First 50 years of Survo:

from a statistical program to an interactive environment for data processing

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Outline of the presentation

Only **four slides** will follow – **very briefly:**

- ▸ **What is Survo?**
- ▸ **Highlights of Survo**
- ▸ **Vision of future: Muste**
- ▸ **Demonstration with Survo and Muste**

(+ selected references from www.survo.fi/publications)

More details in our Abstract and on the website of **Survo: www.survo.fi/english**

The **point** of my presentation is the **demonstration**.

Before that, some facts about **Survo** and **Muste**...

What is Survo?

Survo is an interactive computing environment for creative processing of text and numerical data.

Author: **Seppo Mustonen**, Prof. of Statistics, Univ of Helsinki

Various generations of **Survo** during its first **50 years:**

- Initial experiments in 1962
- SURVO 66 (Elliott 803, autocode)
- SURVO 76 (Wang 2200, Basic language)
  - **Editorial interface 1979–**
- SURVO 84 (Wang PC, Basic language)
- SURVO 84C (IBM PC, DOS, C language)
- SURVO 98 (IBM PC 386+, 32 bit extended DOS, C language)
- **SURVO MM** (Windows platforms, Win32 API, C language)

Development of **SURVO MM** will continue by S.Mustonen et al.

Highlights of Survo

During its various generations of development, **Survo** has become a general computing environment with several unique functions.

- Easy way of **documenting** and **repeating** the steps of work: **editorial interface** (working with a text editor – since 1979) (*cf.* concept of "compendium" by Robert Gentleman, 2004)
- Handy tools for working with **tables** and **matrices**
- Fast and efficient methods for analysing **large data sets**
- High-quality **visualisation** using PostScript graphics
- Multiple methods for various **computations** and **calculations**

For animated demos describing some of the highlights, see
www.survo.fi/demos

Vision of future: Muste

Muste is an open-source project initiated by **Reijo Sund** (2009):

- ▶ Integrate **Survo** with **R** project for statistical computing
- ▶ In a way, the aim is to combine *"the best of both worlds"*
- ▶ The project is fully supported by S.Mustonen:
  no need to start from SCRATCH (use ready C code!)
- ▶ Technically implemented as one large **R** package
- ▶ Multiple platforms of **R** offer multiple possibilities

Muste will offer several potential benefits:

- ▶ Many unique ideas of **Survo** more widely available
- ▶ Functions of **Survo** accessible for **R** users
- ▶ Functions of **R** accessible for **Survo** users
- ▶ Interesting prospects for research and development

Demonstration with Survo and Muste

For the rest of my 17 minutes I would like to demonstrate:

1. Examples of working with Survo

- ▸ making small calculations, *e.g., 2+3=?*
- ▸ processing tables, *very interactively*
- ▸ visualising statistical data, *by CA and MCA*
- ▸ working with matrices, *with the interpreter*

2. Preliminary views of Muste

- ▸ editorial interface in **R**: *how does it look like?*
- ▸ co-operation with **R**: *possibilities? challenges?*

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