Orthanc Tools, high level services built on the top of Orthanc

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Discovering Orthanc in 2016

- Discovered orthanc in late 2016
  - Interested by the HUGE number of APIs to manage dicoms
  - But with a limited GUI….
    - And limiting access to these features to physicians

- Initial needs
  - Make a proper anonymization of PET/CT
  - Add DICOM features to our Fiji App : Query, Retrieve, Store…
  - Get a DICOM store for research
  - Simplify image collection from PACS

- So started with an anonymization app and extended them to a lot of features
What is “Orthanc Tools”

- Basically is more or less a Java GUI of Orthanc
  - 90% of the features rely on Orthanc APIs
    - List content of Orthanc
    - Modify Dicom
    - Anonymize
    - Monitor DICOM activities
    - Export DICOM as ZIP
    - Query
    - Retrieve
  - 10% of some additional features built on top of them

- Licence : GPL v.3
Features of Orthanc Tools

- **Query Tools**
  - Query / Retrieve
  - AutoQuery

- **Dicom Management Tools**
  - View content of Orthanc
  - Send to remote modality
  - Export : Zip, Iso

- **Dicom Edition and Anonymization**
  - with anonymization profile

- **Monitoring tools**
  - CD/DVD burner management : Epson and primera
  - Auto fetch
  - Database collection of DICOM tags

- **Reading DICOM in Fiji**

- **Tools**
  - Orthanc JSON generator from GUI
Videos

Main Features
Query Retrieve
Anonymize
Monitoring
Fiji integration
Future ?

- No Future !

- At least not as a Java app
  - Feed up with verbosity, Oracle licence change
  - And may do something better
Future

- Goodby Orthanc Tools welcome “NodeJS” Orthanc Tools
  - Web app Orthanc Tools
    - With Backend in NodeJS
    - With Frontend in React
  - Advantages :
    - Interests in the AutoQuery function to automatize DICOM retrieve from PACS
    - But security wanted : Wrapping Orthanc into a backend
      - User role definition and limited access
      - Logs for administration
      - 1 server - multiple users
      - Light : Just a browser
    - Better GUI
      - From Swing to Bootstrap
    - Preserved portability of the app
      - Will have a NodeJS compiled version for each OS
Future

- The NodeJS project is in active development
  - Hope for first public version in september 2020

- Orthanc Tools will benefit for bug fixes meanwhile

- Don’t hesitate to contribute
  - New idea of services
    - Auto Routing?
  - Testing / bug hunting
  - Or in development process
Future

A roadmap to a full FOSS imaging solution for research

Local DICOM Management
Orthanc Tools
AutoQuery ...

DICOM Sharing
GaelO
Anonymization
Sharing
Clinical studies

Image Processing

OHIF
Stone Orthanc
Fiji
IA Models
Conclusion

- Build DICOM services using the power of Orthanc
  - Manage DICOM / massive retrieve / monitoring / CD/DVD burner / Export…

- Will be the “Local” DICOM tool in our big roadmap to provide image ecosystem for researchers
  - With a interface with GaelO : automatic local retrieve and automatic send to GaelO for sharing in an study

- Evolving into a NodeJS App
  - Open to ideas and contributions