chapter 6 **conclusion**

> *"Normal people believe that if it ain't broke, don't fix it. Engineers believe that if it ain't broke, it doesn't have enough features yet."*
>
> – Scott Adams
> (cartoonist)

VSTrack: tracking software for VST hosts has demonstrated the potential for tracking to overcome several limitations in the ubiquitous MIDI specification, and to provide a more powerful interface between the musician and the computer – notably through exploitation of the computer keyboard, rather than the more common mouse or MIDI device. While MIDI has strengths in the area of performance capture (due to advantages in timing resolution), the richness and expressiveness of tracker notation, coupled with the directness of the approach, allows for a more original and creative approach to electronic music.

the computer as musical instrument

In using an acoustic musical instrument, there are two stages to exciting sounds: the musician interacts with the instrument's mechanism, and the instrument's mechanism determines the sound. A musician must have the most transparent, expressive, efficient and direct control of their instrument. In this report (section 2.1) and through an Internet survey (section 5.2.1), we have shown that optimal control of the computer is achieved through the use of the computer *keyboard* – and, as such, this keyboard currently represents a favourable choice of input device for *the computer as musical instrument*. It is then up to the software to produce the sound.

Though in the world of acoustic instruments, musicians are willing to invest considerable time in the erudition of complex fingering systems such as that of the *Boehm* flute [4], etc., the electronic instrument does not enjoy such kudos or inspire such dedication – and therefore must be easier to learn. Fortunately, we have seen how careful design of the software (notably its user interface – section 2.1) can help to accelerate the user's formative steps. To this end, the computer *mouse* and the *graphical* user interface are very powerful tools – but ones that must complement rather than replace the use of the keyboard.

VSTrack v0.84

More specifically, *VSTrack v0.84* has demonstrated the advantages of using the keyboard and the tracking approach in a capacity that also allows musicians to continue using established (and often ingrained) methods of computer music – as a VST tracker plug-in for sequencer hosts. Though such an approach has attracted significant enthusiasm from the already technologically-oriented musician (section 5.2.1), more traditional musicians (section 5.2.2), though interested, may require a little more incentive before tackling the tracker notation.

surround sound applications

To this end, surround sound support will represent a compelling incentive – affording an alternative to MIDI's meagre offerings in the areas of spatialisation. In such a capacity, the tracker approach is evidentiallly well-suited (see sections 2.3.3 and 3.1.3). Nonetheless, the feedback (section 5.2) that this project has already generated suggests that a significant user base awaits even our initial VSTrack offering.

6.1 future work

In the weeks, months and possibly years that succeed this report, the VSTrack project will continue. Initially, further work will bring our prototype to release status. This development will comprise extended testing and the implementation of remaining v1.0 features, such as variable pattern lengths, variable time signatures, mouse support, etc. Indeed, the tracker notation's extensibility might make surround sound a realistic possibility for even v1.0.

passive inclusion of the developer community

Scheduled for the near future is the release of not only the program, but – come a mature beta version of the software – the source code, for continuation of VSTrack as an open-sourced project. However, as discussed in the report, the invitation of other developers to the project may introduce inconsistencies in the code (and concept). As such, this author will be solely responsible for all official development, but others will be invited to extend a *reference version* to produce special editions, on the condition that their modifications are kept open-source and not distributed at any cost to the users of VSTrack, which is intended to remain freely available to all. Thus, should third parties add any significant and popular features, the author can scrutinise their code and adapt it for the official version personally.

beyond VSTrack v1.0

Subsequent to v1.0, immediate attention will focus on the implementation of features that promise to facilitate the novice's initial exposure to VSTrack – notably, this will include exploitation of the user-friendliness afforded by the mouse (whilst encouraging keyboard usage), as well as integrated tutorials that will actively guide the beginner through the use of the program.

towards an *integrated AV tracker*

In closing, we return to the jigsaw analogy of chapter 3 and recall the possible inclusion of video jigsaw pieces in the VSTrack concept – envisaging a future version of VSTrack that not only engenders a tracker accessible to a wide audience of musicians – supporting both surround sound and MIDI – but also video: an integrated AV tracker. Video production is currently a slow and complicated process – especially on the average computer; the immediacy of tracking and the ability to almost seamlessly parallel and combine audio and visual elements would have huge returns in the area of music video. The potential and scope for such an endeavour are virtually endless. We believe VSTrack now forms a good basis for an extended study in this field.

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