Code With Legs

by Frederick L. Hiltz, Stage Manager

A Broadway play "has legs" if it is expected to run for a long time. Good M code has legs. How much 15-year-old code is running in your system, and what fraction of it do you suppose its author thought would run for 15 years? So what makes you think the code you write today won't have to survive three or even ten new versions of the M language?

Now that I have your attention, let us consider methods that produce M code with legs. First and foremost, write strictly conforming programs. After that, pay attention to confusing or ambiguous aspects of the definition of our language.

Fifty members of the MUMPS Development Committee (MDC) work hard to change the language. However, they make every effort to avoid breaking strictly conforming programs. The conformance clause of the M language standard [1] defines several levels of conformance:

- A *strictly conforming program* uses only the constructs specified in section 1 of the standard and does not violate the portability requirements of section 2. That means no Z commands, no $Z functions, and no other extensions.
- A *conforming program* is one that is acceptable to a *conforming implementation*, which correctly executes both the constructs of the standard and also extensions published by the implementor in a conformance statement.

Your shop standards may require strictly conforming programs, or may insist that extensions be encapsulated in well-defined parts of your programs. Required or not, this is good practice because today's extensions are often tomorrow's standard, but seldom are they copied exactly into the standard.

The MDC can make a change that breaks strictly conforming programs, given sufficient justification. It has happened once, when $NEXT was eliminated. The American National Standards Institute (ANSI) requires ample warning: the 1990 standard announced the intention to remove $NEXT and the 1995 version removed it.

More subtle changes arise when the MDC corrects a part of the standard that is silent, ambiguous, or confusing. If you have any doubt about the behavior of an M construct, look it up in the standard. If the behavior is not clearly and explicitly defined, it is a candidate for change. The standard may not be explicit, but every implementation is—it does *something* with the questionable construct, although that something may not be what the MDC decides when clarifying the point.

You can avoid the questionable construct or you can document your assumption about its behavior. You can also write to the MDC, c/o the M Technology Association, to request a clarification.

$QUERY provides a good example. For years, the standard was silent about its effect on the naked indicator; thus strictly conforming programs could not rely on the naked indicator after a $QUERY function. The 1995 standard says that $QUERY makes the naked indicator undefined. Programs that are less than strictly conforming may be broken.

The duplication of formal arguments is another example. Consider this code:

```
        DO SUB(3,5) QUIT
SUB(A,A) WRITE A,! QUIT
```

What number is written? The 1990 standard is silent, and most implementations write 3 or 5. The 1995 standard makes the duplicate formal arguments erroneous.

One more example. What is the value of $FNUMBER(0,"+")? The 1990 standard is confusing; some implementations return 0 and some return +0. The MDC responded to a request for interpretation by invoking consistency with all other parts of the language, where zero is neither positive nor negative, choosing 0 as the answer. Now the MDC is considering this interpretation for inclusion in the standard following the 1995 version.

In summary, with careful reading of the standard and the MDC's interpretations, you can write programs that run a long time. Break a leg!

References

1. ANSI X11.1 Canvass Version 1.

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Do you have a question that deserves discussion? Have you found a good answer to someone else's question that you would like to share? How about a controversial question and a discussion of pros and cons? If you prefer that your name not be published, please say so in your contribution, which should be sent to the Managing Editor at M Computing.

MTA NOTEBOOK

John Covin Appointed CIO

Effective October 16, 1995, **John F. Covin** will move from Corning Sci-Cor to become **Vice President and Chief Information Officer for Corning Pharmaceutical Services** (CPS). Mr. Covin will be responsible for coordinating the Information Systems efforts across the CPS companies. He and his family will be relocating to Princeton, New Jersey to work out of the CPS main office.

Nominations are open for the 1996 **Board of Directors** election. See page 21 for information.

Standards Under Review by ANSI

There are two standards that the MDC has submitted to the American National Standards Institute for approval:

X11.1 M Programming Language
X11.2 Open MUMPS Interconnect

Standard Approved

The M Windowing Standard, XII.6, which has just been approved, extends M's capability to include the development of graphical user interface applications. The MWAPI may, but is not required to, operate in conjunction with an "underlying windowing platform."

The MWAPI does not provide a detailed specification for the "look and feel" of applications. If an underlying windowing platform is present, it is intended that the MWAPI adhere to the platform's look and feel to the extent possible. If no underlying windowing platform is present, the MWAPI implementation determines the characteristics of the application and carries out all actions that would otherwise have been carried out by the windowing platform.

MTA-JAPAN

Robert Mappes, director of marketing for Micronetics Design Corporation, has been **elected a member emeritus to MTA-Japan**. Mr. Mappes has spoken at several MTA-Japan meetings and was the **keynote speaker at the 21st Annual MTA-J held August 5–7, 1994 at Tsukuba University Institute of Medical Medicine.** This award was given to him in honor of his work in promoting M technology in Japan.

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Winner of Free Airline Ticket

Jonathan Andron, winner of the free airline ticket at the Annual Meeting in Chicago, will use the ticket to fly to Atlanta in December. **Congratulations Jonathan!**