OM-DYCI2 quick start guide to the Release version

December 2021

Introduction

OM-DYCI2 is a framework for interactive generation of musical sequences combining generative agents and computer-assisted composition tools. It enables guiding corpus-based generative processes through explicit specifications of temporal structures, or using another layer of generative models trained on a corpus of structures. OM-DYCI2 is the compositional declination of the Max DYCI2 library dedicated to interaction (https://github.com/DYCI2/Dyci2Lib) developed in the OM# (https://github.com/cac-t-u-s/om-sharp) and OpenMusic (http://repmus.ircam.fr/openmusic/) visual programming and computer-aided composition environments.

If using the library, please quote:
Nika, Jérôme, and Jean Bresson. "Composing Structured Music Generation Processes with Creative Agents." 2nd Joint Conference on AI Music Creativity (AIMC 2021). 2021. (https://aimc2021.iem.at/wp-content/uploads/2021/06/AIMC_2021_Nika_Bresson.pdf).
The appendix of this article refers to multimedia resources extracted from recent creations using OM-DYCI2 (Pascal Dusapin, Steve Lehman, Rémi Fox, Le Fresnoy - Studio National des Arts Contemporains, etc.). Moreover, it is a good introduction to the use of the library since it details all the playing modes implemented in the tutorials.

This guide addresses the release version of om-dyci2 ready to be included in your OM# or OM 6.13/6.14 libraries folder (the corresponding development repository is available here: https://github.com/DYCI2/om-dyci2). To be able to use all the features, we recommend for the moment to use OM# (other features will be ported to OM in a future release).
The *om-dyci2/om-dyci2/patches* directory includes basic example patches for OM# and OM6, and new advanced examples for OM# only (Tutorials 1 to 3) requiring the OM-SuperVP library (https://forum.ircam.fr/projects/detail/om-supervp/) as detailed below.

OM-DYCI2 takes audio files with annotations (time markers and labels) as input. The library does not yet provide definitive tools for the segmentation and analysis of corpora, which must therefore be carried out by the user in the environment of his/her choice and have the format corresponding to the example annotation files that can be found in Tutorials 1 and 2. On the other hand, OM-DYCI2 proposes manual segmentation interfaces (Tutorial 0), and a first draft (work in progress) of segmentation patches and automatic pitch and energy analysis (Tutorial 3).

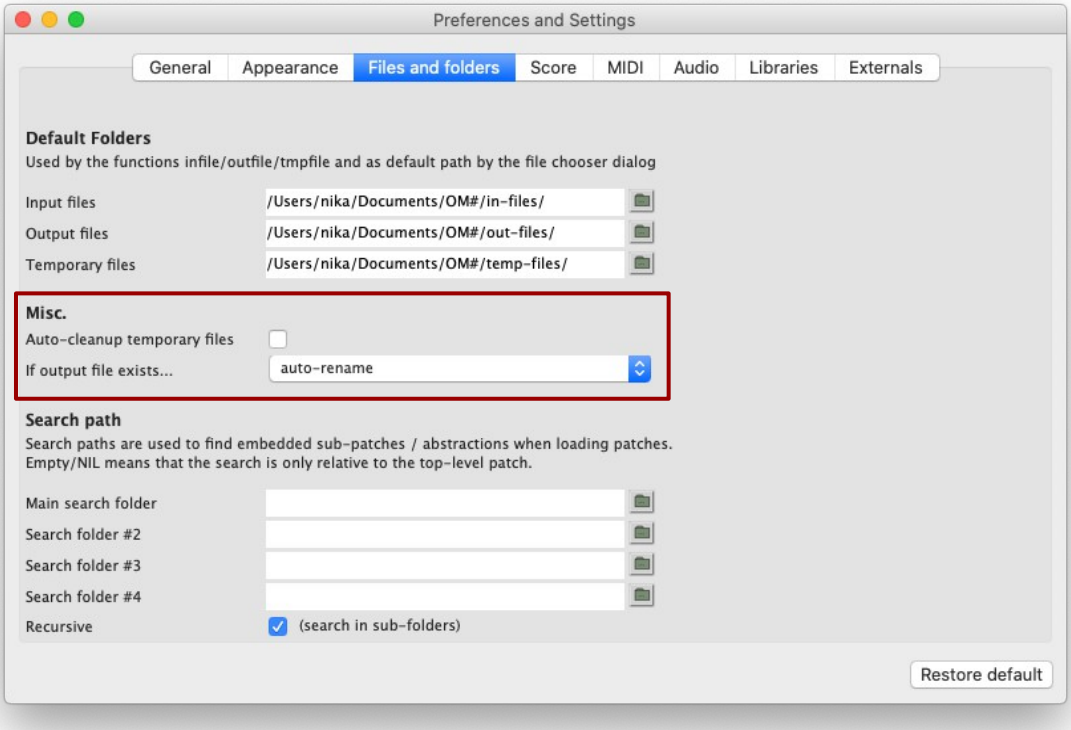
Python 3 settings

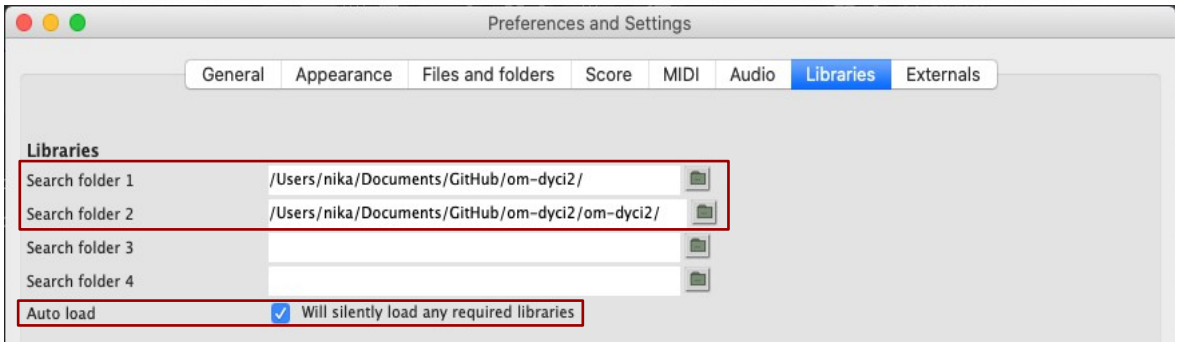
The release version of om-dyci2 provides all the required binaries, so there is no need to compile anything,but the dependencies of the Python DYCI2 Library must be installed. OM-DYCI2 will instantiate a virtual Python interpreter and run the generative processes in it, so the last version of Python 3 and the Python dependencies of DYCI2 library (https://forge.ircam.fr/p/DYCI2_library/downloads/) must be installed on your computer :

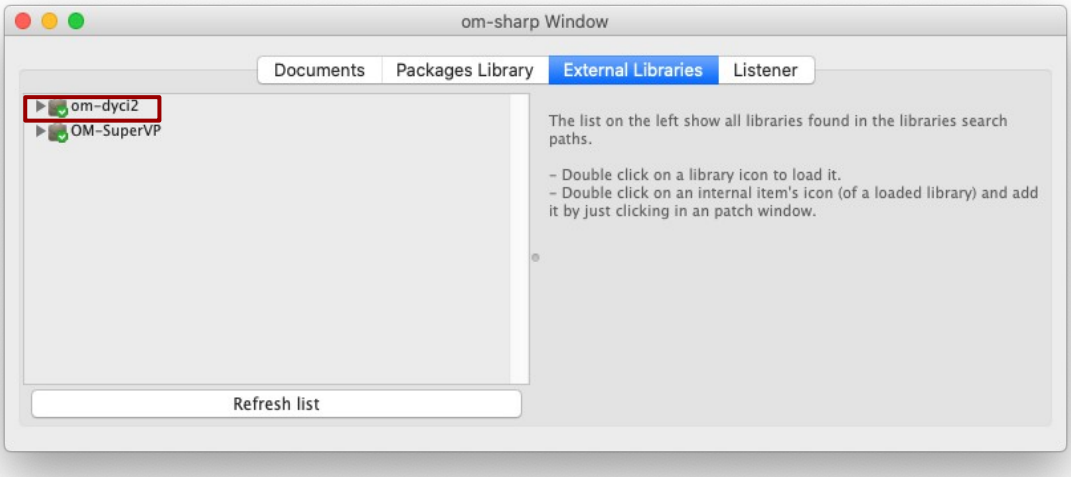
1. Download and install the last version of Python 3 (https://www.python.org/downloads)
2. Use your terminal to install the dependencies :
   $ cd [path to the om-dyci2 directory containing “python-requirements.txt”]
   $ pip install -r python-requirements.txt

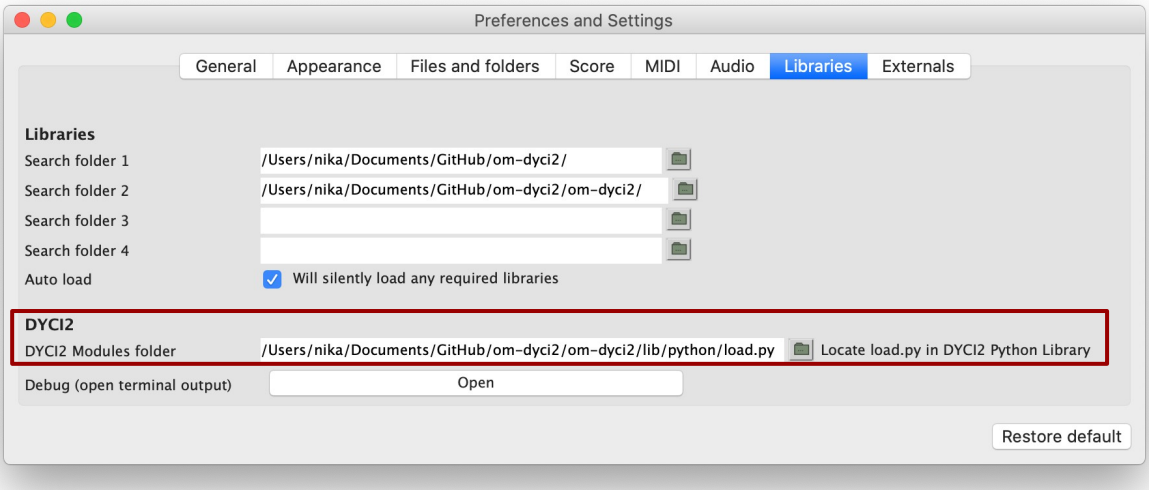
(If _pip_ is not installed: `sudo easy-install pip`.)

OM# settings

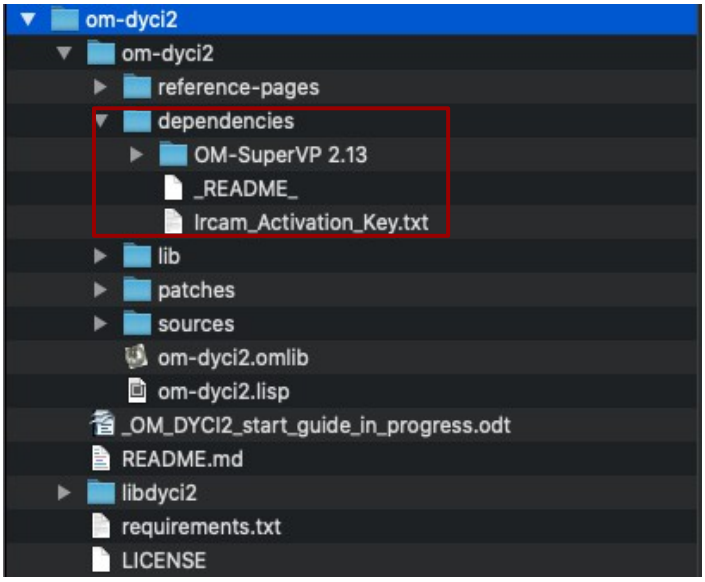

Preferences and Settings
General
Appearance
Files and folders
Score
MIDI
Audio
Libraries
Externals
Default Folders
Used by the functions infile/outfile/tmpfile and as default path by the file chooser dialog
Input files
/Users/nika/Documents/OM#/in-files/
Output files
/Users/nika/Documents/OM#/out-files/
Temporary files
/Users/nika/Documents/OM#/temp-files/
Misc.
Auto-cleanup temporary files
If output file exists...
auto-rename
Search path
Search paths are used to find embedded sub-patches / abstractions when loading patches.
Empty/NIL means that the search is only relative to the top-level patch.
Main search folder
Search folder #2
Search folder #3
Search folder #4
Recursive
(search in sub-folders)
Restore default

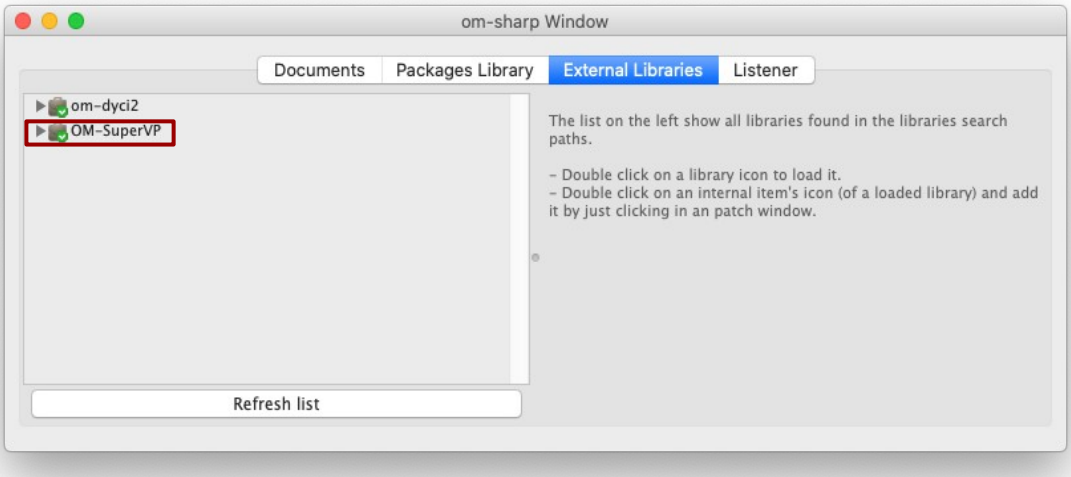

Preferences and Settings
General
Appearance
Files and folders
Score
MIDI
Audio
Libraries
Externals
Libraries
Search folder 1
/Users/nika/Documents/GitHub/om-dyci2/
Search folder 2
/Users/nika/Documents/GitHub/om-dyci2/om-dyci2/
Search folder 3
Search folder 4
Auto load
Will silently load any required libraries

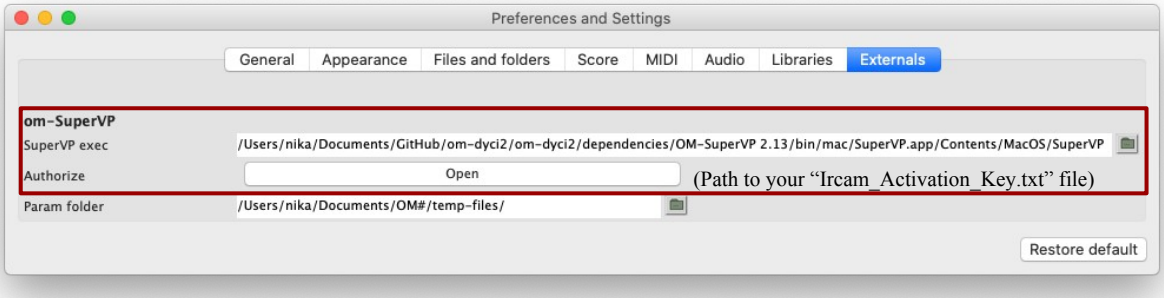

om-sharp Window
Documents
Packages Library
External Libraries
Listener
om-dyci2
OM-SuperVP
The list on the left show all libraries found in the libraries search paths.
- Double click on a library icon to load it.
- Double click on an internal item's icon (of a loaded library) and add it by just clicking in an patch window.
Refresh list


Preferences and Settings
General
Appearance
Files and folders
Score
MIDI
Audio
Libraries
Externals
Libraries
Search folder 1
/Users/nika/Documents/GitHub/om-dyci2/
Search folder 2
/Users/nika/Documents/GitHub/om-dyci2/om-dyci2/
Search folder 3
Search folder 4
Auto load
Will silently load any required libraries
DYCI2
DYCI2 Modules folder
/Users/nika/Documents/GitHub/om-dyci2/om-dyci2/lib/python/load.py
Locate load.py in DYCI2 Python Library
Debug (open terminal output)
Open
Restore default

Using the SuperVP external for Tutorials 1 to 3







The tutorials in the directories *2-advanced-tutorials-synchronyzing* and *3-tutorials-audio-analysis* require the OM-SuperVP library.

1) Get it from https://forum.ircam.fr/projects/detail/om-supervp/.

2) Move the superVP lib for instance in *om-dyci2/dependencies/* and make sure that the path to this directory is in the search path.

3) This release includes SuperVP executables for macOS, Windows, Linux. These programs are protected and require an authorization through Ircam forum subscription.
See: https://www.ircam.fr/product/abonnement-premium-individuel-annuel/ [1]

4) Then in OM#:
- windows/session window/external libraries then double click on om-supervp to load it
- preferences/libraries, in om-SuperVP :
    - SuperVP exec --> path to supervp exec (for instance dependencies/om-supervp/resources/bin/mac/SuperVP/SuperVP.app/Contents/MacOS/supervp-2.103.2)
    - Authorize --> path of the activation key if needed (for instance dependencies/om-supervp/resources/bin/mac/Ircam_Activation_key.txt)

Fig. 6. Scenographies for *Lullaby Experience* (P. Dusapin); *C'est pour quoi* (J. Nika, S. Lehman, R. Fox); *Misurgia Sisitlallan* (V.A. Hera), (Credits: Quentin Chevrier, Fernando Colin Roque, Vir Andres Hera).

1. Free-releases of the library (not including the binaries) are available at: https://github.com/openmusic-project/OM-SuperVP/releases.
You will still need the binaries (and then an Ircam forum subscription): get et them from IRCAM ForumNet (https://forum.ircam.fr/projects/detail/analysissynthesis-command-line-tools/) and either put them in OM-SuperVP/resources/bin/{mac,win,linux}/, OR set the path to SuperVP (for instance in .../AudioSculpt/Kernels/) in the OM Preferences/Externals path (visible when the library is loaded).