Improvise 1.1
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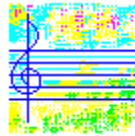
Contents

Overview

Improvise 1.1 is a program that composes algorithmic MIDI music in real time, on up to sixteen channels at once. You can control parameters governing pitch, rhythm, tempo, texture, etc. as the music plays, immediately hearing the effect of all changes -- or simply let the program produce endlessly new music, without requiring any real time interaction on your part. You can save groups of settings and parameters, optionally including a map of MIDI programs and/or a 'mix' of MIDI volume information, allowing you to preserve your algorithmic compositions either for later reproduction, or as the basis for future musical explorations. You can also save MIDI program maps and 'mixes' independently of settings and parameters.

Improvise 1.1 can be used in many ways -- for example, to produce background music on the desktop, to compose, to 'play' a virtual algorithmic instrument, and to produce MIDI output for the use of other programs. Experiment and enjoy -- soon you will be on your way to producing a wonderful variety of original music!

Installation

To install Improvise 1.1, simply copy all of the provided files into a new directory. You can add an Improvise icon in Program Manager by selecting 'File | New...', clicking on 'Program Item', then 'OK', and finally providing the path where you have installed the IMPROVIS.EXE file.

You may move the included *.IMP, *.PGS and *.MIX files to another directory if you wish. The simplest solution is to keep all provided program files in a single directory (e.g. C:\IMPROVIS), and to create subdirectories as needed for the new files that you create.

Improvise 1.1 will identify all available MIDI devices (i.e. those with installed Windows drivers), and use the Microsoft MIDI Mapper by default. You may select a different device in the 'MIDI | Devices' submenu if you wish.

New Features

New features added since version 1.0 include:

•Full context-sensitive F1 help. Press the F1 key at any time to get context-sensitive help on any menu item, dialog control, message box, etc.

•Improved user interface, including extended button bar, 'touch-screen' access to most-used program functions via 'Current Selections' display, and expanded status line help.

•Mixer dialog. Lets you adjust overall volume level and individual channel volume levels,
creating a mix that can be preserved and reused.

•Expanded options menu. Supports new file types, saving user preferences, etc.

•General MIDI example files. Now included with this program are *.IMP and *.PGS example files supporting general MIDI patch assignments.

•Device compatibility mode. Supports low-end internal synthesizers.

Improvise 1.1 can read files created by Improvise 1.0; no conversion is required.

If you set the mix to full volume (e.g. by loading FULL.MIX), the old files will play identically under Improvise 1.1 as under Improvise 1.0.

What Kinds of Music Can I Make?

Improvise 1.1 can produce a surprising variety of music. The basic possibilities are determined in part by the choice of algorithm to be used (selected in the 'Style' menu) -- one of

Jazz (MM Timer)
Experimental (MM Timer)
Experimental (System Timer).

The last two of these are different implementations of the same algorithm and produce the same music, although one uses the preemptive Multimedia timer, the other the cooperative System timer. The 'Jazz' algorithm is only available using the Multimedia timer.

The 'Jazz' algorithm uses diatonic harmonies up to and including eleventh chords, meters having from two to seven quarter-note beats per measure, note values from half notes to triplet thirty-second notes, and modulation through all major keys (and the associated transpositions of the dorian, phrygian, lydian, mixolydian, aeolian and locrian modes). The music produced on any given MIDI channel may derive its pitches either as components of the current harmony or as melodic material, depending on the settings of the various parameters for that channel. Melodic material is based on diatonic scales (ionian, dorian, phrygian, lydian, mixolydian, aeolian and locrian), and developed according to weighted rules that express preferences favoring continuity, flexibility and coherence. Knowledge of the current harmony is maintained by all MIDI channels, but the rhythmic anticipation of a chord change or modulation is permitted.

The 'Experimental' algorithms, on the other hand, embody no traditional notion of key or meter, but instead use atonal harmony, aleatory chromaticism and unmetered rhythm. This algorithm treats all pitches as fundamentally functionally equivalent. Conventional harmonies and pitch successions are neither preferred nor avoided, but unusual combinations will tend to predominate. Rhythm is handled simply on the basis of the relative likelihood of the occurrence of any musical event (a note, a chord or a rest) at any given time, without establishing any kind of proportional system of rhythmic values. This makes possible effects of extreme rhythmic freedom, suggesting (for example) a flexible tempo -- depending, of course, on the particular parameters selected.

Both the 'Jazz' and 'Experimental' algorithms can be used to produce a variety of music, based on the choice of MIDI programs, the number of MIDI channels active, and the various settings and parameters selected. For example, the 'Jazz' algorithm is not limited to producing jazz-like textures (whether solo piano, small ensemble or large band), but can be used for such things as chorale harmony, polyrhythmic percussion, neoclassical tonality -- nearly any style of music that can be conceived in terms of metrical rhythmic material and/or diatonic pitch material. The 'Experimental' algorithm

can be used to produce music ranging from ersatz Schoenberg to phony Feldman to almost any atmospheric, intense, 'free jazz' or experimental music that you can imagine.

Included Files

The following files should be included in this distribution:

•IMPROVIS.EXE	--	the main executable file
•IMPMIDI.DLL	--	implements much of the program's functionality
•IMPSPIN.DLL	--	custom spin control
•BWCC.DLL	--	other custom controls
•IMPROVIS.HLP	--	Windows help file for Improvise 1.1
•README.WRI	--	this file
•GENMIDI.TXT	--	guide to General MIDI patch and key assignments

Plus the following example files:

•CHORALE1.IMP	--	settings file; simple chorale-texture example
•GENDFLT.IMP	--	settings file with default parameters; includes General MIDI
		program changes
•GENDFLT.PGS	--	programs file; the same program changes as in GENDFLT.IMP
•GENDRUMS.IMP	--	settings file; General MIDI percussion jam (try toggling various channels on and off)
•GENGROOV.IMP	--	settings file; General MIDI groove
•GENJIMBO.IMP	--	settings file; General MIDI (contributed by James P. Walsh)
•GENJZ01.IMP	--	settings file; General MIDI jazz (Rhodes, bass and brass)
•GENJZ02.IMP	--	settings file; General MIDI jazz (piano and bass)
•PRT2DFLT.IMP	--	settings file with default parameters; includes Proteus/2 program changes
•PRT2DFLT.PGS	--	programs file; the same program changes as in PRT2DFLT.IMP
•PRT2JZ01.IMP	--	settings file; Proteus/2 jazz
•PRT2JZ02.IMP	--	settings file; Proteus/2 jazz
•U220JZ01.IMP	--	settings file; U-220 jazz
•U220JZ01.PGS	--	programs file; the same program changes as in U220JZ01.IMP
•FULL.MIX	--	mix file; sets mix to full volume

Filenames having the form "GEN*.IMP" or "GEN*.PGS" indicate example files intended for use with General MIDI patch assignments. Files named "PRT2*.IMP" and

"PRT2*.PGS" are example files for the E-mu Proteus/2. Files named "U220*.IMP" and "U220*.PGS" are example files for the Roland U-220.

Device Compatibility Issues

Not all MIDI devices offer equivalent features. For example, some synthesizers do not respond on all sixteen channels, or use certain channels for specialized functions only (e.g. for drums or for configuration change messages). Even General MIDI synthesizers may differ in some of these respects, so your mileage may vary with some of the provided example files. See your synthesizer documentation for more information on which MIDI channels are supported by your hardware.

Another important compatibility issue is that different synthesizers may interpret the same program change message in completely different ways. For example, while most synthesizers will provide an acoustic piano sound in response to program change 0, the
E-mu Proteus/2 (which lacks an acoustic piano sound) responds with a solo cello. The General MIDI specification offers a partial solution: one can configure most synthesizers to respond in a standard way to program change messages. The Microsoft MIDI Mapper, included with Windows 3.1, can be particularly useful in this regard. See the included file "GENMIDI.TXT" for more information.

Improvise 1.1 is not limited to any particular patch configuration, keyboard mapping, or other set of device dependencies. These compatibility issues mainly apply to the use of the included example files, since in creating your own algorithmic compositions you can tell Improvise to use whichever MIDI channels and MIDI programs you want. The quality of any particular sound, of course, is entirely dependent on your equipment.

However, two remaining issues apply in the case of some low-end devices, since in some cases certain MIDI messages may not be supported at all:

• If your synthesizer ignores MIDI volume change messages, neither the Mixer dialog nor loading a mix from file will have any effect.

•If your synthesizer ignores 'All notes off' messages, you will need to select the 'Device compatibility mode' feature in the 'Options' menu. This will cause a brute force method to be used to turn notes off when stopping play.

Experimentation will quickly reveal whether your synthesizer ignores these messages.

Finally, note that the Microsoft MIDI Mapper can be used to overcome some of the inherent limitations found in many popular MIDI devices, for example by mapping several MIDI channels to a single 'real' output channel on your synthesizer. Such creative use of the MIDI Mapper can extend the functionality of Improvise 1.1 when used with less capable synthesis hardware.

Learning to Use Improvise 1.1

Improvise 1.1 produces algorithmic music in real time, sending its output directly to the selected MIDI device. If you have not already done so, press the 'Play' button to be sure that your system is set up and responding. (See "Installation", above, if you are having difficulties.) Assuming that Improvise 1.1 is installed and properly communicating with your MIDI equipment, next try loading one of the provided settings files (filenames of the form "*.IMP") by choosing 'File | Open...' from the Improvise 1.1 menu. Press the 'Play' button again, then bring up the 'Set Parameters' dialog for an active channel by clicking on the channel number in the 'Current Selections' display. You should be able to alter the parameters affecting that channel and hear the immediate effect on the music produced. Varying the texture, rhythm and pitch parameters will have an especially noticeable effect.

Try changing the MIDI programs used on various channels -- clicking on the program number in the 'Current Selections' display will bring up the 'Program Change' dialog, ready for your input. Also try toggling different channels on and off (just click on the 'No' or 'Yes' for that channel in the 'Current Selections' display) to hear the effect on the music produced. By inspecting the settings used for the different channels in the included example files, you should quickly get an idea of how to achieve a variety of musical effects.

Improvise 1.1 includes a remarkably complete help system. Status line help provides a short explanation of every program function, and keeps you informed as to what the program is doing during longer operations. Better still, context-sensitive help is always available by pressing the F1 key, whether while browsing the menus, pressing a button, viewing a message box or interacting with a dialog. Special help topics are included to assist you in getting quickly up to speed with Improvise 1.1. The hyperlinks connecting help topics, together with the extensive search capabilities and cross-indexing built into the Improvise 1.1 help system, make it easy to navigate from topic to topic to find the information that you need. Be sure to spend some time exploring the help system, perhaps beginning with the 'Getting Started' topic, then proceeding to the top-level topics referenced on the 'Contents' page -- soon you will have acquired a thorough understanding of how to use the many features available in this program.

One short tutorial exercise might be useful before striking out on your own. Begin by **unselecting** 'Hold channel parameters' in the 'Options' menu, then load "GENDFLT.IMP" (or another "*DFLT.IMP" file if more appropriate on your system). Now all channels share the same parameters, as shown by the button that looks like a trident, next-to-last on the button bar. Click that button, and you will be able to adjust the parameters for each channel individually; the button changes shape to show that individual channel parameters are now in effect. Next, with the music playing so that you can hear the effect of your changes as you make them, use the 'Set Parameters' dialog to individually adjust parameters for each channel. (You may want to try this at first with

just one channel active at a time.) Experiment by sending program changes, altering the 'mix', sending a random seed, etc., and you've created your own algorithmic composition!

Registration

Improvise 1.1 is being distributed as shareware; it is **not** free. 'Shareware' means that you are encouraged to redistribute this version of the program, with all its included files (including this one), but that if you find the program enjoyable and useful, you are expected to register it. In return you will receive an enhanced version of this program on diskette, **free** future upgrades, and **free** technical support from the author. If you continue to use this program beyond a reasonable evaluation period, you **must** register it.

Register Improvise 1.1 by sending a check or money order for $25 U.S. funds to:

> David Pannett
> 9 Lovewell Rd.
> Wellesley, MA 02181   USA

Please indicate whether you prefer 3.5" or 5.25" floppy disks.

Note that some future enhancements to this program will **only** be made available to registered users, and that the shareware version of this program is provided for evaluation use only. You **may not** use this program for any commercial purpose whatsoever without first registering it. By registering this program you make it possible for me to continue to add new features (e.g. more algorithms, user-definable algorithms, direct recording of MIDI files, etc.); you help to support the shareware concept, which makes it possible for you to own top-quality software at bargain prices; and best of all, you get a great feeling from doing the right thing.

Please direct any comments, questions or suggestions to any of the following electronic addresses:

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Many thanks for any and all comments.

> David Pannett
> 10/23/93