

FOOD IMPROV'IDERS

Provide producers with fit-for-purpose knowledge to develop new sustainable food chain models improving their revenue and enhancing consumers' satisfaction

D2.1 Specification of e-learning platform

This document forms part of the deliverables from the FOOD IMPROV'IDERS project which has received funding from the European Union's ERASMUS+ program under grant agreement 2020-1-FR01-KA204-080640.

The project is aiming to develop the skills and knowledge of EU producers in short food chains circuits to facilitate their insertion in existing network and/or the creation of new one to rebalance their role in the food chain.

More information on the project will soon be found at www.foodimproviders.eu.

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1. Introduction

In the past decades, EU producers and consumers have shown greater acceptance of Short Food Chain (SFC) models. However, the COVID-19 pandemic has highlighted to the food sector at the European level that traditional food chains can be unstable.

The goal of the FoodImprov'iders project is to educate stakeholders and consumers to maximize their potential for SFC sales. To achieve this goal, project partners will create specific pedagogical content, which will be available on an e-learning platform. The platform needs to be appropriate for self-learning and blended learning methods, using activities to make learning more effective and enjoyable. Additionally, the platform will be available in French, Hungarian, Italian, Spanish, and Slovenian to bridge the gap between farmers and international academic teachers.

This report outlines the main specifications of the platform, in line with the objectives of the FoodImprov'iders project.

2. Project Summary

FOOD IMPROV'IDERS is an Erasmus+ project that aims to provide EU food producers with tailored training content in line with their needs and lifestyle to improve their skills and knowledge in short food chains circuits. To reach the beneficiaries, the project will offer the training content both online and in presential courses.

The FOOD IMPROV'IDERS project gathers 6 partners from 6 different EU Member States (France, Bulgaria, Italy, Hungary, Slovenia, Spain) having complementary profiles in order to provide the necessary expertise for the implementation of all project tasks.

Part. #	Partner name	Partner short name	Country
1	Association Nationale des Industries Alimentaires	ANIA	France
2	Eszterházy Károly University	EKU	Hungary
3	University of Ljubljana	UL	Slovenia
4	University of Parma	UP	Italy
5	Foundation Juana de Vega	FJDV	Spain
6	Europroject	EP	Bulgaria

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3. Specifications

3.1. Purpose and Scope of this Specification

The establishment of platform specifications aims to identify, define, and list the key features of the online e-learning platform to ensure that the platform development matches the requirements needed for both the online learning component of blended learning and the self-learning component.

The platform is expected to have a pedagogical section with training content and to support sharing knowledge about short food chains.

3.2. Organization of this Specification

EP and EKU will be responsible for establishing the platform specifications and working together to develop a backlog outlining the required technical functionalities of the e-learning platform. The IT team will be in charge of designing and developing the platform, and the backlog will also include the different steps of this process, the rationale behind the choice of hosting services, the ergonomic and user experience approach to be followed, and the planned process for ensuring the availability of the learning content beyond the e-learning platform's lifetime. This includes identifying where and how the content will be accessible after the end of the platform support, which is four years after the end of the project.

4. E-learning platform

In this section, the general specifications related to the e-learning platform of the project, as well as the proposed tools to be used, will be described. The platform will work under three different roles: content manager, editor, and user (learner), which will be referred to in an agile way. The specifications will be appropriate for each role, and if not, they will be denoted.

4.1. Requirements

Presentation of project e-learning materials

This part will be used as a means of hosting the documents of the project. Such documents may include leaflets, documents, deliverables, etc. This area must have the ability to be available in all project languages although, different content may be uploaded for each language.

Presentation of e-courses information

This area will provide the learners with the ability to browse through the available educational material. It may also provide a way to search for specific content, based on some criteria and it may contain some other elements related to the courses. This area must have the ability to be available in all project languages although, different content may be uploaded for each language.

User registration and authentication



A login and registration form must be provided so that learners can register and access the educational content of the project, as described in other deliverables. This area must be available in all project languages (French, Hungarian, Slovenian, Italian, Spanish, and English), although different content may be uploaded for each language. Asking e-learning platform users to register will enable partners to monitor connections and analyze the attractiveness and relevance of the educational content.

Links

The links section can contain useful links to external or internal pages, related to the project. This area must have the ability to be available in all project languages although, different content may be uploaded for each language. This section may also refer to news or events related to the project.

Multilingual elements

Multilingual capabilities needed to ensure that there are no linguistic limitations for online learning. Seven languages required: the native languages of the consortium partners (French, Hungarian, Slovenian, Italian, Spanish, Bulgarian) and English.

Cooperation with the e-learning environment

There will be some requirements related to the e-learning environment, which is a web-based environment that contains the corresponding educational material. The functional and non-functional requirements of the e-learning environment are described below, under Chapter 3. The e-learning environment should be usable at any time on any device with cross-browser compatibility.

4.2. Software proposal

Table 1. Portal requirements

<i>Requirement</i>	<i>EKERNEL core CMS feature</i>	<i>Extension and feature</i>	<i>Level of requirements met (CMS and/or combined with extension)</i>
Presentation of project e-learning materials	EKERNEL is designed to support both teaching and learning, delivering a powerful set of learner centric tools and collaborative learning environments that empower both teaching and learning.	Not needed	High
Presentation of e-courses information	All-in-one learning platform, providing the most flexible tool-set to support both	Not needed	High



	blended learning and 100% online courses.		
User registration and authentication	EKERNEL is a robust software learning management system powering learning environments. It fully supports user registration and authentication mechanisms which allows easier management of the user rights.	Not needed	High
Links	As a CMS, EKERNEL fully allows the creation and management of links content, which can be presented in various ways in the website.	Not needed	High
Basic accessibility	Available mostly only by the way the content is organized and displayed in the website.	Not needed	High
Multilingual elements	Fully supported. Multilingual capabilities to ensure that there are no linguistic limitations to learning online.	Not needed	High
Cooperation with the e-learning environment	Use anytime, anywhere, on any device, as it is web-based with cross-browser compatibility.	Needed	High

4.3. Hardware proposal and requirements

The e-learning platform that will be developed for FOOD IMPROV'IDERS is proposed to operate under the following hardware requirements, so as to ensure compatibility with the proposed software, good performance, capacity, availability and latency, good security features, as well as maintainability and portability:

Virtual hosting environment featuring

- RAM: 16 GB memory
- Hard drive initial capacity: 4 vCPU
- CPU: 256GB SSD storage place for the operating system and the database server. An additional 100 GB HDD storage space for the media items
- Operating system: Ubuntu 20.04 LTS

This hardware must be able to run flawlessly:



- Processor: 1GHz (min), 2GHz dual core or more recommended.
- Memory: 512MB (min), 1GB or more is recommended.
- Consider separate servers for the web "front ends" and the database.

This will ensure that all desktop clients (windows and linux), as well as mobile devices, with the latest browsers versions, can access the e-learning application at any time without disruption.

5. E-learning environment

This section describes the requirements related to the e-learning environment, based on the previous deliverables, the tools that are proposed to be used, as well as how well these tools meet these requirements.

5.1. Requirements

The FOOD IMPROV'IDERS e-learning environment is a web based environment which contains the corresponding educational material. With this, the participating users can train and assess their knowledge on the selected topics.

The requirements are categorized in functional and non-functional:

Functional requirements

1. Getting started
 - Role allocation
 - Confirmation screen
 - User Registration Form
 - Language selection
 - Search bar
2. Working
 - Content selection and display
 - Content selection interface
 - "Activity" development interface
 - Account activation/deactivation
 - Smart book editing interface
 - Assessment creation
 - Content management system
3. Feedbacks
 - Feedback
 - Content process monitoring

Non-functional requirements

- User data processing and storing
- Provide content
- Content translation
- Report count
- Store and display feedback



The exact function of each of these requirements has been explained in the O2 deliverables and it is beyond the scope of this document to perform an in-depth analysis of each one here. For each of the functional requirements, a priority level has been specified.

5.2. Software proposal

EKERNEL is a robust software learning management system powering learning environments. It is designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalised learning environments. Developed on pedagogical principles, EKERNEL is used for blended learning, distance education, learning groups and other e-learning projects in schools, universities, workplaces and other sectors. The EKERNEL engine with customizable management features is used to create websites with online courses for educators and trainers to achieve learning goals.

EKERNEL is:

- Built for learning globally
- Proven and trusted by more than 150.000 users per day.
- Designed to support both teaching and learning, delivering a powerful set of learner centric tools and collaborative learning environments that empower both teaching
- and learning.
- Always up-to-date, as it is continually being reviewed and improved on to suit the
- current and evolving needs of its users.
- Multilingual capabilities to ensure that there are no linguistic limitations to learning online.
- All-in-one learning platform, providing the most flexible tool-set to support both blended
- learning and 100% online courses
- Highly flexible and fully customisable in any way and tailored to individual needs.
- Scalable to any size from a few students to millions of users.
- Robust, secure and private when needed, to protect against unauthorised access, data loss
- and misuse.
- Use any time, anywhere, on any device, as it is web-based with cross-browser compatibility.

5.3. Functional Requirements and proposed software

Table 2 summarizes the functional requirements of the e-learning environment and explains how well these are met, using EKERNEL Software and possible extensions.

Table 2. Functional requirements

Requirement	Software and/or extension feature	Priority level
Confirmation screen	EKERNEL	High



User Registration Form	EKERNEL	High
Search bar	EKERNEL	High
Content selection and display	EKERNEL	High
Content interface	EKERNEL	High
Assessment creation	EKERNEL	High
Multiple choice interface	EKERNEL	High
Topic metadata	EKERNEL	High
L-mite approval	EKERNEL	High
Content reporting	EKERNEL	Medium
Feedbacks	EKERNEL	Medium
Content interface selection	EKERNEL	Medium



Account deactivation	EKERNEL	Medium
Role allocation	EKERNEL	Medium
Follow trainer	EKERNEL	Medium

5.4. Non-Functional Requirements and proposed software

Table 3. summarizes the non-functional requirements of the e-learning environment and explains how well these are met, using EKERNEL Software features and possible extensions.

Table 2. Non-functional requirements compared to the EKERNEL Software features

<i>Requirement</i>	<i>Software and/or extension feature</i>	<i>Level of requirements met</i>
User data processing and storing	EKERNEL	High
Provide content	EKERNEL	High
Content translation	EKERNEL	High
I-mite management (storing and approval)	EKERNEL	High
Suggest difficulty level for I-bundle	EKERNEL	High
Publish I-bundle	EKERNEL	High
Publish I-mite	EKERNEL	High
Return for editing	EKERNEL	High
Delist I-mite	EKERNEL	High
Delete I-bundle	EKERNEL	High
Report count	EKERNEL	High
Store and display feedback	EKERNEL	High



Reputation and ranking	EKERNEL	High
Delete account	EKERNEL	High

5.5. Hardware proposal

The e-learning application that will be developed for FOOD IMPROV 'IDERS, is proposed to operate under the same environment as the website of the project. Thus, the hardware requirements, so as to ensure compatibility with the proposed software, good performance, capacity, availability and latency, good security features, as well as maintainability and portability are exactly the same for the e-learning application. This will ensure that all desktop clients (windows and linux), as well as mobile devices, with the latest browsers versions, can access the e-learning application at any time without disruption.

