A Data Archive about History of Informatics in Hungary

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John von Neumann Computer Society (NJSZT), Hungary
Informatics History Forum (iTF)

Bálint Dömölki (1935 – 2025) (31/08)

Top theorist, progress innovator, organizer of Computer Life in Hungary from

amongst László KALMÁR, math. (1905-1976)
Tibor VÁMOS, eng. (1926-2021)

National reputations:

Pioneer of Hung. computer science
Leading contributor of 1st computer built in Hung. (M-3, 1957-58)
*Prominent **scientist** in SW research and development - theoretical results **!***
Pioneer of early programming and compiler technology (structured & abstract models, correctness verification, programming languages & AI, MPROLOG int. distr.)
*Great **organizer** of computer societies (Founder, Chairman of NJSZT)*
***Head** of several Institutions (e.g., Research Institute for Applied Mathematics (SZAMKI)*

International reputations - Noted results in programming theory:

 # Algorithms for the recognition of properties of sequences of symbols: Dömölki-algorithm (1964) >> Dömölki-Baeza-Yates-Gonnet extended algorithm
 # Dömölki's Lemma in Boolean function and switching circuit theory
 # First high-level language compilers for an algebraic formula-like language
(in Comm. of the ACM: "An experimental compiler for the M-3 computer", 1965)

B. Dömölki and von Neumann's daughter, Marina von Neumann Whitman (2013)

International reputations - Awards/memberships:

IEEE Life Member
IFIP Silver Core
National Member of IFIP TC 2
Invited Speaker in IFIP World Computer Congress'83 (Paris)
Program Committee member in IFIP WCC'86 (Dublin)
Advisory Board member for IFIP WCC'98 (Vienna-B_pest)
IFIP General Assembly member for Hungary (2000-2009)

„Knowing our past is the key to our future"

/Hungarnet/

- **John von Neumann Computer Society** (NJSZT), Hungary - 1968

  Professional forum of IT professionals for computer culture dissemination and professional exchange of ideas

  scientists, researchers, developers with ~2300 Members, divided into Specialty & Regional Sections

  (in addition: collecting & preserving historic computers: permanent exhibition in Szeged)

„NJSZT - the GPS for digital World": preserve value of past – adapt to present – form & build the future

- **Informatics History Forum** (itF)

  Collecting and preserving facts of Informatics History of Hungary into a Database repository, and organizing memory events about Informatics History

  - the youngest ☺ Section of NJSZT - 2009
  - retired professionals

Informatics History Forum >>> „digital virtual exhibition”

Informatics History Forum focuses onto region

- **Hungary**
- **globally** as impacts by Hungarians (Hungarian-born)
  (e.g. R. E. Kalman, B. Julesz, J. G. Kemeny, A. Grove, Ch. Simonyi, etc.)

Informatics History Forum focuses on time period

- from beginning of IT in Hungary, i.e. **1950’s**, until end of **1990’s**

The Informatics History Forum's viewpoints at collecting the facts of

- important (deceased, living) **Personalities'** careers & activities
- **Institutions** (research, teaching, offices, companies, firms)
- **Products** (software, hardware)
- **Written Works** (past studies, reports, manuscripts, books, publications etc. + recent overview studies of given topics / areas)
- past **Events** (conferences, seminars, workshops, exhibitions, shows)

- **Video Archive** (reports with prominent, influential professionals: Portraits)
- **Image Archive** (mixed of all sorts)

- **Events** (present day memorial conferences) about history of institutions & key-areas by presentations/lectures >> videos recorded >> preservation

Informatics History Forum puts emphasis on overview studies

There are ready, e.g.

“Time Travel - the History of IT in Hungary”,

„Portraits from the History of Hungarian Health Informatics”,

„Overview of History of Geoinformatics Application in Hungary”,

„The History of Artificial Intelligence and Pattern Recognition in Hungary”,

„Culture and IT – Computerization of Libraries in Hungary”,

„Life in Computer Centers”

Some more in progress

Informatics History Forum >>> digital collection >>> **DATA ARCHIVE**

- Forum's website www.itf.njszt.hu
- **Data**: in WordPress*-based website embedded into Forum's website

Creation of **DATA ARCHIVE:**
step 1: defining & planning structure of repository
step 2: data uploading

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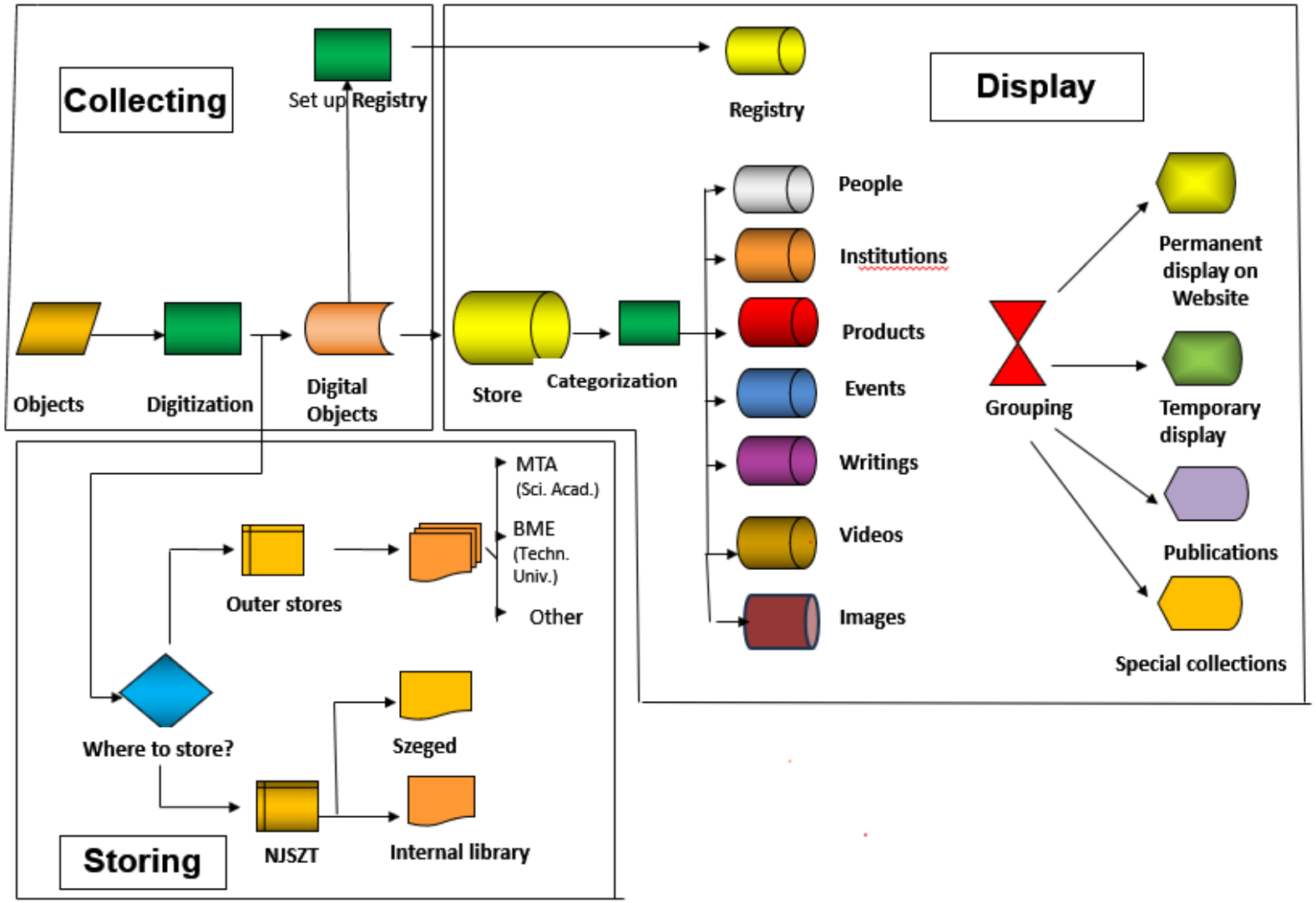
*(web content management system)

Data Uploading Processes for **DATA ARCHIVE**



Collection:
acquiring Objects
digitization / converting
registering

Storage:
within the Archive / externally
identifying
sorting
organizing into structures

Display (virtual museum):
groupings
special collections
publications
search options
etc.

Basic elements of **DATA ARCHIVE** >> Data Sheets

Data Sheets describe the Objects

predefined fixed structures
formal specification
mandatory attributes
uniform items

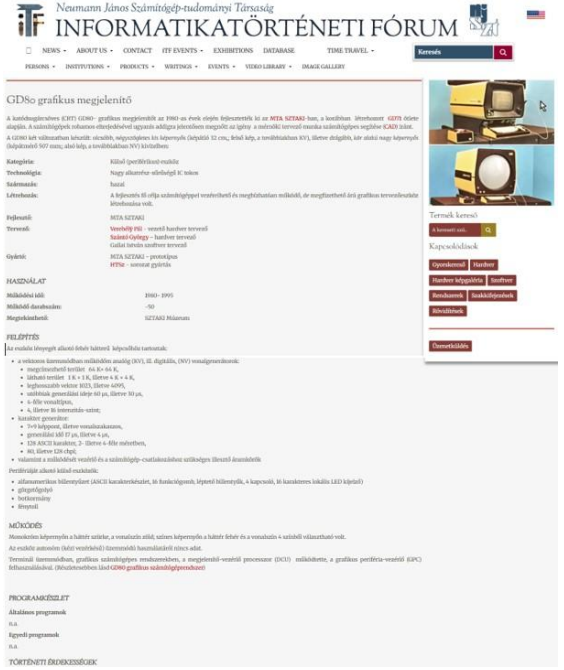
consistent quality
descriptive information
factual data

displayed individually or
in tabular form
hidden metadata

Data Sheet - PERSON

Data Sheet - INSTITUTE

Data Sheet - PRODUCT



Data Sheets – listing and display in table form

József Dénes	1939 – 2012	mathematician Candidate of the Hungarian Academy of Sciences (MTA)		He worked at MTA KFKI, then was head of the Mathematics Laboratory at SZKI. He was known as an image processing expert. It was his idea to develop a universal image digitizing device, an image processor (CDP).
Ákos Detrekői	1939 – 2012	engineer full member of the Hungarian Academy of Sciences (MTA)		He was the rector of BME, then chairman of NHIT. President of the Hungarian Rectors' Conference, Rector Emeritus. He was the founder and first president of HUNAGI. His research areas were geodetic and photogrammetric measurements, as well as geoinformatics.
Árpád Dettrich	1931 – 2021	mathematician		He was a pioneer of computer application development and education in Hungary. He participated at the Hungarian Central Statistical Office (KSH) in the establishment of the Infelor company. A recognized expert in early computer basic software. His passion was teaching computer science.
Bálint Dömöki	1935 – 2025	mathematician candidate of the Hungarian Academy of Sciences (MTA)		He participated in the creation of the first Hungarian computer, the M-3, at KKCS. From 1965 he led the software development departments of Infelor, Számki, and SZKI, then was the head of IQSOFT. He was president, then honorary president of NJSZT and iTF.
Árpád Dusza	1944 – 2007	teacher		An iconic figure of Hungarian computer science education, one of the most successful competitive programming teachers in the 1990s. His students won a silver medal at the International Olympiad in Informatics (IOI) in Budapest in 1997.
László Edelényi	1944 – 2007	teacher		At KKCS, he was the head of mechanical works during the construction of the M-3 computer. Together with László Ladó, he designed the EDLA electronic tube signal processing machine for the Telephone Factory in 1959.
Tamás Endrődy	1944 – 2007	teacher		His best-known work is the design of the first domestic graphics system, GD'71, and the related patent (SZTAKI). He was a professor at several universities, teaching Autocad and Archicad. He was a member of the iTF management team.

Data Sheets organized into thematic **Sections**
i.e., **DATA ARCHIVE** composed of **Sections**

- People
- Institutions
- Products
- Writings
- Events

For each **Section** there exist:

(A) A description of its property structure, defining the fields of the Data Sheets;

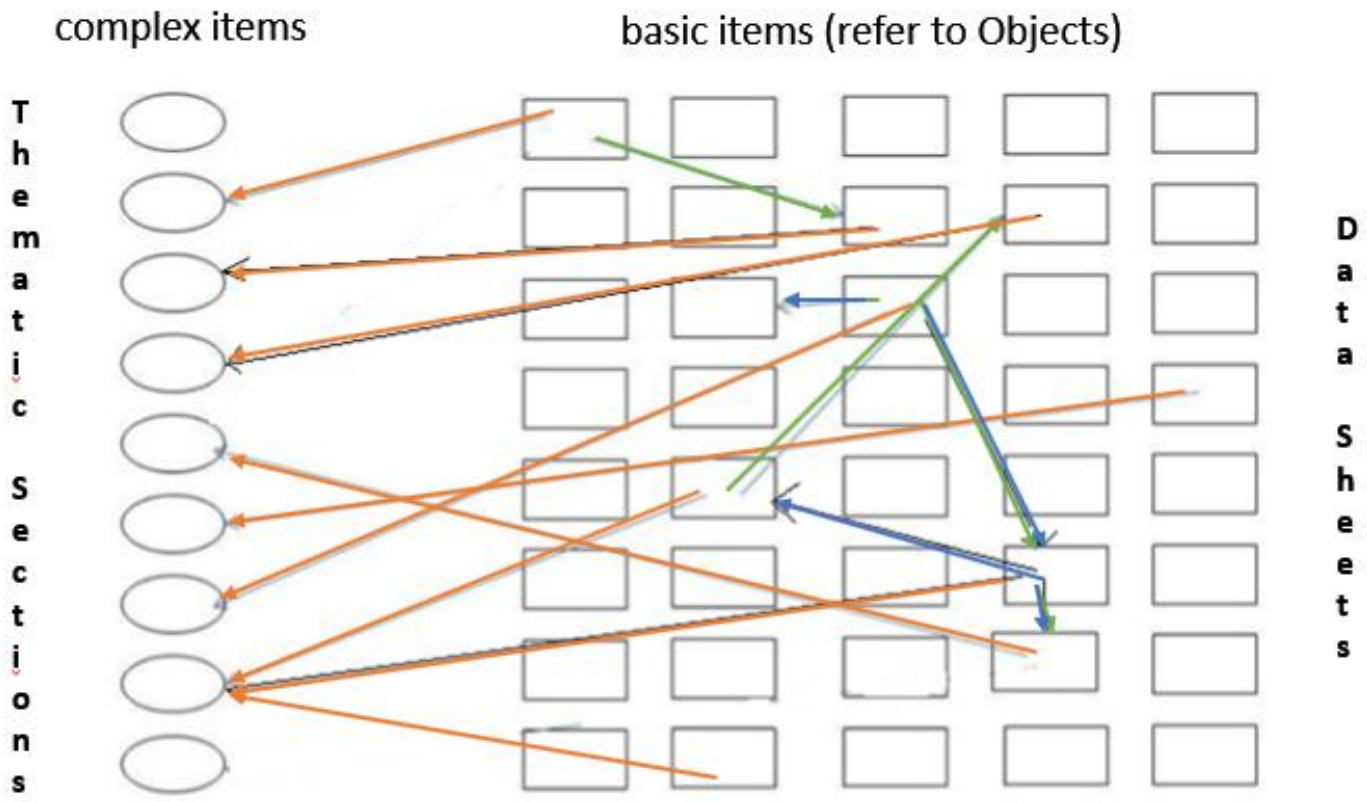
(B) The following tools:

(i) An editor, allowing to input all the fields of Data Sheets;
(ii) A screen-editor to produce the appearance of the Data Sheet;
(iii) A table-builder produces table of the Section with all Data Sheets as rows and values of selected fields in columns.

Data Sheet functionally

Type 1 (Persons, Institutions, Products, Events) - information as text description
Type 2 (Writings, videos) - informative description, „catalogue" data, metadata (e.g. link to outer store)
Auxiliary files – referring to supplement or appendix to Data Sheets (e.g. publ. list, laudation, obituary)

DATA ARCHIVE structure



Data structure of the repository, interconnections, cross-references

The **CONTENTS**

John von Neumann Computer Society (NJSZT)
IT History Forum (2009)

- **Data Archive (5000+)**

  (not counting Images)

  - People (~390+540)
  - Institutions (~400)
  - Products (~200)
  - Events (~1480)
  - Writings (~780)

    + Supplements (~600)
  - Videos (~770)
  - Images (4000+)

- **Memorial conferences (69)**

  Once-important computer institutions & key areas (e.g.: GIS; education)

  Total more than 650 lectures

  - video recordings
  - presentations (.ppt/.pdf)

- **Video portraits (70)**

  - Interviews with prominent experts

Editorship

~20 (retired) voluntary experts + 1 administrator

The **CONTENT** – *some remarks*

Covers from of Hungarian IT History

- ~ 90% of institutions during period from beginning until 1990th
- almost all the tools, equipment that were created
- ~ 90% individuals who were significant or noteworthy

Collection were done during last 15 years
by 20 (retired) voluntary experts

Deficiencies

- cross-references limited - but modern general search techniques/engines…
- internal search system - but AI...
- limited references to external sources - but they are changing time to time
- Data Sheet creation and uploading parallelly into Sections

Were not covered now, e.g.:
data protection, privacy (GDPR), quality assurance, security issues

Some final remarks

Permanent exhibition (historical computers), Szeged - **real museum**
DATA ARCHIVE (digital) - **virtual museum**

+ = symbiosis

- CALL: Archive is open for scientific community of history of technology and science
- CALL: The collected data are ready to study by historians /IT historians/technology historians
- Open and ready to apply Archive's Data for surveys, overviews, education, further history research
- INVITATION**: Open for any further international cooperation** & **discussions**
- Open for dissemination/propagation internationally - to study the Hung. info. story