Web Based PEM database development

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Douglass Lormand

(with the help of) Joe Kovalik, Ed Daw, Szabi Márka, David Shoemaker and Peter Saulson

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One of those old ideas getting done…

- **There is a need for**
  - » **"Corporate memory"**
  - » **Searchable knowledge base**
    - – Comprehensive and detailed information is necessary
    - – Should be accessible word-wide => web based tool is ideal
    - – Should cover every conceivable channels
    - – Should have somebody to keep it up to date and accurate
      - ✦ Douglas Lormand with the help of all of us!

- **Excellent results exist**
  - » **Information is recorded at multiple databases**
    - – E-log, DCC, Web-pages, notebooks, jars, brains …
  - » **It is difficult and time consuming to find the desired information**
  - » **Sometimes it does not exist yet… WHO should obtain it??**

What do we mean?

- **The system should be open and easy to expand**

- **We should include everything conceivable**
  - » **From the model number to possible failure modes**
  - » **It might seem obvious to the expert but it might be not so obvious for the word**

- **Understanding of spectra, signal features and calibration is**
  - » **Not trivial even for the simplest sensor**
  - » **Every bit of information was obtained through hard work**
    - – The knowledge is investment we should make it easily available not just documented somewhere
  - » **Massive duplication is a waste**

Example .

- **Observatory (LHO,LLO,…)**
  - » **System (seismic, acoustic, Mode cleaner, …)**
    - – Subsystem (seismometer, tiltmeter,…)
      - ✦ **Specifications, device properties**
        - » Full manufacturer and/or design information
        - » Links to Application notes, Advisories, DCC
        - » Links to external expert sites (e.g. PASSCAL)
      - ✦ **Calibration**
        - » Factory calibration
        - » LIGO calibration
        - » Possible calibration problems
        - » Calibration procedures
      - ✦ **Installation**
        - » Placement/mounting (photo/drawing)
        - » Rationale/performance and links to expert pages
        - » Possible problems and cures

Example ..

- **Observatory (LHO,LLO,…)**
  - » **System (seismic, acoustic, Mode cleaner, …)**
    - – Subsystem (seismometer, tiltmeter,…)
      - ✦ …
      - ✦ **Download page**
        - » Various (e.g. High/Low noise, problem) spectra
        - » Various formats (XML, ASCII, other ??)
        - » Calibration templates
        - » Useful XML templates
        - » Single file PDF summary of the full subsection
      - ✦ **Basic Reference spectra and histograms**
        - » Normal cases for common situations
        - » Explanation of "features"

Example …

- **Observatory (LHO,LLO,…)**
  - » **System (seismic, acoustic, Mode cleaner, …)**
    - – Subsystem (seismometer, tiltmeter,…)
      - ✦ …
      - ✦ **Knowledge base**
        - » Spectra/histograms indicating problems
        - » Explanation and solution of problems
        - » Signature list (identified, unidentified) (e.g.Robert, Sergei)
      - ✦ **Possible effect on GW channel**
        - » Can be as simple as "No problem if below…"
        - » "Good here and bad here we are not sure between…
        - » Predicted or modeled transfer function

Discussion

- **Some of the information can be static but most must be kept up to date**

- **We intend to start with the PEM channels**

- **We have web page and we pooled our ideas but <u>we need your input</u>**
  - » **What else fits?**
  - » **Priorities?**
  - » **You have information we can use?**
  - » **Would you like to help?**
  - » **…**

http://www.ligo-la.caltech.edu/pemData.htm