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EliSE

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Intellectual Output 2 – Need Analysis
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1. Premise

This document contains the analysis carried out by Ecoistituto to point out the needs related to Intellectual Output 2 (IO2). This need analysis focuses on the online learning infrastructure. It is based on the interview of some selected persons representative of the interest of partners involved in the project, learners who will attend the training activities, and stakeholders.

2. Need analysis

This need analysis concerns the online learning infrastructure.

The primary users of the online learning infrastructure are:

- Partners involved in the project;
- Learners.

The project's partners will use the online learning infrastructure to:

- communicate among them;
- exchange learning materials;
- preparing learning materials;
- interacting with people interested to the leaning content.

There are two typologies of people interested to the learning content:

- Learners involved in the project's training activities (short training event, training courses);

- Social educators and stakeholders interested in the project methodology, educational approach, and use of learning materials.

The online learning infrastructure should satisfy the need of all the above users.

In the following paragraphs the needs of these users are analyzed.

3. Partners' needs

The online learning infrastructure should provide partners with a messenger app, collaboration tools as well as applications to create forums and wiki.

A repository for the project documents should be implemented using for free software, e.g, Google drive, Dropbox.

A repository of best practices would be useful.

3.1 Messenger app

A messenger app enables a messaging function between two or more people. This type of technology is becoming the most popular way to send messages.

Partner will use the messenger app exchange short messages quickly. They will use it for urgent communications, e.g., to ask support during their travels for transnational meetings or to send information about changes during the training activities.

There are many messengers apps. Here following the most popular:

- WhatsApp
- iMessenger
- KakaoTalk Messenger
- Snapchat
- Facebook Messenger
- Google+ Hangout
- BB Messenger
- Skype

3.2 Virtual conference app

A Virtual conference app allows remote participants to access live onsite meetings and events from their computers and smartphones.

Partners will use this app to organize virtual meetings.

There are three types of virtual conferences:

- Video conference: it allows participants to not only hear but also see each other during a meeting by means of a computer video camera and microphone or the built-in camera of mobile device.
- Teleconference: it connects meeting participants via phone lines. This can be accomplished through landlines or cellular devices, which allows numerous people to connect simultaneously from multiple locations. It includes telephone conferencing, phone conferencing and audio conferencing, etc.
- Web Conference: it is an umbrella term used to describe the process of using the Internet and a web browser to connect individuals or groups together from separate geographic areas for educational or training webinars, collaborative online meetings, video conferencing, or live presentations in real time.

Web conference is the most appropriate tool for the ElISE project needs.

There are many free apps for Web Conference:

- Uberconferece
- Intermedia AnyMeeting
- Mikogo
- Skype
- Zoom

3.3 Meeting Scheduler app

A meeting scheduler app or a *scheduling tool* is a program that helps organize and manage appointments or reservations. For example, an appointment scheduling software is a scheduling tool that allows businesses to accept appointments online from their customers and clients.

The most popular Meeting Scheduler apps are:

- Boomerang Calendar (Gmail plugin) Best Gmail plugin meeting scheduler app
- Calendly (Web)
- Doodle (Android, iOS, Web)
- FreeBusy (Outlook, Web)

- Meetin.gs (Android, iOS, Outlook, Web)
- MeetingBird (Web)
- Rallly (Web)
- Vyte (iOS, Web)

Doodle and Meetin.gs are the most appropriate tools for the ElISE project since they can be also used by smartphone.

3.4 Collaboration tools

Online collaboration refers to the tools and platforms people use to work together within a digital environment. In most cases, it refers to how people work together over the internet.

Collaborations tools allow people to work remotely on the same project and documents.

The collaboration tools that can be useful for the ElISE project are:

- online word processor with sharing options;
- online forum, this is a great way to foster community to express their opinions and collect suggestions form stakeholders;
- wiki, this is a software to edit, publish, and manage hypertext pages on the internet.

3.4.1 Word processor with sharing options

Google Docs, that is a part of Google Drive, is the most popular and arguably the best free online word processor that allows to share the creation and management of documents. It allows users creating, uploading, saving, sharing, and collaborating on documents. To empower collaborative interaction, Google docs provides a chat to talk with other users while they look over a document.

3.4.2 Forum apps

There are many popular forum apps:

- vBulletin
- phpBB
- bbPress
- Vanilla Forums
- Simple:Press

- XenForo

3.4.3 Wiki software

Wiki software allows the publication of hypertext pages (wiki), edited and managed collaboratively.

There are many free wiki applications such as:

- TikiWiki, a powerful open-source Groupware and Content Management System, written in PHP
- MediaWiki, the most popular wiki software on the internet
- DokuWiki, an easy to use and standards-compliant wiki system, which is best suitable for creating and managing documentation

3.5 Repositories

Two primary repositories should be created to support the project development:

1. The repository of the project documentation. It contains all documents produced during the project lifecycle.
2. The repository of best practices. It contains articles, reports, and other materials related to "fair traveling" of families with children with behavioral disturbances.

The contents of repositories should be organized in folders following a structure that facilitates their retrieval.

4. Learners' needs

The learners' needs concern three aspects:
1. The use of the learning platform
2. The use of distance learning tools
3. The availability of customized learning paths.

Learners should access and use the e-learning lectures organized in learning units. Learners should access the learning units according to their learning capacity.

For this purpose, an e-learning platform should be available. It should be accessible anytime and anywhere. It should also be compatible with any browser and any access device, ensuring that all its page elements and functionalities are complete and arranged as the original page design.

Learning content should be organized in order to allow customized learning.
To attend distance learning lectures, a set of devices and software tools are necessary. They should be easy to use in order to facilitate learners' activities. Moreover, a high level of interactivity should be provided to allow participatory learning and peer learning, as foreseen in the project proposal.

4.1 E-learning platform

The e-learning platform should provide a complete set of learning functionalities and an uncomplicated interface, e.g., with an easy drag-and-drop functionality.

The learning platform should be available for free.

For this purpose, the Moodle platform could be adopted. RTA could be made it available for free.

Moodle satisfies the learners needs since it provides the following features:

- All-in-one calendar
- Bulk course creation and easy backup
- Collaborative tools and activities
- Convenient file management
- Customizable site design and layout
- Detailed reporting and logs
- Embed external resources
- Manage user roles and permissions
- Multilingual capability
- Multimedia integration
- Multiple progress tracking options
- Notifications and automatic alerts
- Outcomes and rubrics
- Peer and self-assessment
- Personalized dashboard
- Regular security updates
- Secure authentication and mass enrolment
- Simple add-ons and plugin management
- Simple and intuitive text editor
- Supports open standards

4.2 Distance learning tools

Video conferencing software is the key to make synchronous distance learning possible.

During the lockdown due to the COVID-19 pandemic, many higher education institutions suggested to use for remote learning the Microsoft Teams platform. Usually, professors and students can open the Microsoft Teams using their university email credentials of access. However, other tools such as Skype and Zoom can be used to run distance learning lessons.

4.3 Customized learning paths

The ElISE project foresees the implementation of:
- customized learning paths
- a smart learning environment and a community platform based on a crowdsourcing-like paradigm.

The customized learning paths should be realized, taking into account the capability of learners. In implementing the learning modules, partners should identify the knowledge required for understanding the learning units. Accordingly, they should create integrative materials to fill the eventual learners' gaps.

A webpage should be implemented that shows the list of learning modules and their related learning units. Users are informed on the knowledge required to understand the various learning units if any. Accordingly, users can acquire the knowledge necessary to understand the content of a specific learning selecting the links to integrative materials.

Moreover an application should be implemented to analyze the learners' behavior and refine the learning strategy. For this purpose, each leaning unit should include a final test. The test results should be analyzed to identify relevant learners' difficulties and improve the corresponding learning units, include additional learning materials, or suggest internet searches.

Finally, the learning infrastructure should allow learners to collaborate to achieve their learning goals. For this purpose, functionalities should be implemented through which learners can receive suggestions and advice from other learners in order to solve a learning problem.

In this regard, a blog or a similar app can be activated by learners.

5. Social educator and stakeholder needs

The needs of social educators essentially concern the access to didactic materials and best practices.

A webpage should be implemented to show the projects results as well as the available didactic materials and best practices collected during the project lifecycle. The webpage should present a list of documents that can be download and links to access to external materials.

The list should be organized following classification criteria that will ensure a quick and selective access to documents and materials.

The online learning infrastructure should allow the evidence of the number of accesses and downloads to evaluate the impact of the project on social educators and stakeholders.

Conclusion

This need analysis identified the primary necessities of the project's target groups:

- Learners (social educators)
- Stakeholders

It also considered the needs of the project's partners.

Some solutions have been highlighted on the basis of the experience matured in online learning.