

Project Charter: Modeling Tools for Healthcare

Overview

This charter was developed in accordance with the [Open Health Tools Development Policy and Process](#) and outlines the mission, scope, and expected contributions of the UML Tools for Healthcare Project.

The project charter is a living document that will be updated to reflect the evolution of the mission, scope, and development processes.

Mission

The Modeling Tools for Healthcare Project will focus on enabling model-based development technologies within the Open Health Tools (OHT) community. It will unite projects falling into this classification to bring holistic model-driven development capabilities to OHT. The mission objectives include:

- Deliver a common modeling framework and tools that promote interoperability and shared artifacts between related healthcare standards and standards organizations. These healthcare standards/organizations include, but are not limited to: HITSP, HL7, X12 and NCPDP.
- Adopt modeling languages that are based on *adopted industry standards*, especially those from the OMG. These languages include, but are not limited to:
 - Unified Modeling Language (UML).
 - Ontology Definition Metamodel (ODM) that includes RDF and OWL.
 - Semantics of Business Vocabulary and Business Rules (SBVR).
- Maintain a close working relationship with the Eclipse Model Development Tools (MDT)¹ project and use open source implementations of metamodels for adopted modeling languages. This OHT project will not duplicate the deliverables of MDT, but will deliver modeling extensions and Eclipse tooling extensions for healthcare applications.
- Enable the OHT community to use open source modeling tools from Eclipse MDT, or to choose commercial products that are compliant with the latest release of modeling language standards. Whenever possible, the Eclipse plug-ins delivered by this project should be compatible with both open source and commercial modeling tools.
- Enable healthcare standards organizations and implementers to develop localized specifications derived from information and behavioral models. This project will provide integrated, seamless support for “dynamic modeling” (behavioral modeling) in addition to information (or “static model”) design.
- Promote the use of integrated tools to automate all aspects of standard and implementation guide (profile) design, publication, and runtime artifact creation.

Scope and Expected Contributions

This project will support the design and implementation of healthcare standards that are based on adopted standard modeling languages. There are two major groups of users: standards development organizations (SDOs), and the organizations that use or implement the standards produced by the SDOs.

¹ Eclipse Model Development Tools (MDT), www.eclipse.org/modeling/mdt/

As this project grows, it is expected that subprojects will be formed around each supported modeling language; for example, projects that support UML modeling, OWL ontology design, or SBVR vocabulary and rules. All subprojects must contribute to the overall project mission.

The scope and contributions fall into these categories:

Domain Models – Enable the creation and distribution of semantic models representing standardized healthcare data definitions.

Behavioral Models – Enable the creation and distribution of behavioral models representing standardized healthcare message interactions, process flows, and service interfaces.

Model Validation – Validate the semantic content of healthcare models. Validation technologies may include the following:

- Eclipse EMF validation framework used to develop and execute validation constraints².
- Reasoning engines, such as OWL Description Logics, to validate model consistency.
- Other validation technologies as appropriate for each modeling language.

Code Generation – Enable transformation of the healthcare models to platform-specific representations used to generate implementation artifacts. For example, generate complete XML Schema message definitions from UML domain models, WSDL web services definitions from UML service definitions, or production rules from SBVR business rules.

Service Oriented Architecture – Enable definition of SOA services and generation of SOA implementation artifacts.

See the Project Plan for additional details on proposed, committed, and deferred plan items.

Potential IP Issues

This project will enable use of both open source and commercial UML tools that are compliant with the latest UML specification. Eclipse plug-in extensions may be written so that they are binary compatible with open source tools (Eclipse MDT UML2Tools) and commercial tools that are based on the same Eclipse frameworks. To deploy and install these healthcare extensions to UML, some minor configuration plug-ins may be required for commercial products, e.g. to configure user interface menu contributions in a specific product.

Most of this project's deliverables will be committed to the Open Health Projects repository, but plug-ins that are specific to a commercial project will be committed to the Open Health Forge repository. Both types of deliverables will use the Eclipse Public License (EPL).

See: <http://www.openhealthtools.org/OHTForge.htm>

² EMF Validation Framework, <http://www.eclipse.org/modeling/emf/?project=validation>