

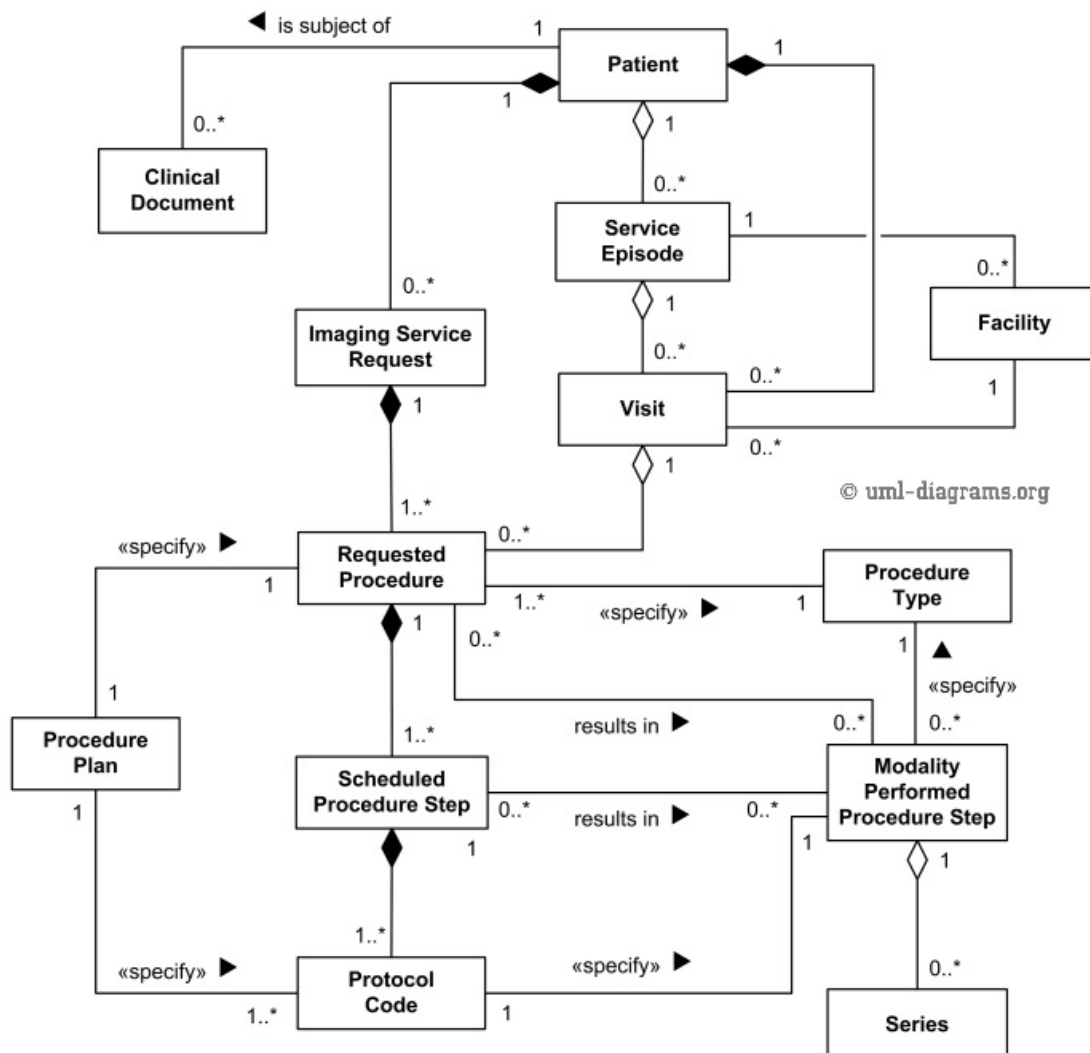
DICOM Model of the Real World

An example of class diagram representing domain model ("model of the real world") for Digital Imaging and Communications in Medicine (**DICOM**). This diagram is based on E-R model Fig.7-3 of DICOM standard Part 3 - PS 3.3-2009.

Diagram represents DICOM extended domain, abstract description of the real world objects used in the Modality-IS Interface. Modality is a piece of imaging equipment, e.g. computed tomography (CT) or ultrasound (US).

A **Patient** is a human or an animal receiving, or registered to receive, healthcare services, or is the subject of research studies. A **Clinical Document** is a part of the medical record of a patient. It is a documentation of clinical observations and services provided to the patient.

A **Service Episode** is a collection of events, context in which the treatment or management of an arbitrary subset of a Patient's medical conditions occurs. Service episode is entirely arbitrary; it may include a single outpatient visit or a hospitalization, or extend over significant period of time, e.g., the duration of a pregnancy, or an oncology treatment regimen. A service episode may involve one or more **Healthcare Organizations** (administrative entities that authorize **Healthcare Providers** to provide services within their legal administrative domain, e.g. hospitals, private physician's offices, multispecialty clinics, nursing homes).



DICOM domain model for Modality-IS interface UML class diagram example.

Visit is a part of service episode, collection of events that fall under the accountability of a particular Healthcare Organization in a single facility. A visit may be associated with one or more physical locations (e.g. different rooms, departments, or buildings) within the same facility.

An **Imaging Service Request** is a set of one or more **Requested Procedures** selected from a list of **Procedure Types**. An Imaging Service Request is submitted by one authorized imaging service requester to one authorized imaging service provider in the context of one **Service Episode**. An Imaging Service Request may be associated with one or more **Visits** that occur within the same Service Episode.

A modality **Scheduled Procedure Step** is an arbitrarily defined scheduled unit of service, that is specified by the Procedure Plan for a Requested Procedure. It prescribes **Protocol** which may be identified by one or more **Protocol Codes**. A modality Scheduled Procedure Step involves equipment (e.g. imaging equipment, surgical equipment, etc), human resources, supplies, location, and time.

A **Modality Performed Procedure Step** is an arbitrarily defined unit of service that has actually been performed (not just scheduled). It contains references to zero or more **Series of Images**.

Noticed a spelling error? Select the text using the mouse and press Ctrl + Enter.

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This document describes **UML 2.5** and is based on **OMG™ Unified Modeling Language™ (OMG UML®) 2.5** specification *[UML 2.5 FTF - Beta 1]*.

All UML diagrams were created in **Microsoft Visio** 2007-2016 using *UML 2.2 stencils*. You can send your comments and suggestions to [webmaster](#) at webmaster@uml-diagrams.org.

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