Case Studies

XNAT has proven itself to be extensible and scaleable in ways that no-out-of-the-box PACS can imagine. Institutions around the world have used the XNAT in many different ways. We have documented a few key examples of XNAT installations that meet common use cases.

XNAT as Institutional Repository: Iowa University

Imaging-based research is becoming increasingly important to research institutions. New imaging technologies are yielding insights into the realms of cancer and disease pathology, and research funding is growing rapidly for imaging projects.

XNAT for Clinical Research: Emory University

The wealth of imaging research that is becoming available has the ability to directly influence clinical care; likewise, patients receiving clinical care may elect to participate in ongoing research into their condition, even if they cannot directly benefit.

XNAT for Clinical Translation: GIFT-SURG

Clinical translation requires an XNAT instance that has hardened HIPAA-compliant security to manage patient data, rapid pipeline processing, and extensive connections with medical research scanners and PACS to facilitate querying of patient scan series and posting new data back to the clinical environment. With this technical workflow in place, emerging imaging research can be applied in real time to clinical patient care.

XNAT for Data Sharing: ConnectomeDB

Data sharing entails an investigator distributing his data, either openly, semi-openly, or in closed collaborations. Large NIH studies are required to share data and many smaller projects have realized the benefits of sharing. However, data sharing requires the use of an application that can give researchers control over multiple levels of access, and control which data is accessible by whom.

XNAT for Multi-site Studies: Iowa PREDICT-HD Project

Imaging research and analysis is increasingly dependent on acquiring data from large numbers of subjects, which in turn means searching across wide geographical areas to find enough subjects that meet your study's criteria. One way to manage this is to collaborate with a number of research institutions to recruit and image subjects from.

XNAT Hardware for Enterprise Storage

The XNAT hardware setup at the University of Iowa is a robust enterprise class data storage system, serving multiple XNAT instances (a site-wide repository as well as an instance set up for the multi-site PREDICT-HD project). This information was gathered from a conversation between Adam Harding at Iowa and Chip Schweiss at WashU.