

Automatically publishing medical images from a filesystem as a DICOM server

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Objective

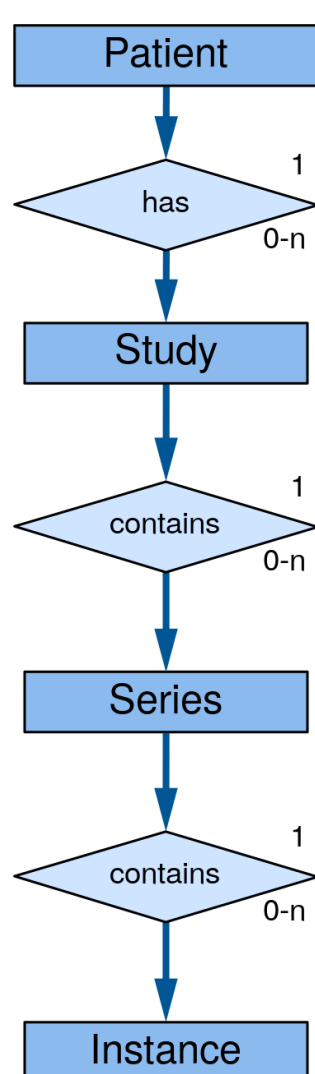
Research in medical imaging necessitates rigorous management of the image databases. Clinical trials and training of AI algorithms typically involve thousands of DICOM instances.

The aim of this work is to provide researchers with a way to **automatically and transparently index the content of an arbitrary filesystem** containing large amounts of DICOM files.

Methods

Orthanc is an open-source DICOM server that can freely be deployed by research teams as their PACS [1].

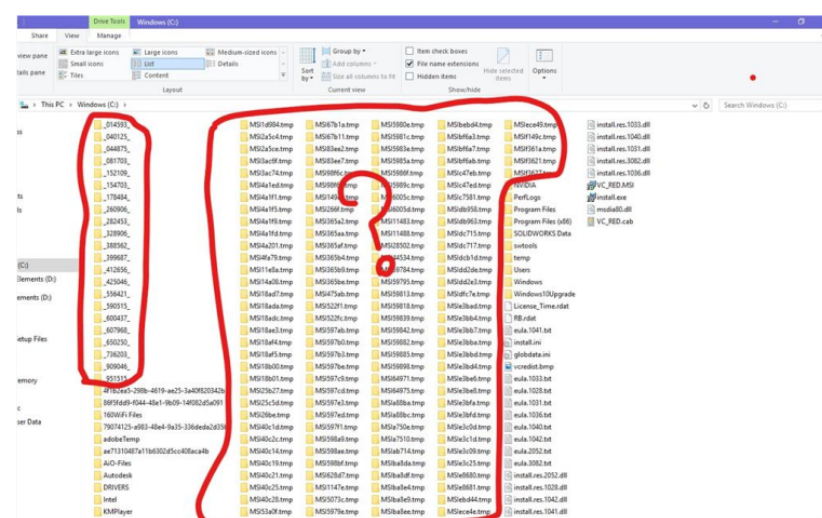
We introduce a strategy to use Orthanc as a platform that publishes the content of a filesystem according to the **DICOM model of the real world**:



Results

The deliverable of our work is a **plugin for Orthanc** that continuously synchronizes the content of Orthanc with the content of a filesystem. This way, the filesystem is served **as if it were a DICOM modality**, without any manual intervention.

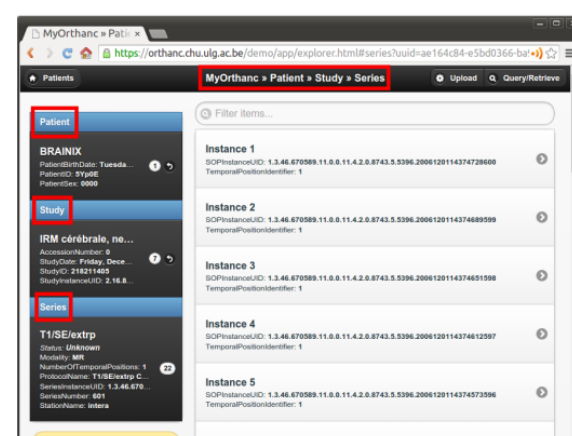
The indexed DICOM resources are immediately available in a Web interface and in a Web viewer, and can be queried/retrieved by any DICOM client.



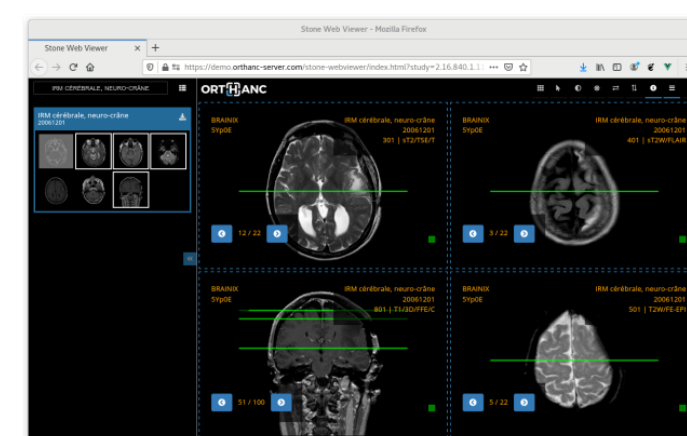
Folder indexer plugin



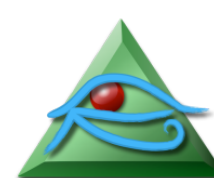
ORTHANC



Orthanc Web user interface
(DICOM model of real world)



Zero-footprint Orthanc Web viewer



medDreamTM
by Softneta Company

RadiAntTM
DICOM VIEWER

External viewers (DICOM query/retrieve)



References

- [1] S. Jodogne. "The Orthanc ecosystem for medical imaging". In: *Journal of Digital Imaging* 31.3 (June 2018), pp. 341–352.

<https://book.orthanc-server.com/plugins/indexer.html>