

MEETING ABSTRACT

Open Access

XNAT imaging platform for BioMedBridges and CTMM TraIT

Stefan Klein^{1*}, Erwin Vast¹, Johan van Soest², Andre Dekker², Marcel Koek¹, Wiro Niessen^{1,3}

From 1st Clinical Research Informatics (CRI) Solutions Day
Duesseldorf, Germany. 26-27 May 2014

Characterisation

Service, imaging, open source, archive, image sharing, clinical trials.

Description

The XNAT imaging platform is a web service for storing, organizing, and sharing medical imaging data. It is based

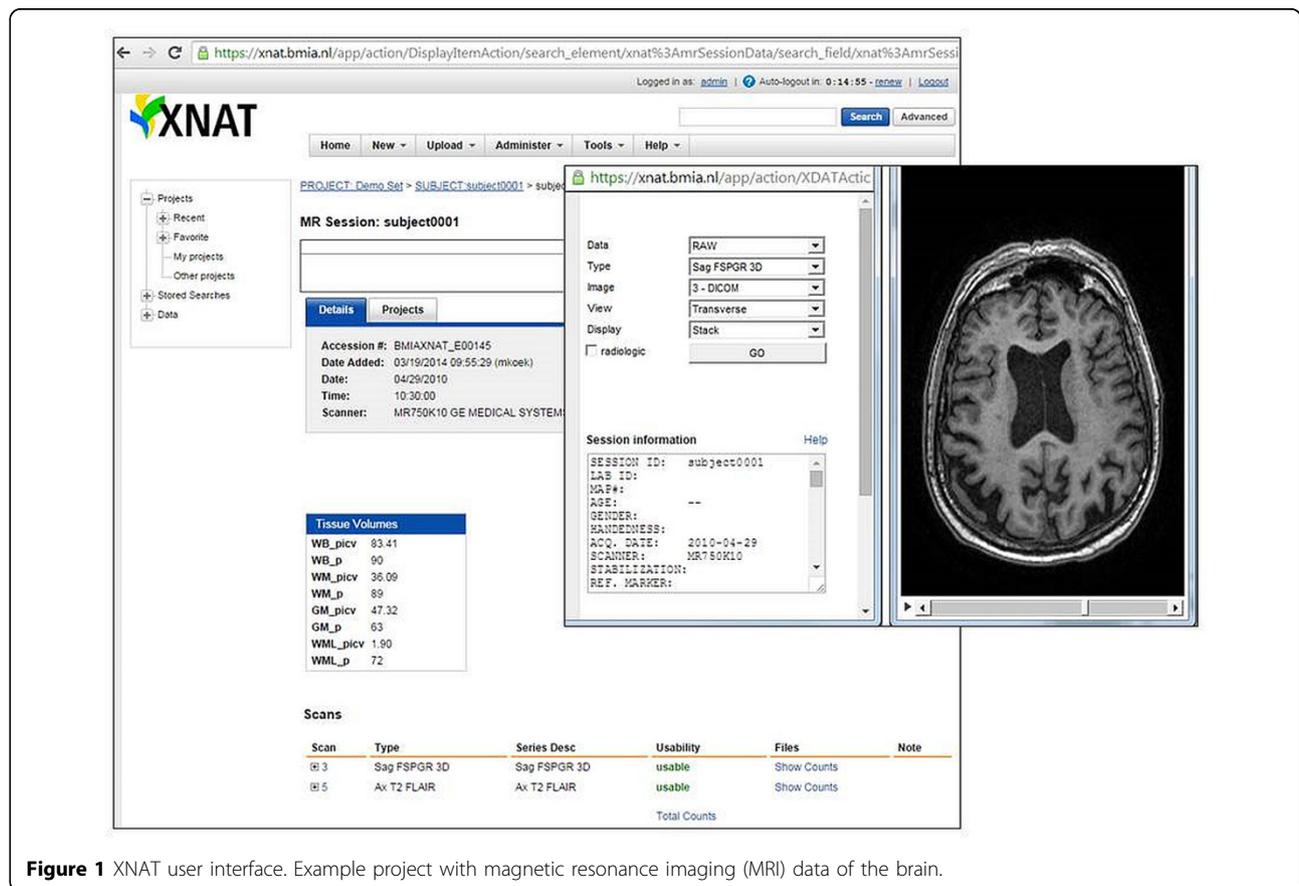


Figure 1 XNAT user interface. Example project with magnetic resonance imaging (MRI) data of the brain.

* Correspondence: s.klein@erasmusmc.nl

¹Biomedical Imaging Group Rotterdam, Departments of Medical Informatics & Radiology, Erasmus MC, 3000CA Rotterdam, the Netherlands
Full list of author information is available at the end of the article

on the open source eXtensible Neuroimaging Archive Toolkit (XNAT, <http://www.xnat.org>) [1]. The platform is suitable for both single-center and multi-center clinical studies with imaging data (Figure 1). Medical imaging data (in DICOM format) and image-derived data (often in non-DICOM format) are supported. Downloading and uploading is possible via the web interface, via the DICOM protocol, and via a RESTful application programming interface. Read and write access rights can be controlled per project and per user. In the context of the European BioMedBridges project and the Dutch CTMM TraIT project, two XNAT instances have been put in production. In the CTMM TraIT instance, which is especially supports multi-center clinical imaging studies, submission of DICOM imaging data is performed via the RSNA Clinical Trial Processor (CTP) to enforce proper anonymisation. In order to simplify and automate the installation of XNAT, we developed scripts based on the "Puppet" configuration software. These scripts have been made publicly available via the XNAT marketplace (<http://marketplace.xnat.org>).

Status of development

A recent stable release of the XNAT software is used. Currently (since November 2014), we are running version 1.6.2.1. The XNAT instances are in use by several research projects. The configuration scripts are in active development, and the current release is version 0.2 alpha.

Users

Researchers using medical imaging data.

Links

Documentation and links to both XNAT instances and Puppet installation scripts [<http://xnat.bigr.nl>]; documentation of RSNA CTP [http://mirwiki.rsna.org/index.php?title=CTP_Articles].

Acknowledgments

The BioMedBridges project is funded by the European Commission within Research Infrastructures of the FP7 Capacities Specific Programme, grant agreement number 284209. The TraIT project is an initiative from the Center for Translational Molecular Medicine (CTMM).

Authors' details

¹Biomedical Imaging Group Rotterdam, Departments of Medical Informatics & Radiology, Erasmus MC, 3000CA Rotterdam, the Netherlands. ²Maastricht UMC+, MAASTRO Clinic, Maastricht, the Netherlands. ³Imaging Physics, Applied Sciences, Delft University of Technology, the Netherlands.

Published: 22 May 2015

Reference

1. Marcus DS, Olsen T, Ramaratnam M, Buckner RL: **The Extensible Neuroimaging Archive Toolkit (XNAT): An informatics platform for**

managing, exploring, and sharing neuroimaging data. *Neuroinformatics* 2007, **5**(1):11-34.

doi:10.1186/2043-9113-5-S1-S18

Cite this article as: Klein et al.: XNAT imaging platform for BioMedBridges and CTMM TraIT. *Journal of Clinical Bioinformatics* 2015 **5** (Suppl 1):S18.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit

