

INTRODUCTION

In recent years, the neuroimaging community has been harnessing the power of large data sets. For imaging studies, **transferring data often includes labour intensive tasks** that incur a cost in efficiency and reliability. These time consuming procedures tend to further delay important steps, such as quality control (QC), processing and analysis.

The LORIS Solution:

LORIS is a web-based data and project management software that supports data acquisition and analysis within a multi-site project. Developed at the McGill Centre for Integrative Neuroscience (MCIN), the LORIS platform supports imaging, behavioural, clinical and genetic data.

A user-friendly **Imaging Uploader** has been implemented. Coupled with a suite of web-based imaging tools, this module provides an intuitive, secure and highly customizable method for uploading imaging data for any given study.

FEATURES/BENEFITS

The Imaging Uploader's main functionality is to provide users with a simple, intuitive way to upload imaging datasets via a web browser into the LORIS database. To accomplish this goal, it also incorporates a number of features to facilitate this process:

1. Real-time progress indicator
2. Anonymization verification
3. Scan integrity validation
4. Several file format converters
5. Flagging of protocol violations
6. Authentication and access control
7. Mobile-friendly interface
8. Comprehensive logging
9. Metadata display of images
10. Web-based visualization
11. Granular QC validation tools
12. Real-time statistics
13. Radiological Review module
14. DICOM Browser
15. Comprehensive user control
16. Fully customizable processing pipeline

TRY THE IMAGING UPLOADER

https://demo.loris.ca/main.php?test_name=mri_upload

METHODS

HOW TO USE THE IMAGING UPLOADER

1: Web Upload

Upload compressed packages of scans for the given patient.

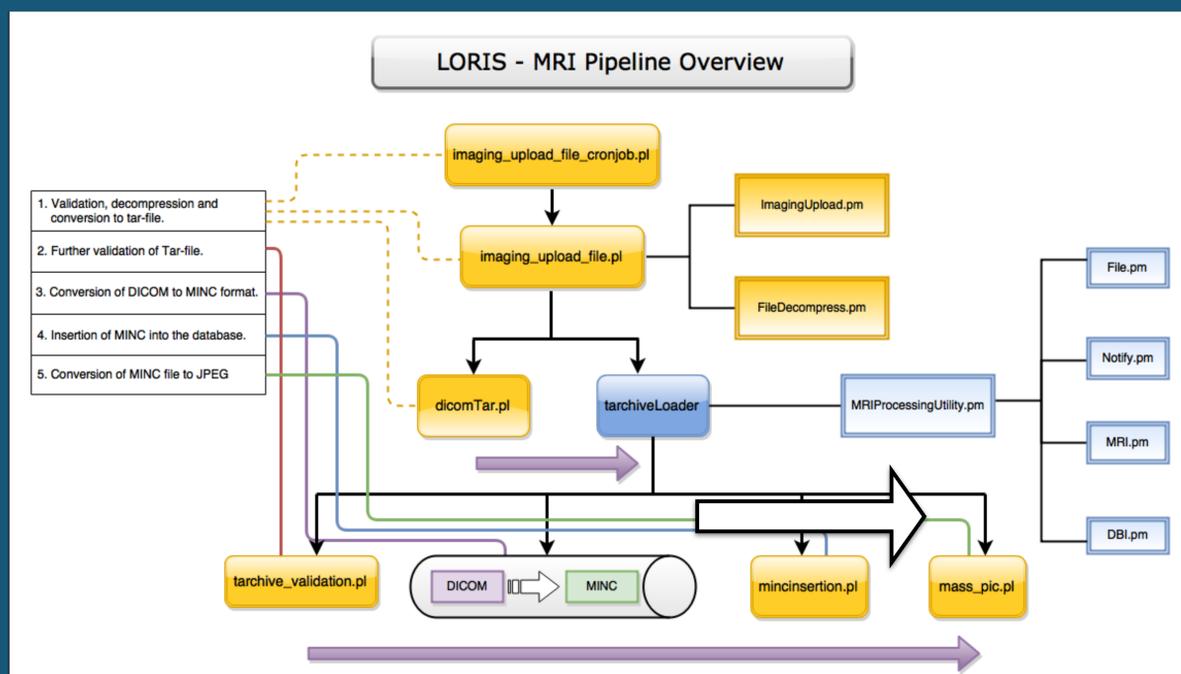
2: Validation

Upon upload, data are flagged and checked for study protocols and scan parameters.

3: Visualization

Once validated, the scans can be viewed in the Brain Browser and assessed for quality control purposes.

The Imaging Uploader utilizes a series of PERL scripts that allow the insertion of scans into the Imaging Browser on the server-side:



RESULTS

The Imaging Uploader facilitates easier transfer and pre-processing of imaging data. The following studies have already begun the data uploading process utilizing the Imaging Uploader: MAVAN (740 subjects) <https://mavan.loris.ca>, IBIS (1500 subjects) <https://ibis.loris.ca>, CCNA (1600 subjects) <http://ccna.dev.loris.ca/> and Prevent-AD (530 subjects) <https://preventad.loris.ca/>, K-ADNI (1600 subjects) http://www.alz.org/research/funding/partnerships/WW-ADNI_korea.asp.

CONCLUSION

Used in numerous multi-site neuroimaging studies, the Imaging Uploader provides a reliable, secure and efficient method for web-based data transfer, that includes a robust storage solution with comprehensive logging and validation.

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