoad MidiLoaded;
// .....
MidiLoaded = new MidiLoad();
MidiLoaded.MPTK_Load(14) // index for "Beattles - Michelle"
Debug.Log("Duration:" + MidiLoaded.MPTK_Duration);
```

bool MidiPlayerTK.MidiLoad.MPTK_Load (byte [] *datamidi*)

Load Midi from an array of bytes

Parameters:

datamidi	byte arry midi

bool MidiPlayerTK.MidiLoad.MPTK_Load (string *midiname*)

Load Midi from a Midi file from Unity resources. The Midi file must be present in Unity MidiDB ressource folder.

Parameters:

midiname	midi file name without path and extension

```
public MidiLoad MidiLoaded;
// .....
MidiLoaded = new MidiLoad();
MidiLoaded.MPTK_Load("Beattles - Michelle")
Debug.Log("Duration:" + MidiLoaded.MPTK_Duration);
```

bool MidiPlayerTK.MidiLoad.MPTK_Load (string *pathfilename*, bool *strict*)

Load Midi from a folder anywhere on the desktop.

Parameters:

pathfilename	complete path + filename to the Midi file
strict	if true, check strict compliance with the Midi norm

Returns:

List<MPTKEvent> MidiPlayerTK.MidiLoad.MPTK_ReadMidiEvents (long *fromTicks* = `0`, long *toTicks* = `long.MaxValue`)

Read the list of midi events available in the Midi from a ticks position to an end position.

Parameters:

fromTicks	ticks start
toTicks	ticks end

Returns:

Field Documentation

int MidiPlayerTK.MidiLoad.MPTK_DeltaTicksPerQuarterNote

Midi Header: Delta Ticks Per Quarter Note. Represent the duration time in "ticks" which make up a quarter-note. For instance, if 96, then a duration of an eighth-note in the file would be 48.

TimeSpan MidiPlayerTK.MidiLoad.MPTK_Duration

Duration of the midi. Updated when ChangeSpeed is called.

double MidiPlayerTK.MidiLoad.MPTK_InitialTempo

Initial tempo found in the Midi

int MidiPlayerTK.MidiLoad.MPTK_MicrosecondsPerQuarterNote

From the SetTempo event: The tempo is given in micro seconds per quarter beat. To convert this to BPM we needs to use the following equation:BPM = 60,000,000/[tt tt tt] http://www.deluge.co/?q=midi-tempo-bpm

int MidiPlayerTK.MidiLoad.MPTK_No32ndNotesInQuarterNote

From TimeSignature event: This value specifies the number of 1/32nds of a note happen every MIDI quarter note. It is usually 8 which means that a quarter note happens every quarter note. http://www.deluge.co/?q=midi-tempo-bpm

int MidiPlayerTK.MidiLoad.MPTK_NumberBeatsMeasure

From TimeSignature event: The numerator counts the number of beats in a measure. For example a numerator of 4 means that each bar contains four beats. This is important to know because usually the first beat of each bar has extra emphasis. http://www.deluge.co/?q=midi-tempo-bpm

int MidiPlayerTK.MidiLoad.MPTK_NumberQuarterBeat

From TimeSignature event: number of quarter notes in a beat. Equal 2 Power TimeSigDenominator. http://www.deluge.co/?q=midi-tempo-bpm

long MidiPlayerTK.MidiLoad.MPTK_TickCurrent

Current tick position in Midi: Time of the current midi event expressed in number of "ticks". MPTK_TickCurrent / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

long MidiPlayerTK.MidiLoad.MPTK_TickLast

Last tick position in Midi: Time of the last midi event in sequence expressed in number of "ticks". MPTK_TickLast / MPTK_DeltaTicksPerQuarterNote equal the duration time of a quarter-note regardless the defined tempo.

int MidiPlayerTK.MidiLoad.MPTK_TicksInMetronomeClick

From TimeSignature event: The standard MIDI clock ticks every 24 times every quarter note (crotchet) so a [cc] value of 24 would mean that the metronome clicks once every quarter note. A [cc] value of 6 would mean that the metronome clicks once every 1/8th of a note (quaver). http://www.deluge.co/?q=midi-tempo-bpm

int MidiPlayerTK.MidiLoad.MPTK_TimeSigDenominator

From TimeSignature event: The denominator specifies the number of quarter notes in a beat. 2 represents a quarter-note, 3 represents an eighth-note, etc. . http://www.deluge.co/?q=midi-tempo-bpm

int MidiPlayerTK.MidiLoad.MPTK_TimeSigNumerator

From TimeSignature event: The numerator counts the number of beats in a measure. For example a numerator of 4 means that each bar contains four beats. This is important to know because usually the first beat of each bar has extra emphasis. In MIDI the denominator value is stored in a special format. i.e. the real denominator = 2^[dd] http://www.deluge.co/?q=midi-tempo-bpm

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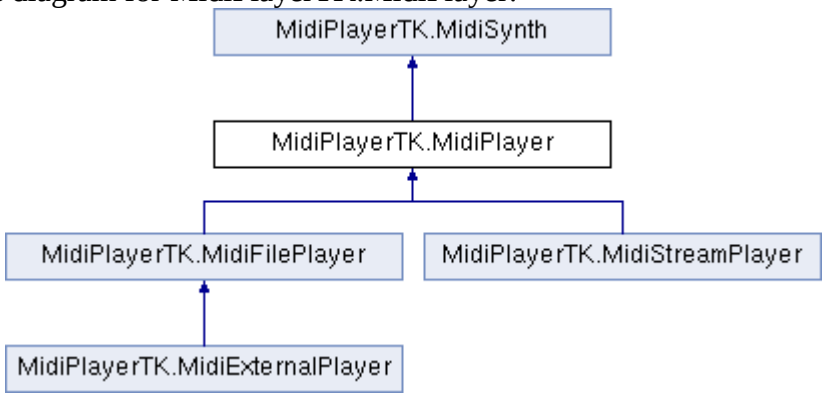
MidiPlayerTK.MidiPlayer

Send event to the midi synthetizer thru thread. Don't instanciate this class, use rather MidiFilePlayer or MidiStreamPlayer.

Inheritance diagram for MidiPlayerTK.MidiPlayer:



Public Member Functions

- void MPTK_InitSynth (int channelCount=16)
  Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.
- void MPTK_ClearAllSound (bool destroyAudioSource=false)
  Clear all sound

Data Fields

- EventSynthClass OnEventSynthAwake

Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.

- EventSynthClass OnEventSynthStarted
  Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.
- bool MPTK_PauseOnDistance
  Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance
- bool MPTK_EnablePanChange
  Should change pan from Midi Events or from SoundFont ?
- bool MPTK_WeakDevice
  Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.
- float MPTK_ReleaseTimeMin = 50f
  Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

Properties

- virtual bool MPTK_EnablePresetDrum `[get, set]`
  Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.
- virtual float MPTK_MaxDistance `[get, set]`
  MaxDistance to use for PauseOnDistance
- virtual float MPTK_Volume `[get, set]`
  Volume of midi playing. Must be >=0 and <= 1
- virtual int MPTK_Transpose `[get, set]`
  Transpose note from -24 to 24

Detailed Description

Send event to the midi synthetizer thru thread. Don't instanciate this class, use rather MidiFilePlayer or MidiStreamPlayer.

Member Function Documentation

void MidiPlayerTK.MidiPlayer.MPTK_ClearAllSound (bool *destroyAudioSource* = `false`)

Clear all sound

Parameters:

destroyAudioSource	Destroy also audioSource (default:false)

```
if (GUILayout.Button("Clear"))
   midiStreamPlayer.MPTK_ClearAllSound(true);
```

void MidiPlayerTK.MidiPlayer.MPTK_InitSynth (int *channelCount* = 16)

Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.

Parameters:

channelCount	Number of channel to create

Field Documentation

bool MidiPlayerTK.MidiSynth.MPTK_EnablePanChange [inherited]

Should change pan from Midi Events or from SoundFont ?

bool MidiPlayerTK.MidiSynth.MPTK_PauseOnDistance [inherited]

Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance

float MidiPlayerTK.MidiSynth.MPTK_ReleaseTimeMin = 50f [inherited]

Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

bool MidiPlayerTK.MidiSynth.MPTK_WeakDevice [inherited]

Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthAwake [inherited]

Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventSynthAwake.HasEvent())
   midiStreamPlayer.OnEventSynthAwake.AddListener(StartLoadingSynth);
...
public void StartLoadingSynth(string name)
{
    Debug.LogFormat("Synth {0} loading", name);
}
```

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthStarted [inherited]

Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventStartSynth.HasEvent())
   midiStreamPlayer.OnEventStartSynth.AddListener(EndLoadingSynth);
...
public void EndLoadingSynth(string name)
{
   Debug.LogFormat("Synth {0} loaded", name);
   midiStreamPlayer.MPTK_PlayEvent(
      new MPTKEvent() { Command = MPTKCommand.PatchChange, Value =
CurrentPatchInstrument, Channel = StreamChannel});
}
```

Property Documentation

virtual bool MidiPlayerTK.MidiPlayer.MPTK_EnablePresetDrum [get], [set]

Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.

virtual float MidiPlayerTK.MidiSynth.MPTK_MaxDistance [get], [set], [inherited]

MaxDistance to use for PauseOnDistance

virtual int MidiPlayerTK.MidiSynth.MPTK_Transpose [get], [set], [inherited]

Transpose note from -24 to 24

virtual float MidiPlayerTK.MidiSynth.MPTK_Volume [get], [set], [inherited]

Volume of midi playing. Must be >=0 and <= 1

MidiPlayerTK.MidiPlayerGlobal

Singleton class to manage all global features of MPTK.
Inherits MonoBehaviour.

Static Public Member Functions

- static bool MPTK_IsReady (float delay=0.5f)
  Check if SoudFont is loaded. Add a default wait time because Unity AudioSource need a delay to be really ready to play. Hummm, like a diesel motor ?
- static void MPTK_SelectSoundFont (string name)
  Changing the current Soundfont on fly. If some Midis are playing they are restarted.
- static void MPTK_SelectBankInstrument (int nbank)
  Change default current bank on fly
- static void MPTK_SelectBankDrum (int nbank)
  Change current bank on fly
- static int MPTK_FindMidi (string name)
  Find index of a Midi by name. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.
- static float MPTK_DistanceToListener (Transform trf)
  Calculate distance with the AudioListener.

Static Public Attributes

- static string MPTK_PathToResources = "MidiPlayer/Resources/"
  This path could change depending your project. Change the path before any actions in MPTK.
- static int MPTK_CountWaveLoaded
  Count of wave loaded
- static bool MPTK_SoundFontLoaded = false
  True if soundfont is loaded
- static List< MPTKListItem > MPTK_ListMidi
  List of midi(s) available
- static List< MPTKListItem > MPTK_ListPreset
  Get the list of presets available for instruments for the selected bank
- static List< MPTKListItem > MPTK_ListBank
  Get the list of banks available
- static List< MPTKListItem > MPTK_ListPresetDrum
  Get the list of presets available for instrument
- static List< MPTKListItem > MPTK_ListDrum
  Get the list of presets available

Properties

- static TimeSpan MPTK_TimeToLoadSoundFont `[get]`
  Load time for the current SoundFont
- static TimeSpan MPTK_TimeToLoadWave `[get]`
  Load time for the wave
- static int MPTK_CountPresetLoaded `[get]`
  Count of preset loaded
- static UnityEvent OnEventPresetLoaded `[get, set]`
  Event triggered at end of loading a soundfont. Warning: when defined by script, this event is not triggered at first load of MPTK because MidiPlayerGlobal is loaded before any other gamecomponent. Set this event in the Inspector of MidiPlayerGlobal to get at first load this information.
- static List< string > MPTK_ListSoundFont `[get]`
  List of Soundfont(s) available

Detailed Description

Singleton class to manage all global features of MPTK.

Member Function Documentation

static float MidiPlayerTK.MidiPlayerGlobal.MPTK_DistanceToListener (Transform *trf*) [static]

Calculate distance with the AudioListener.

Parameters:

trf	Transform of the object to calculate the distance.

Returns:

static int MidiPlayerTK.MidiPlayerGlobal.MPTK_FindMidi (string *name*) [static]

Find index of a Midi by name. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.

Parameters:

name	name of the midi without path nor extension

Returns:

-1 if not found else return the index of the midi.

static bool MidiPlayerTK.MidiPlayerGlobal.MPTK_IsReady (float *delay* = 0.5f) [static]

Check if SoudFont is loaded. Add a default wait time because Unity AudioSource need a delay to be really ready to play. Hummm, like a diesel motor ?

Parameters:

delay	

Returns:

static void MidiPlayerTK.MidiPlayerGlobal.MPTK_SelectBankDrum (int *nbank*) [static]

Change current bank on fly

Parameters:

nbank	Number of the SoundFont Bank to load for drum.

static void MidiPlayerTK.MidiPlayerGlobal.MPTK_SelectBankInstrument (int *nbank*) `[static]`

Change default current bank on fly

Parameters:

nbank	Number of the SoundFont Bank to load for instrument.

static void MidiPlayerTK.MidiPlayerGlobal.MPTK_SelectSoundFont (string *name*) `[static]`

Changing the current Soundfont on fly. If some Midis are playing they are restarted.

Parameters:

name	SoundFont name

Field Documentation

int MidiPlayerTK.MidiPlayerGlobal.MPTK_CountWaveLoaded `[static]`

Count of wave loaded

List<MPTKListItem> MidiPlayerTK.MidiPlayerGlobal.MPTK_ListBank `[static]`

Get the list of banks available

List<MPTKListItem> MidiPlayerTK.MidiPlayerGlobal.MPTK_ListDrum `[static]`

Get the list of presets available

List<MPTKListItem> MidiPlayerTK.MidiPlayerGlobal.MPTK_ListMidi `[static]`

List of midi(s) available

List<MPTKListItem> MidiPlayerTK.MidiPlayerGlobal.MPTK_ListPreset `[static]`

Get the list of presets available for instruments for the selected bank

List<MPTKListItem> MidiPlayerTK.MidiPlayerGlobal.MPTK_ListPresetDrum `[static]`

Get the list of presets available for instrument

string MidiPlayerTK.MidiPlayerGlobal.MPTK_PathToResources = "MidiPlayer/Resources/" `[static]`

This path could change depending your project. Change the path before any actions in MPTK.

bool MidiPlayerTK.MidiPlayerGlobal.MPTK_SoundFontLoaded = false `[static]`

True if soundfont is loaded

Property Documentation

int MidiPlayerTK.MidiPlayerGlobal.MPTK_CountPresetLoaded `[static]`, `[get]`

Count of preset loaded

List<string> MidiPlayerTK.MidiPlayerGlobal.MPTK_ListSoundFont `[static]`, `[get]`

List of Soundfont(s) available

TimeSpan MidiPlayerTK.MidiPlayerGlobal.MPTK_TimeToLoadSoundFont `[static]`, `[get]`

Load time for the current SoundFont

TimeSpan MidiPlayerTK.MidiPlayerGlobal.MPTK_TimeToLoadWave `[static]`, `[get]`

Load time for the wave

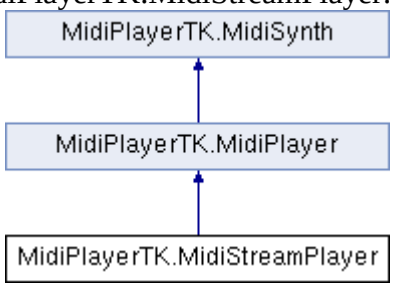
UnityEvent MidiPlayerTK.MidiPlayerGlobal.OnEventPresetLoaded `[static]`, `[get]`, `[set]`

Event triggered at end of loading a soundfont. Warning: when defined by script, this event is not triggered at first load of MPTK because MidiPlayerGlobal is loaded before any other gamecomponent. Set this event in the Inspector of MidiPlayerGlobal to get at first load this information.

MidiPlayerTK.MidiStreamPlayer

Play generated notes. Any Midi file is necessary rather create music from your own algorithm with MPTK_PlayEvent(). Duration can be set in the MPTKEvent, but a note can also be stopped with MPTK_StopEvent().

Inheritance diagram for MidiPlayerTK.MidiStreamPlayer:



Public Member Functions

- virtual void MPTK_PlayEvent (MPTKEvent note)

  Play one midi event with a thread so the call return immediately.

```
midiStreamPlayer.MPTK_PlayEvent
(
    new MPTKEvent()
    {
        Channel = 9,
        Duration = 0.2f,
        Value = 60,
        Velocity = 100
    }
);
```

- virtual void MPTK_PlayEvent (List< MPTKEvent > notes)

  Play a list of midi events with a thread so the call return immediately.

```
        void Update()
        {
            // Checj that SoundFont is loaded and add a little wait (0.5 s by
default) because Unity AudioSource need some time to be started
            if (!MidiPlayerGlobal.MPTK IsReady())
                return;

            if (midiStreamPlayer != null && IsplayingLoop)
            {
                float time = Time.realtimeSinceStartup - LastTimeChange;
                if (time > DelayTimeChange)
                {
                    // It's time to generate a note
                    LastTimeChange = Time.realtimeSinceStartup;

                    if (RandomPlay)
                    {
                        //
                        // First method to play notes: send a list of notes
directly to the MidiStreamPlayer
                        // Useful for a long list of notes when the duration of
the note is lnown.
                        //
                        List<MPTKEvent> notes = new List<MPTKEvent>();
                        // Very light random notes generator
                        if (!DrumKit)
                        {
```

```
                            // Play 3 notes with no delay
                            int rnd = UnityEngine.Random.Range(-8, 8);
                            notes.Add(CreateNote(60 + rnd, 0));
                            notes.Add(CreateNote(64 + rnd, 0));
                            notes.Add(CreateNote(67 + rnd, 0));
                        }
                        else
                        {
                            // Play 3 hit with a short delay
                            notes.Add(CreateDrum(UnityEngine.Random.Range(0, 127),
0));
                            notes.Add(CreateDrum(UnityEngine.Random.Range(0, 127),
150));
                            notes.Add(CreateDrum(UnityEngine.Random.Range(0, 127),
300));
                        }
                        // Send the note to the player. Notes are plays in a
thread, so call returns immediately
                        midiStreamPlayer.MPTK_PlayEvent(notes);
                    }
                    else
                    {
                        //
                        // Second method to play and stop a notes: the duration is
not known
                        // Here, a new note stop the previous
                        //
                        if (++CurrentNote > EndNote) CurrentNote = StartNote;
                        if (CurrentNote < StartNote) CurrentNote = StartNote;
                        PlayOneNote();
                    }
                }
            }
        }
```

- virtual void MPTK_StopEvent (MPTKEvent pnote)
  Stop playing the note. All waves associated to the note are stop by sending a noteoff.
- void MPTK_InitSynth (int channelCount=16)
  Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.
- void MPTK_ClearAllSound (bool destroyAudioSource=false)
  Clear all sound

Data Fields

- EventSynthClass OnEventSynthAwake
  Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.
- EventSynthClass OnEventSynthStarted
  Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.
- bool MPTK_PauseOnDistance
  Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance
- bool MPTK_EnablePanChange
  Should change pan from Midi Events or from SoundFont ?
- bool MPTK_WeakDevice
  Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.
- float MPTK_ReleaseTimeMin = 50f
  Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

Properties

- virtual bool MPTK_EnablePresetDrum `[get, set]`
  Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.
- virtual float MPTK_MaxDistance `[get, set]`
  MaxDistance to use for PauseOnDistance
- virtual float MPTK_Volume `[get, set]`
  Volume of midi playing. Must be >=0 and <= 1
- virtual int MPTK_Transpose `[get, set]`
  Transpose note from -24 to 24

Detailed Description

Play generated notes. Any Midi file is necessary rather create music from your own algorithm with MPTK_PlayEvent(). Duration can be set in the MPTKEvent, but a note can also be stopped with MPTK_StopEvent().

Member Function Documentation

void MidiPlayerTK.MidiPlayer.MPTK_ClearAllSound (bool *destroyAudioSource* = false) [inherited]

Clear all sound

Parameters:

destroyAudioSource	Destroy also audioSource (default:false)

```
if (GUILayout.Button("Clear"))
   midiStreamPlayer.MPTK_ClearAllSound(true);
```

void MidiPlayerTK.MidiPlayer.MPTK_InitSynth (int *channelCount* = 16) [inherited]

Init the synthetizer. Prefabs automatically initialize the synthetizer (see events). It's not usefull to call this method.

Parameters:

channelCount	Number of channel to create

virtual void MidiPlayerTK.MidiStreamPlayer.MPTK_PlayEvent (MPTKEvent *note*) [virtual]

Play one midi event with a thread so the call return immediately.

```
                midiStreamPlayer.MPTK_PlayEvent
                (
                    new MPTKEvent()
```

```
                    {
                        Channel = 9,
                        Duration = 0.2f,
                        Value = 60,
                        Velocity = 100
                    }
                );
```

virtual void MidiPlayerTK.MidiStreamPlayer.MPTK_PlayEvent (List< MPTKEvent > *notes*) `[virtual]`

Play a list of midi events with a thread so the call return immediately.

```
        void Update()
        {
            // Checj that SoundFont is loaded and add a little wait (0.5 s by
default) because Unity AudioSource need some time to be started
            if (!MidiPlayerGlobal.MPTK IsReady())
                return;

            if (midiStreamPlayer != null && IsplayingLoop)
            {
                float time = Time.realtimeSinceStartup - LastTimeChange;
                if (time > DelayTimeChange)
                {
                    // It's time to generate a note
                    LastTimeChange = Time.realtimeSinceStartup;

                    if (RandomPlay)
                    {
                        //
                        // First method to play notes: send a list of notes
directly to the MidiStreamPlayer
                        // Useful for a long list of notes when the duration of
the note is lnown.
                        //
                        List<MPTKEvent> notes = new List<MPTKEvent>();
                        // Very light random notes generator
                        if (!DrumKit)
                        {
                            // Play 3 notes with no delay
                            int rnd = UnityEngine.Random.Range(-8, 8);
                            notes.Add(CreateNote(60 + rnd, 0));
                            notes.Add(CreateNote(64 + rnd, 0));
                            notes.Add(CreateNote(67 + rnd, 0));
                        }
                        else
                        {
                            // Play 3 hit with a short delay
                            notes.Add(CreateDrum(UnityEngine.Random.Range(0, 127),
0));
                            notes.Add(CreateDrum(UnityEngine.Random.Range(0, 127),
150));
                            notes.Add(CreateDrum(UnityEngine.Random.Range(0, 127),
300));
                        }
                        // Send the note to the player. Notes are plays in a
thread, so call returns immediately
                        midiStreamPlayer.MPTK_PlayEvent(notes);
                    }
                    else
                    {
                        //
                        // Second method to play and stop a notes: the duration is
not known
                        // Here, a new note stop the previous
                        //
                        if (++CurrentNote > EndNote) CurrentNote = StartNote;
                        if (CurrentNote < StartNote) CurrentNote = StartNote;
                        PlayOneNote();
                    }
```

```
                }
            }
        }
```

virtual void MidiPlayerTK.MidiStreamPlayer.MPTK_StopEvent (MPTKEvent *pnote*) [virtual]

Stop playing the note. All waves associated to the note are stop by sending a noteoff.

Parameters:

pnote	

Field Documentation

bool MidiPlayerTK.MidiSynth.MPTK_EnablePanChange [inherited]

Should change pan from Midi Events or from SoundFont ?

bool MidiPlayerTK.MidiSynth.MPTK_PauseOnDistance [inherited]

Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance

float MidiPlayerTK.MidiSynth.MPTK_ReleaseTimeMin = 50f [inherited]

Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

bool MidiPlayerTK.MidiSynth.MPTK_WeakDevice [inherited]

Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthAwake [inherited]

Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventSynthAwake.HasEvent())
   midiStreamPlayer.OnEventSynthAwake.AddListener(StartLoadingSynth);
...
public void StartLoadingSynth(string name)
```

```
{
    Debug.LogFormat("Synth {0} loading", name);
}
```

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthStarted [inherited]

Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventStartSynth.HasEvent())
   midiStreamPlayer.OnEventStartSynth.AddListener(EndLoadingSynth);
...
public void EndLoadingSynth(string name)
{
   Debug.LogFormat("Synth {0} loaded", name);
   midiStreamPlayer.MPTK_PlayEvent(
      new MPTKEvent() { Command = MPTKCommand.PatchChange, Value =
CurrentPatchInstrument, Channel = StreamChannel});
}
```

Property Documentation

virtual bool MidiPlayerTK.MidiPlayer.MPTK_EnablePresetDrum [get], [set], [inherited]

Should accept change Preset for Drum canal 10 ? Disabled by default. Could sometimes create bad sound with midi files not really compliant with the Midi norm.

virtual float MidiPlayerTK.MidiSynth.MPTK_MaxDistance [get], [set], [inherited]

MaxDistance to use for PauseOnDistance

virtual int MidiPlayerTK.MidiSynth.MPTK_Transpose [get], [set], [inherited]

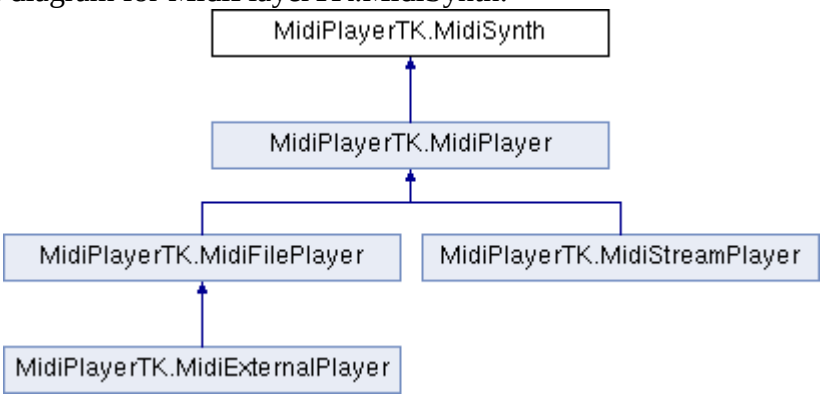
Transpose note from -24 to 24

virtual float MidiPlayerTK.MidiSynth.MPTK_Volume [get], [set], [inherited]

Volume of midi playing. Must be >=0 and <= 1

MidiPlayerTK.MidiSynth

Inheritance diagram for MidiPlayerTK.MidiSynth:



Data Fields

- EventSynthClass OnEventSynthAwake
  Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.
- EventSynthClass OnEventSynthStarted
  Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.
- bool MPTK_PauseOnDistance
  Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance
- bool MPTK_EnablePanChange
  Should change pan from Midi Events or from SoundFont ?
- bool MPTK_WeakDevice
  Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.
- float MPTK_ReleaseTimeMin = 50f
  Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

Properties

- virtual float MPTK_MaxDistance `[get, set]`
  MaxDistance to use for PauseOnDistance
- virtual float MPTK_Volume `[get, set]`
  Volume of midi playing. Must be >=0 and <= 1
- virtual int MPTK_Transpose `[get, set]`
  Transpose note from -24 to 24

Detailed Description

Base class for Midi Synthesizer. Migrated from fluidsynth. It's not recommended to instanciate this class. Instead use MidiFilePlayer or MidiStreamPlayer.

Field Documentation

bool MidiPlayerTK.MidiSynth.MPTK_EnablePanChange

Should change pan from Midi Events or from SoundFont ?

bool MidiPlayerTK.MidiSynth.MPTK_PauseOnDistance

Should the Midi playing must be paused if distance between AudioListener and MidiFilePlayer is greater than MaxDistance

float MidiPlayerTK.MidiSynth.MPTK_ReleaseTimeMin = 50f

Define a minimum release time at noteoff in milliseconds. Default 50 ms is a good tradeoff. Below some unpleasant sound coule be heard.

bool MidiPlayerTK.MidiSynth.MPTK_WeakDevice

Should play on a weak device (cheaper smartphone) ? Playing Midi files with WeakDevice activated could cause some bad interpretation of Midi Event, consequently bad sound.

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthAwake

Unity event fired at awake of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventSynthAwake.HasEvent())
   midiStreamPlayer.OnEventSynthAwake.AddListener(StartLoadingSynth);
...
public void StartLoadingSynth(string name)
{
    Debug.LogFormat("Synth {0} loading", name);
}
```

EventSynthClass MidiPlayerTK.MidiSynth.OnEventSynthStarted

Unity event fired at start of the synthesizer. Name of the gameobject component is passed as a parameter.

```
...
if (!midiStreamPlayer.OnEventStartSynth.HasEvent())
   midiStreamPlayer.OnEventStartSynth.AddListener(EndLoadingSynth);
...
public void EndLoadingSynth(string name)
{
   Debug.LogFormat("Synth {0} loaded", name);
   midiStreamPlayer.MPTK_PlayEvent(
```

```
      new MPTKEvent() { Command = MPTKCommand.PatchChange, Value =
CurrentPatchInstrument, Channel = StreamChannel});
}
```

Property Documentation

virtual float MidiPlayerTK.MidiSynth.MPTK_MaxDistance [get], [set]

MaxDistance to use for PauseOnDistance

virtual int MidiPlayerTK.MidiSynth.MPTK_Transpose [get], [set]

Transpose note from -24 to 24

virtual float MidiPlayerTK.MidiSynth.MPTK_Volume [get], [set]

Volume of midi playing. Must be >=0 and <= 1

MidiPlayerTK.MidiListPlayer.MPTK_MidiPlayItem

Define a midi to be added in the list

Data Fields

- string MidiName
  Midi Name. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.
- bool Selected
  Select or unselect this Midi in the Inspector to apply actions (reorder, delete, ...)
- int Index
  Position of the Midi in the list. Use method MPTK_ReIndexMidi() recalculate the index.

Detailed Description

Define a midi to be added in the list

Field Documentation

int MidiPlayerTK.MidiListPlayer.MPTK_MidiPlayItem.Index

Position of the Midi in the list. Use method MPTK_ReIndexMidi() recalculate the index.

string MidiPlayerTK.MidiListPlayer.MPTK_MidiPlayItem.MidiName

Midi Name. Use the exact name defined in Unity resources folder MidiDB without any path or extension. Tips: Add Midi files to your project with the Unity menu MPTK or add it directly in the ressource folder and open Midi File Setup to automatically integrate Midi in MPTK.

bool MidiPlayerTK.MidiListPlayer.MPTK_MidiPlayItem.Selected

Select or unselect this Midi in the Inspector to apply actions (reorder, delete, ...)

MidiPlayerTK.MPTKEvent

Midi Event class for MPTK. Usage to generate Midi Music with MidiStreamPlayer or to read midi events from a Midi file with MidiLoad or to recevice midi events from MidiFilePlayer OnEventNotesMidi.

Public Types

- enum EnumLength

Note length as https://en.wikipedia.org/wiki/Note_value Public Member Functions

- void Play (MidiStreamPlayer streamPlayer)
  Play a note which is stoppable. DEPRECATED in V2. Replaced by MPTK_PlayEvent in MidiStreamPlayer.
- void Stop ()
  Stop the note. DEPRECATED in V2. Replaced by MPTK_StopEvent in MidiStreamPlayer.

Data Fields

- long Tick
  Time in Midi Tick (part of a Beat) of the Event since the start of playing the midi file. This time is independant of the Tempo or Speed. Not used for MidiStreamPlayer.
- MPTKCommand Command
  Midi Command code. Defined the type of message (Note On, Control Change, Patch Change...)
- MPTKController Controller
  Controller code. When the Command is ControlChange, contains the code fo the controller to change (Modulation, Pan, Bank Select ...). Value will contains the value of the controller.
- MPTKMeta Meta

MetaEvent Code. When the Command is MetaEvent, contains the code of the meta event (Lyric, TimeSignature, ...). . Info will contains the value of the meta.

- string Info
  Information hold by textual meta event when Command=MetaEvent
- int Value
  Contains a value between 0 and 127 in relation with the Command. For:
- int Channel
  Midi channel fom 0 to 15 (9 for drum)
- int Velocity
  Velocity between 0 and 127
- double Duration
  Duration of the note in millisecond
- int Length
  Duration of the note in Midi Tick. MidiFilePlayer.MPTK_NoteLength can be used to convert this duration. Not used for MidiStreamPlayer. https://en.wikipedia.org/wiki/Note_value
- List< fluid_voice > Voices
  List of voices associated to this Event for playing a NoteOn event.

Detailed Description

Midi Event class for MPTK. Usage to generate Midi Music with MidiStreamPlayer or to read midi events from a Midi file with MidiLoad or to recevice midi events from MidiFilePlayer OnEventNotesMidi.

Member Enumeration Documentation

enum MidiPlayerTK.MPTKEvent.EnumLength [strong]

Note length as https://en.wikipedia.org/wiki/Note_value

Member Function Documentation

void MidiPlayerTK.MPTKEvent.Play (MidiStreamPlayer *streamPlayer*)

Play a note which is stoppable. DEPRECATED in V2. Replaced by MPTK_PlayEvent in MidiStreamPlayer.

Parameters:

streamPlayer	A MidiStreamPlayer component

void MidiPlayerTK.MPTKEvent.Stop ()

Stop the note. DEPRECATED in V2. Replaced by MPTK_StopEvent in MidiStreamPlayer.

Field Documentation

int MidiPlayerTK.MPTKEvent.Channel

Midi channel fom 0 to 15 (9 for drum)

MPTKCommand MidiPlayerTK.MPTKEvent.Command

Midi Command code. Defined the type of message (Note On, Control Change, Patch Change...)

MPTKController MidiPlayerTK.MPTKEvent.Controller

Controller code. When the Command is ControlChange, contains the code fo the controller to change (Modulation, Pan, Bank Select ...). Value will contains the value of the controller.

double MidiPlayerTK.MPTKEvent.Duration

Duration of the note in millisecond

string MidiPlayerTK.MPTKEvent.Info

Information hold by textual meta event when Command=MetaEvent

int MidiPlayerTK.MPTKEvent.Length

Duration of the note in Midi Tick. MidiFilePlayer.MPTK_NoteLength can be used to convert this duration. Not used for MidiStreamPlayer. https://en.wikipedia.org/wiki/Note_value

MPTKMeta MidiPlayerTK.MPTKEvent.Meta

MetaEvent Code. When the Command is MetaEvent, contains the code of the meta event (Lyric, TimeSignature, ...). . Info will contains the value of the meta.

long MidiPlayerTK.MPTKEvent.Tick

Time in Midi Tick (part of a Beat) of the Event since the start of playing the midi file. This time is independant of the Tempo or Speed. Not used for MidiStreamPlayer.

int MidiPlayerTK.MPTKEvent.Value

Contains a value between 0 and 127 in relation with the Command. For:

- `Command` = NoteOn then Value contains midi note
- `Command` = ControlChange then Value contains controller value
- `Command` = PatchChange then Value contains patch value

int MidiPlayerTK.MPTKEvent.Velocity

Velocity between 0 and 127

List<fluid_voice> MidiPlayerTK.MPTKEvent.Voices

List of voices associated to this Event for playing a NoteOn event.

MidiPlayerTK.MPTKListItem

A list of string with index: midi, preset, bank, drum, ...

Data Fields

- int Index
  Index in the list:
- string Label
  Label

Detailed Description

A list of string with index: midi, preset, bank, drum, ...

Field Documentation

int MidiPlayerTK.MPTKListItem.Index

Index in the list:

- `patch` num if patch list,
- `bank` number if bank list,
- `index` in list for midi.

string MidiPlayerTK.MPTKListItem.Label

Label

MidiPlayerTK.TrackMidiEvent

Midi event list (NAUdio format)

Detailed Description

Midi event list (NAUdio format)

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