Legacy software creator's perspective: SWHAP

Paris, 19 October 2022

Carlo Montangero

Former professor of the University of Pisa

Why am I here?

What did I do *with* SWHAP?

- Two collections/curations: Softi (1968) and MAGMA-Lisp (1973-81)
- Commonalities
  - Raw materials on paper
  - Few versions: 4 and 1, respectively
  - FORTRAN as a programming language
- Differences
  - Size: less than 100, more than 2000 (out of 10k)
  - Homogeneity
  - Complementary materials
  - My personal experience

Softi (1968)

- Exercise
  - in using the CEP
- Documents
  - printed by this tty
  - Stored in the Comp. Mach. Museum in Pisa
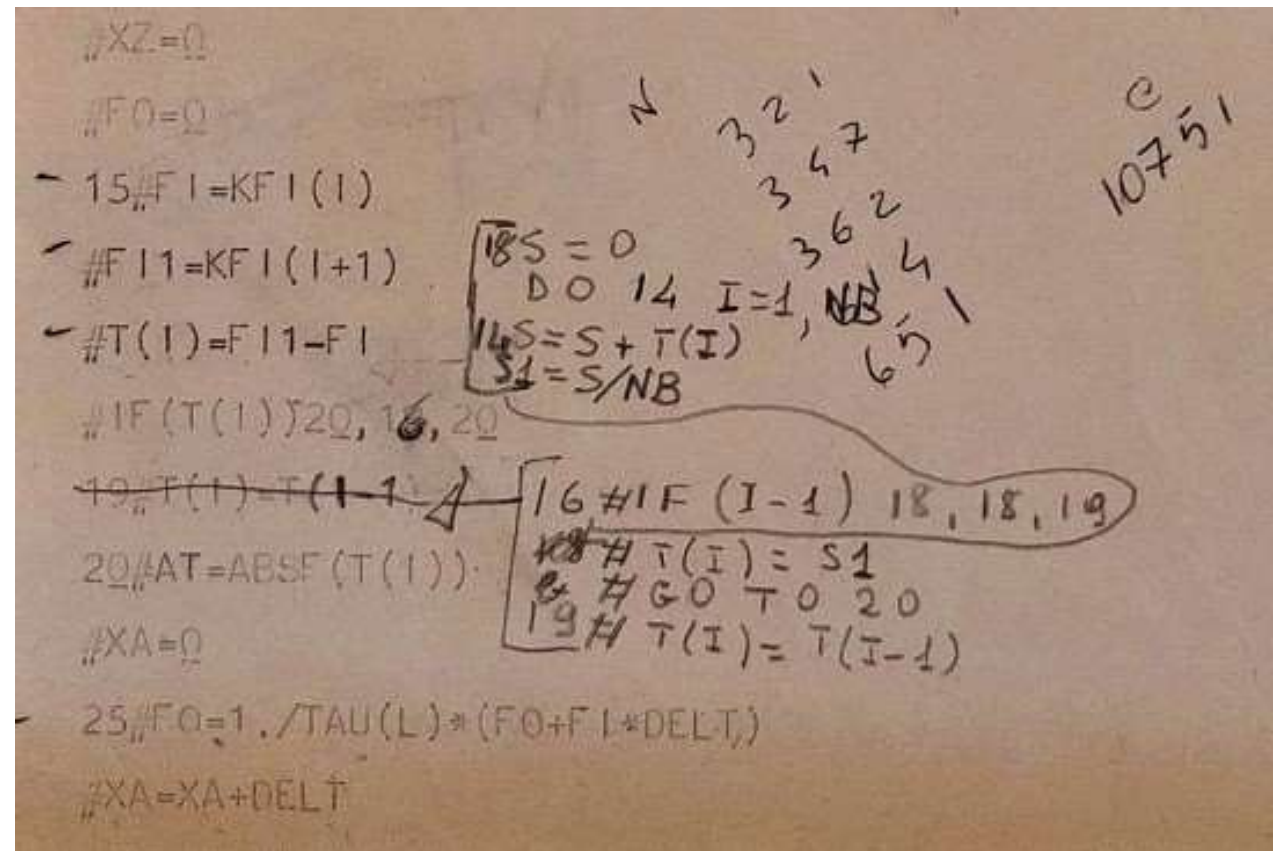
Softi (1968)

- Exercise
  - in numerical analysis
  - smoothing of a curve
  - by Tonina Starita
- 3 programming languages
  - FORTRAN CEP
  - CEP assembly language
  - command language


```
GFC.SOFTI.F1596.29/3/68.STARITA

SOFTING DI UNA CURVA

#DIMENSION KFI(2000),TAU(4),T(2000)

#NB=0

#CALL LETT(KFI,NB)

#READ 0,DELT,AK,N

#DO 5 L=1,N

5#READ 0,TAU(L)
```
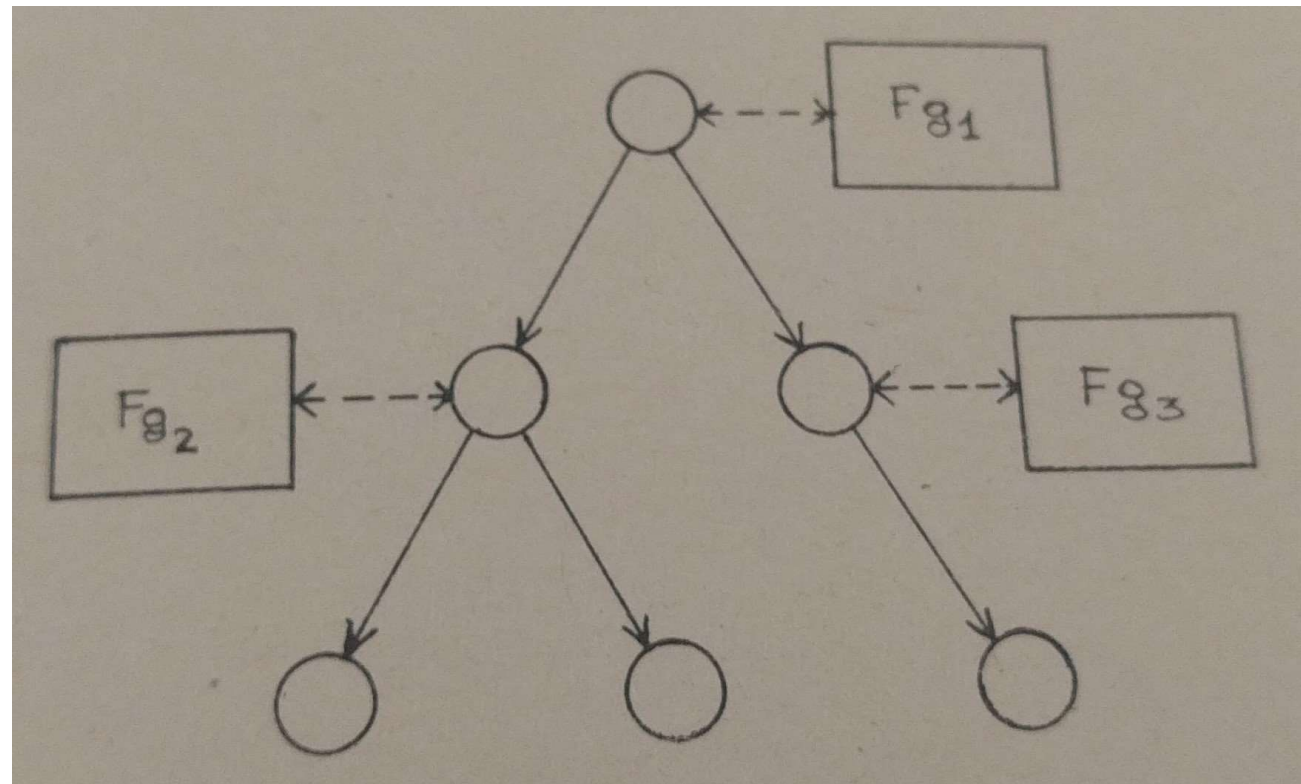
Softi (1968)

- FORTRAN:
  - 4 versions recovered
- some arbitrariness:
  - versions 2 - the printout
  - and 3 – handwritten
- No OCR
  - Just typed in

MAGMA-Lisp (1973-1981)

- "machine language" for AI
- generalized *apply:*
  - fn args
  - environment
  - return point
  - state
- more general search strategies

MAGMA-Lisp (1973-1981)

- What has been saved?
- out of ~10k FORTRAN lines
  - 2300 implementing the control features
  - 770 implementing the garbage collector
- Primitive workshop
- Usage
  - teaching
  - ND-Lisp
  - computational linguistics

MAGMA-Lisp (1973-1981)

- Maria Simi: garbage collector

- Giuliano Pacini, Franco Turini and myself: control features

- Listing saved by Franco
  - dated 15/10/1981

- Saved as version 6.0
  - based on "conceptual" reconstruction

Concerns to address

- Redundant Metadata
  - Items, Actors for humans
  - Codemeta for machines
  - Commit for git
    - Automation?

- Address ahead the problem of text recognition

```
# Giuliano Pacini
*  *Affiliation*
    *  *Historical:* ISI - Istituto di Scienze
    dell'Informazione, [Università di Pisa](www.

{
  "@type": "Person",
  "givenName": "Giuliano",
  "familyName": "Pacini",
  "affiliation" : "Istituto di Scienze dell'Infor
```

Concerns to address

- Refine authorship attribution
  - Different authors per different version
  - Vs
  - Different authors in the same version

- Raise the abstraction level
  - MAGMA-Lisp vs ND-Lisp
  - SWHAP support vs ???
  - A checklist?

≡ **Browse the archive**

-o- Revision **196e9cb81f21f017c10c38600ca954993d44c45** authored by Carlo Montangero|Giuliano Pacini|Maria Simi|Franco Turini on **15 October 1981, 07:54:00 UTC**, committed by Carlo Montangero on **21 September 2022**,

Thank you for your attention! Any question?