Professional Ponderings

30 years of experience with Natural
Interview with Peter Leibl

Software AG: What is your role at the Austrian Software AG User Group?
Peter Leibl: At the beginning of the 1980s, Software AG expanded its customer base in Austria. The result was the foundation of Software AG Austria in 1985. Since the beginning, there was an intensive exchange of information and experiences amongst the Austrian customers. In 1992, the Austrian user group formed as an entity independent from Software AG. I have been a member of the board of the user group since the beginning. More information about the user group is available at www.sag-bgoe.at.

Software AG: How many years have you been using Natural?
Peter Leibl: I have been using Natural since 1979, so for almost 30 years now. At that time, version 1 had no full-screen editor and statements were entered line by line. I remember my first Natural program: READ EMPLOYEES DISPLAY NAME. Only one line of code was needed in ADHOC mode, and the result was visible on screen immediately. No Compile Jobs, no Link Steps – a sensation at that point in time. Actually, it still works today.

Natural was then far ahead of times. Decades later, you find the equivalent to the Natural Runtime Engine in Java's Virtual Machine and Microsoft's Common Language Runtime.

Software AG: How did you learn Natural?
Peter Leibl: Mostly by trial and error. There was no Internet or Online Help at that time. And compared to today's manuals and training services, only very basic ones were available..

Software AG: Why did you pick this as a development language at that time?
Peter Leibl: Because we could increase the productivity of application development dramatically. Other available 3rd generation languages, like Assembler, Cobol, Fortran or PL/l were not competitive. Entering code and getting an immediate result just by typing RUN, interactive compilers – this was all only possible with Natural. And – not to forget – Natural offered a significant reduction of the amount of lines of code by a factor of 5 to 10 compared to actual programming languages of that time.

Software AG: What do you think about the development environment used back then compared to the one you're using now?
Peter Leibl: Today, you can hardly imagine the green screen environment of that time: No full-screen editor, input only line by line, no structured mode, etc.. You cannot seriously compare this environment with today's PC-based development environments, which provide context-sensitive help

and all kinds of other features – this is a different world. However, in the character-based 3270 world, the Natural development environment was always state-of-the-art.

But later, when the first PCs hit the market, there was a Déjà vu – the DOS command prompt was like a journey back to Natural version 1 times.

Software AG: Are you using Natural Productivity Package with SPOD feature?
Peter Leibl: Yes, I am using Single Point of Development. For mainframe users, this is almost a "must-have" because the character-based 3270 development environment is mostly not accepted by young developers.

Software AG: Are you familiar with the new languages (Java, C++ etc.)?
Peter Leibl: Yes, of course do I know Java, C# and others. But I don't want to spend my time counting all those curly braces used in Java code.

Software AG: What's your opinion in terms of how these languages compare to Natural?
Peter Leibl: A direct comparison is difficult: Natural is excellent for the development of commercial applications, but at least today, I would probably not use it to program a navigation system or image processing software.

Natural was the first of the so-called Fourth Generation Languages and contributed significantly to its meaning and perception. Only a few competitors back from the 1980s are still present in the market.

For me, today's mainstream languages like C++, Java or C# are the assemblers of the third millennium. They are certainly not a quantum leap, as it was with the transition from 3GLs to 4GLs. A reason could be that those languages were very much influenced by theorists, while Natural follows a more pragmatic approach.

30 years after the introduction of the 4GLs, it is about time that somebody finally introduces a 5th Generation Language. Unfortunately, this has not happened yet, but Natural still offers a lot of *goals & benefits*. The *ease-of-use* approach allows the programmer to ignore a system environment's complexity to a large extent, and instead to concentrate on a problem's solution. And when talking about the number of lines of code, Natural is still ahead of the rest. By now, Natural applications run on a wide range of platforms, from notebook to mainframe, and platform migrations are significantly easier.

Software AG: Do you think these languages can be used together with Natural?
Peter Leibl: Yes, certainly a co-existence is possible and does make sense when components, developed with other means, are already available. Since its first versions, Natural has provided functionality that allows interaction with such other components.

Software AG: What do you think about Natural for Eclipse environment?
Peter Leibl: For users coming from the Java world, Natural for Eclipse is certainly a valuable thing to have; presumably users from the Microsoft world would prefer Natural for Windows. It also depends on the products in use, e.g., Natural for Windows is a prerequisite for Natural Business Services.

Software AG: What would you improve with Natural?
Peter Leibl: There are plenty of ideas, e.g., a personal edition for non-commercial use; a publication of interfaces to encourage community development of add-ons like with Firefox; Adabas and Natural for Apple and so on.

Software AG: We understand you'll be retiring 2010 - how hard is this going to be for someone to step in your shoes?
Peter Leibl: The cemeteries are full of people who considered themselves irreplaceable.