

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

Salim Kanoun

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

- Goodbye 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

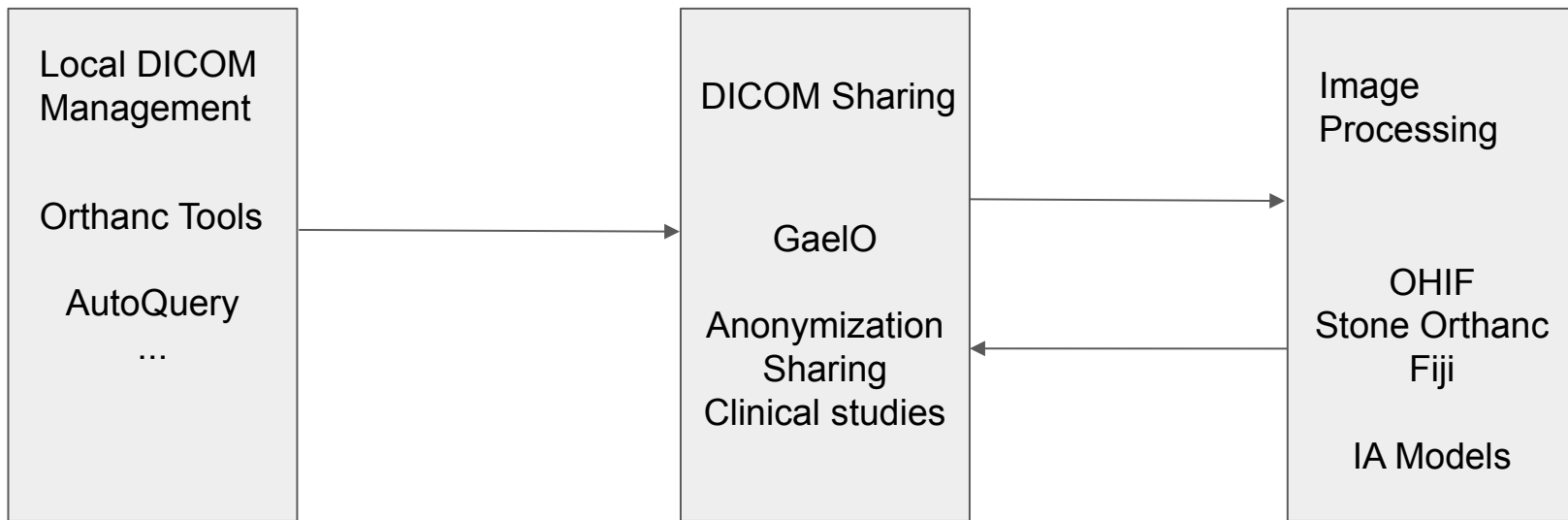
- The NodeJS project is in active development
 - Hope for first public version in september 2020

- 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



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