

## README

MidiHero version 4.0 (Mac OS X and Windows)

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### Installation

There is no installation necessary for MidiHero4.0. MidiHero4.0.jar is ready to execute (assuming the midihero folder was properly decompressed).

### Launching

If your system has the correct settings for the .jar extension, simply double click MidiHero4.0.jar. Otherwise, type:

```
java -jar MidiHero4.0
```

from the command line in the directory that contains MidiHero4.0.jar.

### Gameplay

MidiHero4.0 uses a basic learning algorithm to produce music. Given a set of frames or riffs, MidiHero forms random initial associations between them then tracks user choices to change transitions to match the player's taste. If you play for a while, you will notice that it starts to sound better (assuming you're making good choices). The accompaniment, although dynamic, provides no interface to change it during the game. The relationship between the player and the accompaniment will be more defined in the next version.

### MIDI input

All connected MIDI devices are automatically detected and connected. Play notes in time with the music. If there are multiple colors of notes in a measure, choose one color and play only those notes. Overlap of paths is represented with Cyan (the combination of the two colors) colored notes.

### Automatic path selection

Press A to enable automatic path selection then:

Press 1 to always select blue

Press 2 to always select green (unless only blue is available)

Press 3-9 to always select randomly

Pressing A again disables automatic path selection with a delay.

### Flawed-automatic path selection

Press N to toggle noise mode which causes the automatic player to make some mistakes.

### Session Navigation

Left-Key: Exit (pop) the current session (note: exiting the main menu quits the program)

Up-Key: Move menu selection up  
Down-Key: Move menu selection down  
Right-Key: Select high-lighted menu option

### Main Menu

The main menu offers three options: choose accompaniment (then song), create song from .riffs file, create MIDI accompaniment from .jfugue file.

### Choosing the accompaniment and song

The accompaniment menu shows the list of MIDI files in the midihero directory. Using the directional arrows, select the MIDI file that you would like to have play as the accompaniment. Once a selection is made, a new menu with a list of songs (.container files) will appear. After you choose the song you would like to play, the song will begin.

### Playing a song

Play the song as directed earlier in this document. Above the staff, you will see your current score followed by your current streak. You receive more points for hitting a note more accurately and for having a long streak. The song will end automatically after about 3 minutes (64 measures). A result menu will appear that asks you whether you would like to save changes to the song (remember it learns, so even if it isn't a highscore, you might want to save). After the result menu, you will return to the song menu. Use the left arrow to get to previous menus.

### Creating a song from a .riffs file

To create a song from a .riffs file simply select the file and a song (.container) file will be added to the "container" directory with the same base name, overwriting the current file if necessary. Riffs files are simply line delimited lists of Jfugue music strings, which should be at most one measure long (in 4/4 time).

### Creating accompaniment MIDI sequences from a .jfugue file

To create a MIDI sequence from a .jfugue menu simply select the file and a MIDI file of the same basename will be placed in the midi directory, overwriting any existing file. See the Jfugue documentation for instructions on writing MIDI sequences using Jfugue music strings.

### Bugs

There is a bug that has to do with the MIDI system use which causes the game to have a sound lag. This will happen immediately on start up and continue. If this happens, just restart for now.

There is also a bug that causes the automated player to miss occasionally.