Digital State: The Story of Minnesota’s Computing Industry

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Topics today

1. Mn was Silicon Valley
2. “Silver mine” (impacts...*)
3. “Gold mine” (consequences*)
4. What to ‘see’ today?

*(of Mn’s pioneering computer industry)*
California’s ‘Silicon Valley’
California’s ‘Silicon Valley’

Adobe
Apple
Cisco
eBay
Facebook
Google
HP
Intel
Oracle
Yahoo
California’s ‘Silicon Valley’

- Adobe 1982
- Apple 1976
- Cisco 1984
- eBay 1995
- Facebook 2004
- Google 1998
- HP 1939
- Intel 1968
- Oracle 1977
- Yahoo 1994
MN was Silicon Valley (1950s–1970s)

- ‘stored program’ computer [1950]
- magnetic data storage
- computer industry
- ‘supercomputer’
- early WWW
Silver mine: MN’s computer industry

2. Engineering Research Associates [f. 1946]

   Unisys 1986- \(\Rightarrow\) 29 spin-offs


5. Honeywell (computing = 1958-91)

6. IBM-Rochester [1956-]

Silver mine: MN computer workforce

MN by mid-1970s . . .

• ... 1.8% of US population
• ... 3.3% of US manufacturing jobs
• ... 12% of US $6B computer sales
• ... 17% of US computer mfg jobs
Why ‘not’ Silicon Valley MN?

✓ Technology & innovation
✓ Computer-center ‘industrial district’
✓ Venture capital #2 [1958-63]
✓ Sales to military + govt + univ labs + ATC
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Less visible in commercial markets

No journalist’s “Silicon Valley” [1971]

Secret work ⇔ public awareness?
Gold mine: longer consequences

- ERA magnetic media $\Rightarrow$ 3M + Imation
- Twin Cities $\Rightarrow$ ‘younger, female’ + 62% state’s population
- MECC $\Rightarrow$ Apple Computer
- computing $\Rightarrow$ medical devices [ch.7]
- lessons for high-tech innovation?
CBI from CA to MN 1980

- Computer history research and archiving
- 250 archival collections
- 400 oral histories
- 150,000 photos
- "1 mile" of paper records
- 4 staff + students
- www.cbi.umn.edu

Charles Babbage (1791-1871)
What to see today?

tinyurl.com/sia-misa
ERA Plant #1 W. Minnehaha Ave. (c.1955)
“Engineering Research Associates, the forerunner of Sperry’s Minnesota presence, is the acknowledged parent of some 100 Twin Cities computer firms. In commemoration of the 40th anniversary of ERA’s founding, this plaque is placed on the company’s original manufacturing site this 19th day of August 1986” [Bill Geiger, Bob MacDonald, and Jack Nichols]
Control Data Northside plant (1973)
Control Data Northside plant (2013)
Honeywell S Minneapolis (here: 1940s)
Honeywell relay department (c.1930) MHS
Honeywell S Minneapolis (c.1955) MHS
Control Data 7800 Computer Ave. (1980s)
Control Data disk drive factory (1972)
Control Data now Health Partners (1980s)
Control Data Fibonacci series (2004)
DIGITAL STATE

THE STORY OF MINNESOTA'S COMPUTING INDUSTRY

THOMAS J. MISA

Minnesota

ETA 1983

Supercomputer Capital of the World