

## From *InPress*, Fall 2006

### Computing at the Press, 1973-2006

*Like most modern businesses, the Johns Hopkins University Press could not function without computers. Today the Press has more than 150 personal computers (both PCs and Macs), more than a dozen servers, and an IBM iSeries mid-range computer that handles mission-critical order fulfillment and accounting functions.*

*It wasn't always this way. To find out how we made the journey into the digital age, InPress sat down for a chat with Gil Seiler, Senior Programmer and one of the Press's longest-serving employees. --Bob Oeste*

#### **How many computers did the Press have when you started work here in 1973?**

GS: None. Well, actually, we had something called an IBM 632 Billing Machine. It ran a program stored on a six-foot long clear plastic belt with square holes punched in it. Every couple of months the belt would snap and IBM would have to come out and copy the holes onto a new belt.

#### **Did it have a terminal with a screen and a keyboard?**

GS: *(Laughs)* No. It was just an electric typewriter connected to a card punch. Basically, it was a typewriter, a calculator, and a card punch all wired together into a kind of primitive computer, with that plastic belt running in a loop. It made a terrific chattering noise. And we bought two of them for busy seasons and as a backup when one of the belts would break.

#### **What came next?**

GS: Well, while the billing machine was in use, I was hired to work with IBM revising a set of programs we bought from Cornell University Press to run on a new IBM System 3, Model 6. That was our first real computer. That would have been 1973, in the spring. It was a true computer with a hard disk, printer, and keyboard.

#### **How big was the System 3?**

GS: About the size of your desk. It even looked like a desk, and when you pulled the drawers out, there were the disks. The fixed disk was 15" in diameter and it held 2.5 megabytes.

#### **2.5 MB? So if you had, let's see, a little over 200 of those disks all connected together, you would have had the storage capacity of, say, an iPod Shuffle.**

GS: Yes, but we didn't have 200, we had two. One fixed and one removable.

#### **What did it cost?**

GS: Well, we leased it. I think we paid around \$2,000 per month. Maybe \$2,200. That's close to \$10,000 in today's dollars.

**What did this machine do?**

GS: It did billing, inventory, credit memos, accounts receivable, and sales reports.

**How did it print them out?**

GS: It had a built-in dot-matrix printer. Because there was no display screen, printing on paper was the only way we could cause things to be displayed. The printer was basically the output device.

**What about input?**

GS: That wasn't so easy either. First of all, to convert the data from the old system, we had to enter data on punch cards. Then I would take an empty 15" disk platter and a stack of punched cards to IBM downtown on Pratt Street. That was the how we got the title database loaded. There was another IBM branch in Towson, across from the old Hutzler's building, and sometimes I'd drive up there.

**How many cards did you need to transfer the data?**

GS: Thousands. And I would come back with the data on the 15" platter and install the disk.

**And once you had all the data converted?**

GS: Then it was a little easier. The billing clerks would enter data onto punch cards, and I could just load a deck of punched cards onto the 15" hard disk cartridge.

**Still, I guess you were glad when you stepped up to the next machine. When would that have been?**

GS: 1974. What happened was, we had a big book sale and it was taking really long to get the orders through. One night I stayed late loading and processing the keypunched orders and fell asleep. Someone found me the next morning. That's when I knew we needed a faster computer.

**So you moved up to...?**

GS: An IBM System 3, Model 8. It was faster and had a bigger capacity.

**What was it like physically?**

GS: Very similar. But it had the ability to attach an 8" floppy disk reader, which held the equivalent of 3,000 punched cards. That may sound like a lot, but it's really just one-quarter of a megabyte.

**So with a mere 18,000 cards, you could hold an MP3 version of "I Want to Hold Your Hand."**

GS: *(Laughs)* In theory. We also had a stand-alone dual-diskette data entry station which had the ability to display a single line of data as it was being entered. There were two operators facing each other across a desk, each with a separate keyboard. And a cathode ray tube was mounted vertically under the desk. A mirror sent half of the display to each operator. That was 1976. And the year after that, we got our first client press, University of Pennsylvania. That was the start of the Services Division, September 1977.

**Did that mean you needed more computer capacity?**

No, that was a way to use the extra capacity we had with the Model 8. But pretty soon we were pushing the limits on that as well.

**So what came next?**

GS: System 34. That's when we got our first set of display terminals, so we could finally see what was in the computer without printing it out to paper.

**Were they like a computer screen today?**

GS: Yes, except the display was green and each terminal weighed about sixty or seventy pounds. They were dinosaurs. But it was really neat because we were never able to have screen displays before, and of course, speed and capacity increased as well. That was about 1979. We started taking on more and more client presses. The data for each one was stored on a single 15" disk cartridge.

**One cartridge for each press?**

GP: Yes, and one for each journal we published. You would pull out a drawer and switch the cartridges. So every time we wanted to process a different press or journal, I had to change one of those cartridges. There were about thirty of them. We kept them in a locked metal cabinet.

**Where was the Press located at that time?**

GS: That was in Whitehead Hall, second floor, where we could see and hear the campus power plant. The machine was in a room by itself. It was about the size of a chest freezer, but slightly taller.

**Wasn't this the time that personal computers made their debut?**

GS: I think we were a little behind on that. We didn't get one until about 1985. We had already gotten the next system by then, the IBM System 36, in 1983. Then we started getting PCs, which were known as XTs and ATs.

**Who got the first one?**

GS: Bob Warren, the business manager. He mainly used it for data analysis. Lotus 1-2-3 and so forth. And his assistant, Teddy, would use it to type up his text comments about the financial statements.

**Was it an IBM?**

GS. Yes, it was an IBM PC. But now come to think of it, I believe the Journals Department got the first "word processor." It was not IBM, I forget what it was called. I think they were actually first. Bob Warren got the first IBM PC/AT.

**The kind with two floppy drives?**

GS: I think Bob's PC even had a hard drive. Then Henry Tom got one, but it only had floppies. That year we got a bunch of them. It was in the mid '80s.

**What was going on in the “computer room” by then?**

GS: Well, in January 1989 we bought our first IBM AS/400. That was a major change. It had 12 MB of memory and 400 MB of disk space. So far we've had five different models of the 400. Today IBM calls it the iSeries, but the operating system is still OS/400. The latest machine has 2 GB of memory and 535 GB of disk space on 29 different hard drives.

**Looking back over your thirty-three years at the Press, what would you say is the biggest change you have witnessed in computer technology?**

GS: The biggest change, I'd have to say, is interconnectability. We're connected to everything, networked, on the Internet and so forth. We can press a key and import, export, upload and download. In the old days it was like pulling teeth. Or driving a box of punch cards down to Pratt Street.

