Compendium, No. 2

Lowell A. Benson: Unisys retiree '94 as a Senior Staff Systems Engineer

INTRODUCTION

About five[+] years ago, we posted the ten-year summary of our Legacy Committee's activities [Decade of Legacy Committee Accomplishments]. Almost six years ago, in March we posted a copy of our newsletter 'Legacy' articles over the committee's first decade [This is a compendium of the 'Legacy' articles]. Thus, it seems appropriate to now put another set of newsletter Legacy articles into a compendium and to provide quick links to our monthly articles. Reference the newsletters from 2016 through 2021 linked from, http://vipclubmn.org/Newsletters.html#Archives.

An adage "*What God hath wrought ...*". And ponder what *'Ole hath wrought,* letter to Ole.'

Contents

Click on any section for a quick scroll thereto.

NEWSLETTER ARTICLES

It should be noted that some newsletter articles have summaries Our Stories. Some of Our Stories were first newsletter articles. Although there may be a bit of duplication or redundancy, better twice than to not have the printed history. *Life is the time, space continuum of human interactions.* LAB

2016, 11th Year of Articles

January/February: **70 Years Ago, January 1946**: In recognition of the beginning of our Twin Cities Information Technology (IT) Legacy, for the January 'Article for the Month' we are posting William C. Norris' WWII Experiences. An extract from page 12 "Since the history of ERA has been well publicized, I won't repeat it here, except for three aspects. One is the name, which initially was Research and Development Associates. We hoped it projected an image of a technically oriented company where there was extensive employee ownership. After using the name for a time, it finally dawned on us that an abbreviation by competitors would likely be RED ASS. We didn't want to take that risk, so we changed it to Engineering Research Associates. Second, ERA was one of two companies that launched the computer industry. The other was Eckert-Mauchly in Philadelphia, which was established during June 1946, six months after ERA. Interestingly, Engstrom and I met with J.P. Eckert during our search for funding. He and John Mauchly were also having difficulty arranging for financing. We offered to join forces, but Eckert declined.

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Ironically, we came together later when Remington Rand acquired EMC in 1950, and in 1952 acquire ERA. These two companies constituted the Univac Division of Remington Rand. In 1955 Remington was acquired by the Sperry Corporation to form Sperry Rand. I was given the job as general manager of the Univac division of Sperry Rand."

70 Years Ago, February 1946: "The first general purpose electronic calculator was formally dedicated at the MOORE School of Engineering at the U of Pennsylvania in Feb 1946." "Built to do ballistic calculations for the US Army, it was named the Electronic Numerical Integrator and Computer, and called after its initials the ENIAC". In recognition of this event, Bill Mauchly is coordinating celebration events and displays at the University of Pennsylvania and a few other sites in the Philadelphia area on February 15th. Thanks to Al Rollins of the Blue Bell retires group for this activity information. LABenson

March: **Article for the Month**: Write a Book? How about an autobiography? Shortly after we formed the Information Technology (IT) Legacy Committee, Dick Lundgren began to write Legacy articles for the VIP Club newsletter. During the committee's decade of volunteering, other members have also written Legacy associated newsletter items. This booklet is a collection of those VIP Club newsletter articles. The first several articles are the history of the Legacy Committee as we felt our way through the quagmire of gathering documents and hardware artifacts and then cataloging them. Therefore, to some degree, this booklet is the IT Legacy Committee's autobiography.

This complements our December 2015 'Article for the Month'. That too was a booklet: Measuring Success = Volunteer Hours; recapping a decade with summaries of over 100 on-line IT Legacy articles.

Do you remember DOS? (Disc Operating System) Marilyn Payne, a retired UNISYS Roseville programmer, contacted Lowell asking if there was a place for an old, old computer. I informed her that the Legacy committee was accepting artifacts for exhibiting at the Lawshe Memorial Museum in S St Paul. I went to her home to pick up the unit – she told me that many years ago, the company was obsolescing some company properties, she got this one.

I took it home, set it up on a rec-room table, and then powered it on. (The power cable, the keyboard, the keyboard cable, and several floppies were stored in the cover.) This unit is a Sperry Portable Processor, Model SP2 (T3097-01) S/N 002910. The unit weighs about 35#; it has two 5½" floppy drives plus a couple of rear connectors for serial and parallel interfaces. It did boot up

a DOS 2.11 operating system from Drive A. I got it to load a BASIC assembler from Drive B. Among the floppies are several game discs that Marilyn's children used to play in conjunction with the internal 512k of RAM – no hard drive in the unit. I'll describe Marilyn's other artifact donation next month.

This pre-MAC, pre-desktop PC, pre-laptop unit, pre-windows, and pre-touch screen unit can be used to demonstrate late 70s user interfaces to our youth who visit the museum exhibits. By *LABenson*

April: **March Program Recap**: Thanks again to Steve Koltes for hosting us and presenting the future of Air Traffic Management on March 9. There were two presentation parts, the first illustrated by this slide. Steve discussed FAA's EnRoute Automation Modernization and the National Air Traffic Services (privatized) systems which are expected to make all or most flights more efficient. Like so many hi-tech business arenas, the acronyms were almost overwhelming. Audience discussions tried to jump in and solve some outstanding problems.

The second part of the talk was about the future of the Air Traffic Management (ATM) group in Eagan. "On 29 January, Lockheed Martin entered into a definitive agreement to combine their government Information Technology and technical services businesses at IS&GS with Leidos as part of a Reverse Morris Trust transaction." For many of us technocrats, an extended legalese education may be needed to understand the structure under this new management company. The 120-150 Eagan ATM site employees will be part of a 12,000 to 15,000-person organization. The East Coast ATM Rockville group will be merged with others at Gaithersburg. As illustrated by this slide; adding the Leidos icon to our IT Legacy icons is possible within the next year.   Submitted by *LABenson*

Do You Remember? Marilyn Payne, a retired UNISYS Roseville programmer, contacted Lowell asking if there was a place for old artifacts. She said that many years ago, the company was offering employee discounts on commercial products. She purchased an electronic calculator for her father. When cleaning out his estate a few years ago, she found the complete calculator kit in the bottom of a drawer.

This Sperry-Remington model 819 has a 16-digit display. The booklet recommends use of 4 AA manganese dry batteries for up to 22 hrs. of operation. Those batteries weren't in the unit; however, it does execute all functions when powered with the AC adapter. The next destination will be the Lawshe Memorial Museum in S St Paul (if not accepted, we'll check other museums or the antique roadshow?)

Article for the Month: "Artifact Collecting" Yes, we are still collecting books, manuals, and hardware items! If you are cleaning your basement, attic, garage, or home office; the Legacy Committee is interested in some of what you find. The April web site article is a paper listing the artifacts transferred from Lowell's temporary basement repository to the Lawshe Museum in July 2015. Each of those items illustrates or describes bits and pieces of our extensive Information Technology history. If you have one or more items; please contact co-chairs [1]jwestergren@frontiernet.net or labenson@q.com who will facilitate your donation. By *LABenson*

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[1] In this compendium, I have crossed out the links that have obsolesced.

May: Congratulations and Thank You: March 22nd was Clint Crosby's last day volunteering at the Lawshe Memorial Museum. Other volunteers feted him with a 'cake-and-coffee' celebration of his pending April 9th marriage. I think Clint appreciated the get together and the opportunity to relate his stories about this event in his life. We all wished him the best and asked that he keep in touch (and to stop back to record more photos any time he wishes.) By *Jon Simon*

Clint: Sorry we were not in MN to congratulate you in person on your wonderful engagement news, move to Rush City, and upcoming marriage. We wish you all the best; please keep in touch. Thank you very much for your years of work in identifying photos and cataloging the history of ERA/UNIVAC/Sperry Univac/Unisys/Lockheed/et al. Without you, we wouldn't be as far along as we are in our work. It has been a privilege to know you, and particularly to work with you on the Legacy Project, over the past years. Thank you so much for all you have done. *Keith & Tricia Myhre*

Participants at the celebration were Clint, Jon Simon (brought the cake and took snapshots), Harvey Taipale, Bob Pagac, Lowell Benson, and Rebecca Snyder. Anyone wishing to fill Clint's workstation chair on alternate Tuesday mornings can contact Jon Simon (~~jcsimon1st@frontiernet.net~~) or Tricia Myhre ~~(pbm5454@hotmail.com)~~. *LABenson*

June: **Save Our Shadowboxes**: UNISYS has asked for help from the legacy committee during their 2017 transitioning from the last 'plant 4' facility. Wherever the UNISYS Roseville operations downsize to, it is unlikely that they'll have space for a history display, see http://vipclubmn.org/Exhibits.html#Unisys. An SOS Task-team of volunteers is being gathered; if you are willing to participate, send a note to ~~labenson@q.com~~, thanks.

Letter to the UBBRG Board of Directors: In our May newsletter, we reprinted President Joe La Viola's message announcing the dissolution of the Unisys Blue Bell Retirees Group at the end of 2016. The reprint was because some of our members have Blue Bell ties, just as some UBBRG members have ties back to Minnesota. We can empathize with your decision reasons as we too have seen a decline in membership as well as some difficulty in enthusing retirees to volunteer to serve on our board, albeit not to the degree that your board has experienced. We chose to reprint your 'closing' announcement for our current membership as we too may have to make a similar decision within the next decade or so.

Your corporate beginning with Eckert Mauchly Computer Corporation (EMCC) and our beginning with Engineering Research Associates (ERA) are linked for eternity! Most computer historians know that Bill Norris was one of the founders of Control Data Corporation. There is an interesting paragraph in Mr. Norris' writings: "ERA was one of two companies that launched the computer industry. The other was Eckert-Mauchly in Philadelphia, which was established during June 1946, six months after ERA. Engstrom and I met with J.P. Eckert during our search for funding. He and John Mauchly were also having difficulty arranging for financing. We offered to join forces, but Eckert declined.

Ironically, we came together later when Remington Rand acquired EMCC in 1950, and in 1952 acquired ERA. These two companies constituted the Univac Division of Remington Rand. In 1955 Remington Rand was acquired by the Sperry Corporation to form Sperry Rand. I was given the job as general manager of the Univac Division of Sperry Rand." Of course, after Burroughs bought Sperry to form UNISYS, a St. Paul person said that the UNISYS acronym meant Univac Is Still Your Supplier.

Yes, both of our retirees' organizations have many, many members with careers that have spanned parts of the evolution of computers from the vacuum-tube behemoths to today's smart phones. Your retirees' organization had medical benefits as a driving purpose in its early days. Our organization focused on social activities and volunteerism until 2005 when we began to focus on 'telling the untold story' of our heritage companies. A primary method of 'telling', was/is to get people to tell his/her part of the story and to put those parts into a website anthology. Some of those story parts came from your organization, take a look at "http://vipclubmn.org/BlueBell.html" and "http://vipclubmn.org/UNISYS.html". Our products have come and gone - however people and memories of them are forever. An example of person who worked at both of our locations; a few of the UBBRG members may remember Albert 'Bert' Meuleners who passed away in 2004. He retired from Blue Bell after a career that started in St. Paul in the Antennae Coupler manufacturing organization, went to Rödelheim Germany for several years, then onto Blue Bell. Even while living and working in Germany and in Blue Bell he kept his ties to Minnesota by participating via phone and mail in the Growth Stock Investors club with other Univac-ers and was a member of the VIP Club. His widow, Francis, maintains their VIP Club membership to this day. There were many others who had worked in both locations, you know who you are.

We want to thank Al Rollins for facilitating the UBBRG contributions to our web site. And thanks to the UBBRG board for exchanging newsletters with us for a couple of decades. We archive our newsletters two months after distributing them to our active members – take a look at http://vipclubmn.org/Newsletters.html. And, if you would like to keep in touch by sending articles to our newsletter editor or by joining us to get notification of the latest newsletters, our website has contact and membership information. Good luck to each one of you as you enjoy your retirement years. *LABenson* for the VIP Club

July/August: **We have a web site?** This is one of the comments received in response to the December Survey. YES, the VIP Club has and has had a web site. In 2002, Joe Schwarz created a Yahoo hosted Club web site. In February 2006, Lowell Benson started a Legacy web page on his personal site and then transitioned that page to a Microsoft hosted (free) Legacy site. In the fall of 2007, the two sites were merged as the http://vipclubmn.org URL. In 2011, Microsoft ended free websites, so we transitioned to our current host, http://www.webhostinghub.com.

This year we have added two features to benefit our readers: 1) The home page, section 3 has a google mapping function to provide directions to the next event from the reader's entered address. 2) The home page and the Contact-Links page have a Google search function so that readers can quickly find who/what is mentioned where or who wrote what on which page. Our site design structure and rules are described on page zero, http://vipclubmn.org/SiteMap.html. The primary page {Home/Club} has introductory information and sub-tabs associated with the Club business and activities. What would you like to read? Our IT LEGACY consists of PEOPLE who ENGINEERED COMPUTERS and SYSTEMS at

FACILITIES in Minnesota and throughout the world. Over two hundred people have contributed items to this computer history anthology. There are a couple of pages with Blue Bell stories too. We still have room for your stories, either mini-career summaries or project stories. Submitted by *LABenson*

September: Thanks to William [Curt] Nelson for sending us the February 20, 1953, Orbit newsletter. We'll get it donated to the collection of ERA newsletters at the Charles Babbage Institute. One article therein caught my eye: "Logistics Computer is Shipped to D. C. The Logistics Computer has been shipped to The George Washington University in Washington, D.C., where it is now being installed and tested by ERA engineers. The project engineer, Bob Erickson, as well as Ernie Wold, Jay Kershaw, Bill Johnson, and Bern Eklund were the ERA personnel sent with the equipment. Eklund, who did the mechanical design of the computer, supervised cabinet reassembly at the machine's new home. A Railway Express car equipped with special bearings and springing insured a smooth ride for the machine which was shipped last week." Submitted by *Lowell Benson*.

October: **Save our Shadowboxes:** As most of you know, UNISYS will be vacating their leased Roseville facility by the end of 2017. UNISYS management realized that wherever their operations moved; they quite likely would not have exhibit space for their computer history shadow boxes – thus in April they contacted the VIP Club for some Legacy preservation assistance.

The first of 23 boxes have parts from the ERA/UNIVAC 1103, designed in the 50s. A task team of Paul Dickson, Nick Wander, Mike Svendsen, Tom Turba, Tom Curie, Leroy Larson, and Lowell Benson volunteered to work the issue(s). In August UNISYS Director Chuck Lefebvre informed the team that Roseville operations would be moving to the Eagan facility and that some of the boxes could go there. The team established contact with the Ramsey County Historical Society (RCHS) and expects to work with them on exhibit sites for the boxes that don't fit at the UNISYS, Eagan facility. The team inspected candidate sites in the Eagan facility on 9/14 and ascertained that the shadowboxes will fit in the hallway leading into the space(s) assigned to the Roseville operations. After the boxes are moved there from Roseville next spring/summer; Tom Currie and Leroy Larson have volunteered to do selective refurbishments before the wall mounting. RCHS remains available as a contingency destination. Submitted by *LABenson*.

Ps: More about the shadowbox exhibit is on line at http://vipclubmn.org/Exhibits.html#Unisys.

November: **Report on October 12th Program**: The VIP Club program at the Roseville Masonic Lodge drew a large number of attendees (38.) The advertised attraction of ice cream and pumpkin pie became apple pie ala mode, but all enjoyed anyway. The presentation was a fascinating overview of the history and capabilities of the relatively new Minnesota company Sentera (sentera.com).

Sentera CEO Eric Taipale recounted how the company evolved out of UAV (Unmanned Aerial Vehicle, i.e., drones) work done at Lockheed Martin in Eagan going back a decade.

Eight LM engineers, who were part of the of LM Desert Hawk UAV team, found a new home at Sentera with major repurposing of objectives. The new uses of drones (hand-launched) are in the fields of agriculture, cellular communication infrastructure, construction monitoring and public safety. In agriculture the drones can monitor crop status with incredible detail provided by high resolution digital cameras and other sensors. Reports provide specific locations of crop stress due to diseases, pests, insufficient soil nutrients, etc. In cellular communications, the Sentera drones can "climb" the cell phone towers and do fly-arounds to image all tower components in detail and certainly more safely than a human tower inspector can do; also, at viewing angles that human just can't achieve. At construction sites the drones can image and record/report progress or lack thereof in a developing project. Public safety applications can include support for police/fire emergencies, border patrols, and military surveillance. Sentera's workforce currently consists of 23 employees with headquarters in Minneapolis. Submitted by *R. Lundgren*

How was your Halloween? This archive snapshot was taken at the Winnipeg facility in the 70s. A part of our Twin Cities Legacy is that engineers had assignments at facilities throughout the world plus, a few Canadians had learning/working experiences in St. Paul facilities. BTW, I recognize John Westergren ~~and Dan Holste~~ in this photo! By *LABenson*

In December, John Westergren and Ed 'Pogo' Pogorzelec named the people, in front: Albert Cerqueira, Derek Campbell, K. Tsang, Joan Coughlin, and Peter Soszek. In back are Bill de Boer [not Dan Holste], Len Ganetsky, John Westergren, Mike Kushliak, and Eugene Matlashewski.

Celebrations of Life and Careers: Rosalie Christensen will be providing our Legacy committee with boxes of artifacts, pictures, and books for the Lawshe Memorial Museum and the Charles Babbage Institute. This poster from Curt's memorial service is a microcosm of his 30-yr career with us. A framed picture shows an Air Force mobile system from the 60s that Curt worked on from plants 1 & 2.

I thought that it was rather ironic that Curt's family chose to display framed pictures of two of the 23 shadow boxes that will be moving from Roseville to Eagan next year. *Lowell A. Benson*

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December: **Vintage Computer Federation** – We were the Mid-Atlantic Retro Computer Hobbyists (MARCH) from 2004-2015. That group was just a computer club. In 2015, we disbanded and reformed as a national non-profit, the Vintage Computer Federation (VCF), which obtained 501(c)3 status. VCF then formed a Mid-Atlantic chapter to replace the old hobbyists group. The VCF local chapter [east coast] operates as before, however the national organization is doing far more activities. For example, we acquired the Vintage Computer Festival West (to supplement our existing Vintage Computer Festival East), and we also acquired Vintage Computer Forum which is our hobby's largest discussion site. We have many other goals for 2017 and beyond -- incubate new chapters, restore more systems, and so on. [See www.vcfed.org for details about this federation.] Our museum group in NJ has a Univac 1219B that was originally at Johns Hopkins.

- We recently started doing some real work on it. Specifically, we made progress on a paper tape I/O console. Next, we're having power circuits installed to let us run the CPU and tape drive via its motor generator.
- We also want to build custom forklift pallets, do some cosmetic restoration, and build a modern educational exhibit for the systems.

To accomplish this (and other projects related to our organization overall), we're hoping to raise $5,000 -- one dollar for each calculation per second performed by the original ENIAC. We thought the members of the VIP club could help us since this 1219B computer was developed in the Twin Cities. We have a fundraising contribute tab on our site and, of course, it's tax-deductible.

Thank you, *Evan Koblentz*; Director, Vintage Computer Federation, a 501(c)3 educational non-profit.

Small Group Lunch: Left to right are Don Mager, Don Vizanko, Bill Geiger and Clint Haggerty. These guys meet monthly to discuss both serious and mostly not serious world issues, reminisce about past experiences and enjoy lots of laughter. On this October meeting day, we celebrated Don Vizanko's upcoming 96th birthday. The group's total age is 351 years, staying strong [famous Don V quote] and adding only 4 years/year. Submitted by *Don Mager*.

2017, 12th Year of Articles

January/February: **Recollection:** I'm 97 and want to my renew membership. ERA was first housed in an old foundry with wood block floors. It had sky lights near the high roof. One day a sky light was broken, and pigeons entered. We didn't mind until we found pigeon droppings on our drawings. We got the carpenters to build a canvas roof over our desk space. *Bill Butler*

A Treasure Trove: Art Charlton donated a box to the Legacy Committee. It contains the history of the employee UNIVAC/SPERRY/UNISYS Photo Club. That club was formed in February 1968 with Gary Cutter as the first President. The Club disbanded 25 years later in 1993 because of declining membership and discontinued company support.

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The Photo Club had four slide competitions per year. Prints of the winning slides were then displayed regularly in Roseville, buildings 1 & 3 and in Eagan. They also had four print competitions per year with a max of four color and four B/W entries per person. For most of their 25 years, the Club participated in the Twin City Area Council of Camera Clubs (TCACCC) that included Honeywell, 3M, Women's Color Photo club, the Minnesota Nature Photography Club and about a dozen others in MN & WI. The Photo Club was a member of the Photographic Society of America. They met 10 times yearly, had a quarterly newsletter, and an annual winner recognition banquet.

A Treasurer Trove? There are four PHOTO ALBUM 3-ring binders containing the winning competition pictures between 1980 and 1993. There are three file pockets of papers and booklets – I've sorted them:

1. Papers relative to the TCACCC and duplicates of items in the other two folders
2. Photo Club papers: newsletters, flyers, and even a 1984 MAPPER membership list showed 52 members, including my own name [I didn't remember being a member.]
3. About 20 company publications from 12/78 to 3/93 that had Photo Club articles. For example, the Nov/Dec 1989 UNISYS PROFILE wrote about an employee calendar "including selected contest entries from Eagan, St. Paul, Roseville, Clearwater, Pueblo, and Winnipeg." Two other articles therein begin: "The Dakota County Armful of Love program needs volunteers to …" and "Don Blattie, a staff consultant in contracts, deserves kudos for his leadership and innovation in securing three significant international contracts."

So, there is more than just beautiful pictures. The stories about people and projects in the newsletters provide snapshots in time! This history box will go to the Lawshe Memorial Museum, volunteers there will determine which, if any, items go to the Charles Babbage Institute and then how to have the others available for visitors to look at and enjoy. Thanks for the memories Art! By *LABenson*.

Legacy Committee Rejuvenation: The committee met on December 13th, in the visitors' conference room, of the UNISYS Eagan MACS building. Notes:

1. Andrew Fox who did much of the work on two State of MN Legacy grants is departing for a position at the Minnesota Historical Society.
2. Jon Simon leads the photo ID team on the 2nd and 4th Tuesday mornings - Jim Hilliard works with him; the 5 workstations are not fully used thus more volunteer help is needed these days.
3. Tricia Myhre leads the photo ID team on the 1st and 3rd Tuesdays - Bob Pagac, Les Nelson and Keith help these days. Greg Oxley also works with the teams on some Tuesdays.
4. Keith reported that there is yet ~3-years of ID work including about 10,000 slides to review.
5. Since January 2013, volunteer teams have catalogued approximately 20,000 photos/negatives, 4,000+ documents and 1,462 35 mm slides have been cataloged to date. These teams and others also helped Museum staff perform on two State Legacy grants.
6. Some help is needed to write grant(s) submittals to get funds for development/refinement of the poster boards drafted during the second grant.

We resolved to continue to monitor the efforts by Mr. Weeks and Mr. Daly, however, will not donate any club funds to that effort. Thanks! *Lowell Benson*.

March/April: **Web Site Updates**: The re-construction underway is intended to make our site easier to read with smart phones, etc. The Club pages' redesign is complete, the Legacy pages may

take until June. Please send comments to webmaster@vipclubmn.org. And, if your career summary and/or project experiences aren't in one of the Legacy chapters; it isn't too late to relate and add your pieces of our history. *Lowell Benson*

Recent Legacy Stories: As part of the web site redesign, we've dropped the 'Articles for the Month' title/tab in favor of 'The Stories.' These are still listed and linked in the sequence that the editing was completed, see http://vipclubmn.org/OurStories.html.

November '16 Story: We had printed a picture displayed at Curt Christensen's memorial service in the newsletter. David Durand told Dick Lundgren, "That's my Corvette!" Subsequent emails from Dick, Dave, Paul Wood, Bill Roos, and Larry Lutton described development of an Air Force System during the 60s at RADC.

December '16 Story: Duane Craps sent us a question about a 15-pin logic card used in the 1219B computer. He is an ex-technician from the Norfolk Naval Shipyard. His query stimulated an engaging series of engineering recollections, click on Circuit Card History. Thanks to Duane, Jack Metzger, John Grape, and Larry Bolton for their history bits from the 60s & 70s.

> **You guys would be happy to know that the last Navy 1219Bs were just turned off last year** [2015]**. They were at a shore site AN/SPN-42 Automatic Carrier Landing System.** *Duane*

BTW, Mr. Craps and others are in the process of restoring a 1219B computer from Johns Hopkins as one of the Vintage Computer Federation activities. Submitted by *Lowell Benson*.

May/June: **Recent Legacy Stories:** How many of you were participants in the various phases and parts of the Canadian Patrol Frigate program? Ed Pogorzelec, former Quality Engineer in our Winnipeg facility, sent us information that the Canadians had completed systems' updates to their 12th frigate. SHINPADS and AN/UYK-502s are all gone, BUT they are now using suites of AN/UYQ-70s. Details are on line, see January story: http://vipclubmn.org/OurStories.html#2017.

Thanks to Keith B. for this picture. By *Lowell Benson*.

ERA 1101 Tech Description – For the February 2017 Our Stories, we've posted a scan of a 1951 paper by Frank C. Mullaney. He wrote about the reliability of the first unit in operation – didn't write where it was! There are several b/w pictures of the unit and hardware components including the drum memory.

Program/Product Management 1974 – For the March 2017 Story, we've posted a scanned book of personnel pictures along with 'what he/she was doing then' from several of the people in the booklet.

Hans Neukom is currently researching the ATECO (Automation of Telegram Exchange with Computers) project of the Swiss PTT in the early 1970s. The ATECO contract was given to the Swiss subsidiary of UNIVAC; the ATECO configuration used three UNIVAC 418-II computers working in

parallel to achieve a very high reliability. If you have any experience(s) with this system of 418s or with the 18-bit sister computers UNIVAC type 1218/1219, please email us a note. By *LABenson*.

History Tidbit – from the January/February 1991 SCOPE newsletter. "*Moving out: Waters Edge building to be vacated*. Over the next few months, more than 400 employees who are still located in the Roseville Waters Edge building will pack their files and supplies and move three miles across Interstate 35W to Roseville Buildings 1, 2, and3." … now, 26-years later, the last Roseville building is being vacated!

Abe Franck & Document Archiving: Amanda Wick, Archivist at the Charles Babbage Institute, is presently cataloging 'banker boxes' of the life papers from Abe Franck, age 98. Abe is a VIP Club member. Mr. Franck was an ERA engineer then a designer of the BiTran-6 for Fabritek, Inc. Some of us recall that the U of MN IT department had a BiTran-6 as part of their EE classes in the early 60s. Over the years, Abe has been an occasional participant at the First Friday Lunches. His avocation is violin playing. Thanks to Abe for not shredding old papers! Byline *LABenson*

July/August: **Best Wishes to Dr. Tom Misa**: "Hi Lowell, I'm completing two terms of service as CBI director at the end of June — it's been 11 years! I'll be returning to "regular" faculty status, so doing normal teaching and research. Working with the VIP Club has been one of the highlights of these years - know this will continue."

The Legacy Committee expresses our thanks and gratitude for the support and counsel that Tom has given to us over the last decade[+]; especially the great ERA/UNIVAC/Sperry content of the Digital State, his feedback on the history posters developed at the Lawshe Memorial Museum, and the inclusion of our Air Traffic Control Systems web chapter in the University's history of technology classes. By *LABenson*

Roseville [Plant 4] Closed: On June 15th Sue Carrigan and Chuck Lefebvre hosted an open house to celebrate the life of UNIVAC-UNISYS Plant 4. Dave Wilhelm took snapshots; browse to: https://get.google.com/albumarchive/100060900510377257166/album/AF1QipNNIW2qr62321rMG QCjzkye 61a7TJlQWkhQzdjR?source=pwa. In 1961 near the intersection of Highways 36 and 280, the company became the first 'Space Center' tenet as they leased 130.000 square feet of space [Building 1] from the owners, St. Paul Terminal Warehouse Co. The Univac Data Processing Division continued to grow, adding 23,700 sq. ft. in 1962 in Building 2, 25,000 in 1963, 24.300 sq. ft. in 1964, then an additional 182,640 square feet in 1965 as they opened building 3, the current Plant 4. The last UNISYS person departed the building on June 23rd, 2017, Unisys operations continue at the Eagan facility.

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Recent Legacy Story: For May 2017, we posted http://vipclubmn.org/Articles/PhotoClubEtc.pdf. This is a multipurpose paper: 1) it lists documents recently donated to the Charles Babbage Institute. 2) it lists documents and framed pictures donated to the Lawshe Memorial Museum, and 3) a history of the UNIVAC/Sperry/UNISYS Photo Club from 1968 to 1993. These items came from Art Charlton, Rosalie Christensen, Paul Welshinger, and Jack Ross.

It is rather ironic, after transferring these ~200+ items to CBI and the museum, I happened to go through an envelope from Curt Nelson that contained ERA's the Orbit from February 20, 1953 – An article therein is: "Como Park Field Trip, Print Contest Scheduled by ERA Camera Clubbers. St. Paul's Como Park, its conservatory, animals, and other photogenic attractions will come under camera lenses of ERA photography fans Sunday February 22, when the Camera Club has its first field trip. Non-members are invited to join the group which will meet in the central room of the glass conservatory at 2 p.m. The trip will be automatically cancelled, Bob Turner, club president announced, if the temperature at 12 noon is less than 20 degrees above zero. The temperature report given by WCCO at, or around noon, will be the standard.

The next meeting which will be held Thursday, February 26, will feature the results of a small print and salon print contest, entries for which must be submitted to the Salon Committee by Monday, February 23. Each member has been requested to bring his camera to the meeting so that the various types can be examined. 'Exposure of Photographic Film' was the major subject discussed at the last meeting, held February 12. Russ Headley, Publications, was the speaker. At the same meeting, Gordy Johnson developed a roll of film before the group, and Don Iacoboni discussed camera types".

Another article in this the Orbit is: "Plans for construction of two new ultra-high speed general purpose electronic digital computing systems have just been announced by ERA and Remington Rand Inc."

Although this newsletter from 64 years ago belongs at CBI, the immediate plan is to display it by the 1103 shadowbox on September 13th. By *LABenson*.

September/October: **Recent Legacy Stories**: For June 2017, we posted Quicksilver - A Shadowbox Story. LeRoy Larson wrote this story with editing by Lowell Benson. This article relates a portion of Leroy's career that dealt with the 2200/500 development. Leroy retired from UNISYS, Roseville a few years ago. He volunteered along with Tom Curie to refurbish the shadow boxes' woodwork as they were moved from Roseville to Eagan this summer. Thanks guys!

1. The seven-fiscal year (1987-93_) technology shadowboxes are along one wall.

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For July 2017, we posted ERA 1103 Announced – a scan of selected pages from the ERA Orbiter newsletter of February 1953 with links to supporting information. Thanks to Curt Nelson for the newsletter, the original will go to the Charles Babbage Institute yet this year.

For August 2017, we posted Through the Ages - A handout developed for visitors to the upcoming 13 September Open House and Legacy Exhibit in Eagan. Links to 130+ legacy articles going back to April 2007 are at http://vipclubmn.org/OurStories.html. Our web site has space for more stories, send them to webmaster@vipclubmn.org.

Kick-off Meeting: On July 25th, a group led by Dale Weeks and Matt Hill of MHTA kicked off a MN Computer History Initiative, funded by a MN Legacy grant. This 11-month initiative goes beyond the ERA threads that we have been espousing for a decade. It blends the MN history of CDC, IBM, Honeywell, UNISYS, UNIVAC, etc. with a focus on developing data for Science, Technology, Engineering and Mathematics curricula as well as laying the groundwork for a future Technology Industry Museum. We, as a Club, are not actively involved with the grant but are monitoring and will provide ERA/UNIVAC/UNISYS history as requested. By *LABenson*

November/December: **Recent Legacy Stories:** For September 2017, we posted: BOMARC - The UNIVAC 1104 computer was the initial computer used in the BOMARC missile launch and guidance systems developed in the 50s -Thanks to Curt Nelson for finding his 1104 installations trip report for the first two units. We would welcome any feedback about the 1104 and their relationship to the G-40 processors shown on a 1958 genealogy chart. Was the G-40 a variation of the AN/USQ-17 manufactured as the UNIVAC type M-460? If you know or know who may have worked on these systems, send me a note – thanks! By *LABenson*

Mark Greenia, Author of "*History of Computing*", **has established** a Computer History Archives Project video library YouTube channel containing over 40 videos on vintage computers, including ENIAC, UNIVAC System/80, UNIVAC 1050-II, UNIVAC 1103A and many others. Point your browser to https://www.youtube.com/channel/UCOyJD0RHtF_77_oAf5tT1nQ then click on videos to see the items.

Micro 1100: A new wall display will soon be mounted at UNISYS, Eagan.   These are the first micro-1100 production wafer manufactured in Eagan, MN on August 1, 1985. Donated by *Carl Johnson*.

Blue Cube: Were you one of the engineers or programmers or managers who worked at the Sunnyvale Blue Cube? Take a look at http://www.mercurynews.com/2017/08/15/blue-cube-exhibit-planned-at-sunnyvale-museum/, they are looking for stories, etc. about their space tracking history [some classified in the 70s & 80s.] Submitted by Joe Paige II, ret. AF officer.

Where are the Women of our Legacy? This question was posed by a Dakota County Historical Society Trustee at the Unisys open house. She noted that none of the 16 Legacy Story Boards in the 9/13 exhibits mentioned a female worker. Only six of the 173 career summaries posted on our web site Legacy Anthology were submitted by ladies.

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Dr. Tom Misa conducted many oral interviews when writing his book "Gender Codes: Why Women Are Leaving Computing [Wiley/IEEE Computer Society Press, 2010.] Ten of his 48 interviewees were ladies who had worked in various positions at our legacy companies [not just programmers and engineering personnel.]

Open House & Legacy Exhibit: September 13th was a marvelous day at UNISYS, Eagan. Just over 70 guests and numerous active employees walked through the west wing halls to look at the newly mounted history shadowboxes and to review the storyboards on loan from the Lawshe Memorial Museum.

A special thanks to UNISYS retirees Leroy Larson and Tom Curie who volunteered time over the summer to refurbish the woodwork of all shadowboxes.
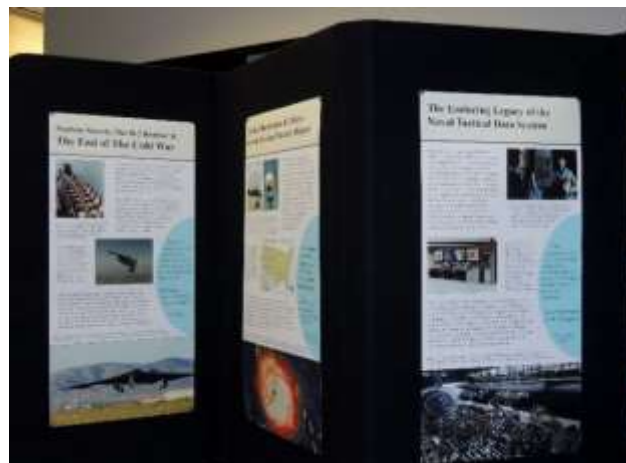
Thanks to Sue Carrigan and the UNISYS guard staff for the gracious hospitality and name tags. The handout flyer, '*Through the Ages*' is online - snapshots herein by Keith Myhre and Lowell Benson.

The 16 shadowboxes exhibiting the 1100 & 2200 computer series hardware technologies are on another wall, shown from both ends in these pictures.

Volunteers Keith and Tricia Myhre transported four large table top displays from/to the museum. Les Nelson and Bob Pagac assisted with the setup and pack up. Each display had four history storyboards.

Links to Printable Document File (pdf) copies of each of the 16 story boards are available at http://vipclubmn.org/Exhibits.html#Lawshe.

The event was graced by our VIP Club founder and nonagenarian Millie Gignac who was accompanied by Joanna Foote from the City of Eagan staff.

Tricia, Bob, and Les enjoyed the crackers & cheese.

There were continual friendship discussions on-going in the UNISYS presentation center.

Wine was served by Katie, caterer from Green Mill.

2018, 13th Year of Articles

January/February: **Computer History Archives Project**: Dr. Mark Greenia sent us. "Of possible interest to former UNISYS folks and others, I uploaded a brief presentation highlighting early Sperry Rand computers and their support of the Apollo program. This barely touches on the wealth of information and history that is part of the Apollo program, but it gives a place to start for some folks. Someone with more resources will do a more in-depth professional documentary someday. It is a short presentation, both video clips and photos. Hope you find this interesting. (Looks good on a big screen TV.) Here's the link: https://www.youtube.com/watch?v=nsy2QAboRzE.

From Belgium: My name is Dominique Carlier. I contact you because for three months I've been trying desperately to repair my UTS 40 Sperry Univac unit, http://www.zeltrax.com/classiccmp_forum/2.jpg. If you (the reader) have any technical documents about the UTS 40, send a note to webmaster@vipclubmn.org – he'll arrange transfer of your specific information.

March/April: **Career Summaries**: If you have a career summary in any of the Legacy, People chapters; please check it to ascertain whether we have your correct employment from/to dates in the text. If you haven't written your mini-micro biography yet, send a draft to webmaster@vipclubmn.org – we'll coordinate editing with you before posting.

Our Legacy Anthology 'Table of Contents' is now available on–line, browse to http://vipclubmn.org/SiteMap.html#Level3. Additions to any chapter are welcome. *LABenson*.

Legacy Initiative at Lawshe Memorial Museum: On November 20, 2012, Lockheed Martin officially transferred our Legacy artifacts to Chad Roberts, then Executive Director of the Dakota County Historical Society (DCHS). These artifacts included computers, workstations, PCs/displays, miscellaneous equipment such as drum memories & disk platters, as well as over 100 archive boxes containing memorabilia, documents, brochures, manuals, photographs, transparencies, and 35 mm slides. John Westergren coordinated the move.

These artifacts arrived at Lawshe Memorial Museum the next month on approximately 20 pallets, whereupon DCHS employee Andrew Fox began "Accessioning in View" of the artifacts, funded by a state legacy grant that DCHS had received through the Minnesota Historical Society. Accessioning is the process of adding items to a museum's existing collection of artifacts. Each item was assigned a number and stored in the museum's collections.

VIP Club volunteers suspended their Plant 8 cataloging of documents, negatives and photos until the items arrived at DCHS and Andrew finished accessioning the archive boxes. Harvey Taipale set up five workstations of LMCO donated equipment in the museum's upstairs multi-purpose open area.

In March 2013 cataloging restarted at Lawshe, while Andrew continued accessioning artifacts until he completed that fall. Cataloging entails identifying each item with a number and then entering whatever information is discernible: system/equipment, project name, date, comments/description, names of people in photos/slides, physical location of item, etc.

Up until that time, the VIP Club volunteer cataloging had been done using an Excel spreadsheet, which is not the optimal data storage structure. Keith Myhre proceeded to design a Microsoft Access database and then converted the Excel worksheet data into corresponding Access tables. Cutover to the "DCHS UNIVAC Legacy Artifact Catalog" database was accomplished in November 2013. All data entry since that time has been into this database, integrated with the converted Excel data.

Cataloging continues at Lawshe on Tuesdays when the Museum is closed to the public. The VIP Club volunteer crews are currently comprised of Keith & Tricia Myhre, Bob Pagac, Les Nelson, Jon Simon, Dale Suckstorff, Jim Hilliard, and honorary VIP Club member Greg Oxley [also Vice President of the Dakota County Historical Society Board of Trustees]. At the four cataloging workstations: Les, Tricia, Jon, and Keith.

Catalogued items donated to the Charles Babbage Institute and DCHS as of January 9, 2018, items total: • Documents/brochures/manuals/etc. – 4,073, • Publications (newsletters, etc.) – 2,231, • Photographs/Negatives -- 18,850, • Public Relations photographs -- 1,756, • 35 mm slides -- 2,750, and • Computer & misc. Repertoire cards – about 40

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Current efforts are focused on cataloging 1,000+ failure analysis photos, recently donated photos & documents, and scanning several thousand more 35 mm slides. The slides are scanned before cataloging since it's easier to identify items/people on a computer screen than squinting at a slide on a light box. Yet to tackle are hundreds of photo transparencies.

Greg Oxley scanning slides on the desk of former Governor H. Stassen.

A longer-term goal is to scan all the photographs so that they can be viewed online, as well as the 35 mm slides being scanned now. Beyond that, scanning of documents, brochures, manuals, and the like would allow online access to them as well.

If you would like to visit Lawshe Memorial Museum, check their website for open days/hours: www.dakotahistory.org/lawshe-memorial-museum.

If you would like to visit on a Tuesday morning between 9 AM and noon [when the museum is closed to the public] to see how and what the volunteers are cataloging, contact any of them prior to your visit to make sure one of them will be at the museum to show you around. Join us in ensuing weeks or lunch after your visit. Byline *Keith Myhre*.

Minnesota Computer History Project: Elizabeth Semler, a researcher at the U of MN, is working with Twin Cities Public Television (TPT) on a state grant 'telling the story' Of Minnesota's Technology History that began with ERA. Graduate student Jonathan Clemens is assisting 'Liz'. Keith Myhre helped them select topical milestones and to identify a dozen people to interview for the filming this spring. Those interviews are underway as this issue goes to press. We anticipate project completion, video editing, and showing on public television sometime during phase II of this project. When we know the date and time; a note will be posted on the web site.

Hidden History: The [then classified] reason to develop Naval Tactical Data Systems was because during the Korean War the shipboard grease pencil and status boards couldn't keep track of the many jet aircraft and fast ships in a combat area. Although the 30-bit computers were used for command and control, a key element was the use of 18-bit computers to do the transponder interfacing for Identification Friend or Foe (IFF). During the funding authorization debates in Congress, some senators wanted to have a secondary use of the technology. Thus, the beginning of Automated Radar Terminal Systems in which 18-bit computer systems could process transponder information from commercial aircraft for air traffic control around airports. Then there was 40 years of service to the FAA and traveling public by the 30-bit IOPs, http://vipclubmn.org/aircontrol.html#Genealogy.

May/June: **New Video:** U of SF Adjunct Professor Mark Greenia sent us a draft FASTRAND history video asking for feedback. Half-a-dozen retired Roseville engineers responded, their information is now part of the video. Our IT anthology March 2018 article has these messages, a Fastrand summary, and video links (http://vipclubmn.org/Articles/CompHistArchProj.pdf.)
Mr. Greenia leads the Computer History Archives Project that has produced 45 Information Technology videos over the last 5-years. Half a dozen of these videos that are relevant to our IT history are linked from the FASTRAND article. One of the more interesting videos is about the 1050-II systems that were used for AF logistics during the 'Nam conflict.

Those systems used the Roseville FASTRAND drums with Blue Bell built processors. History factoids: in addition to the Roseville 418, 490, and 11xx systems, Fastrand drums were also used with Blue Bell's UNIVAC III plus a few Navy systems. Thanks to retired UNISYS Director Paul Dickson for knowing which Roseville engineers had worked with the FASTRANDs.
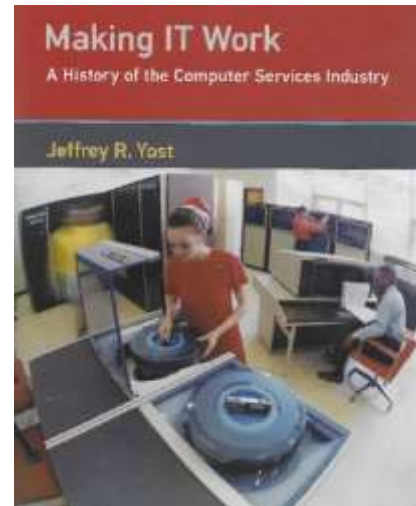
Other recently noticed computer history items: Grandfather of 8-bit machines? Watch and listen to https://www.youtube.com/watch?v=9KojS1ezQIY. Steve Newcomer was one of the engineers who did this micro-computer application development.

A 1st Business Computer: Read about the Remington-Rand '1951 Model 409' created in Rowayton, CT. By *LABenson*

New Book: From punch cards to the cloud is the time span of *Making IT Work*. The author, Dr. Jeffrey Yost is Interim Director of the Charles Babbage Institute at the U of MN.

Citing oral interviews and over 250 references, Dr. Yost presents the who (people & companies), what, and when of the computer Services Industry. Although the Club's heritage companies aren't a big part of this book, mentions are woven into the book.

Chapter 5, *Cooperating Competitors* presents the history of the Association of Data Processing Service Organizations. This includes financial survey information that shows the computer services industry as $2.3 billion in 1972. All-in-all, a most interesting read for an old hardware geek!

What's Happening in Roseville? The Meritex Company is building two 144,000 sq. ft. buildings on the site of the former UNISYS, Roseville facility. Read the complete story is on-line https://www.businesswire.com/news/home/20171115005318/en/Meritex-Develop-Distribution-Buildings-Roseville-MN. Submitted by Neil Larsen

July/August: **Our Stories, 2018**: The July article is a scanned copy of a 1974 Sperry open house flyer. Thanks to Mike Lins for sending the flyer to us. Mike is the son of Ray Lins, who was working in Plant 1 manufacturing management at the time of the 1974 open house. There are about 250 people listed therein who were part of the planning or hosting groups. I recognize the following names as being current VIP Club members: Bob Alexander, Bob Luken, Bruce Klugherz, Clint Haggerty, Dale Maus, Clyde Allen, Diane Plait, Don Mager, Don Vizanko, Frank King, Hank Dotzler, John Vold, Lyle Franklin, Manny Block, and Marlene Summers (now married to John Johnson) Mike Svendsen, Millie Gignac, and Tom Morris. Also, there were a 96 people listed who were recognized at a breakfast for 25 years of service to the company – including the Club's venerable Don Weidenbach. This is a great read through memory lane for those of us who had worked in and the walked the aisles of the Eagan and Shepherd Road facilities.

➢ The June article is a listing of recent papers and documents donated to the Charles Babbage Institute, collected from several retirees & estates.
➢ The May article is Project 6977 Arbitration which resulted in a $16M judgement against Sperry. An Introduction plus the judgement page.

> ➢ The April article is Burroughs; The Computer History Archives Project presents films and pictures about computer systems of the 60s - thanks to Mark Greenia.
> ➢ The March article is FASTRAND: The Computer History Archives Project pays tribute to this mass storage drum - thanks to Mark Greenia.
> ➢ The February article is Apollo 11 Success: a 1969 letter from Forest Crowe, VP & GM of Univac Federal Systems Division - thanks to Andy Simon.
> ➢ The January article is: NEXRAD successes had radar processors from St. Paul facilities. Thanks to Les Nelson. Editing and posting by *LABenson*

September/October: **How is your memory?** Can you identify the application of these 1958 UNIVAC printed circuit boards? Mark Greenia sent us the snapshots and needs your ID help.

These are 4.5" x 6", with ~33 pin connectors. The P/Numbers at the left are most likely Assembly Part Numbers, stamped at the right are manufactured dates, i. e. 58 0401. What is the center 495-… number?

From the transistor count, the bottom left board looks like 12 Resistor-Transistor Logic flip-flops. The top right looks like pulse transformer circuits, either memory interface or Input/Output circuits. There are three more photos, send me a note if you can help. by *LABenson*

November/December: The **Minnesota Computing History** web site is now on-line, http://mncomputinghistory.com. Thanks to Elizabeth Semler - researcher and doctoral student at the U of MN. This web site was developed as part of the phase 1 documentary development by MHTA, TPT, DCHS, and CBI. This site includes the entire Minnesota computer history that started with ERA. Many of the photos therein were curated by Keith Myhre, an LMCO retiree, a Club member, and a 5-yr. volunteer at the Lawshe Memorial Museum.

Look, then plan time to watch the many UNIVAC and Sperry equipment history videos linked in cooperation with the Mark Greenia for the Computer History Archives Project. His latest video is BINAC - A Brief Look Back https://youtu.be/udJUWenPK4w.

2019, 14th Year of Articles

January/February: **Our Legacy Anthology** yet needs more stories. Browse http://vipclubmn.org/SiteMap.html#Level3 to see what we have and where your project story or program story or career summary would fit. OR submit a free-standing paper for inclusion as a monthly article at http://vipclubmn.org/OurStories.html#2018.

The other ERA – Don Anderson has a rack mounted laboratory power supply marked with a UNIVAC property number. The manufacturer's name tag says Electronic Research Associates versus our heritage company Engineering Research Associates. Larry Bolton has this snapshot of a free-standing power supply with the same nameplate label.

Don Anderson's rack mounted ERA power supply nameplate is shown here. Don Weidenbach recalls that we did buy some test equipment from Nutley, N.J. Their logo with the orbiting electronics is quite similar to the logo used by ERA in St. Paul, however it has three orbiting electrons versus one orbit plus a rectangular object beneath the ERA letters. Give yourself 5 'good-memory' points if you recognize the object. Give yourself 50 points if you still have one! *LABenson*

March/April: We listed Club milestones as part of our Legacy. **Jack Benny Year!** At the December Club Board meeting, it was noted that we are now in 39th year of operation. Club milestones are listed hereunder:

1979, Sperry HR Director Millie Gignac recognized that there was camaraderie among retirees thus set about planning for a retirees' club.

1980, in August the Club was formed as the Sperry Retirees Club with the opening of a club room in the Shepard Road facility. 75 members elected Al Mueller as president, established a constitution, wrote by-laws, and began group volunteerism planning.

1984, we registered with the Internal Revenue Service as 'Sperry Retirees' Club', a 501c (7) - non-profit social and recreation club. Al Mueller started Newsletters.

2000, the Twin Cities Lockheed Martin MS2 organization petitioned the Club board to become a sponsor. The Constitution was changed, incorporating this sponsorship – change was approved by a plurality of ballots returned by the members in June of 2000.

2002, Joe Schwarz started a Yahoo Club web site.

2005, the VIP Club celebrated its 25th year at the annual June picnic. The Legacy Committee was formed in October with Richard 'Ole' Olson and Lowell Benson as co-chairs. Dick Lundgren was the first VIP Club member volunteering to serve on the committee. He then scheduled a meeting with CBI.

2006, the VIP Club Board updated the operational Bylaws to reflect current modes of operation, i.e., activity coordinators versus committee chairpersons.

2007 October: In response to an application coordinated by Lowell, the IRS accepted the Board's resolution to change the VIP Club name from "Sperry Retirees Club" to "VIP CLUB". Also, the board authorized combining the Club and Legacy project's web sites onto a Microsoft hosted 'free' site, the URL, http://vipclubmn.org was available.

2007, November the Club in conjunction with the Legacy Committee formed a Sesquicentennial Team to promote our Legacy during Minnesota's 2008 150th celebrations. Thanks to Dick Lundgren for the idea.

2008, April the board authorized annual archiving of a web site copy on a CBI internal host for future research use. Board members at that time were Lowell Benson, Brian Berggren, Quint Heckert, Bernie Jansen, Lynn Farris Lindholm, Dale Phelps, Joe Schwarz, Marion Scott, and Tom Turba. This board also authorized storage of a paper newsletter set at CBI and added them to our database as 'Friend' to receive all future newsletters.

2008, December the board granted Member Emeritus awards to Millie Gignac, John Dufour, and Bernie Jansen for their long-term service to the board and Club. Millie as the founder, John for shepherding the Club through the merging of UNISYS and LMCO retirees, and Bernie for coordinating Volunteer recognition breakfasts for over a decade. Each has also actively supported the board after her/his office terms.

2009, January Dick Lundgren and Lowell Benson with their grandsons attended the Minnesota Sesquicentennial final event, the sealing of a time capsule for the 2058 Minnesota Bicentennial. We put several items into this time capsule including a report about our Sesquicentennial activities. The first of those activities was a May display on the Capitol Mall.

2009, June the board granted a Member Emeritus award to Charles and Midge Homan for their long-term service to the Club, specifically picnic coordination during and after Chuck's 2-yr board presidency.

2009, November the Club took on financial responsibility for the 'Defense' Annual UNIVAC Old Timers Reunion and for the 'Commercial' Roseville Good Old Days annual events.

2009, December the board granted a Member Emeritus award to Warren and Dorothy Becker in recognition of their decade of coordinating the annual Christmas party as well as serving on the board of directors, continuing after Warren's board presidency.

2010, January the Club signed a one-year agreement with the University of Minnesota to display Legacy posters and artifacts in the Walter Library. Tom Turba and Lowell Benson set up the displays.

2010, October the Club celebrated 30 years with a history booklet distributed to members attending a special program at the UNISYS, Roseville facility. CBI's Dr. Tom Misa was the featured speaker. Thanks to Quint Heckert for developing the booklet, thanks to LMCO for the printing and binding. We also awarded a Member Emeritus certificate to Marion Scott in recognition of her 29 years coordinating Red Cross blood drives.

2011, August 3 the Board ratified the Constitution change ballots, then approved Bylaw updates to move forward without the direct sponsorship of Lockheed Martin and with reduced support from UNISYS.

2013, August 13 the Club celebrated the opening of our Legacy exhibit at the Lawshe Memorial Museum in South St. Paul. Lockheed Martin had gifted the Legacy Committee's collection of artifacts, photos, and some documents to the Dakota County Historical Society in December 2012 as LMCO was closing their main Eagan facility. Legacy Committee Co-chair John Westergren coordinated the transfer.

2014, April 16 the Club granted a Member Emeritus award to Tom Turba in recognition of his creation of and continuing coordination of the Roseville Good Old Days annual event as well as his numerous years serving on the Board and Legacy Committee.

2015, April 16 the Club awarded the first Volunteer Extraordinaire certificate to Keith Myhre recognizing his skill and initiatives in support of the Lawshe Memorial Museum. This recognition is named the Jansen Certificate, recognizing Bernie and Kathy Jansen's decades of support to the Club's volunteerism as well as their Dakota County Historical Society board support work.

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2015, September 9 the Club celebrated with an open house at the Lawshe Memorial Museum. That event recognized the museum staff and volunteers' efforts in completion of a Minnesota Legacy grant to develop posters and exhibit support material. We've linked 16 posters from the topics' listings in section 3 of our exhibits page.

2016, April 19 the Club awarded the second Volunteer Extraordinaire certificate to Richard 'Dick' Lundgren recognizing his decade of newsletter Legacy articles and newsletter program articles plus his initiation of our interactions with the Charles Babbage Institute in 2006 and the Minnesota Sesquicentennial Commission in 2007.

2017, April 19 the Club awarded the third Volunteer Extraordinaire certificate to Donald Weidenbach recognizing his decade supporting the Legacy committee, his Airport Guide volunteering, and appliance repairing at his retirement facility.

2017, September an open house at Unisys, Eagan celebrated a successful transition of the commercial computer history shadowboxes from Roseville to Eagan. Also displayed 16 Legacy storyboards borrowed from the Lawshe Memorial Museum.

2018, January 7 the Club granted a Member Emeritus award to Dale Phelps in recognition of his decade plus serving the board as VP, President, Past President, and Director for program planning.

2018, April 11 the Club awarded the fourth Volunteer Extraordinaire certificate to Allan Douglass recognizing his 1,000+ hours of service to Boy Scouts and his church's organizations.

2018, April 15 the club awarded the fifth Volunteer Extraordinaire certificate for Tom Turba' dedication to the Boy Scouts, the VIP Club, and his Roseville community; given posthumously to his wife Virginia at Tom's Celebration of Life.

2018, September 13 the Club sponsored an Open House and Legacy Display at the Lawshe Memorial Museum in S. St. Paul. We celebrated phase I of a State of Minnesota grant to develop a Twin Cities Public Television (TPT) documentary including introduction of a new web site by U of MN researcher Liz Semler, https://mncomputinghistory.com/. She also showed interview clips.

May/June: **Hello from Texas** – To Lowell Benson: You might remember me, I was a Sperry Univac employee from 1980=>1989. Before Univac, I was a Data System Technician (DS) in the Navy, and that is the reason I am contacting the VIP Club. A group of us ex-DS's keep in contact on Facebook. Well, I recently visited Mare Island [in San Francisco's East Bay], which was the educational site for all DS's. After the visit, I sent this message to the DS group:

"Hello all: As some of you saw on Facebook, I just visited Mare Island and posted several pictures. Someone suggested we should get together and tour the Island. I suggest that we need an NTDS history rally event.

I think I found it. On page 222 of *When Computers went to Sea* by David L. Boslaugh (A must read for every DS) --- there is this picture of CP-642 SN XN-1 dated July 1, 1960.

Scan excerpt use OK'ed by Capt. David Boslaugh, USN ret.

I would like to float the idea of a reunion at Mare Island on July 1, 2020 (60th birthday of the CP-642.) Whether a Display Technician, a follow-on computer

Figure 6.2: CP-642 NTDS unit computer serial number XN-1 in assembly at the Univac plant. Circuit cards can be seen inserted in the top seven drawers. The bottom drawer has been pulled and inverted to reveal the dense point-to-point wiring among the circuit card connectors. Photo by Donald L. Ream, courtesy of Unisys.

technician, or a Data Link technician, -- the CP-642 was the enabling technology of the day! If interest exists, I think it could be something really significant. As some of you [DS's on Facebook] know, I worked for Sperry-Univac, and I am still in contact with their Alumni Group. The have an active group called VIP Club, I could contact them to see how they could support a birthday party. I know on my engineering floor at Dell, we have three ex-DS's. Over the years, I have run into several DS's in the IT industry. I think we could get some help and publicity from them. Also, I know there are at least two west coast museums that have NTDS equipment (Computer Museum - Sunnyvale, CA and the Midway in San Diego.) -- we might be able to get some help of support from them. We would also need to coordinate with Toures University and the City of Vallejo.

And it would be great to have a booklet/database (for people who want to participate) to articulate their work and life stories. I bet we will be amazed by the achievements and accomplishments of all the DS's in their lifetimes.

Thoughts? If it is a dumb idea and not worth the time, say so. But the DS's really had an opportunity to 'play' with technology way before it was available to all. I am open for methods and help to accomplish a 60-yr event like this. Thanks in advance, *Greg Casey*: Senior Architect and ☺ Strategist – Server Platform Architecture & Technology at Dell | Office of the CTO

Readers of this article may send comments to newsletter@vipclubmn.org, let us know if you had any Mare Island experiences or were a DS. Lowell will forward to Greg. BTW, Greg reported to me for a while in the 80s when I was a manager responsible for several technology studies.

　　　　　Edited by *LABenson.*

July/August: **Computer Memory Technologies:** The Computer

History Museum in California has an exhaustive story about all types of computer memories. Their page #252, https://www.computerhistory.org/revolution/memory-storage/8/252 covers drum memories including the work done by ERA for the ATLAS computer.

Their page 8/258 has UNIVAC magnetic tapes. Page 8/263 includes the 1107 thin film memory. Page 8/264 shows the Sperry 1110 plated wire memory. Their 27 internet pages include data from many, many technology companies.

ERA to UNISYS memory usage story is in our Legacy chapter, http://vipclubmn.org/Memory.html. Hope that you enjoyed reading the technology history, I did – *LABenson*.

The 1960 picture, provided by Mentor Johnson's son Bruce, is the Univac technician team sent to Rio de Janeiro, Brazil for a couple of months in 1960 to install a Univac mainframe at a Brazilian government site. The picture is taken at the Luxor Hotel on Copacabana beach. We could use some help identifying the people in this picture: Mentor Johnson, Doug (Gilbert?), Al (Tweet?), Don, Jim Greeder, and Jerry?

Left to Right-Ment, Doug, Al, Don, Jim & Jerry
At Luxor Hotel, Rio de Janeiro, Brasil. 1960

VIP CLUB

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A previous newsletter had a link to a YouTube video, "Electronic Servants - Roseville UNIVAC", which I really enjoyed, it briefly shows my dad, Mentor Johnson at the 16:35 mark (he's the guy standing up wearing a suit). [https://www.youtube.com/watch?v=HblSLJ0HZP4]

Bruce Johnson was at Unisys Roseville from 1985-1992 and at Unisys Eagan/Macs from 1992-1997.

To the Moon: The Integrators – point your browser to https://www.zdnet.com/article/to-the-moon-the-integrators/. This is ZDnet's second installment in their "To the moon" series about IBM and UNIVAC, the two primary computer systems integrators for the Apollo missions. Article originally written in 2009.

Extracted from their internet site page: "IBM's Real Time Computer Complex in Houston (right, Top) and NASA's Fresnedillas DSTN station in Madrid, Spain, (right, Bottom) one of the many Deep Space Tracking Network outposts using UNIVAC systems for pre-processing of telemetry downlink and command uplink data."

Two article paragraphs which are inconsistent with other history writings:

1) "UNIVAC, originally started as the Eckert-Mauchly Computer Corporation, was the descendant of the namesake founders work on the ENIAC, the first stored program digital computer which went online in 1947."

2) "By the late 1970s, Sperry ended the UNIVAC brand name, and in 1986 acquired another smaller computer manufacturer, Burroughs, to form UNISYS."

Opinions of inaccuracies: 1) The term 'on-line' relative to computers didn't occur until the mid-50's when phones were connected as communication devices so 1947 is wrong. The ENIAC was originally a plug-board computer, not an electronic stored program computer. In the 50's the ENIAC was upgraded to become a stored program computer – after several others were in existence. 2) Mr. Blumenthal, then Burroughs board chairman, led a buy-out/takeover of Sperry in 1986 – Sperry did not acquire Burroughs. Suggest computer history readings are: 1) http://vipclubmn.org/Articles/CreativityToObscurity.pdf 2) http://vipclubmn.org/Articles/HistoryReview.pdf

Link submitted by Mike Adelman via Bill Rhode, Paul Dickson, and Ron Q. Smith. Editing by *Lowell*

September/October: **Help Request:** I am trying to help the battleship USS Iowa radio gang find information about their Sperry-Rand AN/USQ-69 data terminal (Sperry S-2049 I think). They would like to hook it up for communications demonstrations. If anyone has a manual or experience that would help, please contact me and I'll get the info to the USS Iowa. Many thanks! *Nick England*, nick@navy-radio.com.

50 Years Ago, Man Walked on the Moon!   UNIVAC/Sperry teams were part of this history: Read   our   on-line   Legacy   Anthology   articles; http://vipclubmn.org/Articles/Apollo11Success.pdf,   http://vipclubmn.org/Articles/Apollo.pdf, http://vipclubmn.org/Articles/MoonAstronauts.pdf,   and http://vipclubmn.org/Articles/EighteenBitRevB.pdf - pages 1, 5, 10, and 11.

And if you haven't viewed the TPT interview, https://video.tpt.org/video/apollo-11-memories-from-univac-engineer-steve-anderson-35714/".

Plus, enjoy this 'Weyrick' Dakota County Tribune Sun This Week newspaper article https://www.hometownsource.com/sun_thisweek/community/apple_valley/local-man-part-of-communications-efforts-during-apollo-mission/article_14d732d6-b48e-11e9-be70-2bd16ace00c5.html.   From *Keith Myhre*, et al'.

An April 26th, a 1946 Star-Journal article: *Bill Norris was one of these naval officers mentioned at the article's end!*

NAC Preceded ERA: Harvey T. found this clip.

LOST AND FOUND. 8

LOST—2 crates of aircraft parts belonging to Northwestern Aeronautical Corp., between our plant located at 1902 W. Minnehaha ave., and 478 St. Peter st. Crates stenciled No. 190, weight 283 lbs., and No. 210, weight 994 lbs. Finder please notify shipping dept. for reward. NE. 9601.

LOST — Black & silver Parker "51" fountain pen. Engraved M. H. Kissling. Gift from brother in service. Reward. EL. 1653.

How many of us remember when phone numbers were two letters for the exchange and 4 digits for the phone? I found it interesting that the NAC St. Peter St. address was the location   of   the   ERA   plant   2, http://vipclubmn.org/Locations.html#Others.

Visiting the Charles Babbage Institute (CBI):

Professor Elizabeth Semler is teaching a summer class, *Technology and American Culture*. On July 10th the class met at CBI for an introduction to documenting and archiving technology as presented by CBI Archivist Amanda Wick. Liz and Amanda led the class through the CBI storage facility beneath the Elmer L. Andersen Library, home to the U of MN's Archives and Special Collections research center.

Electronics Firm Formed in St. Paul

Establishment in St. Paul of a corporation to serve as a consulting and research organization in electronics and related fields for the army, navy and industrial firms, was announced today.

The new concern, Engineering Research Associates, Inc., expected to employ about 1,000, will be located in the plant of Northwestern Aeronautical Corp., 1902 W. Minnehaha avenue.

John E. Parker, president of the latter firm, was elected president of the new organization, which is to operate separately from Northwestern Aeronautical Corp.

About 40 scientists who worked as a navy technical team during the war will be associated with the new concern under present plans, Parker revealed.

Directors of the new firm, in addition to Parker, are Nelson S. Talbott, Dayton; R. C. Lilly, chairman of the board of First National bank, and E. W. Dichman, both of St. Paul.

Certain naval officers are expected to be made directors after their discharge from service.

2. Liz is at the right, telling students about the CBI storage facility.

In three areas of the classroom, the students wrote reports about some technology folders; technology history books; and an artifact area with couple of hardware calculators, an electronic logic wiring game, and this nonfunctional Apple II Machine.

The students also looked at a few pre-selected technology history boxes in the archives. Page 7 has some snapshots of the archive contents.

Ms. Semler had requested help from the Legacy Committee, Lowell Benson brought a DOS based processor from the Lawshe Memorial Museum – shown here (3Sperry Model T3067 suitcase unit). The boot disc floppy unfortunately failed to read half-way through the class thus editing via the CRT and keyboard weren't demonstrated. ☹ Article & snapshots by *Lowell Benson*.

November/December: **Solid State: Minnesota's High-Tech History**. The Minnesota High-Tech Association (MHTA) invited last year's TPT interviewees to an October 8th premier pre-view of their Solid-State documentary. Unisys, Eagan was one of this premier's hosts ($$$). Club members who appear in the documentary are Bernie Jansen, Dick Erdrich, Don Weidenbach, Harvey Taipale, Keith Myhre, Lowell Benson, Mike Svendsen, Millie Gignac, and Patricia Myhre. The cameramen were observed at the Lawshe Memorial Museum as well as at our June picnic.

*Keith Myhre and Harvey Taipale presented **ERA** lapel pins to Kevin Dragseth and Dr. Jeffrey Yost.*

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So, members not mentioned as interviewees do appear in the documentary. MHTA President Jeff Tollefson emceed the event.

As this newsletter went to press, several Oct./Nov. dates were identified for viewings on TPT channels. Live stream from: https://www.tpt.org/solid-state/video/solid-state-minnesotas-high-tech-history-35848/. Thanks to TPT's producer *Kevin Dragseth*.

Behind the scenes – A very special thanks to *Keith Myhre* who selected many of the 'UNIVAC' photos used in the documentary and who provided TPT with a timeline of topics on which to build the documentary as well as some candidate interviewee names. Thanks to *Dale Weeks* who worked persistently to obtain funding for the documentary.   Byline *LABenson*

2020, 15ᵗʰ Year of Articles

January/February: **Digital Trainer**: Ed Sharpe of SMECC sent a message to Rebecca Snyder at the Lawshe Museum requesting information about the UDT-422. She forwarded the request to Keith Myhre who established communications with Ed. Web updates now are pending for special processors section 3.1, http://vipclubmn.org/cpothers.html#CP-788, etc.. This inquiry is a stark reminder that there are yet more stories to tell about the products developed in the Twin Cities!

Patty Duke & Paul Lynde with a U-422, circa 1972. Clip from Ed at SMECC.

Byline *Keith Myhre* and *LABenson*

TPT Documentary feedback: To Harvey and Lowell, Jim Lorenzen discovered the Solid-State documentary two nights ago, so I watched last night. I am really proud of what the VIP Club's Legacy committee has accomplished to share this history. Thank you for all your hard work to spread the news of the great accomplishments of the people that built the local computer industry. It is humbling and gratifying to have been a part of that history and still be trying to keep it going (yes Harvey, IRIS is going stronger than ever.)

Product Development Associates

PDA is close to 90 people and DRS has over 50 locally, both with many former LM folks keeping the band together.

Thank you again! *Scott Benjamin*

Thanks, Lowell, for forwarding this information. It was truly fascinating and brought back a lot of memories, dating back to my first contact with a computer (CDC 1604 at U of M). *Bob Lindahl*; Univac/Sperry/Unisys 1969-2011.

Dear Lowell, on behalf of the Minnesota High Tech Association and Twin Cities Public Television (TPT), we thank the VIP Club for supporting the premier screening of Solid State: Minnesota's High-Tech History. The documentary first aired on Sunday, October 13th and is now widely available. Feel free to share this link (https://www.tpt.org/solid-state/) with your colleagues and friends and celebrate Minnesota's tech history and future! Sincerely, *Minnesota High Tech Association*

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To John Westergren: I had an opportunity to watch the video, excellent history and background to the advanced technology and legacy that was and still is being created in Minnesota. On that note, I, myself, am starting to forget all the tremendous designs, products, etc. that Winnipeg Operations manufactured so I'm putting together a slide deck and info package for a tribute to Winnipeg Operations. So, if you [Ed wrote to former Winnipeg people with whom he keeps in contact – he receives our newsletter electronically as a Club friend] have any articles, photos, memorabilia that you would like to share please forward them to me and I will make an attempt to fit it in. I will try to release the tribute in the next networking list update. Take care, *Ed Pogorzelec*

To Lowell, Thanks for the information. I watched the documentary on Sunday and saw several familiar names and faces. *Charlie Tolman*; Honeywell Research 1959, Univac Research 1960 – 1984, and Control Data / Seagate 1984 – 1999.

STEM: From martins@lyndhurststem.org to the VIP Club: Hi folks, I hope it's not weird to reach out like this, but our girl's STEM group just wanted to send the VIP Club a big salute! We needed some fast information related to coding, hacking, security, etc. so your site and its big list of Club/IT Research/STEM education references are super helpful. That led us to some other good non-spam material for our STEM group. Since we want to have our own hackathon someday soon, some of the girls and I have been looking for cybersecurity info & games, if you have any tips to share –but only if it's no trouble!

I thought it would be fun if I asked the kiddos if they had any other favorites or tips, we could pass along to return the favor. One of our more tech savvy stars printed out some guides to pass out in group - resident guru Aubree (age 11)! We really liked this one:

https://securitybaron.com/blog/cryptography-and-coding-information/. We hope you enjoy it too, maybe you might even like it as a fun contribution to your site resources page? If you do decide to add it, I'll be sure to show Aubree hat you liked her idea. I'd love for her to see that it's cool to be into this stuff! We don't want to be a pain so sorry for taking up your time. Thanks again to the VIP Club family; it's very cool to make this connection. Warm wishes, *Stacey Martin*

On a 2020 Sabbatical: In 2005, I joined the VIP Club board to chair a Legacy Committee. In 2013 the status was documented as one of Our Stories, http://vipclubmn.org/Articles/DreamRealization.pdf. Now in 2019 Twin Cities Public TV finished/produced a documentary on the state's high-tech history, https://www.tpt.org/solid-state/video/solid-state-minnesotas-high-tech-history-35848/ and Mark Greenia of the Computer History Archives Project published "Engineering Research Associates" https://www.youtube.com/watch?v=Tk9DGpwmiwA. 400[+] people have contributed articles & bios to our Legacy Anthology, http://vipclubmn.org/Legacy.html. Although I've aided all of these; so many others have contributed to telling the story, **special thanks to**:

1. Bernie Jansen, John Westergren, and Chad Roberts for establishing the exhibit at the Lawshe Memorial Museum.

2. Keith Myhre and Harvey Taipale who have worked with the museum to develop grants plus Keith who curated information for the documentary production and display boards; and

3. Dr. Tom Misa who advised the committee for 11 years and developed the book *Digital State, The Story of Minnesota's Computer Industry*.

I've now decided to step away from the VIP Club Board, Legacy committee, and townhome association board to recharge my batteries. By *LABenson*

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March/April: **ERA Guys**: Thirteen video interviews are on-line, http://vipclubmn.org/PeopleInterview.html#OldTimers. Thanks to videographer John Westergren and file converter Keith Myhre. Posted by *Lowell Benson*.

What's in our Legacy Anthology? The table of contents is http://vipclubmn.org/SiteMap.html#Level3. The anthology theme: People Engineered Computers and Systems at Locations in the Minnesota environs and through the world. Also, Our Stories and Exhibits chapters supplement the theme.

What isn't there? Chapters 35 and 36 are but placeholders because no one has written about Pueblo CO or Clearwater FL. Chapter 37 has but an 'Emmet Johnson' organization chart. AND is your micro-bio included in the People chapters?   Byline *LABenson*

1230 (aka CP-642B modified) - An Apollo tidbit: I was assigned to engineering for the initial checkout and was tasked by Don Mager with selling the first one to NASA. After that I supported qualification testing and final checkout in Plant 3 which was a common thing for Field Service troops to do when not traveling.

I did make one trip to Goddard Space Flight Center to check out an intermittent problem that was creating some problems between the hardware guys and the programmers. The only time I could get on the system was at night, so I ended up working 12 midnight to 7 in the morning. After spending five nights staring at a scope and varying the trigger levels, I got a look at what was happening. An interrupt (occurring asynchronously) had generated a voltage spike that, after passing through 4 levels of logic, had been expanded to a runt pulse which locked out the incoming interrupt request without having been queued/recognized for processing.

I found a signal to mask the runt pulse and allow the interrupt to be recognized during the next scan. There was an "and" gate available, so I wired in a change and started it up. I then ran the system for two nights with no problems and the programmers did their day time testing with no problems so I put the change into the second 1230, declared victory and 'got out of Dodge.'

Bob Oulicky had been responsible for the I/O design which was largely a carryover from the CP-642B, and he never could understand what the problem was and how this change fixed it but it's hard to argue with success!   😊   Cheers, *Richard 'Dick' Erdrich*

May/June: **VIPS Adventure,** I'm riding back to the Miami, FL, Eastern Airlines data processing center in an old jalopy that is one repair job away from permanently going to the junk yard. How did I 'get the opportunity' to ride in this beat up old car in Miami?

Eastern Airlines had purchased four Sperry Voice Information Processing Systems (VIPS) to be used for crew scheduling. During their once-a-month maximum use period, the systems would lock up about every 20 minutes. The trip was planned to have me be at the airline's data center during their next maximum use period. I was a bit worried that I might not be able to resolve the problem, but an easy fix turned into an interesting adventure!

Each VIPS unit could handle 12 phone lines. During that busy week, all phone lines were active 24/7 when crew members would choose their next month's assignments from a phone. VIPS was developed by Sperry's defense group in Eagan, MN, for Sperry's Blue Bell, PA, commercial division. Users on the phone would press touch-tone buttons in response to questions generated by the mainframe computer that managed the crew assignment database.

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The airline's Information Technology (IT) folks had discovered that when the VIPS unit locked up, they could reset it and the process continued from where it had left off, because the mainframe was controlling the information exchange. For the users on the phone, it left them thinking that there was just a long pause.

I connected my Z80 emulator to Unit #1. When the system locked up, I got an expected breakpoint. I started to analyze the data, but within a minute, a lady in the data center reached in between me and the VIPS unit to reset it. After the lady's third reset I said, "I may as well pack up and go home." Less than five minutes after my impulsive comment, the Eastern Airlines Vice-President for IT was in the data center talking to me. When I explained the situation to him, he said, "When you get the next breakpoint, you can have that one unit for two hours to analyze the problem." After having a little time to examine the data, I was able to come up with a fix. With the fix installed and running on the emulator, Unit #1 no longer locked up.

I made arrangements with personnel in Eagan to change the code, burn it on four Programmable Read-Only Memory (PROM) chips, and send them to me in Miami. They would send them counter-to-counter via the airline, but they would not arrive in Miami until the next day about midmorning.

Ultraviolet (UV) Erasable PROM chip that had to be shipped from Eagan

Learning about the delay in getting the updated PROM, the airline guy I was working with said, "We could burn those PROMs at my house. I've got an Ultra Violet (UV) PROM erasing oven. If you save the code on the floppy disc, we can take it to my place and program the PROM."

UV PROM installed in circuit --
The size of the chip relative to a person's fingers provides an idea of how small the chip is

I thought, what the hell we might as well try this to get the first two systems up and running sooner. Unit #1 would run off the emulator and Unit #2 would get the updated PROM. If those units ran without locking up overnight it would give us confidence the fix worked.

Carrying the floppy disc with the fixed code, we head outside to the parking lot. I start to head toward my rental car, but the airline guy says, "Let's take my car; I know where I'm going." On the way to our destination, he tells me the "reset lady" is the VPs girlfriend and she called him the instant I made my comment.

We finally got to his house, where he was temporarily living with his in-laws. He had this specialized equipment to burn PROMs as part of a side business he was involved in before he moved to Miami, except now it was all stored in boxes sitting in his in-law's porch. While we were in the porch digging through the boxes for the floppy drive reader, UV oven, and other needed equipment, his mother-in-law was standing at the kitchen sink periodically looking over her shoulder at us while doing dishes. We got the equipment set up and successfully burned the PROM with the fixed code.

UV erasing oven that can accommodate up to six PROM chips

We returned to the data center, installed the PROM in Unit #2, and continued to run the first unit with the emulator. The two units ran overnight without crashing. About midmorning the four updated PROM chips arrived from Eagan, and we now had all the units running. I stayed one more day just to make sure everything continued to work through the max use, crew scheduling period.   VIPS Adventure provided by *Gish Devlaminck*

Our Legacy Continues . . . Thanks to Gish Devlaminck for the 166th addition to http://vipclubmn.org/OurStories.html. As an engineer, he was called on to resolve a peak usage problem with the Eastern Airlines Voice Information Processing System (VIPS). He was successful; his story has an unusual twist to the fix implementation. Good job, Gish!

Unisys Tidbit #1: Last month we wrote: "Blue Bell is seeking artifact donations intending to set up an in-plant history museum, …"

Unisys Director Charles 'Chuck' Lefebvre wrote, "We recently renovated our corporate office in Blue Bell, PA, and consolidated all Philadelphia area work into that single office building. Do you have any candidate artifacts with an associated story that you'd suggest could be offered from your artifact inventory?"

Blue Bell VP and Chief Engineer Jim Thompson wrote, "We are in the process of trying to put together a coherent story regarding our collective innovation activities over the last 145+ years. A spot in the Blue Bell headquarters has been identified that can properly display these items and tell their story. We have several typewriters and adding machines along with a Univac II console, so for the moment we have a grip on 1910-1920 and 1958. I need gap filling help.

I'm looking for significant innovative contributions that are relatable. For instance, Remington commercialized the QWERTY keyboard with the Model 2 after acquiring the patent – the reason behind the design, and the reason your iPhone or Android has a QWERTY keyboard is our fault – it's a Unisys innovation! It is a relatable and short story to tell and leaves people with the thought: "I didn't know that!" We have hundreds more and I want to get them out.

It's my mission to locate as many as I can and to find one, really good relatable story for each of the 15 decades behind us. Obviously, I can't do it alone; thus, I'm soliciting help – I'm looking for that special item that you grabbed hold of that has a story to tell, that your spouse would love to see go, and I want your help in telling its story. So please consider those artifacts you have, and those stories you know, and help me tell the company about the technology and innovations that were and are Unisys!"

If you, a VIP Club member, have a basement or garage item that might fit the request above, inform either of the following: mailto:paul.dickson@comcast.net or Kelsey.Bruso@Unisys.com.

Thanks, *Chuck*!

Unisys Tidbit #2: Last month we wrote: "On February 6th, Science Applications International Corporation (SAIC) announced the purchase of Unisys Federal, an operating unit. The effect of this buy on Eagan-based Unisys and Leidos…". BTW, Leidos here in the Twin Cities is the 'continuation' of our Air Traffic Control legacy that started with the file computer in the mid-50s, reference http://vipclubmn.org/aircontrol.html.

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Unisys Director Charles 'Chuck' Lefebvre wrote "I am not yet aware of any Unisys Federal employees based in the Eagan facility that would be transferring to SAIC. The associates based in Eagan are primarily part of the Technology or Enterprise Solutions (ES) organizations. The ES organization is the one that sells products and services worldwide to both businesses and governments including state and local governments in the United States, all of which will remain with Unisys. Our Federal group primarily provides Information Technology (IT) consulting services to the Federal Government, rather than products. However, we have several large ClearPath clients in the Federal Government and our Unisys Federal team has been actively selling our Stealth security software product. As part of this transaction, SAIC will be a reseller for both of those technologies."

Former SAIC executive Duane Hove informed his brother Paul that "SAIC was the parent company of Leidos. SAIC had government restrictions from doing both technology work and oversight work. Sensing that the latter was lucrative, they split the company into SAIC and Leidos. They are now not related (except that former SAIC stockholders have shares in both companies.) BTW, Leidos comes from kaleidoscope." Thanks Chuck and Paul!

July/August: **Name Change:** The latest CBI newsletter, Director's Desk printed "As of April 2020, our new name (or rather, revised full name) is the Charles Babbage Institute for Computing, Information, and Culture. "What is in a name?" Why the change? To the former question, a tremendous amount, to the latter question, we consider it very important as it far better reflects our wide-ranging interdisciplinary activity, commitments, and goals—our tremendously diverse and extensive computing/IT archival collections, our research and editing leadership, our events, our oral history program, and other initiatives." The full article is available at https://justcode.cbi.umn.edu/newsdirectors-desk.

As we, the VIP Club, celebrate our 40 years of retiree social activities—CBI also opened at the University of Minnesota in 1980 with the director holding the **E**ngineering **R**esearch **A**ssociates Land-grant Chair for the History of Technology. They continue to archive documents collected by our Legacy Committee. We thank CBI directors Dr. Norberg, Dr. Misa, and Dr. Yost for their support of our Legacy initiatives over the last 15 years. *LABenson*

September/October: **Legacy within our Legacy**: At the Dec. 2019 Old Timers' Reunion, Keith Myhre asked "Who was the Bad Godesberg Director before Lee Dominick?" Although they had worked in Germany in the 70s, attendees Dick Lundgren and Lowell Benson had no answer. A retired (2007) former director, Manfred Wiese, had sent the Legacy committee a slide presentation in 2011 which chronicled projects in Germany from 1968 (Sperry Rand) to 1996 (LMCO). No directors were named other than Manfred. We contacted several former Bad Godesberg associated people: Bill Geiger, Dennis Christ, Dieter Hoffmann, Don Blattie, Elwood 'Woody' Knight, and Ernie Lantto for their recollections and stories. Details online: http://vipclubmn.org/International.html#BadGodesberg.
The answer is that there was no director before Mr. Lee Dominick. The Bonn DIRECTOR sequence from the above responders is: Lee Dominick, Roland Britton, Gary Humfelt, Chuck Hammond, Al Bettis, Manfred Weise, and Marco Eimuth. Before Lee, there was a marketing office under the management of Gary Holthusen that aided the German Navy with Foreign Military Sales (FMS) of NTDS equipment for their software development installation at Wilhelmshaven. Sadly, LMCO closed the Bad Godesberg office in 2013 after 50+ years of operations.

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This painting illustrates Bad Godesberg. The town is located on the west side of the Rhine River just south of Bonn which was the West Germany Capitol. The American Embassy was located here until moved to Berlin in 1990. The castle at the left center is the Godesberg, roughly translated as God's Mountain. Across the river atop the first mountain (hill) is the St. Petersburg Schloss resort hotel which was Eisenhower's headquarters just after WWII. The rightmost of the seven hills has the ruins of a medieval castle called Drachenfels – Dragons' Rocks.

YOUR STORY *We received several responses to our request to hear from you and for you to share your stories. Here is one from Archie Lahti*:

PROJECT CORONA

A group of 10 made 2 trips to Lockheed in Palo Alto, CA, in August 1960, to install a big change into two Univac Scientific 1103A computers. Three of us were from the test floor and the rest were factory detail assemblers. The change doubled the data storage capacity of the magnetic drum. Someone above our pay grade had committed us to complete the changes in 54 hours or less. We all started installing the change in one of the computers during the morning of Aug. 15. At about noon, a Lockheed computer room manager told us to stop, because the Air Force needed both computers. He asked us how long it would take us to undo the change and restore the computer back to pre-change operation. We estimated eight hours and were ordered to do so. Our management then ordered us to travel home. A week later we all traveled back to Palo Alto and installed the change into both computer systems successfully.

In 1995 we found out what happened when Project Corona was declassified (see link below). Project Corona was the first successful photo reconnaissance satellite. Launch 13 on Aug. 10 was the first successful one, but the camera and film had been replaced with various instruments. Launch 14 on Aug 18 had a camera and film and was successful (see link below). Lockheed designed and built the two-stage Thor-Agena launch rockets. The Agena was also the satellite. The launch facility was at an unused Army coastal defense base NW of Los Angeles. That base was later transferred to the Air Force and became Vandenberg Air Force Base. The launch was due south so that the satellite orbit would be over the South and North Poles. The orbit altitude was about 100 miles and speed about 18,500 mph. The orbit time was about 90 minutes. Earth rotates within the orbit so all parts of earth can be viewed. Photographic film was used as it had the best resolution then. To get the exposed film back to earth, the satellite had a container, with a parachute, for the film. The container was ejected downward as the satellite passed over the North Pole and toward Hawaii. The Air Force sent transport planes from Hawaii to recover the film container. Each plane pulled a large net that could catch the film container as it slowly descended with the parachute. That Agena was then space junk.

After Project Corona was declassified, several books were written about it. One of the authors stated that it "changed the course of history." They gave three examples.

   • When the Cuban Missile Crisis happened, there had been 22 launches that successfully photographed the Soviet Union. They had a few long-range bombers and intercontinental ballistic missiles. Not much of a threat.

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• A technology that allowed cartographers to make maps from special photos was developed; this provided accurate maps of the Soviet Union.

• Finally, we knew what military capability the Soviet Union had, so we needed a bit more!

The name for the classified project was chosen by an author of the original plan. He needed an important sounding and rarely used word. There was a Smith Corona typewriter on a nearby desk. A good choice for the name of the project at the time. Archie also supplied some background information: "In May 1960, the Soviet Union managed to bring down one of our U2 planes on a photographing mission. The pilot was captured. That made getting the satellite operational more important." Turns out they may not have realized until declassification in 1995 just how important!! See the following links for Project Corona and first photo reconnaissance details: https://www.cia.gov/corona-declassified.html   https://www.cia.gov/first-photoreconnaissance-satellite.html

November/December:

Legacy Initiatives' History: The Legacy Committee began at the October 2005 VIP Club board meeting. Its immediate purpose was to document the company's (ERA to Lockheed Martin) place in the Information Technology Age. Initially, Lockheed Martin provided space in Eagan for gathering artifacts and documents until the plant closed in 2012. In 2013, volunteers restarted cataloging artifacts and documents at the Lawshe Memorial Museum. Keith Myhre has nicely summarized eight years at the museum: http://vipclubmn.org/Articles/CatalogingStatus.pdf. This summary paper is #272 of the VIP Club's Articles for the Month: http://vipclubmn.org/OurStories.html.

"It's more a social activity than work"

When talking about his volunteer work on the cataloging artifacts project at the Lawshe Memorial Museum, Keith Myhre said, "it's more a social activity than work." The volunteer crew welcomes additional help and your social presence. With six workstations, there is socially distant space available, to meet current COVID guidelines, on the first and third Tuesdays (when the museum is closed to the public). Contact Keith Myhre, Les Nelson or Bob Pagac prior to your visit to ensure one of them will be at the museum to show you around both the workstation area and the larger artifact display area, and to see how and what the volunteers are cataloging. (*See Lawshe Museum Support contact information on page 7.*)

Other 2020 Articles for the Month:

- September – Assignment in Mississippi by Kevin Hoffman, a Lockheed Martin retiree, describing software support for DDG-993 class destroyers.
- August – ARTS II became part of our heritage when Burroughs bought Sperry to become UNISYS; an ARTS II display is on hand, soon to be part of our museum exhibit.
- July – Larry Bolton provided photos of people testing semiconductor components and scans of test logs saved by Don Johnson.
- June – A 2016 Unisys Computing Growth slide set from Unisys Fellow Ron Q. Smith.
- May – Precision Agriculture Initiative article describing a defense conversion activity, by Steve Ernst.
- April – VIPS Adventure by Gish Devlaminck, who, while working as an engineer at a customer site, fixed a problem using an innovative twist to make it happen.

- March – [Plated Wire Dialogue](#), covering correspondence among several retired engineers responding to an inquiry from a British Plessy engineer.
- February – The *Starring the Computer* website has information about over 400 computers that have appeared in movies and TV series. We've copied the links to our [computer types](#) that are posted there. Thanks to James Carter who did all the research to create this website of history.
- January – [Sperry Utah](#) is the site of Ed Bower's intro to the Univac computer family; find his St. Paul micro bio here: http://vipclubmn.org/People1.html#Bower.

40TH ANNIVERSARY ERA PLAQUE – WHERE DID IT GO?

Keith Myhre scanned several photos from an August 19, 1986, dedication event. That event was held adjacent to the 1902 Minnehaha buildings (old Plant 2). Unisys moved out of that building about May 1991 and the Navy divested itself of the property thereafter. The plaque is not there now. Does anyone know when it disappeared?

We have contacted several people to no avail. If you, our readers, remember seeing the plaque, we would appreciate hearing from you. (http://vipclubmn.org/Temp/40-Yr%20Plaque.pdf), Thanks, la.gj.benson@comcast.net.

UNIVAC I REMEMBERED: One thing that went off as planned in 2020, the 2020 Census! Though it faced challenges like no other decennial census in living memory, including severe weather events and a global pandemic, 99.98% of all housing units and addresses nationwide were accounted for as of the end of data collection operations on Oct. 15, 2020. The census counts every person living in the United States and five U.S. territories. Getting a complete and accurate census count is critically important for determining boundaries for congressional, state legislative, and school districts; informing the allocation of hundreds of billions in federal funding for key public services; and providing data that affects communities and business decisions for the next decade.

Why is this of interest to the VIP Club? On June 14, 1951, Remington Rand delivered the world's first commercially produced electronic digital computer, UNIVAC I, to the U.S. Census Bureau. UNIVAC, which stood for Universal Automatic Computer, was developed by J. Presper Eckert and John Mauchly (makers of ENIAC, which stood for Electronic Numerical Integrator and Calculator, the first general-purpose electronic digital computer). These giant computers, which used thousands of vacuum tubes for computation, were the forerunners of today's digital computers.

UNIVAC I weighed 16,000 pounds, used 5,000 vacuum tubes, and could perform about 1,000 calculations per second. On November 4, 1952, the UNIVAC achieved national fame when it correctly predicted Dwight D. Eisenhower's unexpected landslide victory in the presidential election after only a tiny percentage of the votes were in.

UNIVAC and other first-generation computers were replaced by transistor computers of the late 1950s, integrated-circuit machines of the mid-1960s and 1970s, personal computers of the 1980s and laptops and hand-held computers of the 1990s and beyond.

UNIVAC information for this article is from History.com and A&E Television Networks at: https://www.history.com/this-day-in-history/univac-computer-dedicated.

Census information from: https://2020census.gov/en/news-events/press-releases/2020-census-all-states-top-99-percent.html, and https://2020census.gov/en/what-is-2020-census.html For more information, go to: http://vipclubmn.org/BlueBell.html#HowFar

Newsletter staff: The story about Project Corona in the most recent issue I found very interesting and hit close to home. After I graduated from Creighton U. in 1964 I took a job as a Cartographer with the US Air Force at the Aeronautical Chart and Information Center in St Louis, Mo. I spent many a day looking at the film mentioned in the Corona story. As was said it was very highly classified so it was many years before I could talk about it. The resolution on the film taken from space was fantastic. While I never saw one, they said you could pick out a golf ball on a green on a good day.

Thanks for the story. I'm sure many people never realized what we were capable of doing back in the early 60s. Sincerely, John Byrne
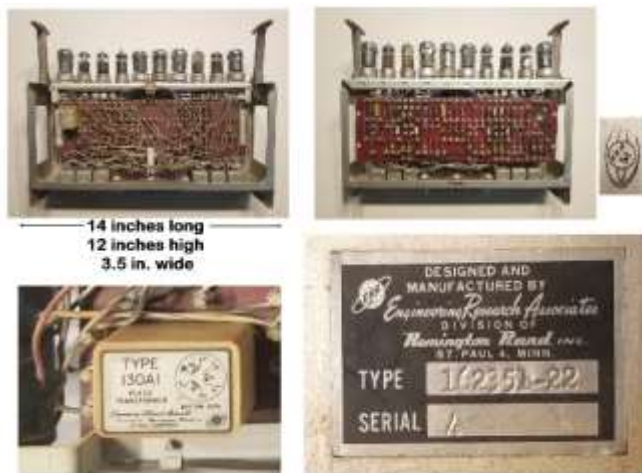
2021, 16th Year of Articles

January/February: **75 Years!** On January 8, 1946, ERA opened their doors for business at 1902 Minnehaha Avenue, St. Paul, MN. We recognize that event as the beginning of our information technology legacy. More of the story can be found in *Anthologies Tell the Story*, the 175th monthly article since the legacy project's first meeting at the Charles Babbage Institute on January 12, 2006 (http://vipclubmn.org/Articles/Anthologies2Go.pdf). THANK YOU to all the contributors to our written and video legacy!

http://vipclubmn.org/Articles/Standardization.pdf is the 174th article posted for December. Instruction Set Architecture and computer technology reuse saved the government uncalculated millions of dollars. Prologue by Charles Alcon (LCdr. U.S. Navy ret.).

http://vipclubmn.org/Articles/World_Wide.pdf is the November story, an anthology of places and people working outside of the United States, all connected with St. Paul operations.

Query Letter: Hi Lowell, I am reaching out to a few of my very savvy computer friends and experts, to see if anyone can help me identify this fascinating computer tube board.

I have been researching it for weeks; what I know so far: Board says, "Designed and Manufactured by Engineering Research Associates division of Remington Rand Inc." Since this nameplate was probably only used between late 1952 and early 1955, that gives a suggested time frame. However, it also states, "Serial Number 4," which makes me think it is late 1952 or early 1953. Could this be from the ERA 1102 or 1103 systems? The time frame seems right. There is also a tiny stamp that says, "ERA 58," but I do not know if that is a date stamp or something else.

The board has five Octal base tubes and five "9-pin" tubes (ten tubes total). (My tubes fit but are not original.) Unit weighs 4.7 pounds and is 14 inches long. {{**Note:** August 19, 1952, is the last recorded board meeting of ERA before it was officially part of Remington Rand. ERA became a wholly owned subsidiary of Remington Rand for a few months, then became the "ERA Division of Remington Rand," like the tube board identifying plate reads. (Source: Oral History of John Parker, former president of ERA.) When Sperry bought Remington Rand in 1955, I think they quit using the ERA name then.}}

Anyway, any suggestions or leads would be very helpful. I have been pulling my hair out (what's left of it), but this is as far as I've gotten. *Mark Greenia*

Response: Mark, since your picture(s) have insertion handles, it is quite likely that you have an 1103 computer module, per page 2 of http://vipclubmn.org/Articles/ERA2unisysWeb.pdf. 1102 modules did not have handles. The ERA 58 symbol/stamp image looks like a quality inspector's number. Jim Wright's widow, Barbara Halverson, had donated Jim's 1102 artifacts to the Legacy committee, http://vipclubmn.org/Newsletters/Enews1403.pdf, page 4.

Thanks to Keith Myhre who sent two dozen 1101, 1102 and 1103 images to Mark Greenia at the Computer History Archives Project for inclusion in a new YouTube video, https://youtu.be/WbfCJZXxvw4 . Links to other UNIVAC videos can be found here: http://vipclubmn.org/Articles/CHAP_Summary.pdf.

ENIAC Also Celebrating 75 Years! UNISYS, Blue Bell, and others are recognizing the 75th anniversary of the ENIAC (https://eniacday.org). On February 15th each year, in recognition of the anniversary of the first launch announcement in 1946 (http://vipclubmn.org/Articles/UnisysAndComputingGrowth.pdf), the computer industry comes together across the world to celebrate the world's first all-electronic, programmable computer machine. Bearing the official name of "Electronic Numerical Integrator and Computer," the ENIAC is one of the world's greatest engineering inventions. Fred Buckles had a different opinion of the greatest invention, read http://vipclubmn.org/Articles/ThatLittleInstrument.pdf by Gish Devlaminck, our February article for the month.

Factoid! Prior to public GPS, the U.S. Navy had its own satellite system for world-wide navigation in the 1960s/70s (http://vipclubmn.org/Articles/TRANSIT.pdf). Four land-tracking stations were operated by the U.S. Navy Astronautics Group. Those stations were in ⬧ Maine; ⬧ Rosemount, MN; ⬧ Point Mugu, CA; and ⬧ Hawaii. Two of them were also injection stations: Maine and Rosemount. The Rosemount station was located because of our latitude: 45 degrees; just east of downtown Rosemount on/near the University of Minnesota property, south of County Road 42.

By Lowell Benson; Rosemount information – Keith Myhre

March/April: **How did it Happen?** Many of you read the January 10th Star Tribune article, https://www.startribune.com/at-99-computer-pioneer-looks-back-at-early-minnesota-tech/600008677/. During the December club board meeting, we discussed how to publicize the ERA 75th anniversary in January 2021. Director Gish Devlaminck suggested that we contact Curt Brown, Minnesota history author for the Strib. After exchanging a few e-mails with Lowell Benson, Mr. Brown talked with Don Weidenbach and wrote the article. Brown agreed to share any feedback that he received from readers. We have posted the article, communications trail and feedback as our March 2021 article for the month (see http://vipclubmn.org/Articles/75-Years_Ago.pdf).

Interestingly, one of the people responding to the article was Connie Hill, daughter of John 'Jack' Hill. Hill was on the ATLAS installation team in the fall of 1950, and had been a regular at the 1st Friday luncheons (see Our Stories from March 2008: *A Gaggle of Geeks* by James P. Lenfestey). Connie Hill's input has been added to http://vipclubmn.org/deceased.html#Hill and http://vipclubmn.org/PeopleInterview.html#Hill.

We also received feedback from former ERA engineer Jerry Williams; his story will be our April 2021 article (see http://vipclubmn.org/OurStories.html#2021).

Old Software! How many of you VIP Club newsletter readers had your first on-line experience with *The Oregon Trail*, a game originated at the University of MN in the 1960s? Now there is an *Oregon Trail* emulator at https://museum.syssrc.com/artifact/software/1020/ that functions on home PCs! Most old DOS software won't run on modern computers; however, for more nostalgia, the System Source Computer Museum also has a JavaScript library to emulate early IBM PC, XT or AT, thus site visitors can download a DOS package for several applications such as EasyWriter, WordStar, VisiCalc, MultiPlan and other classic programs. Many other museums have bits of our legacy; view their introductions at http://vipclubmn.org/Exhibits.html#Others. Back from the future to the software of the 70s is an occasional enjoyable browsing evening. TPT, our PBS affiliate, occasionally airs "*Trailheads: The Oregon Trail's Origins*." Enjoy! *Lowell*

Eagan Facility Irony: *Dan Carlson, former Lockheed Martin Security Officer-Supervisor and Resource Protection Manager, shared the following when renewing his VIP Club membership:*

Thanks so much for offering the free membership year! I still miss my Sperry/Burroughs/Unisys/Paramax/Loral/Lockheed Martin days (6/25/79 – 6/13/2013), just 12 days short of 34 years! Work was fun—so were all of you—you were like a family to me. The Eagan facility had a major impact on my life, in more ways than just a place to work—let's just say it presented a few ironic opportunities!

In 1974 a divorced gentleman from California, Paul Cline, accepted a position as a systems analyst at the Sperry Univac facility in Eagan. His daughter, Yvonne, came to visit that year and she must have liked our great winter weather, because she returned to live with her father in Eagan in the fall of 1975. I met Yvonne at a church youth group that November in Apple Valley, of all places, where we have resided since 1992. She was 16 and I was 18.

Yvonne and I married in 1978. A few months prior I had applied for a position as a Facilities Protection Guard at Sperry Univac. I had just graduated with a two-year degree in law enforcement, but, ironically, my timing was suspect as police officer jobs were scarce—and knowing I was getting married soon added to the pressure! My timing continued to be a bit off when Jim Bailey from the Security Department called me a couple days before I got married to ask me to come in and interview for the Facilities Protection Guard job I had applied for months before. Unfortunately, I had to turn down the opportunity as I already made plans to move to Bemidji for my wife's last year of college after we married. Jim Bailey told me to call him again if I was interested in reapplying in the future.

In May of 1979, we returned to the Twin Cities. I contacted Jim Bailey, interviewed with Jim and the Security Manager, Tom Kunz, at the Eagan facility, and was offered a job on the spot. I accepted and began my employment on June 25, 1979 (another irony as my first son was born on June 25, 1985!).

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I had an amazing 34-year career based at the Eagan facility. As a Security Officer I got to work in all the local defense system locations and meet many employees in the process. Ironically, on February 1, 2013, I was at the facility on the last day of what I would call formal operations. I sent the last shift of security officers home around noon, and had my wife, Yvonne, stop by; we walked the Eagan facility from sub-basement to the second floor. I think the boiler operator was the only other person in the entire 614,000 sq. ft. facility. I have to admit that last walk was tough—many memories and emotions flooded my mind. I had quite a lump in my throat. It was the oddest feeling walking out and locking the doors, knowing that for the first time since the facility opened in 1967, there would no longer be a guard force there to watch over it.

To think my career, my wife—my family—came about because of Sperry Univac—this Eagan facility! Yvonne and I will have been married 43 years this August 2021; we also have a small family of now seven adult children and five grandchildren. My oldest son, Jacob, is a tech sergeant in the U.S. Air Force where he has served for 13 years; I believe his military service is a result of his exposure to his many visits during Holly Daze, Bring your Kid to Work Days, and the Explorers Club. In fact, when two of my boys were little, one was convinced Santa Claus lived at the Eagan facility, not the North Pole, and another son was convinced we built the SR-71 in Eagan! I also have a son-in-law in the U.S. Navy and another in the U.S. Coast Guard; yes, two of my daughters married military men. It was a privilege and an honor to work among so many brilliant and talented individuals over all those years and to share you with my family at these events or just by stories I might have shared at home at night. You taught me so much; mostly that you and I are part of a wonderful and unique work family with a proud and long heritage.

My last ironic twist: I wanted to start my career as a police officer, but my life plans changed when I became employed at Sperry Univac. After my layoff, I became employed as an asset protection supervisor, embedded with investigations performing video forensics, among many other tasks at Metro Transit Police Department. My once-future law enforcement career took a 34-year detour, but I miss working at the Eagan facility with all of you and I always will! Thank you for letting me share my story.

We found Dan Carlson's name on our website as well, having contributed to an IT Legacy Project Paper covering the Plant 8 closure (see pages 5 & 6): http://vipclubmn.org/Articles/PLANT8CLOSED.pdf.

May/June: **Lawshe Memorial Museum**: The VIP Club board and Legacy Committee were excited by the Dakota County Board of Commissioners' March decision to implement Americans with Disabilities Act of 1990 (ADA) accessibility improvements to the museum facility in 2022. Our May 2021 online Our Stories article, Artifacts on Display, illustrates some of the exhibits there and items yet to be formally exhibited (see http://vipclubmn.org/Articles/ArtifactsOnDisplay.pdf). The DCHS Executive Director, Matthew Carter, will give the November 3rd Unihogs attendees a status update.

Tribute to Winnipeg Operations: former Sperry/Unisys Quality Control Manager Ed 'Pogo' Pogorzelec has provided several items for a tribute to the Winnipeg Operations. See **Locations, Canada Chapter (vipclubmn.org)** update information. We have posted two of his slide set 'presentations' as *Our Stories* for June and July 2021.
- 281, June: **A Tribute to our Winnipeg's operations**, a set of slides from Ed 'Pogo' Pogorzelec.
- 282, July: **The Winnipeg Team**, a set of slides from '*Pogo*'.

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- Three newspaper articles mentioned the people/facility; **Winnipeg-free-press-Aug-21-1982-pg41**, **Winnipeg-free-press-Sep-25-1982-pg32**, and **Winnipeg-free-press-June-27-1986-p34**.

Many are aware of the Canadian Patrol Frigate (CPF), a very successful systems integration program. During the 2012 reunion, they a 25-minute video that included three major parts 1) Department of National Defense films of the CPF in action, 2) the UNISYS support team, and 3) a PARAMAX film extolling their CN programs. Click to **Watch it.** An earlier article is: **'Our Winnipeg Story'** by Glen Johnson with an addendum by Dave Saxerud.

A couple of Winnipeg human interest factoids not obvious to the casual reader: In the September 1982 newspaper clipping is John Westergren, then Chief Engineer in Winnipeg. The articles also mention the first employee hired in Winnipeg as Judy Thomson; several years later she married Dave Saxerud who had transferred from St. Paul to Winnipeg to fill John's able shoes.

Audio Interviews on-line: At the Lawshe, Keith Myhre has digitized three AUDIO interviews, point your browser to http://vipclubmn.org/PeopleInterview.html then from the *In This Chapter* section at the right select Rapinac (59 min.) or Hargesheimer (54 min.) or Debelak (51 min.) to read a few tidbits before clicking the audio link.

July/August: **REMEMBERING MILLIE The** VIP Club board was recently informed by the Women's Organization of the MN Historical Society that Millie Gignac, VIP Club founder, passed away: "Long-term member Millie Gignac died on Tuesday, May 11, with both her daughters present. Millie was over 100 years old and was alert and strong until the last few weeks. Millie was a past president and active volunteer in our organization, and with many others. She led an interesting life and even wrote a book. Millie was cremated and her daughters have decided there will not be a service or an obituary. With Millie's milestone birthday celebration just a few months ago, they consider that a Celebration of Millie's life."

John Westergren shows a finished computer board at Sperry Univac's plant in Winnipeg. The company manufactures components used in naval defence systems.

Millie started as a Payroll Department clerk in 1956 in Plant 2 on Minnehaha Avenue. She was eventually transferred to the Corporate Office in Blue Bell as an Employee Information Specialist and was promoted to Supervisor of Benefits Research and Administration. By 1974 she was transferred back to St. Paul as Manager of Pre-Retirement Counseling for the Twin City Operations. In 1979, while Manager of Administration in the Resources Group in Defense Systems, she started planning for a retiree club and a clubroom for retirees. The ribbon on the clubroom was cut in July 1980, the first general meeting was held in September, officers were elected, plans were made for monthly meetings and rules were drawn up. The VIP Club was born!

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In October 1980, Millie was promoted to Director, Administration and Benefits, and was thrilled to be the first female in Univac Twin Cities Operations to hold a director title. She said she retired in1986 after 30 good years of employment with a good company. She was very involved in volunteerism and found it one of the most rewarding and enjoyable things she had ever done. See more of her history here: People G-H Chapter (vipclubmn.org) or VIP Club History (vipclubmn.org).

Club board members commented on Millie's passing:

- ❖ "What a great lady, and she'll even skew our 'average life expectancy' way up through the clouds. What a joy to have known her!"
- ❖ "In my opinion, Millie was a great lady!"
- ❖ Paraphrasing Dr. Seuss, "Do not cry because she is gone – Smile because she has been with us!"

Club History – It is about the people! Sperry Human Resources Director Millie Gignac once wrote, "As I worked closely with employees getting ready to retire, I observed that many were reluctant to break the 'Sperry-tie.' So, in the fall of 1979, I started to plan a clubroom for our retirees." Now, forty-plus years later, we observe the VIP Club's 40th anniversary and say, Bless You Millie!

Our website documents the club history (http://vipclubmn.org/History.html), including milestones, previous officers, and Millie's story of the club's origin. Millie retired after Burroughs bought Sperry to form Unisys and was elected as the 7th club president for 1988/1989. At the first club meeting on September 3, 1980, 75 initial members elected retired Antenna Coupler engineering manager, Al Mueller, as the 1st VIP Club president. Current club president, Harvey Taipale, is our 21st president, providing leadership since 2018. Only six people served just one year as president; the other presidents served either two or three years. The longest serving volunteer director was Marion Scott, who coordinated Red Cross blood drives for 29 years. The second-longest serving director was Joe Schwarz, who served as newsletter chief editor from 2000-2018. The board has had only 7 newsletter chief editors, 11 treasurers, and 13 secretaries; 24 people have served as vice presidents, and not all volunteered to be presidents.

In October 2010, the club celebrated 30 years with members attending a special program at the Unisys Roseville facility where the University of Minnesota's Charles Babbage Institute's (CBI's) Dr. Tom Misa was the featured speaker. A club history booklet was developed, thanks to Quint Heckert, printed and bound by LMCO and distributed to members in attendance (http://vipclubmn.org/Articles/30yrBooklet.pdf).

Events' History – Even before the beginning of the VIP Club in 1980, groups of people were socializing outside of work. The history of these groups is captured on the club's Social Activities page:

- ➤ 50s   Geek Squad History
- ➤ 60s   Unihogs/Uniturkeys
- ➤ 70s   Syttende Mai
- ➤ 80s   Annual Old Timers' Reunion
- ➤ 80s   Volunteer Recognition Luncheons
- ➤ 90s   Unisys Retiree Breakfast Group
- ➤ 00s   Roseville Good Old Days

It is about the people! By *LABenson*

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September/October: **Tracking Classified Shipping**: On February 15th, 1994, I had my layoff exit discussion with Ernie Ryans (Security clearance manager). I got up on the 16th and was humming. My wife asked, "Why are you happy, you got laid off yesterday!" I replied, "Today is the first day in 36 years that I haven't had an active security clearance. Maybe my next job won't have the same 'lip-zip' restrictions!" That humorous remembrance of Ernie Ryans surfaced for Lowell Benson when Ernie's name came up in the following story about tracking down misplaced classified machinery.

One of our customers had a failed AN/UYK-23 machine that was being used in a classified application. Their technicians couldn't fix it, so they arranged for a 'classified' shipment to Plant 1. Three days later they called to ask if we'd fixed it, to which I replied that I hadn't been notified that we had received it. The customer gave me the shipment tracking information and a faxed 'delivered' receipt with a signature. The signature wasn't in any directories, so I called the Plant 1 Receiving Department who told me that sometimes after-hours shipments were signed for by guards. I said, "OK, can you forward the box to our Plant 8 lab?" The receiving clerk said that they didn't have it so it must be by a guard desk. This was a wooden box about 1' x 1.5' x 2' (hard to lose), so I talked to each guard desk at Plant 1. They acknowledged signing for it and said that they'd put it into the receiving crib. Again, I was on the phone to the crib; the clerk there said he'd check, and I heard the click-click of his keyboard after which he said, "Nope, not here." I asked if I could come over and look because he had said no after checking his desktop computer log. Three minutes later he called me back and said that there was a box on a shelf that wasn't entered into their system. The size matched what I was looking for. Even though the customer had addressed the box to Plant 8 with attention to my name, the shipping company saw the Sperry address and delivered it to Plant 1 where they delivered all boxes.

The rest of the story: I called Ernie Ryans to inform him that we were moving a classified item between plants. I then asked technician/engineer Dean Free to get the box into our Plant 8 lab, find the separate maintenance panel and cables that we'd used for Qualification testing and troubleshoot the unit. Dean said that he had never worked on a UYK-23 but show him the power switch and he would take a look at it.

I said that it was like a UYK-20 but in an airborne chassis. OK, two hours later he was back and had the unit on a bench BUT told me that there was no power switch. In the aircraft installations the UYK-23 power on/off was with a circuit breaker in the pilot's cabin. For the lab, it was via a separate switch on the maintenance panel. Once powered up, we ran a diagnostic to replace a printed circuit card. I

AN/UYK-23 with Maintenance Panel

then called Ernie Ryans from Security to have him observe and sign off on a Mil Spec memory scrub procedure. We had notified Ernie of the 'missing' classified item then the find and fix status. We notified the customer and arranged for a non-classified shipment back. Everyone was happy and we billed them for the repair work. See how the UYK-23 mentioned in our story is used in another part of our legacy; a thumbnail of the application is here: http://vipclubmn.org/sysairborne.html#Quicklook. *Lowell Benson*

November/December: There were no 'Legacy Stories' therein.

OUR STORIES

Articles for the month numbering started at 100 to avoid duplication of anthology chapter indexing, most of the articles are Wikipedia like in that there are embedded links to supplemental data. In April 2007, we posted the first monthly story, Apollo Computers from Don Mager.

2016, Articles #216 - #225

- 217, January: 70 Years Ago, January 1946: ERA opened their business doors. In recognition of the event, we've posted *William 'Bill' Norris,* **WWII Experiences** that lead up to that historical month.
- 218, February: 70 Years Ago, February 1946: The Army dedicated the ENIAC (Electronic Numerical Integrator and Computer) at the Moore School of engineering. In recognition of the event, we've posted Ron Q. Smith's presentation slides, **Unisys and the Growth of Computing**. Bill Mauchly coordinated several recognitions displays in the Philadelphia area.
- 219, March: This is a compendium of the **'Legacy' articles** which have appeared in our newsletters since 2006 - a decade biography of the Legacy Committee.
- 220, April: The April web site article is a paper listing the artifacts transferred from Lowell's temporary basement repository to the **Lawshe Museum** in July 2015. Each item illustrates or describes bits and pieces of our extensive Information Technology history.
- 222, May: We have two people items this month; the 2007 oral interview of **Marc Shoquist** by John Westergren and
  221, **Rapinac's** army experiences to complement his **2007 oral interview**.
- Sorry - Lowell was too busy with other volunteerism and family obligations to seek out Legacy stories during this interval.
- 223, October: A **Letter** to the UNISYS Blue Bell Retirees Group as their 'club' is dissolved.
- 224 November: An **Air Force System** from the 60s - Half-a-dozen ex-employees communicated electronically to develop this story; memories triggered by a snapshot in the October newsletter.
- 225, December: An ex-Navy Technician asked a question about a 15-pin logic card used in the 1219B computer - this stimulated an engaging series of engineering recollections - **Circuit Card History**.

2017, Articles #226 - #237

- 226, January: Upgrading complete for the dozen **Canadian Patrol Frigates** - still using our equipment. Thanks to Ed Pogorzelec.
- 227, February: Design Features of the **ERA 1101 Computer**. This came from Curt Christensen's estate, now in the Charles Babbage Institute archives.
- 228, March: Program Management **recollections from 1974**.
- 229, April: **Triple 418** Configuration Inquiry from a web site reader.
- 230, May: Listing of **documents and pictures** now archived at the Charles Babbage Institute and the Lawshe Memorial Museum. This paper includes a summary of the Sperry-UNISYS Photo Club history.
- 231, June: **Quicksilver** - A Shadowbox Story. LeRoy Larson wrote this story with editing by Lowell Benson.
- 232, July: **ERA 1103 Announced** - scan of selected pages from the ERA Orbiter newsletter of February 1953 with links to supporting information. Thanks to Curt Nelson for the newsletter.
- 233, August: **Through the Ages** - A handout developed for visitors at the upcoming 13 September Open House and Legacy Exhibit in Eagan.
- 234, September: **BOMARC** - The UNIVAC 1104 computer was the initial computer used in these systems developed in the 50s - Curt Nelson has provided an installation report.
- 235, October: **Carl Johnson Papers** - Engineer Carl Johnson donated two bankers' boxes of history documents to the Charles Babbage Institute. This paper copied the associated web site as an example of the CBI archiving results.
- 236, November: Before ERA, ERA to UNISYS, ERA to **UNISYS 1100-2200** Product Technologies, and the Evolution of Technologies.
- 237, December: Almost a Book - The organization of our Legacy Anthology **Web Site**

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2018, Articles #238 – #249

- 238, January: **NEXRAD successes** had radar processors from St. Paul facilities. Thanks to Les Nelson.
- 239, February: **Apollo 11 Success**; a 1969 letter from Forest Crowe, VP & GM of Univac Federal Systems Division - thanks to Andy Simon.
- 240, March: **FASTRAND:** The Computer History Archives Project pays tribute to this **mass storage drum** - thanks to Mark Greenia
- 241, April: **Burroughs**; The Computer History Archives Project presents films and pictures about computer systems of the 60s - thanks to Mark Greenia
- 242, May: **Project 6977 Arbitration** resulted in a $16M judgement against Sperry. An Introduction plus the judgement page replicated herein.
- 243, June: Listing of **recent papers and documents** contributed to the Charles Babbage Institute, collected from several retirees.
- 244, July: An **Open House** informational booklet from 1974 shows Sperry Eagan and Shepard Road facilities. About 350 then employees listed therein. Thanks to Mike Lins, son of former employee Ray Lins.
- 245, August: An article about St. Paul engineering evolvement in the JSF, **F-35 development**, thanks to Judy Sloan, et al'.
- 246, September: **Early computer parts**, an identification journal for possibly File Computer or TACS printed circuit modules - thanks to Mark Greenia, Don Weidenbach, and Larry Bolton.
- 247, October: Some more musings about the Sperry involvement with the **S-3 aircraft ASW** systems - thanks to Chuck Stockman.
- 248, November: **Creation of the 1824**, a Star Tribune article scanned by Larry Bolton - it has photos of Chuck Mattson and Roy Prohofsky.
- 249, December: Support of the Apollo program from the cities, **Star Tribune** article scanned by Larry Bolton.

2019, Articles #250 – #262

- 253, March: The **UNIVAC Digital Trainer**, an early 60's marketing flyer from Don Mager.
- 254, April: The beginning of UNIVAC => Lockheed Martin **in Eagan** from Larry Bolton.
- 255, May: Recap of 50+ years of '**Ocean Surveillance**' systems hardware.
- 256, June: Security clearance process from Lowell Benson's files, **1973memo.pdf**
- 257, Jul: Steve Anderson's Apollo 11 interview on PBS (Almanac, 7/19/19, 7pm) **https://video.tpt.org/video/apollo-11-memories-from-univac-engineer-steve-anderson-35714/**
- 258, Aug: **Apollo 11 support by Tom Weyrick** from Dakota County Tribune Aug. 2, 2019
- 259, Sept: A summary list of **YouTube links** to videos from Mark Greenia, Director of the Computer History Archives Project. The most recent is about the beginnings of ERA. Revised on December 22, 2020 for 1100 series video update, item 12 of paper.
- 260, Oct: A summary list of video clips that resulted from interviews during development of the documentary **Solid State: Minnesota's High-Tech History**. Thanks to TPT's Kevin Dragseth.
- 261, Nov: **Micro-1100**, Carl Johnson donated two displays to the Lawshe Memorial Museum to exhibit the 1980's development of this VLSI chip set that became the core of the UNISYS 2200 product line.
- 262, Dec: Who did what, when, and where in the computer industry according to the **IT History Society**; a non-profit CA organization.
- 252, February: Minnesota Computer History **website editorial** by Dr. Jeffrey Yost of the Charles Babbage Institute.
- 250 & 251, January: Looking at **Nike-X integrated** circuits and plug-in cards, supplemented by scans of **electronic circuit** details, thanks again to Larry Bolton.

2020, Articles #263 – #274

- 263, Jan: **Sperry Utah** from Ed Bower, also see his St. Paul micro-bio at **http://vipclubmn.org/PeopleAB.html#Bower**.
- 264, Feb: The Starring the Computer website has information about over 400 computers that have appeared in movies and TV series. We've copied the links to our **computer types** that are posted there. Thanks to James Carter who did all the research to create this web site of history.
- 265, March: **Plated Wire Dialogue**, several retired engineers responded to an inquery from a British Plessy engineer.
- 266, April: **VIPS Adventure** by Gish Devlaminck - as an engineer Gish fixed a problem at a customer site, innovative twist to make it happen.
- 267, May: A P**recision Agriculture Initiative** article by Steve Ernst, a defense conversion activity.
- 268, June: a J**une 2016 Unisys Computing Growth** slide set from Unisys Fellow Ron Q. Smith
- 269, July: Larry Bolton provided photos of people testing **Semi-conductor component**s and scans of **test logs** saved by Don Johnson.
- 270, August: ARTS II became part of our heritage when Burroughs bought Sperry to become UNISYS - An **ARTS II display** is on hand, soon to be part of our museum exhibit.
- 271, September: **Assignment in Mississippi** by Kevin Hoffman, a Lockheed Martin retiree. Software support for DDG-993 class destroyers.
- 272, October: Cataloging Legacy Artifacts at the Lawshe Memorial Museum, **Initiative status** update by Keith Myhre.
- 273, November: **World Wide**, an anthology of places and people outside of the United States - all connected to UNIVAC/Sperry/Unisys in St. Paul.
- 274, December: Computer technology **standardization** and Instruction Set Architecture (ISA) re-use saved the government un-calculated millions of dollars. Prologue by Charles Alcon, Lcdr. US Navy ret.

2021, Articles #275 - #287

- 275, January: 75 years since ERA doors opened on January 8, 1946. *Anthologies Tell the Story*, **Articles/Anthologies2Go.pdf** - authored by LABenson.
- 276 & 277, February: 75 years since ENIAC was completed on February 15, 1946. *That Little Instrument,* **Articles/That_Little_Instrument.pdf** has some ENIAC data and a video link - authored by Gish Devlaminck. And a scan of an **ENIAC 75th article** from the *Philadelphia Inquirer,* sent to us by retired Unisys Fellow Ron Q. Smith.
- 278, March: **75-Years_ago.pdf** - More of the story as Don Weidenbach was featured in a January 10th Minneapolis Star tribune article; peruse the request communications and reader feedback.
- 279, April: My most **satisfying inventions** by Gerald 'Jerry' Williams - excerpts from his life story by LABenson.
- 280, May: **Artifacts on Display** - Storyboards and hardware artifacts at the Lawshe Memorial Museum by Keith Myhre and Lowell Benson.
- 281, June: **A Tribute to our Winnipeg's operations**, a set of slides from Ed 'Pogo' Pogorzelec. Reference **Locations, Canada Chapter (vipclubmn.org)** for a video and more information.
- 282, July: **The Winnipeg Team**, a set of slides from Ed 'Pogo'. See **Locations, Canada Chapter (vipclubmn.org)** update information.
- 283, August: **Component Quality and Reliability** by Larry Bolton.
- 284, September: **Winning the Communications Nodal Control Element** (CNCE) development contract by Harvey Taipale.
- 285, October: **When Did It Happen**? The first delivery dates of 54 computer types from 1950 to 1980, as compiled by Lowell Benson.
- 286, November: **Unisys Web Site and Timelines**. The Unisys web site has a 100-entry timeline, compared it with our Legacy milestones by Lowell Benson.
- 287, December: Spun off from a Spin off - John Miller tells about **Turtle Mountain Corporation** along with a **1990's NDSU** news article.

EPILOGUE

<u>After a 2008</u> meeting with Dr. Tom Misa at Plant 8, Dick Lundgren asked, "When will we be done?" We had no answer then, however we now have accomplished most of the goals of *Telling the Story* by publishing for the world to read on the internet. As of January 2022, we are missing the Pueblo Colorado and Clearwater Florida stories. A Navy computer manufacturing facility was established in FL and an AF computer manufacturing was initiated in CO – both because of readily available low-cost laborers and high Minnesota taxes.

<u>This is the 188th</u> monthly article I've edited or written; of the 187 posted to date, my top five:

➢ 4th runner up: from before the legacy committee started; a reprint of a Minnesota Monthly, July 2005 newspaper article. It was first published as "The Original Geek Squad" by James P. Lenfestey, http://vipclubmn.org/Articles/AGaggleOfGeeks.pdf.

➢ 3rd runner up: moving the shadowbox collection from Unisys, Roseville to Unisys, Eagan thus preserving the technology history of the commercial 1100 series of computers, http://vipclubmn.org/Articles/ThroughTheAges.pdf. o

➢ 2nd runner up: establishment of a permanent artifact display at the Lawshe Memorial Museum, http://vipclubmn.org/Articles/DreamRealization.pdf. o

➢ 1st runner up: listing YouTube links to videos from Mark Greenia, Director of the Computer History Archives Project (CHAP), http://vipclubmn.org/Articles/CHAP_Summary.pdf .

➢ The best of all that we have done or supported is a public television documentary. http://vipclubmn.org/Articles/TPTclips.pdf links the primary hour-long video as well as several out-takes. Seven VIP Club members, former employees, were interviewed by producer Kevin Dragseth for inclusion in the video. Dr. Tom Misa is the featured narrator. Special thanks to Dale Weeks who spearhead the documentary fundraising. Thanks to Keith Myhre who provided documentary theme outlining and to Unisys' Chuck Lefebvre for co-hosting the October 2019 premiere event.

<u>A year from now</u> we may be done cataloging documents and artifacts at the Lawshe Memorial Museum, maybe someone will fill in the missing CO and FL chapters, and then we can declare committee 'VICTORY' after a grand 'Reopening' of exhibits at the museum. **AMEN!**