

A Study on e-Learning System Based on Learning Content Standard in Model Driven Architecture

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Abstract

Contents application from contents development of web technical base and with the operation different environment information of the educational resources integration the importance and necessity of the management central chain e-Learning system will be able to operate are raising its head with base. Is the actual condition which develops the development process where but, the education application currently is not standardized in base.

Approaches with an educational domain from the present paper consequently, and defines MDA (Model Driven Architecture) coats e-Learning System. Also uses a studying contents standard metadata and about the contents storage space analyzes and plans the core property which uses MDA automatic tools leads and under developing boil e-Learning System will be able to provide the contents which does in actual professor own necessity.

1. Introduction

Trade name operation Royal favor of the system between which is various with change of educational environment is essential, is various and in order to make only the studying voluntary requirement which changes quickly the family application developments which consider a re-use are coming to be demanded. In order to raise trade name operation characteristic of the system between which is various with e-Learning development core techniques which raise its head with change of educational environment essential and, re-use characteristic of educational contents applies a studying contents standard and must develop a system. Also in the system which is subordinate to one platform develops the educational resources which is systematic at MDA development processes which are a plan in base will assemble and will be able to produce the core

property which re-use with different platform is possible and supports the research which puts a focus in e-Learning System developments for is demanded.

Approaches with an educational domain from the present paper consequently, and defines about the contents storage space which uses a studying contents standard metadata analyzes and system design leads and is extracted hereupon the core property which has and MDA coats e-Learning System and the actual professor person who uses MDA automatic tools will be able to provide the contents which does in studying own necessity and the developer under developing should have boiled e-Learning System will be able to manage information and a contents about the users.

2. Relation research

2.1 MDA

MDA where is architecture for a software development was defined in compliance with OMG (Object Management Group). MDA converts the plan model progressively and software creates is a new development method with automatic. Like object intention, Component base development, pattern and dispersion computing and there is to software development and quality and life and productivity of software in order to improve is developed and MDA integrates various branch approaches with one method and with the model every makes the standard which will be dizzily in the platform which is various and programming language, according to standard the tools creates, in the box what kind of tool in order to prepare the source which is identical about the model which is identical, under will should have boiled a source.[1]

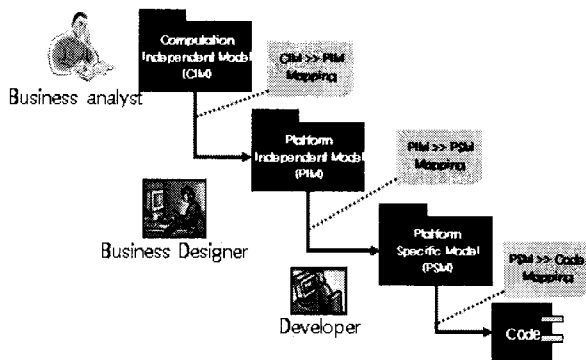


Figure 1. MDA model relationship characteristic and development process

MDA cores as the model from software development process MDA coat systems under modeling the act at once becomes the production job which embodies the product. MDA will convert PIM with PSM, when again PSM creating with the source cord MDA tools and a conversion work with automatic, will use will be able to accomplish. From (picture 1) shows MDA model relationship result development processes. .

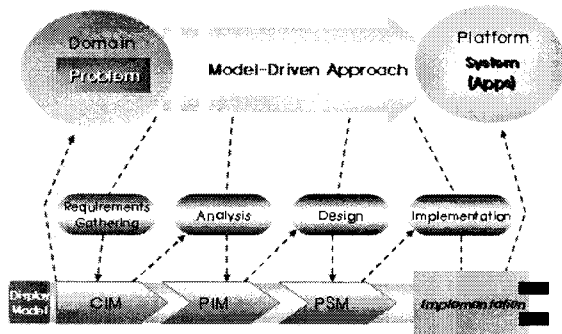


Figure 2. MDA Development Process

Is fundamental from MDA, coat system developments shows from the concept which (picture 2). The model aimful approach for application where hits to the environment of the platform which comes to be demanded leads about the problem being presented from domain territory the phased by expressive model which shows with the method which comes to be solved with afterwards is same. Collects information first of all about requirement from CIM (Computing Independent Model) phase and is a model which creates. Afterwards that a analysis phase and approaches with the viewpoint which is CIV (Computing Independent Viewpoint) from CIM phase and is passed by PIV (Platform Independent Viewpoint) leads and Program Lange where will be used in embodiment PIM (Platform Independent Model) where and is a plan model which is not and

System S/W, subordinate intelligence to Networking etc. specific environments creates.

This time before being advanced at design phase, PSM (Platform Specific Model) where is a detail design model which is subordinate to the platform which considers the feature of embodiment environment creates and goes through application where is subordinate to a platform and creates the embodiment phase afterwards that. [2]

2.2 SCORM

LO (Learning Object) with Content SCORM is composed Aggregation Model of the web base for the studying object and Run-Time Environment. Respects this SCORM AICC, IMS and IEEE LTSC, to apply the technique of ARIADNE agencies and all re-is serviceable and develops the studying object will be able to own jointly the professor person studying own house from the point of view which demands at real-time from (picture 3) has the goal to deliver shows SCORM basic service structures in the user.[3]

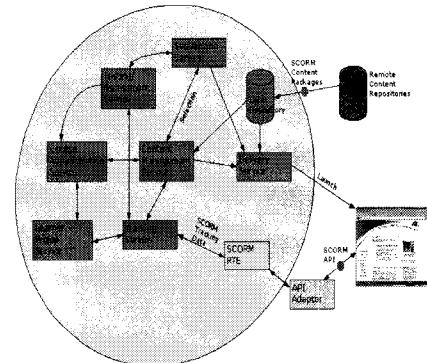


Figure 3. Service structures of SCORM bases

3. MDA coat e-Learning system analysis and Design

3.1 e-Learning system development processes architecture

Uses MDA and about the educational domain which defines e-Learning systems the justice is necessary about each phased by models. With the model which is expressed from CIM phase the scenario and conceptual diagram create about system. From PIM phases about platform with class diagram and component diagram with the model creation which is independent expresses with use case diagram and sequence diagram and activity diagram from PSM phases is expressed. Like this (picture 4) from shows a phase with e-Learning system development processes architecture.

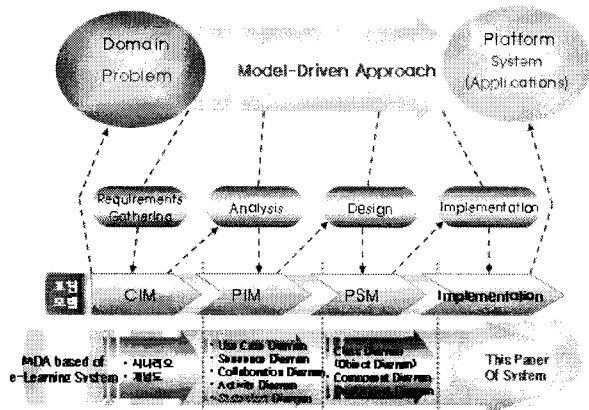


Figure 4 The development process which applies MDA

3.2 e-Learning system each phases by Asset

3.2.1 Expressive model Asset of CIV to CIM phases

In order to be an escape about domain requirement application where hits to what kind of platform with model aimful approach has the viewpoint of CIV and is made to collect a requirement about problem and is a phase. The core property of the model which is expressed from like this CIM phase is scenario and concept diagram about system.

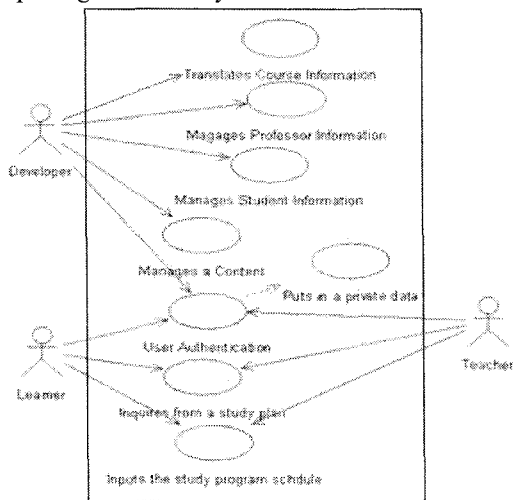


Figure 5) Use Case Diagram of e-Learning System

3.2.2 PIV expressive model Asset of to PIM phases

Scenario and conceptual degree leads about the system which is a core property of the model which is expressed from CIM phase goes through includes the process of analysis phase and PIV concepts which are a viewpoint which is independent about platform and the

expressive model which is a core property of PIM phases (picture 5) about activity misfortune use case

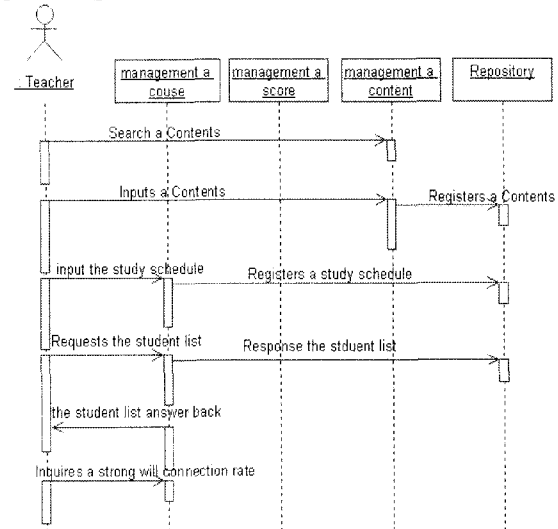


Figure 6. Sequence Diagram of e-Learning System

diagram and (picture 6) sequence diagram of professor person viewpoint and (picture 7) about professor activity about question and answer of studying person viewpoint in the collaboration diagram.

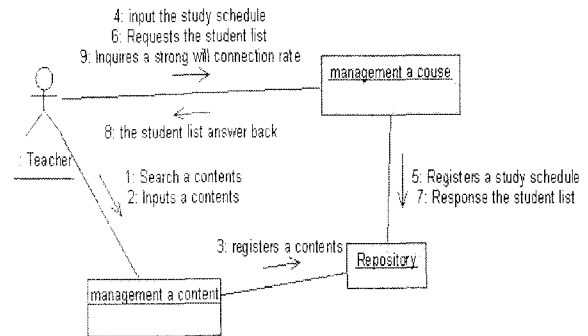


Figure 7. Collaboration Diagram of e-Learning System

3.2.3 PSV expressive model Asset of to PSM phases

Is expressed from PIM, five kind diagram where is a core property of the model which phases leads and a viewpoint about the platform which is various from the design process which is a next step recognizes and with PSV viewpoints which are subordinate to a platform core property of PSM phases are (picture 8) from about contents registration class diagram and (picture 9) e-Learning System component diagram.

4. e-Learning system embodiments

The system environment with server system used a Windows XP with OS and ASP led at IIS 6.1 and the data base to be drawn up used MS-SQL Server.

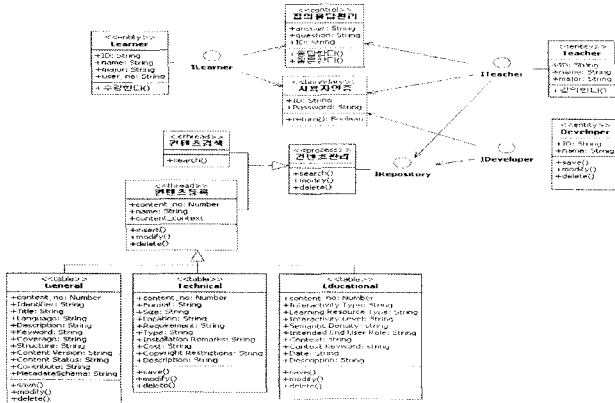


Figure 8. Class Diagram of e-Learning System

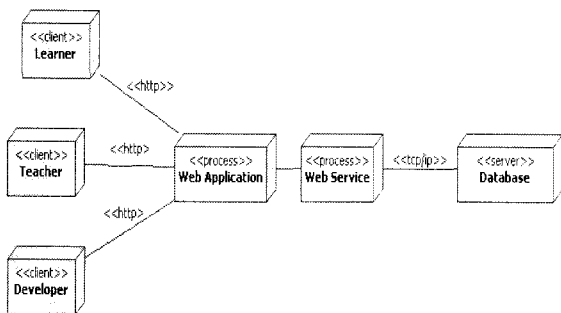


Figure 9. Component Diagram of e-Learning System

e-Learning respects component of professor person viewpoint from system architecture and is defined well UI where and uses user authentication of the professor person side leads and about course and the contents which is simple detail namely only the circle star describes a studying contents standard metadata and about the part which registers information circle star educational contents, uses about contents (picture 10) from shows.

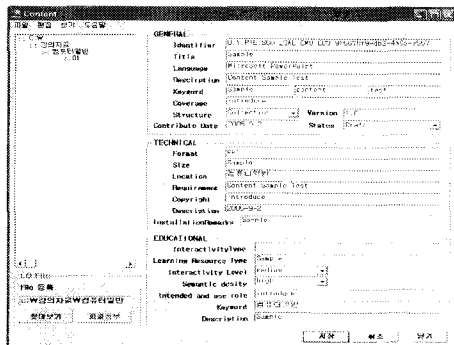


Figure 10. Prototyping of e-Learning System

5. Conclusion

Recently architecture and application developments which lead the joint ownership of the re-use component field are recognized in paradigm of best. Currently in compliance with the development process which is not standardized productivity and trade name operation of education business market refers the necessity is demanded from education application developments of educational domain. From the present paper consequently, MDA coats e-Learning System. Defined and uses the metadata of studying contents standard the contents management part which and analyzed uses in the education software development which leads MDA development process each phased by modelings about process of the chain which researched.

Will use the core property of process and there is a possibility which will improve an efficiency in development of educational application software territory. In hereafter research uses MDA automatic tools from PSM phases and system the research is necessary about MDA automatic tools which also the embodiments but PIM phases come to be considered.

6. References

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