SSHADE infrastructure development

SSDM datamodel upgrade

- internal meetings on the datamodel changes implied by the change of structure from single database (GhoSST) to SSHADE database infrastructure
  - discussion on how to separate the common databases (common data: fundamental data + general data) and the lab databases (partner data)
  - discussed: experimentalists, instruments, samples & matters
  - addition of a 'database' table => Done with all necessary DOI keywords
  - ...

SSHADE infrastructure implementation

Software structure

- The development of SSHADE software is based on:
  - Python (https://www.python.org/)
  - Pyramid framework (http://www.pylonsproject.org/)
  - SQLAlchemy (http://www.sqlalchemy.org/)
  - LXML (http://lxml.de/)
  - Astropy (http://www.astropy.org/)
  - ...
- The development of SSHADE database is based on:
  - PostgreSQL (http://www.postgresql.org/)

Database structure

- Software implementation
  - Use of PostgreSQL schemas (OK - completed)
  - Datamodel definition with SQLAlchemy (OK - completed)

- Refactoring of database structure inherited fom GhoSST (OK - completed)
  - Split into multiple schemas (OK - completed)
    - one schema dedicated to all common data (fundamental species, ...)
    - one schema per "database" for all "private" data (experiments, spectra, ...)
  - Implementation of the datamodel upgrades
    - Experimentalist (OK - completed)
    - Instrument (OK - completed)
    - Sample (OK - completed)
    - Mineral species (OK - completed)
    - Matter (OK - completed)
    - Database (OK - completed)

Data ingestion software

- Import XML files
  - Source
    - Command line (OK - completed)
    - Web interface (OK - completed)
  - Data types
    - Species (OK - completed)
    - Natural objects (OK - completed)
    - Laboratory (OK - completed)
    - Experimentalist (OK - completed)
    - Instrument (OK - completed)
    - Database (OK - completed)
    - Sample (OK - completed)
    - Matter (OK - completed)
    - Experiment & spectrum (OK - completed)
    - Publication (OK - completed)
    - Bandlist/Bands/States (TODO)
  - Features
    - XML validation : OK
    - Import mode: correction, use existing, ... (OK - completed)
    - Optional mandatory (OK - completed)
    - Unit conversion (OK - completed)
    - Resource files : image, PDF,... (OK - completed)
    - Conversion of binary file : Nicolet (OK)
    - History (OK - completed)

SSHADE web interface (search / visualization / export)

- Google-like Search (OK - completed)
- Specialized spectrum filters search (OK - completed)
- Specialized publication filters search (OK - completed)

- Provider searchs (OK - completed)
- Spectrum dynamic visu (OK - completed)
- experiment details visu (OK - completed)
- spectrum details visu (OK - completed)
- sample details visu (OK - completed)
- species details visu (OK - completed)
- phase details (OK - completed)
- Publication details (OK - completed)
- export spectrum / experiment (OK - completed)
- user dashboard (OK - completed)
- profiles and settings (OK - completed)

SSHADE web interface (Providers & Managers data management)

- import (OK - completed)
- data validation + access (OK - completed)
- database management (OK - completed)
- users management (OK - completed)
- groups management (TODO)
- backup (OK - completed)

SSHADE wiki (Users and Providers)

- SSHADE documentation (OK - completed)
- user help (OK - completed)
- provider documentation (OK - completed)

Hardware / Software management

- "Hardware"
  - Deployment of 2 virtual servers (development/production) within the OSUG datacenter infrastructure (OK - completed)
  - Operating system : Debian GNU/Linux 8 (Jessie - Stable)
- Software
  - Deployment of a forge software: Redmine+Git (OK) with plugins for agile project management (Kanban/SCRUM) and continuous integration (Jenkins)