Editorial

# Computerizing the National Guard in America

**Patrick Pacalo***

*Department of Political Science and History, Indiana University of Pennsylvania, United States of America*

***Corresponding Author:** Patrick Pacalo, Department of Political Science and History, Indiana University of Pennsylvania, United States of America.*

We all know, or should know, that down through the ages there were data collections and manipulation aids that could be classed as rudimentary computers. In the 1970s and 80s in America we began to experience a revolution in affordable and portable electronic computers. Where was the cross over? We can see this if we take a brief look at the history of computing and the National Guard, as a part of the United States Army.

Please allow me to take you through some of my journey in getting to know computers. My personal first encounter with a mainframe or full size computer was through a terminal open to the public at a Star Trek™ convention in the 1970s. The terminal was set up to allow players to play off against the computer in a game that involved locating and destroying Klingon ships throughout the galaxy. One ran search patterns and allocated phaser energy, shield energy, and fired photon torpedoes while maneuvering. I probably had an hour or two of playtime on the machine before I had to get off and allow others at the crowded convention to play. By the way the Klingons shot back and eventually destroyed you! This game consumed large amounts of fan fold paper, as the output for the terminal was a full-sized dot matrix printer. I encountered this game again in 1983 as an intern in the Strategic Studies Institute of the U.S. Army. The game was featured on the War College main frame.

My next encounter was with a microcomputer in my father's office. It consisted of a black box about half the size of one of today's desktop laser printers and a keyboard and a Cathode Ray Tube screen. There was no mouse in evidence nor did the computer have hookups to devices such as a printer. I was allowed to play black jack on the computer on one of my visits to my father's office in a Naval annex to the Pentagon located in Arlington, Virginia. Please recall that this was in the middle to late 1970s, IBM Personal Computers and compatibles, and Macs by Apple had not been marketed yet. The only exposure to a microcomputer one might have had in those days was likely to be a hobby-built Heath Kit or a rudimentary Radio Shack TRS-80 model.

One of my opportunities to prepare for service in the National Guard, related to electronic computers, was in a high school com-

puter science course. The class had about 20 students in it and we had two donated Apple IIe computers to share time on. I learned about memory, CPUs, peripheral devices, boot sectors, programming and the like. The class was the first one for mainstream students of my high school, Indiana Area Senior High located in Indiana Pennsylvania in the United States of America. This was 1980. Previous to this the only computer education at that high school was on dumb terminals linked to the local university mainframe and the course then was only offered to the gifted class of students. I was not in that gifted class of students, I took the first computer science course offered to mainstream students in 1980.

Coincidentally or not, I arrived in the National Guard as an enlisted man in the local well-seasoned Infantry support unit which was part of the 2/110th Infantry Battalion of the Pennsylvania Army National Guard in September 1980. For those unfamiliar with United States geography; Pennsylvania is a state in the union based upon a commonwealth style of laws. It is located in the eastern middle Atlantic region of the U.S. I finished high school and worked in the Guard on weekends for my senior year; and then I continued to serve in college in subsequent years where I received an officer's commission. There were no computers in evidence in the Guard at that time, there were some somewhat smart IBM typewriters in use though.

In 1983, I transferred to the Armor where the tanks used mechanical computers and hand crank prism coincidence rangefinders to engage targets. Electronic computers did not make into our tanks until 1985 and these computers included such input devices and wind sensors and laser range finders. Unit administrative computers or "IBM Clone" computers manufactured by Zenith made it into Guard units in the mid to late 1980s. These were only used by members trained to use them. By 1987, most units had a microcomputer in their administrative section. Also, at this time a tank fire control simulator for use by all armored crew members came into the tank units. This saved on range time, travel, fuel and ammunition. The presence of computers in the tanks themselves, and in the units, made for better, more efficiently trained combat units when it came time for mobilization some years later.

So as a unit member I received experience on various computers and computer training aids in the Guard. I also received computer schooling in high school and college starting in 1980. The computer science course I took in college was much a repeat of the course I took in high school, however slightly upgraded.

Patrick Pacalo is a retired Captain of the U.S. Army. He served 10 years in the Pennsylvania Guard and a total of 4 years in the U.S. Army Reserve. He is a qualified paratrooper. Pacalo holds a Ph.D. in History and a graduate certificate in National Security Studies from the American Public University System. He is the author of Cold Warfare.