3 voices in 1 staff in PMX ?? Yes!

A recent discussion in the T_EX-music mailing list revolved around the question whether the **PMX** restriction to a maximum of two voices per staff could not be relaxed. Don Simons explained why not: to let **PMX** do this automatically, one would need a totally new and complex algorithm to determine stem directions, avoid notehead collisions etc.etc.

Nevertheless, this is not an academic question: there are plenty of examples in baroque music, in particular with J.S. Bach, where 3 voices in one staff are really called for.

Then Bernhard Lang suggested a clever 'pedestrian' approach to the problem: put the third voice on an extra staff (thus artificially adding an instrument!), and then hard-shift this whole staff to coincide with another staff; and Olivier Vogel promptly came up with a specific real-world example of how to do that in practice (cf. the **PMX** example 2 given here).

The hard shift is effected by just one line of inline T_EX:

```
\\setinterinstrument{n}{-12\Interligne}\interstaff{12}\
```

Of course, this doesn't solve the problems pointed out by Don, and usually you will need a minimum amount of manual 'fudging' to get a satisfying result. This can be seen in the "minimal example" (3 of the 4 voices of "Frère Jacques", cf. **PMX** example 1):

Here is how to proceed when using this trick:

1. write out the desired third voice on a separate staff (as a new, 'virtual' instrument), inserting it *above the staff with the first two voices to which you want to add the third voice*. Adjust the preamble values (nstaves, ninstr, blank instrument name line, clef name) accordingly,

2. make all manual adjustments to that voice (e.g. stem directions) that may be necessary (as far as you can see their necessity at this stage),

3. determine the correct instrument number of the virtual instrument,

4. insert the above inline T_EX command in the header, replacing the variable n *with 1 less than the virtual instrument number*,

5. make further manual adjustments, as necessary.

DISCLAIMER:

1. **PMX** presently limits the *total number of voices in a score* to 12. As can be clearly seen from its implementation, this trick will not help you in trying to exceed that hard limit,

2. The musixT_EX command \setinterinstrument was designed to add extra vertical space above the stave(s) of an *instrument*. It therfore refers to *instrument* number rather than staff number. The trick described here can therefore *not be used* to insert a third voice in the bass staff of a keyboard instrument, such as piano, harpsichord, organ etc. I offer a free copy of my **PMX** manual as prize to anyone who can solve *that* problem.