

How to build a CRIS system that lasts for 50+ years

- 14 May 2025
- Alain Descamps

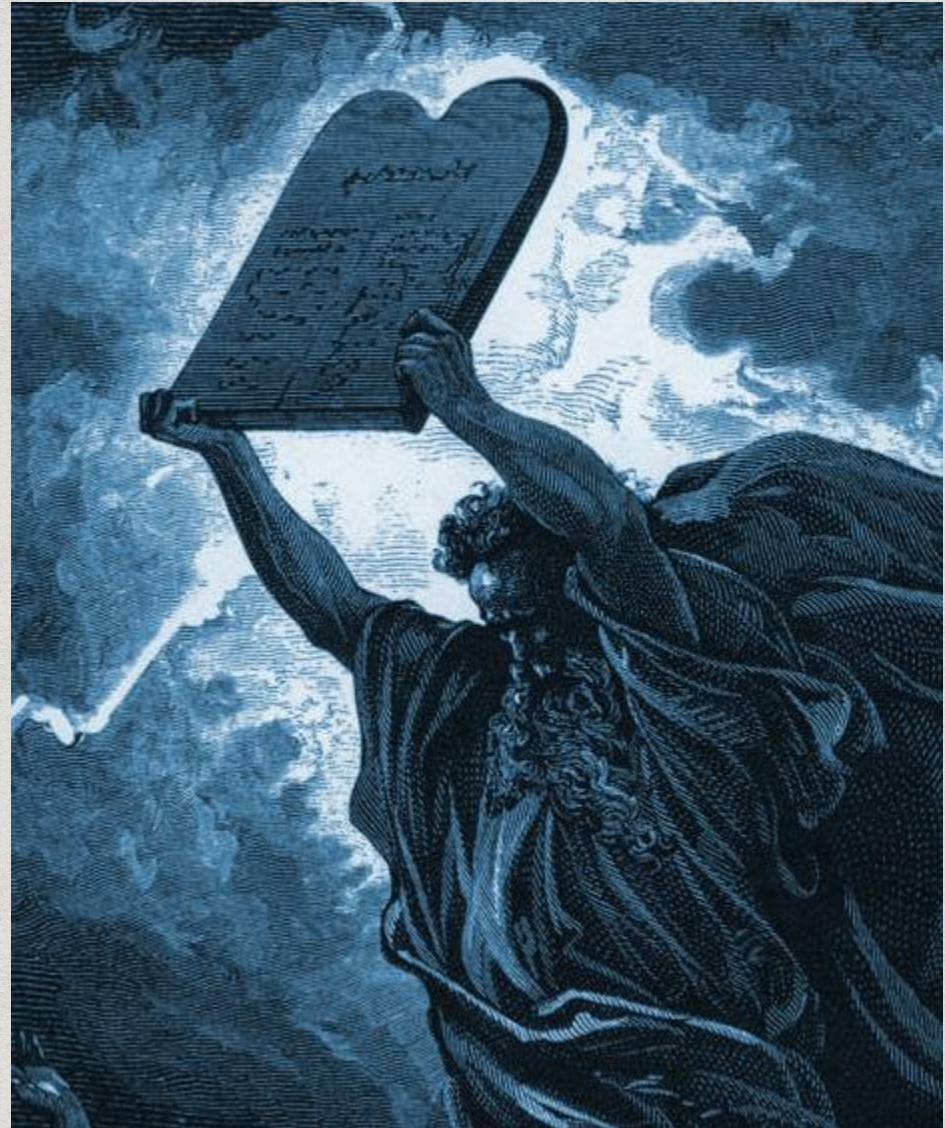
50+ years ?



What is this about ?

- ~~Hardware durability~~
- ~~Persistent storage formats~~
- ~~Technical~~
- Software through 🤖 Software engineer
- Philosophical
- Reflections, collected since 1984.

The story goes that he
went up the mountain
twice



I. FAC SEMEL

(Do it once)

- Forget about everything else
- Carved in stone ?
- Reusability:
 - ‘Callable from anywhere’
 - Ex.: find similar publications, projects, funders, ..

II. FAC UT SUBSTITUI POSSIT

(Make replaceable/adaptable)

- **Seemingly contradictory with I.**
- **Mind blowing**
- **Software ‘god’ send back to earth**
- **Make your software ‘as-independent-as-possible’**
- **Choose your software building blocks frugally**

III. NON OPINIONEM

(No opinion)

- **Do not take any decision in software that has irreversible consequences**
 - **Make configurable**
 - **Ex: gender:**
 - **M, F, X standard values**
 - **Expandable without altering software**

IV. CUI BONO ?

(Who are you working for?)

- Bill payer <> user
- Avoid over- and underengineering

V. LATE COGITA

(Think broadly)

- **Always listen**
- **Never do what is asked**

VI. UTILISSIMUM

(Most useful)

- Never do what is asked
- Do better
- Ex.:
 - ~~– Harvesting funder data from FRIS~~
 - Harvesting funder, project, organism, contract data,...
 - From various sources (expandable), like FRIS

VII. DIVIDE AC SIMPLICIOREM REDDE

(Divide and simplify)

- Monolithic versus microservices
- Modest aim of software components
- Ex : OAI-PMH:
 - Non- sexy survivor
 - Aim = make meta data harvestable
 - Ex.: projects, publications,.. CERIF XML available via API

VIII. AUTOMATE SINE TIMORE

(Automate without fear)

- **Make yourself superfluous**
- **(tried it +40 years)**
- **Did not succeed (yet).**

IX. MINIMA CURA

(Minimize maintenance)

- Daily maintenance
- Upgrading components
- Check backward compatibility skills
- $DTN = TDT - MT$
 - (development time new features) =
 - (total available time)
 - – (maintenance time)
- What if $MT \geq TDT$?

X. INSTRUMENTA COMMUNIA

(Common tools)

- Cerif XML
- OAI-PMH
- Curl
- HTML
- ...

XI. FRUEBERIS

(Thou shall enjoy)

- ‘Elfde gebod’
= ‘11th Commandment’
(Pub in Antwerp, Belgium)



Alain.Descamps@anet.be