



"Ecosystem for European Education Mobility as a Service: Model with Portal Demo (eMEDIATOR)"

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Abbreviations and Acronyms:						
КРІ	Key performance Indicator					
QA	Quality Assurance					
TSI (TTI)	Transport and Telecommunication Institute					
GUI	Graphical User Interface					











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1. INTRODUCTION

1.1 Project Management Organization

The general project management model was established. TSI as leader-partner organized group support and group network document exchange environment with Google Drive service.

Project Objectives and Milestones were assessed by reviewing milestones and deliverables to determine if they were completed as planned.

The Project has 6 development periods and 6 deadlines. First deadlines were assessed by delivering developed models based on Periods 1-5 Reports. The last delivery was assesses on the base of the Period 6 Report and DEMO Portal application accordingly tested.

Feedback from stakeholders (including participants, partners and beneficiaries) was assessed through surveys and interviews to collect qualitative information (four surveys were conducted). Survey analysis is described in the enclosed QA Report.

Evaluation of the quality of project deliverables, such as reports, tools, platforms, or any tangible outputs was done using partners' reviews, testing, and online demonstrations. The evaluation assessed whether they meet established requirements and expectations. Achieved results were delivered at Project International Meetings by all partners regularly.

Indicative descriptors (KPI) used to measure the effectiveness of existing arrangements:

- 1. Project Progress Percentage of Milestones Missed (Criterium > 80%).
- 2. Project Implementation Transparency % of required reports delivered on time (Criterium > 80%).
- 3. Cost Variance % variation between budget and actual account (Criterium < 10%).

Indicators (KPI) which used to measure performance:

- 1. Deviation of Planned Hours of Work per Activity (% of overwork) Criterium < 20%.
- 2. Efforts (man*hours) per deliverable (activity) per month (Criterium deviation from planned < 20%).

All 6 planned development Periods were completed in time with a minimal deviation from schedule. These results were achieved due to agile organization of the project activities.

Cost variation from planned was less than 10 %, which was considered acceptable.

1.2 Financial and Time Management

TSI appointed project financial manager and accountant who organize project accounting, control of cost documents, prepare accounting documents and make payments to the partners and personnel of the lead partner. Additionally, every partner has appointed its accountant who is responsible for project accounting regarding the partner issues (control of cost documents, preparing accounting documents and payments to personnel, etc.). For













coordinating the implementation of project activities, the project manager from TTI (leading partner) was nominated.

Main tasks were as follows:

- monitoring project activities and timetable, coordination of the work of the project team according to this;
- project financial management (cash flow planning and monitoring, budget control);
- information exchange with partners; organization of project meetings;
- monitoring of the progress of fulfillment of the project indicators;
- consulting with the national agency;
- project reporting to the national agency;
- project paperwork and documentation archiving;
- preparation of contracts with partners and coordinator's project personnel;
- composing minutes of project transnational meetings;
- organization of information exchange between partners.

All tasks were sucessfully completed and accepted at International Project Meetings.

1.3 General Project Management

The general project management model was established. TSI as leader-partner organized group support and group network document exchange environment with Google Drive service.

In the first half of the project, the consequences of COVID-19 forced the project management to conduct the first three Project International Meetings remotely. The remaining three Project International Meetings were held in a blended form. Funds not used for travel to the first three meetings were transferred to the development of project results, which made it possible to plan additional tasks for each partner (extra number 7). These tasks were completed and made it possible to improve the quality of the DEMO portal, which was confirmed during the training in Germany.

1. Financial risks were handled by TTI as a leading organization through the creation of an insurance reserve fund.

2. Resource risks were handled by having an additional human resource list for personnel substitution or hiring.

3. Schedule risks were handled by a project reminding system and intensive communication efforts, including 6 work meetings and 21 technical online meetings.

4. Technical risks were handled by involving relevant experts from partner universities or external consultants.

5. Communication risks were handled at online and face-to-face working meetings, project documentation publication at Google Drive, e-mail and mobile phone connections to all project members and stakeholders.









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6. Overall risks for a partner organization were handled by the official partner representative (contact person), who is responsible for the partner's risks monitoring and top risks reporting at monthly online steering committee meetings.

The project manager was responsible for the conflict resolution process. No conflict situations were detected.

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2. eMEDIATOR PROJECT PLANNING

2.1 Methodology

Based on the details provided in the attachment and the description, the development methodology applied in this project involving the education mobility portal can be summarized as follows:

An Agile management approach was adopted given the innovative nature of the project. The development lifecycle consisted of 6 iterations, with each iteration focused on enhancing or delivering a specific portal model or demo capability.

All partner institutions were involved in each iteration, with individual assignments aligned to their expertise areas. Transport and Telecommunication Institute led overall program management and ecosystem modeling. University of Murcia handled service-oriented backend development. Greece partners implemented common tech solutions. Poland partners provided pedagogical input. Aalen University built and tested the demo portal.

The iterations fostered continuous improvement, with each new cycle building on the outcomes from prior iterations through refactoring and refinements. Comprehensive testing and quality checks were conducted, including assessments of project outputs during 6 international meetings and training events employing user surveys (M1 – 26.11.2021, 07.12.2021; M2 – 27.04.2022; M3 – 27-28.10.2022; M4 – 27-28.04.2023; M5 – 29-30.06.2023; M6 – 12-13.10.2023; LTT – 11-14.10.2023).

During each of the 6 development periods, at the request of partners, online technical meetings were held on specialized agendas. A total of 21 such meetings were held. The table below shows the dates and main issues covered at the technical meetings:









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Table 1. eMEDIATOR Technical Meetings

Technical	Dates	Main Issue Discussed			
Meeting No.					
1	12.01.2022	Project Goals clarification and teams building			
2	14.01.2022	Main project tasks distribution			
3	22.01.2022	Period 1 planning issues			
4	25.01.2022	Draft results of 1st period activities			
5	22.02.2022	Draft results of 1st period activities			
6	09.03.2022	Planning Activities of the 2nd period			
7	12.03.2022	eMEDIATOR Software Development Guidlines			
8	13.04.2022	Agile approach to the 2nd-period activities			
9	08.06.2022	Harmonised Competence Model extension			
10	06.07.2022	Planned Activities of the 3rd period			
11	13.07.2022	Review of Financial spending			
12	21.09.2022	Report Period 2 Approval			
13	14.12.2022	Progress on DEMO Requirements definition			
14	17.01.2023	Discussion about Alpha Portal Demo			
15	25.01.2023	Recommendations for the DEMO Application testing			
16	22.02.2023	Discussion on eMEDIATOR project continuation			
17	03.05.2023	Workshop for competence model validation			
18	14.06.2023	OpenAI for extraction and comparing competences			
19	12.07.2023	Current project progress. QA issues.			
20	29.08.2023	Templates for Period 6 and Final Reports			
21	13.09.2023	DEMO Portal new GUI demonstration			

The development leveraged partner experience from past shared Erasmus projects around aspects like organizational principles, technical architectures, and competence model adoption. Applying an Agile-based iterative process with assigned roles enabled rapid construction of an education mobility ecosystem demo, incorporating evaluate-build-improve cycles.

In summary, this development approach combines Agile iterative delivery, assigned partner accountabilities, reuse of prior project results, continuous improvement incorporating feedback, and extensive collaboration across institutions in multiple countries.













2.2 Partners Tasks Planning

In the table below tasks with numbers 1.-6. were implemented following Application planning. Tasks with number 7. were added for the last Period 6 as extra tasks paid by funding partially transferred from travel expences savings from the beginning of the project in relation with Covid-19 consequesnces. Due to the innovative nature of the eMEDIATOR project Agile management principals were implemented for project planning, monitoring, and control in such a way:

1) Orientation on customer - customer collaboration.

2) Testable project results over documentation from the very beginning of the project (working mock-ups and portal demo).

3) Multifunctional professional teams with self-government ability in technical decision-making (individual assignments for local teams).

4) Flexibility in change accepting and implementation to fit new requirements (iteration development).

5) Create an environment that allows for team success (internal partner's universities resources).

6) Provide guidance when teams can't resolve issues for themselves (effective communication having dedicated local managers).

Following these Agile principles six iterations (development periods were planned) – from Period 1 to Period 6. Each paertners was responsible for one period and one project results (TSI as leading partner was responsible for 2 periods and 2 results).

Models and DEMO application development was decomposed to tasks and destributed for all six development periods. Eech period was orented on one project goal with ability to improve the proejct results during next periods.

Following these Agile principles, six iterations (development periods) were planned, from period 1 to period 6. Each partner was responsible for one period and one deliverable of the project (TSI as the lead partner was responsible for 2 periods and 2 deliverables).

The development of models and DEMO applications was broken down into tasks and distributed across all six development periods. Each period was focused on one project goal with the opportunity to improve project results during subsequent periods.

Thus, planning provided 6 iterations with step-by-step design of models. The last iteration ended with the completion of the DEMO application and subsequent training in basic skills for working with the ecosystem. This planning allowed for step-by-step improvement and preliminary assessment and improvement of the quality of the results.

Below is the final work scheduling table for the project.









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Project Results (PR)	N of Acti- vities	Activities	Responsible partner	Period 1 01-11-2021- 28-02-2022	Period 2 01-03-2022- 30-06-2022	Period 3 01-07-2022- 31-10-2022	Period 4 01-11-2022- 28-02-2023	Period 5 01-03-2023- 30-06-2023	Period 6 01-07-2023- 31-10-2023
PR1. eMEDIATOR	A1.1	 State-of-the-art analysis of mobility-as-a-services models and portals supporting these models. 	Transport and Telecom-						
portal	A1.2	2. Benchmarking and formulation of requirements for portal.	munication						
architecture and concept	A1.3	 Conducting interviews and surveys with customers to help determine what type of content and engagement opportunities they're interested in. 	Institute, Latvia (TTI)						
	A2.1	4. Development of Service Delivery Model					i i		
	A2.2	 Development of model of portal integration with external systems (CRM, marketing platform, learning management system, Erasmus+ online platforms etc.). 							
2	A3.1	6. Development the functional architecture of the portal.					· · · · · · · · · · · · · · · · · · ·		
PR2. Model of pedagogical/ academic component	A1.4	 State-of-the-art analysis of digital capabilities in learning design, learning processes with emerging skill sets in user experience design, instructional strategies, content and mixed media design and new learning environments, delivery modes and learning approaches 	University of Lodz, Poland (UL)						
	A2 3	2 Development of model of portal learning environment		S S					
	A3.2	3. Development learning delivery model of portal							<u> </u>
	A4 1	4 Development of curricula quality management model							
	A5.1	5. Design of formal and informal education services					3		
	A6.1A	 Development of model of learner needs and industry partners needs 							
	Extra	7. Development of Interactive training material for Training Event							
PR3. Organiza-	A1.5	 State-of-the-art analysis of digital capabilities in learning management systems. 	Transport and Telecom-						
tional component of	A2.4	 Development of models for organization of synchronous and asynchronous learning 	munication Institute,						
the portal	A3.3	Development of model of academic and non-academic resources.	Latvia (TTI)						
	A4.2	 Development of organizational model of interaction between individual and corporate portal users. 							
	A5.2	Development of model of application, admission and enrolment.							
	A6.2	Development of model of certification of learning outcomes on the portal.							
	Extra	7. Analysis of the impact of AI on the competencies of university graduates							













Project Results (PR)	N of Acti- vities	Activities	Responsible partner	Period 1 01-11-2021- 28-02-2022	Period 2 01-03-2022- 30-06-2022	Period 3 01-07-2022- 31-10-2022	Period 4	Period 5 01-03-2023- 30-06-2023	Period 6 01-07-2023- 31-10-2023
PR4.	A1.6	1. Development of model for competence-based	University of						
Competence		customization of programs.	Murcia,						
component of portal	A2.5	Development of model for competence-based job skill building.	Spain (UM)						
	A3.4	3. Development of model for job application support.							
	A4.3	 Development of model for student work, internships and placement. 							
	A5.3	Development of model for job finding and graduate placement.							
	A6.3	Development of model for competence-based industry mentoring.							
	Extra	7. Automatic processing of natural language competences	1						
		for DEMO application							
PR5.	A1.7	1. State-of-the-art analysis of technological platforms and	Panepistimio						
Technological	L	digital capabilities for education services.	loanninon,						
component of	A2.6	Development of portal architecture	Greece						
portal	A3.5	Design of Search Engine	(UOI)						
	A4.4	Design of User Client application							
	A5.4	Development of Search Engine mockup							
	A6.4	Implementation of User Client mockup							
	Extra	7. Development of AI embedding in the portal technology							
		and architecture							
PR6. Demo	A1.8	 Selection of a development platform and test mock-up 	Hochschule						
implementati		trial.	Aalen -						
on of	A2.7	Selection of pilot services for demo deployment.	Technik und						
developed	A3.6	Development of mock-up testing procedure and test	Wirtschaft,						
eIVIEDIATOR		case requirements	Germany						
of portal	A4.5	4. IVIOCK-UP INTEGRATIONS IN Alpha Portal Demo	(AU)						
orportal	A5.6	5. Pilot testing of the demo version of the portal.	4						
	A6.6	b. Formation of conclusions and recommendations for the further development of the portal.							
	Extra	7. Design of GUI (Graphical User Interface) for DEMO Application							











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3 TASK MONITORING AND CONTROL

3.1 Development Periods Planning and Monitoring

Each development period was planned separately according to a general structure, which included such issues as problem statement, discussion of proposed solutions (partners' vision), discussion of the draft solution and evaluation of the final result.

Monitoring and management of the partners' work was carried out through regular blended meetings and online meetings. In total, 6 International meetings were held (with the obligatory participation of all partners) and 21 Technical meetings, where all current problems were discussed and resolved.

Below are materials from the meetings, reflecting the issues discussed and activities carried out.











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3.2 Step-by-step Development Periods Plans



































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