REACTIVE ENVIRONMENT FOR NETWORK MUSIC PERFORMANCE
STEP BY STEP INSTALLATION INSTRUCTIONS

SETUP

We recommend your create a special folder inside **'reactive_environment_for_NMP'**, in which to run all these instructions. In the directory where you have downloaded and unzipped our package, type the following commands in a terminal:

```
# cd reactive_environment_for_NMP
# mkdir Dependencies
# cd Dependencies
```

Step 1: Install a low-latency kernel

1. In a terminal, type the following command:

```
# sudo apt-get install linux-lowlatency
```

2. In order to use this kernel, you have to reboot your computer and select the linux-lowlatency kernel from the GRUB menu. (Note: if you don't see the linux-lowlatency kernel in GRUB, select “Previous linux entries” instead. You should be able to the linux-lowlatency in the list that follows).

Step 2: Install JACK Control

1. In a terminal, type the following command:

```
# sudo apt-get install jackd qjackctl libjack-dev
```

2. We need to configure JACK to use realtime scheduling. If the file **'/etc/security/limist.d/99-realtime.conf'** doesn't already exist, create it file by typing the following command in a terminal:

```
# sudo gedit /etc/security/limits.d/99-realtime.conf
```

3. Add the following two lines to that file:

```
@audio      - rtprio  99
@audio      - memlock unlimited
@audio      - nice    -15
```

4. In a terminal, type the following command:

```
# sudo groupadd audio
# sudo usermod -a -G audio yourUserID
```

5. Log out, then log in again.

Step 3: Install jacktrip

In a terminal, type the following command:

```
# sudo apt-get install jacktrip
```

Step 4: Install jmess

1. Go to the directory where you would like to install jmess

2. In a terminal, type the following commands:

```
# sudo apt-get install libasound2-dev g++ qt4-dev-tools
# wget http://jmess-jack.googlecode.com/files/jmess-1.0.1.tar.gz
# tar xvf jmess-1.0.1.tar.gz
# cd jmess-1.0.1/src
# ./build
# sudo make install
# cd ../..
```

Step 6: Install SuperCollider

In a terminal, type the following commands:

```
# sudo apt-key adv --keyserver keyserver.ubuntu.com --recv-keys
FABAEF95
# sudo add-apt-repository ppa:supercollider/ppa
# sudo apt-get update
# sudo apt-get install supercollider supercollider-gedit
supercollider-dev supercollider-ide libsclang1
```

Step 7: Install Java Runtime Environment

In a terminal, type the following commands:

```
# sudo add-apt-repository ppa:webupd8team/java
# sudo apt-get update
# sudo apt-get install oracle-java8-installer
```

Step 8: Install SwingOSC

(Note: Our code requires SwingOSC, rather than Qt, to render all of its GUI elements correctly.)
In a terminal, type the following commands:

```
# wget
http://iweb.dl.sourceforge.net/project/swingosc/swingosc/0.70/SwingOS
C-0.70-Linux.zip
# mkdir SwingOSC-0.70-Linux
```

```
# unzip SwingOSC-0.70-Linux-zip -d SwingOSC-0.70
# cd SwingOSC-0.70
# sh install_linux_local.sh
# cd ..
```

Step 9: Configure SuperCollider to use SwingOSC

1. If the directory `'/home/yourUserID/.config/SuperCollider'` doesn't already exist, create it by typing the following command into a terminal:

```
# mkdir /home/yourUserID/.config/SuperCollider
```

2. In a terminal, type the following command:

```
# gedit /home/yourUserID/.config/SuperCollider/startup.scd
```

3. Add the following lines to the file:

```
GUI.swing;
SwingOSC.java = "/usr/lib/jvm/java-8-oracle/jre/bin/java";
SwingOSC.program = "/usr/bin/SwingOSC.jar";
g = SwingOSC.default;
g.boot;
q = q ? ();

ShutDown.run({
	SwingOSC.default.quit;
});

Server.default=l=Server.local;
l.boot;
```

Step 10: Install OpenNI

In a terminal, run the following commands:

```
# sudo apt-get install git freeglut3-dev libusb-1.0-0-dev doxygen
# git clone https://github.com/OpenNI/OpenNI
# cd OpenNI/Platform/Linux/CreateRedist
# sudo ./RedistMaker
# cd ../Redist/OpenNI-Bin-Dev*
# sudo ./install.sh
# cd ../../../../../..
```

Step 11: Build OSCeleton_for_NMP

In a terminal, run the following commands:

```
# cd OSCeleton_for_NMP
# make
```

That is all!

To begin using our Reactive Environment for NMP, please read “User Manual.pdf”