

SCC Project Review: FORTRAN

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I started by talking to people

- ▶ FORTRAN project members & coworkers
- ▶ Institutions
- ▶ Individuals: collectors, historians, etc.

I got more organized with a blog

- ▶ It helped me record my progress
- ▶ It brought more information to me
 - Roy Nutt's son: FORTRAN microfiche
 - Leif Harcke, with simulator information
 - Bob Abeles: URL for FORTRAN II source !
- ▶ <http://www.mcjones.org/dustydecks/>

I collected key documents

► Reports, memos and manuals

- FORTRAN proposal, 1954
- FORTRAN manual, 1956
- Preliminary Operator's Manual, 1957
- Proposed Specs. for FORTRAN II, 1957
- Report on FORTRAN II Changes, 1959
- Description of Source Language Additions to the FORTRAN II System ["F3"], 195?
- Systems Manual for 704 FORTRAN and 709 FORTRAN, 1960

I collected key papers

► Precursors of FORTRAN

- Glennie (automatic coding), 1952
- Brooker (simplified coding), 1954
- Laning & Zierler (equation translator), 1954
- Backus & Herrick (Speedcoding), 1954

► By the FORTRAN team

- Backus et al. WJCC, 1957
- Backus Symposium, 1958
- Sheridan CACM, 1959
- Backus & Heising, 1964
- Backus, 1976
- Backus, “The History of FORTRAN I, II, AND III”, HOPL

More papers

- ▶ Transcript of 1972 SHARE interview
 - Backus: Yes, IT was later. Perlis, in fact, made me sort of angry. He would come out with comments that, you know, "Look, there's Backus and his moron assistants, who have spent three years coming out with this god damn FORTRAN thing, and I did the whole thing with one graduate student in this last summer. So, what was the matter with them?"

More papers

- ▶ Cocke & Schwartz: *Programming Languages & their Compilers*, 1970
- ▶ Herb Bright: “FORTRAN Comes to Westinghouse-Bettis, 1957”, 1971
- ▶ J.A.N. Lee and Henry Tropp: FORTRAN and its Progeny (unpublished book), 1982
- ▶ “FORTRAN’s Twenty-Fifth Anniversary” – a special issue of the *Annals of the History of Computing*, Volume 6, Number 1 (January 1984).
- ▶ J.A.N. Lee: Annotated Bibliography, 1984
- ▶ Padua: “The FORTRAN I Compiler”, 2000

I located artifacts

- ▶ IBM promotional films on FORTRAN from 1957 and 1984 (donated by Daniel N. Leeson to CHM at my suggestion)
- ▶ FORTRAN II listing at Smithsonian (originally donated by Peter Z. Ingberman)
 - CHM has requested intermuseum loan
- ▶ Microfiche with “specifications, flowcharts, mathematical analysis and source code for FORTRAN” belonging to family of Roy Nutt

More artifacts ...

- ▶ Paul Pierce has digitized many 7-track tapes, including
 - IBSYS distribution with 32K 709/7090 *FORTRAN II in executable and source form*
 - CTSS library tapes
 - SHARE library tapes

What next?

► Preservation

- How to organize, catalog, safe keep

► Presentation

- How to provide context, establish significance
- Running FORTRAN on simulator
 - Two projects: Rob Storey, Dave Pitts
 - Running IBSYS, compilers, ...

Useful resources

- ▶ bitkeepers.org/ (Al Kossow)
 - Over 5450 documents containing over 559,000 pages
- ▶ hopl.murdoch.edu.au/ (Diarmuid Pigott)
 - 7892-strong database of languages, complete with 16174 bibliographic records, as well as links, reviews, samples and commentary where possible
- ▶ www.piercefuller.com/collect/ (Paul Pierce)
 - Tape images, manuals, expertise
- ▶ ed-thelen.org/comp-hist/on-line-docs.html (Ed Thelen)
 - Many useful reference works
- ▶ www.columbia.edu/acis/history/ (Frank da Cruz)
 - Machines, people, projects with photos, links, etc.
- ▶ Simulator community ([SIMH](#), [Hercules](#), [CYBER](#), [709x](#), [UNIVAC](#), ...)

How the museum can help

- ▶ Collect: liaise with other institutions
 - E.g., loan of Smithsonian FORTRAN II listing
 - Offer to pay for scanning Nutt microfiche?
- ▶ Preserve: maintain a digital archive
 - Participate in a multi-organization distributed archive for greater reliability?
- ▶ Present: resolve intellectual property issues
 - E.g., public access to papers, manuals



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