



ELU Enhanced Learning Unlimited

IST-4-027866

Deliverable D2.1 (Executive Summary)

ELU Technical Requirements and Guidelines for the iDTV Technologies

Authors:	Tudor	
Version:	V1.00	
Date:	21.07.2006	
Classification:	Restricted	
Contract Start Date:	01.01.2006	Duration: 30 months
Project Co-ordinator:	ORT France	
File Name:	ELU D2.1 Technical Requirements and Guideline V1.0	



Project funded by the European Community
under the "Information Society Technology"
Programme

COPYRIGHT

© Copyright 2006 The ELU Consortium

Consisting of:

Ort France	ORT
Centre Henri Tudor	CRP Henri Tudor
GIUNTI Interactive Labs S.r.l.	GIUNTI ILabs
ELIOS Lab-University of Genoa	DIBE
Center for futurism education-Ben Gurion University	BGU
Informatics and Telematics Institute, Centre for Research and Technology Hellas	CERTH
Danshir	DS
Czech Technical University	CTU
University of Hradec Kralove	UHK
Institute of the Hungarian Academy of Sciences	MTA SZTAKI
University of Ljubljana	UoL
Riga technical university	RTU
State Institute of Information Technology	SIIT
Czech Television	CTV

This document may not be copied, reproduced, or modified in whole or in part for any purpose without written permission from the ELU Consortium. In addition to such written permission to copy, reproduce, or modify this document in whole or part, an acknowledgement of the authors of the document and all applicable portions of the copyright notice must be clearly referenced.

All rights reserved.

This document may change without notice.

EXECUTIVE SUMMARY

This deliverable of the Enhanced Learning Unlimited (ELU) project reports results from activities led during the Task 2.1 of WP2 'ELU Technical System Requirements'. This report also takes into account the main results and conclusions of the study 'ELU State of the Art t-Learning system for iDTV'.

Elicited technical requirements of the system cover the whole ELU framework: from pedagogical contents production, with focus on the authoring tools, up to the management and processing of t-learning contents for iDTV end-users. Integration issues of the miscellaneous software components part of the system are also addressed to constitute an homogeneous framework for creating and rendering enhanced t-learning applications.

First parts of the document introduce the ELU t-learning system. Then use cases and corresponding technical requirements are specified for being considered while designing the system.

Integration issues for integrating all the hardware and software components of the ELU t-Learning system are specified. Good practises are expressed for addressing this critical issue to properly make components interact and achieve together a complete t-learning solution from the contents creation up to their rendering.

The last section resumes the elicited requirements and enumerate for their consideration through 2 views: functional and non-functional requirements following the ELU system parts; and the requirements listed per modules.

The under-progress design of the ELU t-Learning system aims at supporting enhanced t-Learning services for iDTV end-users.

Table of Contents

1	Introduction	7
1.1.	Objectives and scope of this document	7
1.2.	General Approach	7
1.3.	Overview of the ELU t-Learning Framework	8
1.4.	Description templates for expressing Use Cases	9
1.5.	Requirements: Naming Convention	10
2	Components for the Production of Courses	14
2.1.	Authoring Tool for T-learning Courses	15
2.1.1.	Overview	15
2.1.2.	Goals and expectations	15
2.1.3.	High Level Description	15
2.1.4.	Authoring Tool Actors	17
2.1.5.	Authoring Tool Requirements	18
2.1.6.	Authoring Tool sub-services Requirements	24
2.2.	T-Learning Applications Builder	44
2.2.1.	Overview	44
2.2.2.	Functional Requirements	44
2.2.3.	Non-Functional Requirements	44
3	Client Components (on STB)	46
3.1.	Enhanced t-Learning Application	46
3.1.1.	General IDTV Requirements:	46
3.1.2.	Enhanced t-Learning Graphical User Interface Requirements	47
3.1.3.	Enhanced t-Learning User Interaction Requirements	47
3.1.4.	Enhanced t-learning Behaviour Requirements	48
3.2.	ELU Core Client Layer	49
3.2.1.	Overview	49
3.2.2.	Core Client API	49
3.3.	STB sub-services Components	49
3.3.1.	SCORM service	49
3.3.2.	Course Manager service	49
3.3.3.	Learner Personalization Components	50
3.3.4.	UI Components Renderer	51
3.3.5.	Delivery Subsystem facilities	52
3.3.6.	Knowledge Processing facilities	53
3.3.7.	Game Templates Library	53
3.3.8.	Return Channel Manager	53
4	Application Server Components	55
4.1.	ELU Core Server Layer	55
4.1.1.	Overview	55
4.1.2.	Architecture	55
4.1.3.	ELU Federation Layer	56
4.1.4.	ELU Integration Layer	56
4.2.	Application server sub-services Components	57
4.2.1.	ELU LMS/ Tutor Layer	57
4.2.2.	Personalization Processing Facilities	57
4.2.3.	Game Templates Facilities	57
4.2.4.	Knowledge Processing Facilities	58
4.2.5.	Multiple delivery Facilities	58
5	System integration	59
5.1.	System integration issues	59

5.2.	The ways of integration	61
6	Synthesis	62
6.1.	List of requirements by ELU part	62
6.2.	List of requirements by ELU modules	69
6.3.	List of integration issues	79
	List of Abbreviations	80
Appendix		
A	References	81