VIP CLUB
Established in 1980

Technologies' Experiences

BACKGROUND

Hello Mr. Benson: My name is Ryan Barland; I am the oral historian at the Minnesota Historical Society. Keith Myhre suggested you for an oral history project we are working on. We just kicked off a project to document the history of computing and technology in the state. There isn't another goal attached to the project but want to document these stories now for possible future uses.

This is an oral history project, basically an audio recording of our 1-on-1 conversation. The interview will go chronologically through your life taking a couple of hours. From there a typed transcript will be created from the audio recording and both will be cataloged in our archives and publicly available for future researchers online and in our library.

My chronological notes relative to the possible interview questions are *on page 4 below*. *Ryan*

March '22 status; Ryan has completed interviews with David Andersen, Keith Behnke, Rich Daly, Bill Geiger, Carl Johnson, Don Mager, Keith Myhre, Harvey Taipale, John Westergren, Don Weidenbach, and some non-UNIVAC people. Ryan is on "Maternity Leave", their 3rd child. In Ryan's queue when he resumes interviews next fall are Jim Andrews, Paul Hove, Frank King, Fred Vihovde, and Earl Vraa. See page 4 of http://vipclubmn.org/Newsletters/Enews2203.pdf.

INTRODUCTION

Personally, I have been a bit player in Minnesota's computer industry. Thus, I wrote this Technologies' Experiences paper to organize my responses to Ryan's questions. Other interviewees most certainly will bring different perspectives to Ryan's questions. Some might say a little bit of everything, others could say not much of everything. There are three periods of my technology education and awareness:

    A. As a youth in school and the army,
    B. As a professional at Univac and the University, and
    C. As a retiree gathering and documenting the ERA IT Legacy from 1946 to today's Unisys.

The seven decades of these three periods brought me to the realization that *'Life is the time, space continuum of human interactions."* Sections A and B hereunder are career history bits. Section C has highlights of my retirement years; most of information is in my 'Legacy' career summary - http://vipclubmn.org/People1.html#Benson and http://vipclubmn.org/PeopleDocImg/Vol01Book1.pdf.

A. Youth, 1950 to 1960

Moved into Alexandria, Minnesota January of 1950 then was graduated from HS in 1956. Attended the U of MN for a year then went on active duty in the US Army. Released from active duty in June of 1960.

Technology exposures and applications:

- In 8th grade I bought my first 'analogue' computer, a Pickett slide rule for use in science class.
- Two summers on an uncle's farm taught me rudiments of mechanical equipment and animal husbandry.
- Volunteering in the HS Audio visual aids department taught me the electronic operation of movie projectors and Public Address systems.

- A year working evenings in a service station taught me truck engine servicing and customer interfacing.
- A year of monthly National Guard meetings and a summer camp had me assimilating the skills needed to aim and fire 155 MM howitzers plus how to work in teams.
- Two years of Army Security Agency service in Germany taught me the technology of paper tape teletype operations, radio receivers, Radio Direction Finding, IBM card sorters, and electronic printers.

B. Employed, mid-1960 through 1991

Univac hired me in July 1960 to be a 'file clerk' in the Automatic Antenna Coupler department. I then had a variety of positions working on projects and programs for 33 ½ years. My title was Senior Systems Staff Engineer when Unisys laid me off in February 1994. The University of Minnesota's Center of Transportation Studies hired me in March 1994 to develop a transportation research laboratory - retired from there December 2001.

Technology exposures and applications:

- In the Automatic Antenna Coupler (AAC) Department, I learned the process of documenting designs and the paper work needed to put a device into manufacturing production. The AAC has a chapter in the VIP Club's Legacy, http://vipclubmn.org/couplers.html.
- The summer of 1963 I transferred to the Military Computer Center to work evenings as a computer operator, hands on operation of six computer models. There I did some rudimentary programming of 'apps' to support programmers' software deliveries to customers. Learned plug-board programming, machine language coding, assembler use, and software compiling.
- Spring of 1966 received BEE from the U of MN and transferred to hardware engineering to do check-out and test of a new computer design, 1830 Phoenix.
  - Learned to differentiate between hardware failures, design errors, and test software idiosyncrasies.
  - Worked on the memory interface design of the new CP-901 computer then provided engineering support to manufacturing production startup. Shepherded a test computer through the rigors of Mil-E-5400 environmental qualifications for this processor of a Navy airborne system.
  - Supervised engineering conversion of the CP-901 to a shipboard environment for the German Navy's Fast patrol boat system.
  - In 1970 transferred to Holland for installation and integration of this 'new' computer with peripheral equipment and system support software.
  - In 1972 back in St. Paul as a Product Engineer supervising feature developments for the 1616 and AN/UYK-15 computer lines.
  - In 1974 became an Engineering Supervisor responsible for serial Input/Output designs for Navy Standard Computers and associated peripherals supplementing parallel I/O. Supervised transfer of the type 3760 communications processor manufacturing to Salt Lake City.
  - In 1977 became a Project Engineer for a couple of Internal Research and Development projects. Although classified at that time, I provided the Voice Laboratory with Russian and German language support as they invented voice mail. I also did the clock design for the High-Speed Search Unit (HSSU).

- o In 1980 I was promoted to Engineering Manager responsible for a 27-person continuation engineering department. Developed the Harpoon missile launch computer capability for the AN/AYK-10 computer aboard the S-3B aircraft. Also managed transition of the AN/502 support engineering to Winnipeg.
- o Summer of 1983 I had a weekends' consulting gig with a minority owned California company advising them how to convert a shipboard hardware cryptography unit to an airborne environment. Unit was subsequentially used aboard the EP-135.
- o In 1984 I became a Program Manager for shipboard (Coast Guard) and airborne (Navy Air) bubble memory storage units.
- o In 1986 became program manager for the CIA's radiation hardened computer chip development.
- o In 1986 started an evenings and weekend 'job' with a friend's home-based business. Manufactured MD2 microscope digitizers, a product that neighbor took public from his neurology research at the U of MN. I did the IRS tax reporting and helped him develop an MD-3 microprocessor-based model.
- o In 1987 was appointed as Technical Director in the Avionics Business unit to be the lead for government/industry standards.
- o In 1990 as a Senior Staff Engineer, led proposal teams to propose, win, then manage performance of two Air Force contacts and a Navy Air contract.
- o In 1991 was assigned as a Software Product Manager in Rockville MD, writing software requirement specifications for the FAA Advance Automation System, specifically the tower control operations.
- o At the end of 1992, transferred back to St. Paul to investigate new business opportunities
  - ▪ A process control system to inject helium into steam working fluid for power generation plants.
  - ▪ Use of aluminum circuit technology in US computers, a technology transfer of computers built for the Soviet MIG-29s.
  - ▪ Developing an Advanced Traveler Information System for the Minnesota Guide Star's Genesis project.
- o Spring of 1994, Unisys gave me opportunity to find other employment, was hired by the U of MN to develop a research laboratory.
  - ▪ Cooperated with professors to develop a lab with a dozen networked student work stations.
  - ▪ Developed and implemented a micro-wave link with the Mn/DOT traffic control center giving work stations the capability of video traffic monitoring.
- o In 1996 and 1998, used vacation time to be a tour guide for transportation technology research site visits at several universities as well as state department of transportation sites.
- o In 1999 developed a website for the ITS Minnesota professional organization.
- o Winter 2001, I retired from the U of MN and started retirement pension from Unisys. Joined the Sperry retirees VIP Club

C. Retired, 2001 to today.

Technology exposures and applications:

- In 2002 and 2003 I had two consulting contracts as a Technology Outreach Coordinator supporting the U of MN's Center for Transportation Systems (CTS). One project was to set up Intelligent vehicles' demonstrations at the State Fair Grounds for a national conference.

- In 2004 had a CTS contract as a Research Project Analysts; evaluated nine completed research projects, recommending implementation planning or closure memos.
- In 2005 joined the VIP Club Board to lead a Legacy committee in conjunction with Lockheed Martin's co-chair – little did we realize that we'd still be gathering stories yet today.
- In 2006 upgraded the Crystal Welding, Inc. Quality Control Manual to meet the MnDOT metal-working requirements and helped develop their shop procedures (ISO 9000).
- In 2006 started a web page for the Retirees' Legacy Committee and took on responsibility for my Church web site.
- In 2007 merged the Legacy web site pages with the VIP Club's web site.
- In 2009 evaluated the MnDOT library printed resources then recommended procurement of new books for innovation and risk management knowledge.
- In 2019 retired from the VIP Club board and maintaining church's web site to reduce volunteerism responsibilities.

QUESTION TOPICS, short answers:

These questions are really just jumping-off points. This is your story so if you want to talk about family history, hobbies, or anything else, as long as you aren't slandering someone else, I'm happy to listen. *Ryan*

- *What year were you born?*   1938
- *Tell me about your family history / Parents?*   I was the second of seven children. Father died in 1946 so mom raised us.
- *What was your childhood like? / What kind of student were you?*   Childhood for the most part is a blur – during WWII parents were 'migrant workers' up and down the west coast thus was in six schools in first grade, three in 2nd, then one for 3rd thru 5th in ND, and two in 6th in Douglas Co. MN. 7th through 12th in Alexandria, MN – eventually graduating HS in 1956. Class rank was 31st out of 161.
- *Where did you go to college and what was that experience like?*
  1. University of Minnesota Institute of Technology for one year 1956-57.
  2. Defense Language Institute Monterrey CA – Russian linguist – 1958 – rank was 21st of 101 graduates. I finally learned how to study.
  3. U of MN, night school 1960 – 1963.
  4. U of MN, Institute of Technology 1963-66, electrical engineering major - worked at UNIVAC.
- *What were your first impressions at ERA/UNIVAC/etc.?* I was working with a bunch of middle-aged guys, many of whom were WWII or Korean vets.
- *Tell me about an average workday?*
  1. First three years I processed paperwork for engineers doing new designs or revised designs.
  2. 2nd three years I was a computer operator working evenings while attending the University during the day. Supported programmers developing software for customers.
  3. The next 27 years were never average, i.e., a plethora of projects and responsibilities – solving problems for customers or other departments.
- *Early career highlights and challenges. Tell me about some of the big things you worked on.*
  1. Favorite career highlight was the CP-901 airborne computer development for the Navy's P-3C Anti-Submarine Warfare system. I did the processor to memory interface design, installed the 1st unit at the customer software development facility, supported the transition from proto-type to production units, and supported the environmental qualification testing. The production run of 499 units ended in 1992. In 2012 I was told that there were still 40 Japanese P-3C planes using the on-board CP-901 computer for search and rescue missions. A 25-year production run and a 45-year service life!

2. Beginning in late 1969 supervised the airborne to shipboard environment conversion of the CP-901 to the 1830B computer for the German Navy's fast patrol boat program. Transferred to Germany for two years, 1970-72 to do two installations at software development sites, taught a maintenance course, etc. Challenge was integrating our computer with peripherals manufactured by a Dutch company, Hollandse Signaal Apparaten (HSA), a subsidiary of Phillips. Eighty units were produced for 40 boat systems. A challenge was living in the Dutch and German economy – wife did a great job raising three children while I was interacting with host company and German Navy.

- *Tell me about your co-workers, bosses?*
  1. Most day-to-day co-workers were engineers and technicians working on new equipment designs or new features for existing computers and peripherals, for example a change from parallel computer to computer interfacing to high-speed serial interfacing 'removed' ten-tons of cable weight from Navy ships.
  2. Bosses had supervisor, manager, group manager, project engineer, or director titles. During my 33.5-years at the company I had about two dozen immediate 'leaders'.

- *How did the company change over time?*   As each acquisition or divestiture occurred, there was more than a name change: 1) Upper management (Presidents, Vice Presidents) of divisions, had different ideas as to what their business focus should be; 2) the culture of the new people leading changed; and the employee benefits changed for medical coverage and retirement packages.

- *Was there a single project or accomplishment during your career you're most proud of?*
  The thing that I am most proud of is the Legacy Anthology! When the retirees club started a legacy committee to 'publicize' the ERA to … to Unisys history in the Twin Cities, Minnesota, and the world – I volunteered to do a web site collection of stories from multiple people. To date we've had almost 500 people send information that is sorted into People at Locations Engineering Computers and Systems used through the world.

- *How did you decide it was time to retire?*   I am twice retired:
  o 1) in 1994 Unisys gave me opportunity to find something else to do.
  o 2) In 2000 a 'new boss' at the University told me that he'd do the planning, so I asked to phase out while they found a new Laboratory Manager.

- *We've talked a lot about your professional career, tell me a little about your family.*   Gloria and I have been married 60+ years. We have two sons and a daughter living in the Twin Cities suburbs. They've given us eight grandchildren – all now through HS and either in careers or yet in college. We've lived in the Twin Cities since 1961 except for two years in Europe. Now 10-years in a town home after owning a Shoreview house for 45 years.

EPILOGUE

My apologies for some egotism herein. Yes, a little bit of everything, not much of anything! Life indeed is the time, space continuum of human interactions. I've had a very satisfying career and life.

If you have read this far, the Legacy Committee invites you to add your career summary to the history of our companies, http://vipclubmn.org/Legacy.html.