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HIT project

History of **I**nformation **T**echnology at UNB

Team of current and former IT professionals at UNB has started a project to document the history of IT at the University.

Fifty years from 1958 to 2008.

Create an archive (physical and digital) documenting the impact of IT on all aspects of campus life: research, teaching and learning, administration, libraries...

Items or anecdotes, artifacts, interview suggestions, support of all kinds welcome.

http://hit.lib.unb.ca

Organization

An adventure that took 50 years to live.

Picked a few things

A few people, three machines and an application … along with a few asides

I apologize in advance for not citing all the people not named, all the work they did and important activity they enhanced.

Timeline

1967 Arrived at UNB from Northern Electric R&D, EE graduate student

1970 EE- Lecturer

1971 CC- Programmer-Analyst .5

CS- Lecturer .5

1979 CC- Director

2000 Sabbatical at CANARIE

2001 CS- Professor

2002 CANARIE secondment

2006 Retired ☺

LGP-30

Paper tape reader/punch

Flexowriter

CPU

Teletype ASR33

LGP-30 1959-1965

Word Length: 31 Bits, including a sign bit

Memory: 4096 word magnetic drum

Clock Rate: 120 kHz

Arithmetic element had three working registers:

C the counter register

R the instruction register

A the accumulator register

(all on the drum)

Instruction format: Sixteen instruction using half-word format

Purchased jointly with NBPower, start of a long partnership

LGP-30
Under the cover

Technology: 113 vacuum tubes and 1350 diodes.

Number Produced; 320~493

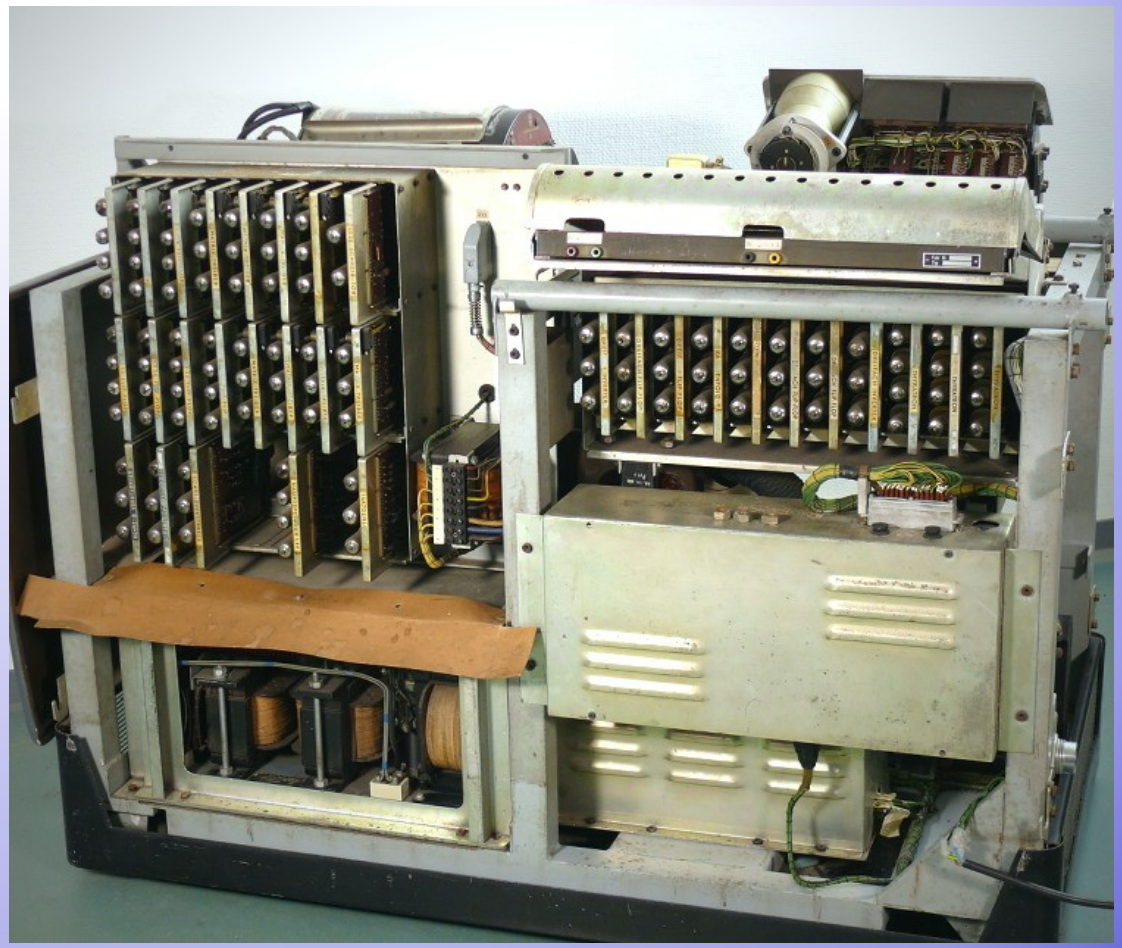
First Delivery: September, 1956

Price: $47,000 US

Other: Bit serial operation !

Paper tape boot

Wikipedia



Dana Wasson at the LGP 30 console

IBM 1620 II

Card reader/punch

CPU

Disk drive

Printer

Disk Operating System

IBM 1620-II 1964-68

Transistor
Variable word length, decimal
Magnetic core memory, 10 microsecond,
2 x (4 bit BCD+2) digits/cycle
40,000 (later 60,000) digit memory
12 DECIMAL digit instructions storage to storage
Assembler and FORTRAN
Punch cards

~2000 built worldwide

EAI 580 Hybrid computer

Two machines and an extensive interface:

TR 80 80 op amp, 10v, transistor linear and non-linear analogue computer. Plug board programming.

EAI 640 digital, 16k 16 bit words Magnetic core memory

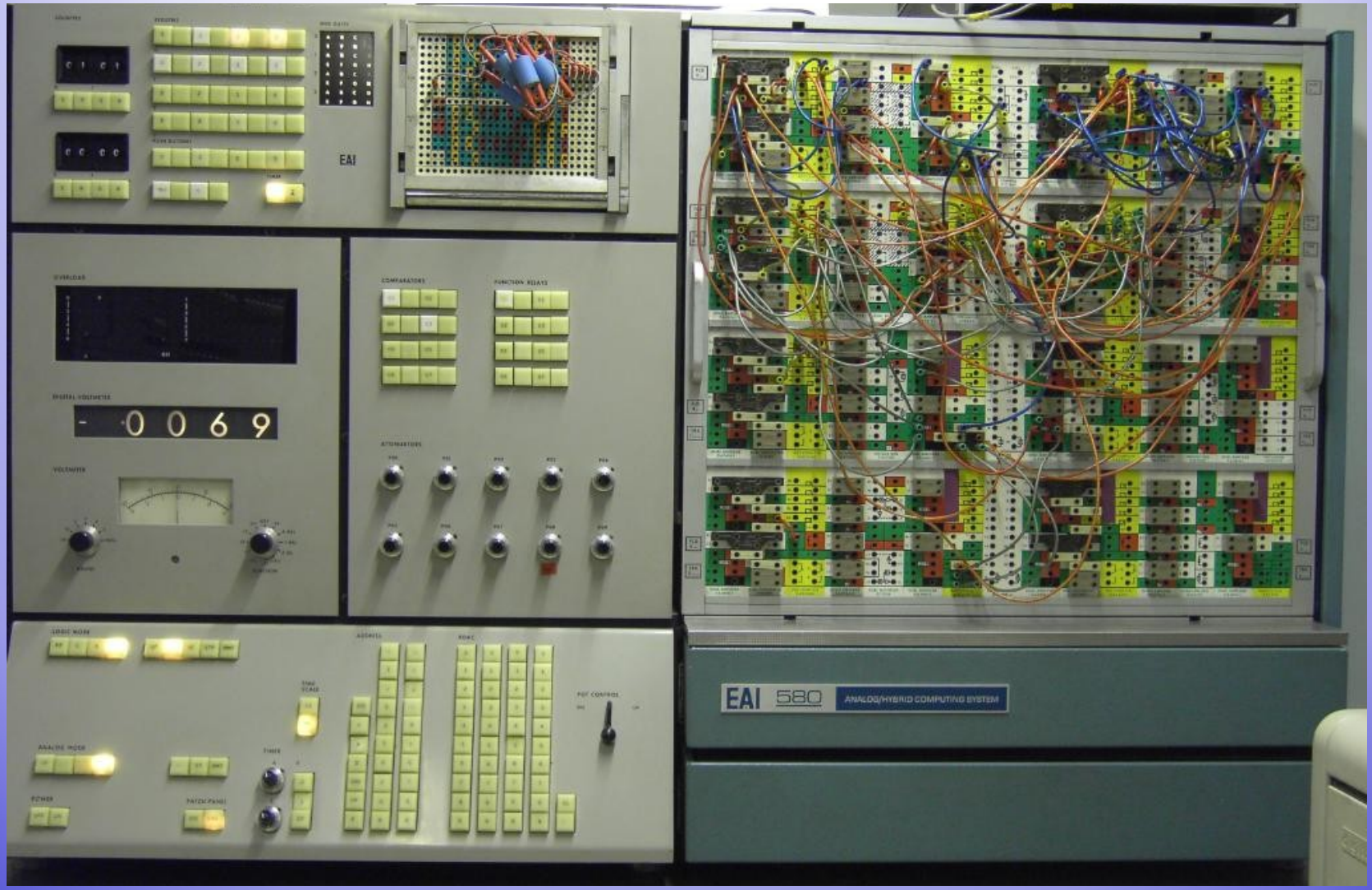
single accumulator

4 bit op code, 3 bit address mode, 9 bit displacement

Array of d/a and a/d converters, control lines, logic functions

EAI 580
Hybrid computer

In the EE department
Control Systems Group
1968



EAI 580 @ UNB

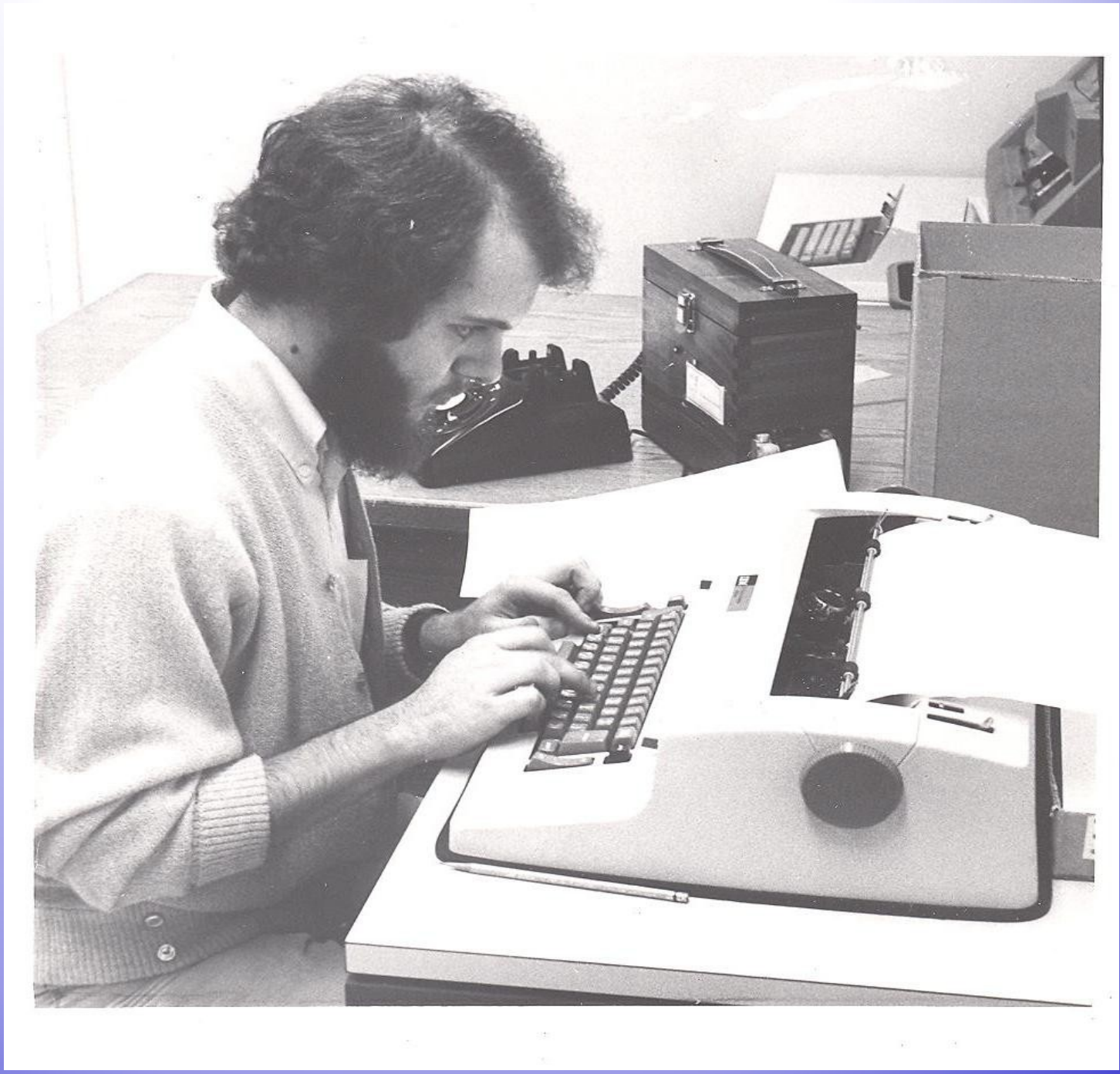
Derek Atherton, John Murphy,
Richard Hartz ?
1968

Library systems 1, 2

1. Early explorations in the Engineering Library
   ENLIST 1968 Albert Stevens, Brian Cassidy

2. BNA library cataloging run by CC for an Atlantic consortium.
   Batch production of book labels and card catalogue cards from magnetic tape data base. Runs a couple of evenings per week.
   1976 Brian Lesser

Brian Lesser



Library systems 3, 4

3. PHOENIX on line catalog replaces card catalog with on line terminals

   1980 Brian Lesser with a lot of HIL staff design and implement with VSPC.

   First public on-line catalog in the country.

   Had lots of back room operational systems.

By 1990 UNB catalog available off campus, over the internet, another Canadian first.

4. QUEST a purchased commercial system, client-server, running on local UNIX hardware, replaces Phoenix 1995

Library systems 5, 6

5. WorldCat - local an OCLC hosted system 2009

   Remote host/data base connected to UNB clients via internet

6. WMD - World Master Database, a cloud based library application 2014

Evolution everywhere

This sequence of:

-local manual paper systems

-local designed batch paper systems

-local designed, time shared on-line terminal systems

-purchased on line systems or services, internet, client-server

-cloud based services

This sequence is pervasive all areas, all over, driven inexorably by Moore’s Law economics.

Lessons

- Organizational stability & Metamorphosis
- End User orientation
- Find and value partners, cultivate leaders
- Hire the best people you can, treat them well
- Adaptability, agility
  - Don’t fall in love with a particular technology
- Evolution, Moore’s law $$$ drives change

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Thank you,

Thanks for coming out today.

Comments, insights, good stories welcome at:

DGM @ UNB.CA

Have a grand day.