Millenium Bug Essay, Research Paper

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The year 2000 is practically around the corner, promising a new era of greatness and wonder . . . as long as you don t own a computer or work with one. The year 2000 is bringing a Pandora s Box of gifts to the computer world, and the latch is slowly coming undone.

The year 2000 bug is not really a “bug” or “virus,” but is more a computer industry mistake. Many of the PC s, mainframes, and software out there are not designed or programmed to compute a future year ending in double zeros. This is going to be a costly “fix” for the industry to absorb. In fact, Mike Elgan who is the editor of Windows Magazine, says ” . . . the problem could cost businesses a total of $600 billion to remedy.” (p. 1)

The fallacy that mainframes were the only machines to be affected was short lived as industry realized that 60 to 80 million home and small business users doing math or accounting etc. on Windows 3.1 or older software, are just as susceptible to this “bug.” Can this be repaired in time? For some, it is already too late. A system that is devised to cut an annual federal deficit to 0 by the year 2002 is already in “hot water.” Data will become erroneous as the numbers “just don t add up” anymore. Some PC owners can upgrade their computer s BIOS (or complete operating system) and upgrade the OS (operating system) to Windows 95, this will set them up for another 99 years. Older software however, may very well have to be replaced or at the very least, upgraded.

The year 2000 has become a two-fold problem. One is the inability of the computer to adapt to the MM/DD/YY issue, while the second problem is the reluctance to which we seem to be willing to address the impact it will have. Most IS (information system) people are either unconcerned or unprepared.

Let me give you a “short take” on the problem we all are facing. To save storage space and perhaps reduce the amount of keystrokes necessary in order to enter the year to date-most IS groups have allocated two digits to represent the year. For example, “1996″ is stored as “96″ in data files and “2000″ will be stored as “00.” These two-digit dates will be on millions of files used as input for millions of applications. This two digit date affects data manipulation, primarily subtractions and comparisons. (Jager, p. 1) For instance, I was born in 1957. If I ask the computer to calculate how old I am today, it subtracts 57 from 96 and announces that I m 39. So far so good. In the year 2000 however, the computer will subtract 57 from 00 and say that I am -57 years old. This error will affect any calculation that produces or uses time spans, such as an interest calculation. Banker s beware!!!

Bringing the problem closer to the home-front, let s examine how the CAPS system is going to be affected. As CAPS is a multifaceted system, I will focus on one area in particular, ISIS. ISIS (Integrated Student Information System) has the ability to admit students, register them, bill them, and maintain an academic history of each student (grades, transcripts, transfer information, etc.) inside of one system. This student information system has hundreds and hundreds of references to dates within it s OS. This is a COBOL system accessing a ADABAS database. ADABAS is the file and file access method used by ISIS to store student records on and retrieve them from. (Shufelt, p.1) ADABAS has a set of rules for setting up keys to specify which record to access and what type of action (read, write, delete) is to be performed. The dates will have to have centuries appended to them in order to remain correct. Their (CAPS) “fix” is to change the code in the Procedure Division (using 30 as the cutoff >30 century = “19″ 30) then it can be assumed that you are referring to a year in the 20th century and a “19″ will be moved to the century field. If the year is less than 30 (