



Active Notation User Manual

(Prototype Version)

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System Requirements

PC running Windows 95 or later (98 or XP recommended)

Screen resolution set to 1024 x 768, 32 bit colour

55MB free hard-drive space

Preface

The intention of *Active Notation* is to replace the need for a conventional score and music stand set-up. While this document focuses on the latter ‘active’ sections of *Continuum with Blues*, the final system will also display the three preceding sections on screen so that the player may solely use the computer display for the performance.

Note also that the sub-section numbers are displayed in the system at the top left of each sub-section display. This makes for easy reference to the full score, which may be kept open as a PDF and toggled between using the Alt+TAB shortcut key.

Installing Active Notation

Active Notation must be run from a local hard-drive or other random-access storage device – it will not run directly from the CD-ROM. To install the software, open the CD-ROM folder and copy the folder entitled Active Notation to a suitable location on your computer.

Running The System

To start the system, browse to the location where you copied the *Active Notation* folder. Open this folder and double click the icon ActiveNotation.exe.

System Overview

Initially you will be presented with the title screen, showing the name of the piece. Press space to begin execution. If the first section of the piece has been prefaced by images, then you will see these images displayed for a predetermined number of seconds. You can also skip these introductory pages by pressing the spacebar again.

The screenshot shows the title page for the piece 'Continuum with Blues (Homage à György Ligeti)'. The title is centered at the top. Below it, the subtitle 'Homage à György Ligeti' is displayed. The main part of the screen is filled with a musical score for a piano, showing several systems of music with various dynamics and articulations. At the bottom left, there is a prompt 'Press SPACE to begin'.

Fig 1. Title page and introductory material.

Once all introductory material has finished, you will be presented with a screen that looks something like this:

The screenshot shows a musical score for a piano, with a tempo marking of quarter note = 140. Below the score, there is a large greyed-out rectangular area, indicating that the main content of the screen is currently hidden or faded out.

Fig 2. Default display.

The two grey areas at the top and bottom are windows in which fragments of musical score will appear for the duration of the piece. In the middle of the screen is the title of the current movement (to the left) and a timer bar (in the centre).

At the start of a section the first musical sub-section will always appear in the top window. The timer will then begin decreasing in size over a pre-determined number of seconds. While this occurs the next sub-section will be fading in on the lower screen. Once this sub-section has fully appeared, the timer having expired, a new fragment will begin fading in. This process will repeat until the end of the section (see fig 3, below). The timings for each section are reflections of the timings in the computer simulation, with some tolerance for repeated material.

To aid the player in reference to the printed score, the sub-section number will always appear to the left of the first system of the sub-section being displayed.

The illustration shows a musical score with a sub-section number '5' to the left of the first system. A blue bar above the score indicates the duration of the sub-section. Below the score, a greyed-out area shows the next sub-section beginning to fade in, with its own sub-section number '6' visible.

Fig 3. Illustration of lower sub-section fading in.

Controlling the System

At the start of each section, the system will pause. To commence playing the section, the performer needs to press the spacebar. During the execution of the section, the spacebar can be pressed again to pause the screen in its current state in order to rehearse. Pressing spacebar again will resume the application from the point at which it was paused.

At any point, whether paused or not, the timer can be reset by pressing R. As another aid to rehearsing is that while the system is paused, the player can move back and forth through sections by pressing [and].

Customising the Play-list

The play-list contains the names of the files used for each section and the order in which they are played. The play-list file is called *an.cfg* and can be found in the *Files* directory. By default they play-list looks like this:

```
;; Continuum with Blues
scenario1/b2
scenario1/b2a2
scenario1/a2
!end
```

The names of the sections can be anything, so long as a matching file (with the extension .nm) can be found in the *Modules* directory.

Customising Section Name and Sub-Section Order

Each section of the piece is defined by a module (.nm) file. If you open one of these files you will see the first few lines look like this:

```
;; Continuum with Blues - Section B2
name "Continuum with Blues - B2"
playmode 2
```

The first line, starting with ;; is a comment. Comment are ignored by the system and can be placed anywhere in the file.

Following this is the definition of the section name, which is displayed in the middle left of the screen (see fig.3 above). The name should be enclosed in quotation marks. The final part of the module header is the play-mode. If *playmode* is set to 1 then the section will play through sequentially. If it is set to 2 then the order will be shuffled (with the exception of the first and last sub-sections). A *playmode* of 3 will create a playlist in random order with repetitions and redundancy, again with the exception of the first and last sub-sections. Finally a user-defined order, useful for rehearsal, can be created by setting *playmode* to 4, followed by the order in brackets, e.g.:

```
playmode 4 (1 8 4 5 6 3 9 10 14 11 2 7 12 15 13 16)
```

You may also see a line like the following toward the top of the file:

```
intro (a,53,b,34,b2,23,blues,101)
```

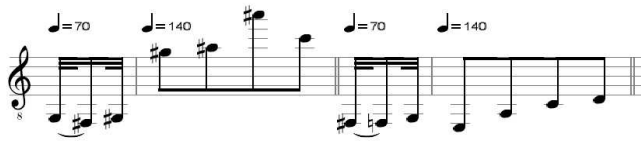
This indicates that the module has introductory images associated with it that will display before the first sub-section. The information in the brackets points to jpg images in the *sound* directory e.g. *a.jpg*, *b.jpg*, *b2.jpg* and *blues.jpg*. The numbers indicate the number of seconds allowed to display each image.

Customising Sub-Sections

The rest of the module file contains data relating to the *sub-sections*. A sub-section is a fragment of musical notation that makes up the larger section of the piece. The definition each new sub-section begins with a #. For example, the first sub-section of B2:

```
#
tempo=070g,32[- fis,16 gis,32] tempo=140|gis'8{ ais' ais''
c''} ||tempo=070fis32,[- fna,16 g,32] tempo=140|e,8[ a, c d]
||
80 80 80 70 70 70 70 80 80 80 80 80 80
2.5 ;; duration on screen (in seconds)
0 ;; free velocity allowed?
0 ;; free duration allowed?
0 ;; free pitches allowed?
0 ;; beam height
-40 ;; alternative beam height
60 ;; display offset
20 ;; horizontal spacing
- ;; sound file
```

The section highlighted above contains the data used to display the following notation in the system:



This data is contained in two lines – the *notation data* (the text and numbers) and the *velocity data* (the numbers only). The velocity data controls the size of the note-heads displayed and generally runs from 50 (v. small) to 100 (larger than average), with 80 being the average size.

A Brief Guide to Editing Notation Data

Editing the notation data is a little more involved. It is based on a very simplified version of the Lilypond notation standard. Briefly, notes can be displayed by inputting the name of the note (c, d, e, etc), followed by any accidental (is = sharp, es = flat, na = natural), and then any octave positioning denoted by , or '. So ais is A-sharp below middle C, bes' is B-flat above middle C, and so on.

Note durations are specified by numbers directly following the pitch information, for example c32 is middle C with a 32nd duration. Dots can also be added, e.g. bes'8. .

Selections of notes can be beamed by adding either [or { directly after the first note in the group and using the corresponding close-bracket to end the group, for example: c8[d' e' f']. The difference between the use of [] and { } is that the beam heights are not calculated automatically, but two alternatives are specified in the subsection definition (see above).

Changes in tempo can be displayed using the format tempo=*nnn*. Note that the tempo must be three digits in length (e.g. 070 in the above example for 70)!

Ties can be created by adding a – to the end of the first note in the pair, such as in the first note of the above example.

Barlines may be added using the following at the start of each new bar:

```
| | ; ; single bar
| | ; ; double bar
```

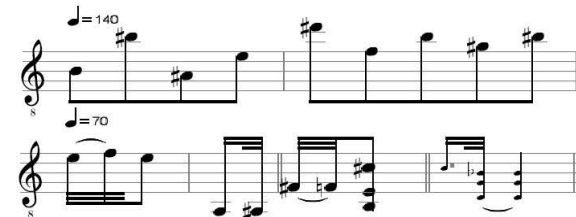
```
| | : ; ; start repeat
: | | : ; ; end repeat
: | | : ; ; end repeat and start new repeat
```

Chords can be created by enclosing two or more notes within < and >. For example: gis16[- gna < e, a, fis> a32- gis] would display this:



A \ can be used to break up long phrases into two or more systems, for example:
tempo=140b8[bis' ais e'] |dis'8[f' b' gis' bis']
||\tempo=070e'32[- f' e'8] |a,16{ ais,32} ||fis32{- fna
<cis'4} e b,> ||c'16.{ <bes32} g d>- <d4 g b> ||

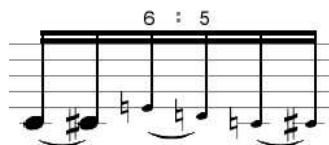
Results in the following:



At present there is a limited support for accents. Suffixing a note with ! will place an attack below the note head. A suffix of £ will place a staccato mark below the note head. Agogic accents can be place above or below by appending ~ and _ respectively. For example, ees32[d16 fis32]-! f16[enaf ef dis£] |r32 bes,32[- a,16] des32[- c bna,16]- b,32[b,- bes,16 dna c32- bna,] || results in:



Finally numbers can be placed above the top line of the staff to indicate triplets and complex groupings using ^n. For example: c8[^3c c] would result in a group of 8 middle C notes with a 3 above it. More complex timings can be displayed thus: c16[- cis ^6^:ena- ^5dna cna- cis], resulting in the following group:



Alternative Notational Displays

The sub-sections contained within the module file do not have to be displayed 'as written', but can also be displayed in following ways:

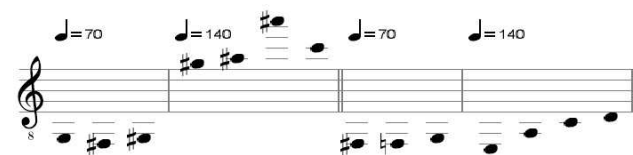
With free velocities:



With free pitches:



With free durations:



Or in any combination of above!

To do this set the corresponding flags (see the sub-section definition p.3) to 1. This means there is a 50% chance of the sub-section either displaying the notation 'as is' or with the free elements.

Sound Samples

Sound samples can be triggered at the start of any section. For example, to play the file *drone.wav*, simply put the file in the *sound* directory and replace the last line of the sub-section definition (set as - by default) with *drone*. This allows the performer to integrate their own sounds with the piece, adding to, or replacing the existing electroacoustic elements.

Troubleshooting

- I get a script error when I run ActiveNotation.exe

This can be caused by the file attributes still being set to Read-Only after copying from the CD-ROM. To remedy this select all the files in each directory (CTRL+A) and right click one of them. Select *Attributes* from the pop-up menu and un-tick the *Read-Only* tab in the subsequent window. It is critical that *an.cfg* and files in the *Modules* directory are not read-only.

- While stepping backwards through the section with [I get a script error

At present navigation through a section with [and] is temperamental. Stepping forward with] is fine, and you will also be taken to the next section when you step past the last item in the current section. However, when stepping backward please take care not to go back beyond the first item in the section.

Advice to the player

We suggest during rehearsals that the player first familiarises himself with the core material, before moving on to the more advanced ‘active’ notational elements of the system. To this end we have created three ‘scenarios’ that the player might like to work through as part of their rehearsal process.

To select a scenario you will need to edit the configuration file *an.cfg* in a text editor. This is located in the *files* folder of the active notation directory. The default scenario is scenario 1, but others can be selected by editing the commented lines in the file. For example, to switch to scenario 2 the following edits need to occur:

```
;; Continuum with Blues          ;; Continuum with Blues
scenario1/b2                      ;;scenario1/b2
scenario1/b2a2                    ;;scenario1/b2a2
scenario1/a2                      ;;scenario1/a2
;;                                ;;
;;scenario2/b2                    scenario2/b2
;;scenario2/b2a2                  scenario2/b2a2
;;scenario2/a2                    scenario2/a2
;;                                ;;
;;scenario3/b2                    ;;scenario3/b2
;;scenario3/b2a2                  ;;scenario3/b2a2
;;scenario3/a2                    ;;scenario3/a2
!end                              !end
```

The three scenarios present the following approaches to the material in sections B2, B2>A2 and A2:

Scenario 1 – All material is presented as written in the order written.

Scenario 2 – All material is presented as written, with the order of B2 and A2 shuffled each time.

Scenario 3 – Material for B2 and A2 is both shuffled and has varying chances of being displayed in alternative ways (e.g. with free pitches, rhythm or velocity). The material for B2>A2 remains the same.