



## 2. Test Facility

### 2.5 NI-SCS Database

Christian Curtil - CPPM




# On menu today...

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- Database Structure
- Database access
- HDF5 to Database (Processing)
- Database Structure (in detail)
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  - User Part
  - Analysis Part
  - Elog Part
- Summary

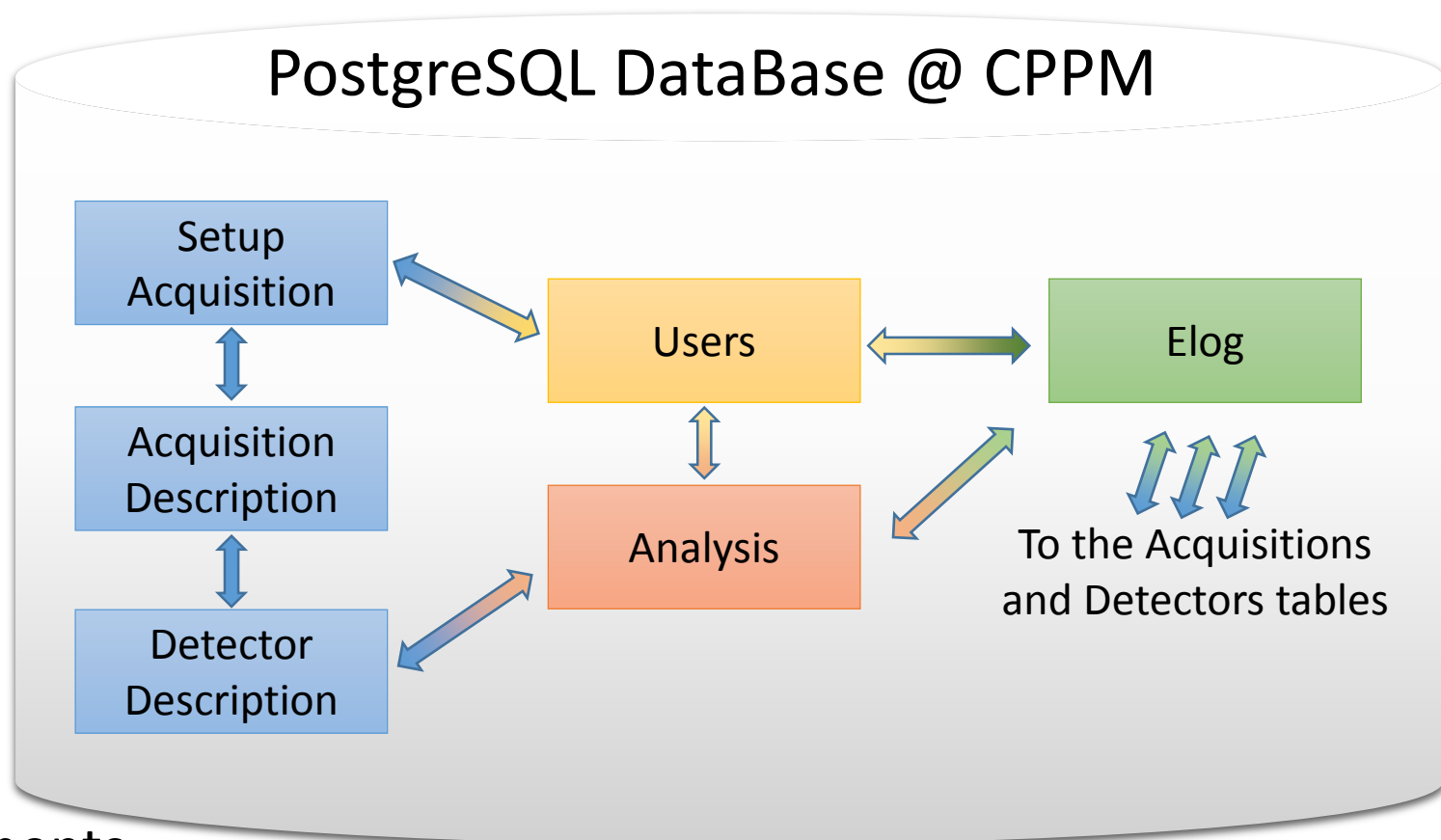


# Why made DataBase for Euclid's Data

- Euclid's Data That's :
    - ~250Gb of HDF5 file by acquisition run
    - ~40 files by detector
    - 20 detectors
- } ~ 10Tb By detector
- 
- A cartoon illustration of a man in a white lab coat and red pants, struggling to carry a very large, dark grey box. The box is so large it obscures his torso and one leg. He is looking back over his shoulder with a worried expression. A small circular object is floating above the box.
- Database is the most useful and easiest way to find a specific data set.
    - To find all dataset for a specific detector
    - To made correlation between dataset for particular metadata (slow control setting)
    - Find the name and the localization of the files of data useful for analysis
  - Especially compared with risk and time which it would be necessary if we looked for the same data directly in HDF5 files

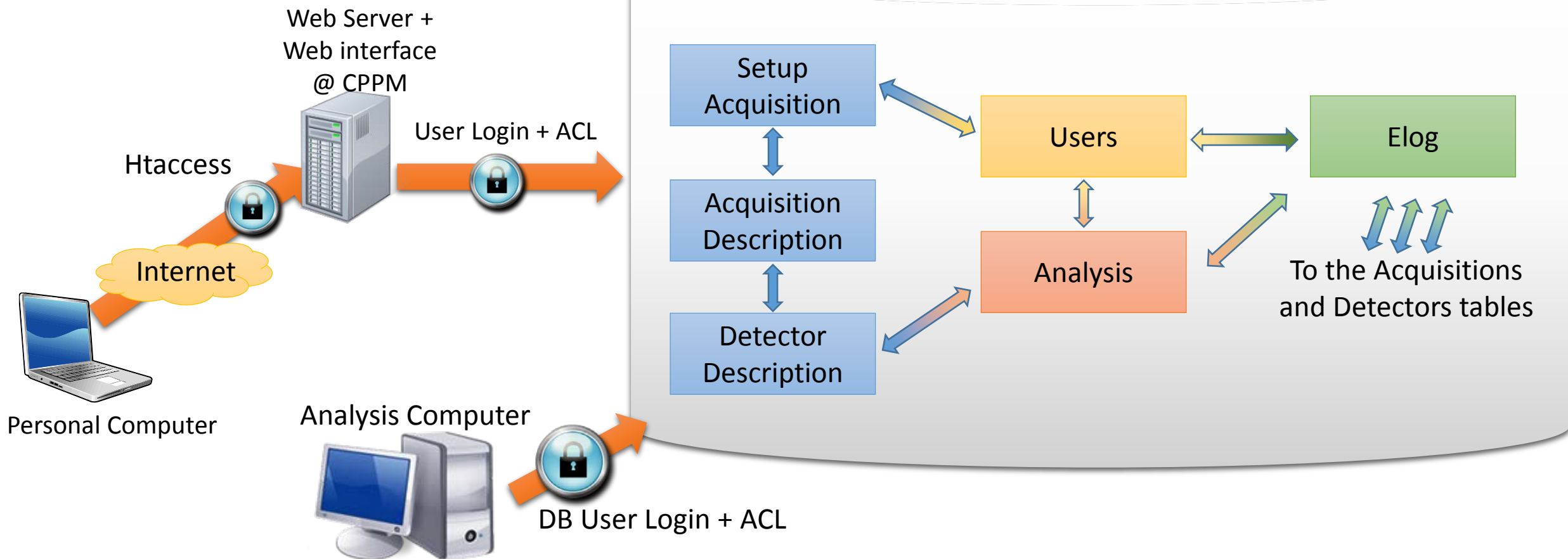
# DataBase Structure

- The database consists of several modules
  - Acquisition part
  - Analysis part
  - Users part
  - Elog part
- Why use Postgre software ? :
  - Legendary reliability and stability
  - Extensible
  - Cross platform
  - Designed for high volume environments
  - GUI database design and administration tools
  - Free...



# DataBase access

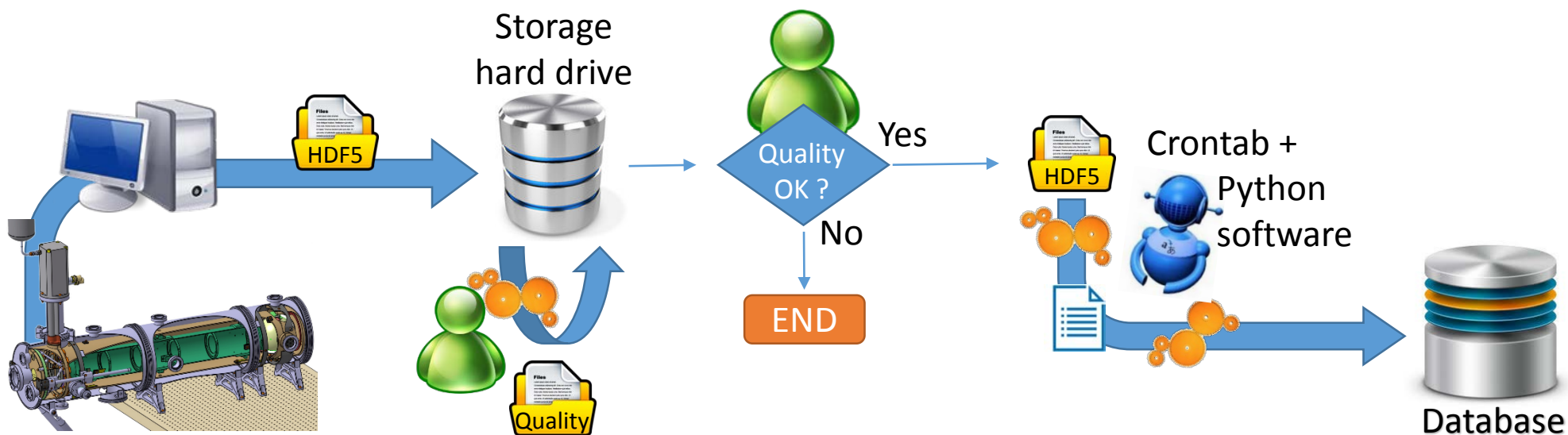
- Two ways to reach the database:



# HDF5 to Database

- HDF5 to Database Processing

 = Shifter or Expert





# Database Structure (in detail)









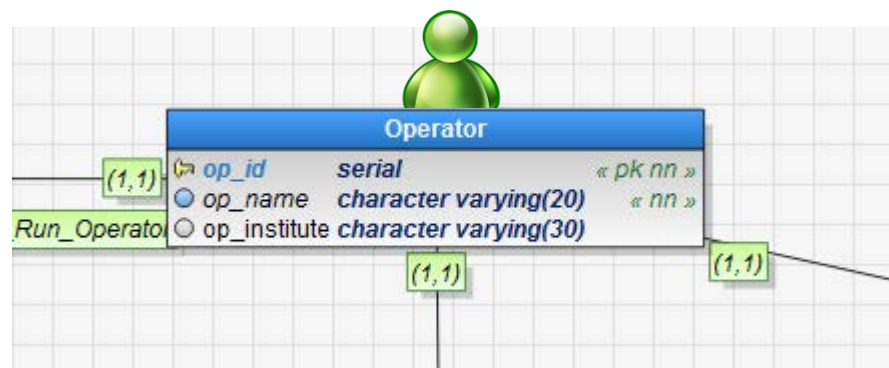
# Data Acquisition Part

- 
- The diagram illustrates the relationships between various entities in a system, organized into two main sections: **Setup Acquisition** and **Acquisition Description**.
- Setup Acquisition** entities and relationships include:
- Warm Electronic** (class) associated with **Site** (class) via **Site** (association).
  - Site** (class) associated with **Link Run Operator** (class) via **Link Run Operator** (association).
  - Link Run Operator** (class) associated with **Run** (class) via **Run** (association).
  - Run** (class) associated with **Cryo** (class) via **Cryo** (association).
  - Cryo** (class) associated with **Link Cryo Led** (class) via **Link Cryo Led** (association).
  - Link Cryo Led** (class) associated with **Led** (class) via **Led** (association).
  - Led** (class) associated with **Sequence** (class) via **Sequence** (association).
  - Sequence** (class) associated with **SCS Config** (class) via **SCS Config** (association).
  - SCS Config** (class) associated with **SCS** (class) via **SCS** (association).
  - SCS** (class) associated with **ASIS** (class) via **ASIS** (association).
- Acquisition Description** entities and relationships include:
- Status** (class) associated with **Sequence** (class) via **Sequence** (association).
  - Sequence** (class) associated with **Ramp** (class) via **Ramp** (association).
  - Ramp** (class) associated with **ASIS** (class) via **ASIS** (association).
- The diagram uses various UML notations, including classes, associations, and multiplicity, to represent the system's structure.

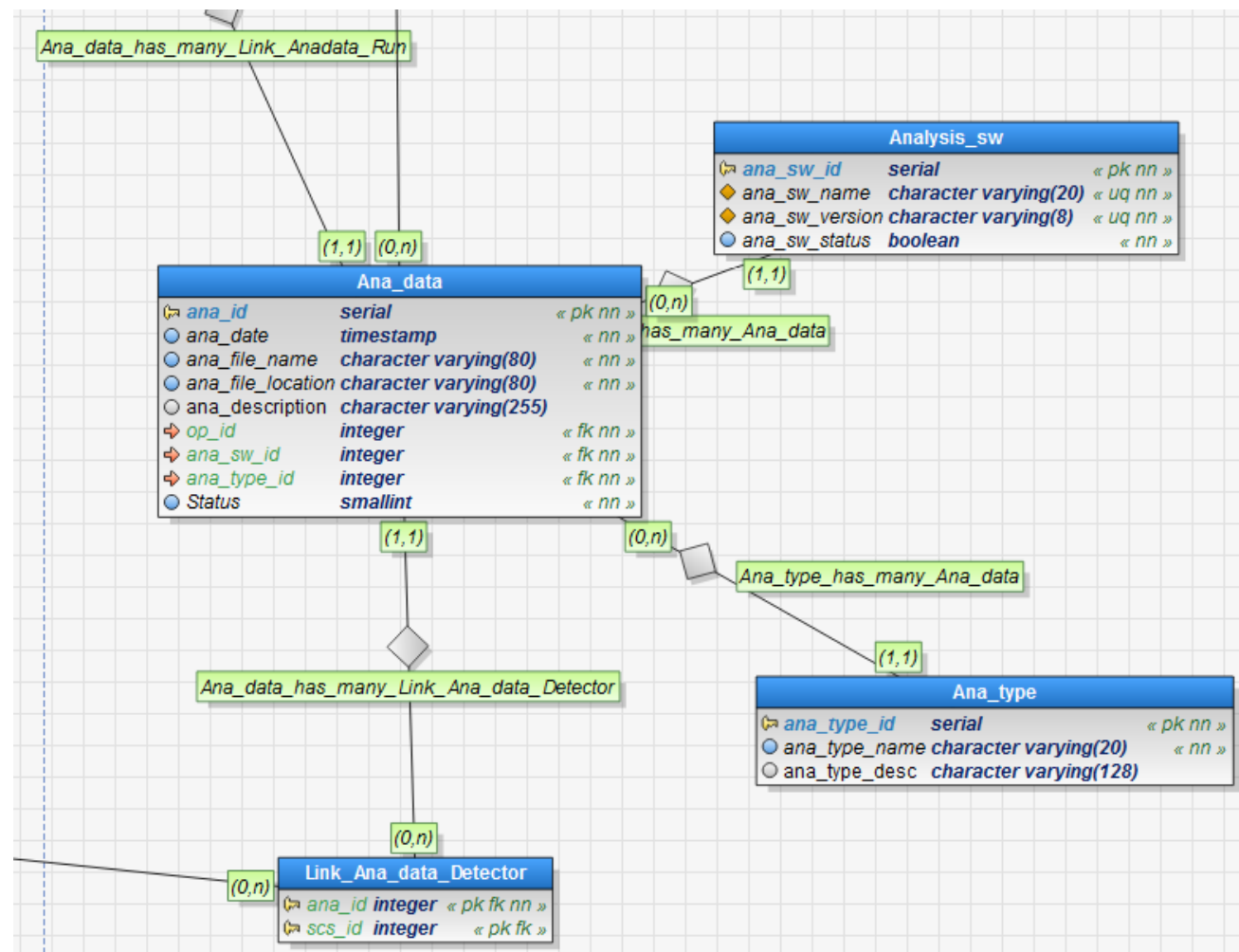
# User Part

- For the moment, only one table is used to define Who have made a Run or particular analysis or entry in Elog.

Specially to know who is the shifter



- This part will be dedicated to Analysis results and Analysis development.
- Goal :
  - Easy way to find the analysis made for particular SCS or Run, made cross check...
  - Direct access to characterization map.
- This part could still be implemented as required...





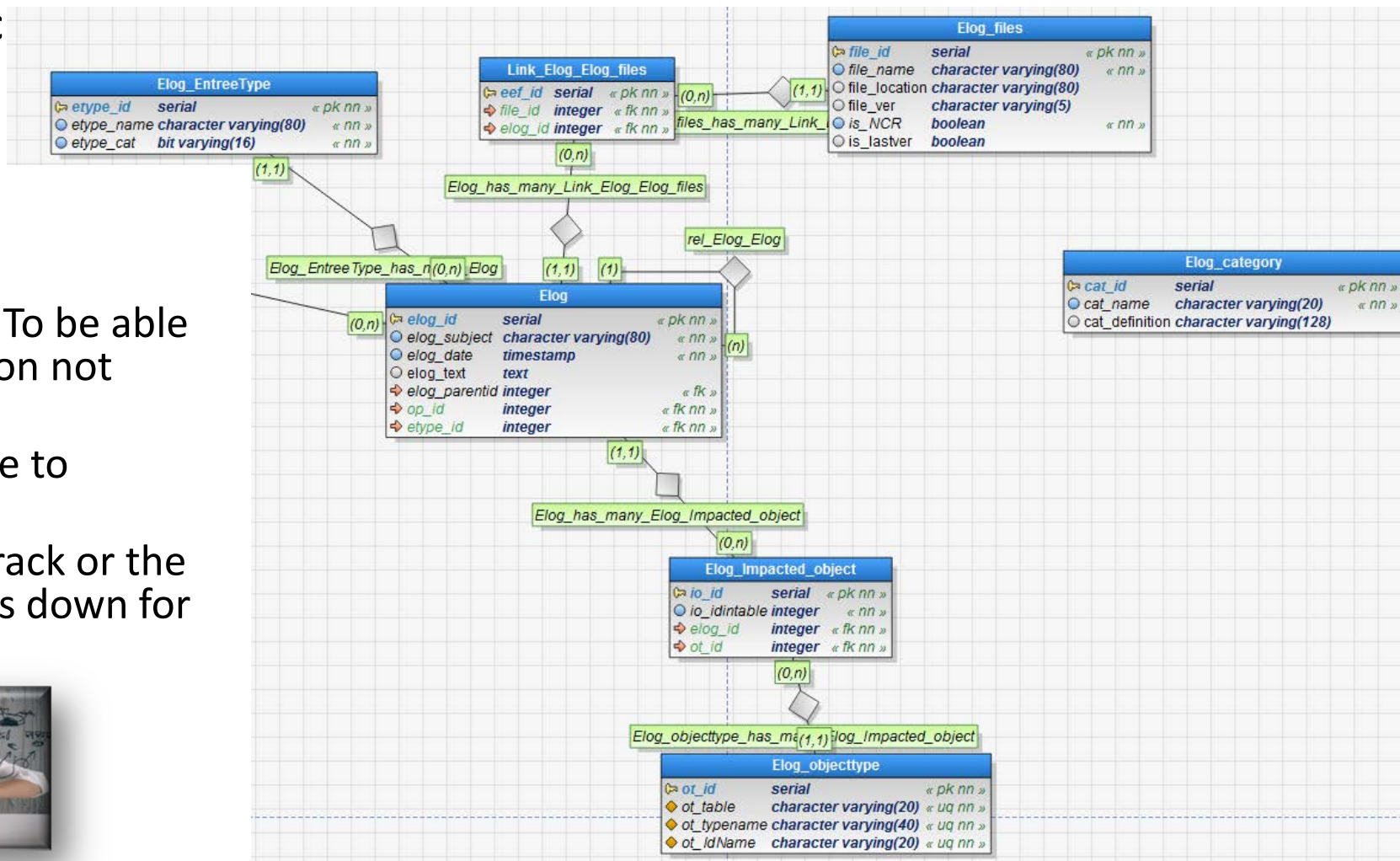
# Elog Part

- We wish made an Electronic Logbook for the Data Acquisition Team and Euclid Community.

- Goals :

- For the shifter in acquisition : To be able to write all relevant information not stored in HDF5.
- For a team of analysis : A place to exchange information
- For all : A solution to keep a track or the history of everything that goes down for each detectors.

- Web interface is under development...





# Summary

- **DataBase Acquisition Part** : is in test and debugging with real HDF5 file of data acquisition.
- **DataBase Analysis Part** : a minimal version exist but it can be updated with your requirement...
- **DB Elog and web interface** : is under development...