# **AIM Template Builder Release Notes**

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## Introduction

The Annotation and Image Markup (AIM) project defines an information model and software tools to capture and create image annotations and markups using well-defined common data elements and controlled terminologies. The current release of the AIM version 3.0 model includes the AIM Toolkit. An implementation of the model exists on the ClearCanvas workstation.

The AIM Template Builder (ATB), along with an XML schema, facilitates creating AIM annotations. The open-source ATB assists clinicians, image researchers, or clinical trial study designers in creating a set of controlled questions and related answers to each question for a particular type of imaging study, without requiring knowledge of the AIM information model. A study's image interpreters can make simple and constrained annotations in a structured format based on AIM templates.

ATB creates XML documents that can be imported to the AIM workstation 3.0.4 or into an AIM-enabled application. Each question and answer is captured using a standardized vocabulary such as RadLex and SNOMED CT® or user-definable terms. ATB allows a user to create and store AIM templates on the user's local computer. The ATB user interface allows a template owner to edit, rename, and delete a template or its contents. It automatically validates saved templates against the AIM template schema to ensure that the captured information matches the information that the AIM model requires.

The AIM model enhances interoperability and information exchange between imaging and health information systems. Annotations stored in a computable model such as AIM can be queried not only to find images containing similar image content but also to correlate human or machine image observations with other biomedical data.

Download the ATB from the AIM tool wiki.

### Features in the 2.0 Release

The Annotation and Image Markup (AIM) information model version 4.0 has several new significant capabilities, as described in the AIM 4.0 release notes. AIM Template Builder (ATB) 2.0 offers new features that allow investigators to design templates to collect additional information specified by the AIM 4.0 model. Other ATB 2.0 capabilities are based on user feedback.

- · Ability to skip a set of consecutive questions based on selected answer choice(s)
- Ability to assign default answer(s) to a question and characteristic quantification
- · Fewer steps to create anatomic entity, imaging observation, inference, calculation, and geometric shape components
- Ability to assign no more questions to an answer choice (all skipped questions must have an answer if the minimum answer choice is set to one)
   Ability to assign a question as a coded term to an annotation role entity, anatomic entity, anatomic entity characteristic, imaging observation,
- imaging observation characteristic, inference, calculation, geometric shape, graphical drawing or markup, and calculation entity
- Ability to add tags to an AIM template group
- · Ability to assign an imaging modality to a template
- Ability to generate an automatic and a manual UID where required
- Improved real-time error and warning messages when an incomplete or incorrect component has been created
- New icons as visual cues to differentiate component types
- · Support for post-coordinated terms (combine existing terms to create a new concept)

#### Features in the 1.1 Release

- New user interface that allows the ATB 1.1 user to assign a file name when uploading a template to ATS 1.0.
- New example lexicons
- Fixed search capability on ATS
- Support AIM template publishing
- Support minimum and maximum cardinality validation related to each question
- Save technical error messages in the log file instead of displaying them directly to the user
- Fixed expired cookie handling during template publishing

- Fixed incorrectly itemNumber generation for component (e.g. anatomic entity, anatomic entity characteristic, imaging observation, imaging observation characteristic, inference and calculation)
- Improved error messages when duplicate template is being imported into AIM Template Service

### Features in the 1.0 Release

This release supports AIM template version 1, revision 23.

- Supports pre and post-coordinated termsSupports a question as a coded term
  - - Anatomic Entity
    - Anatomic Entity Characteristic
    - Calculation
    - Geometric Shape (Markup)
    - Imaging Observation
    - Imaging Observation Characteristic ° Inference
- Default lexicons
  - RadLex
  - RECIST
  - ° LIDC
  - Vasari
- Manage local lexicons
  - Create
  - ° Delete
  - ° Search
  - Tree view
- · Warning messages when content in a template is incomplete ° Reporting the location of a warning
  - Cannot export a template with warning

## Support

If you need help, contact Application Support.

Send technical support requests to AIMTeam@northwestern.edu.

#### **Documentation**

- AIM Toolkit Documentation
- AIM on ClearCanvas Workstation Documentation ٠
- AIM Template Service Documentation
- AIM Template Manager Documentation

#### Web Sites

• caBIG Tools Page for AIM