

“Advanced Digital Skills on Blockchain for Trusted Food Supply Chains”

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Table of Abbreviations

Abbreviations List	
Full Name	Acronym
Integrated Software Training System	ISTS
Small and Medium-sized Enterprises	SME
Food Supply Chain	FSC
European Union	EU
Graphical User Interface	GUI
User Interface	UI
Virtual Machine	VM
Frequently Asked Question	FAQ
My Structured Query Language	MySQL
Simple Mail Transfer Protocol	SMTP
General Data Protection Regulation	GDPR
Wi-Fi Protected Setup	WPS
Cascading Style Sheets	CSS
Secure Sockets Layer	SSL
Transport Layer Security	TLS
Application Programming Interface	API
Development Operations	DevOps
Content Management System	CMS
Learning Management System	LMS

Quick-Response code	QR code
Work Package	WP

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Executive Summary

This deliverable encompasses a comprehensive documentation detailing the design principles applied to each subsystem within our project. The document is meticulously structured to cover both high-level architectural and low-level detailed designs, ensuring a thorough understanding of the methodologies employed to meet both functional and nonfunctional requirements. The architectural design section provides an overarching view of the system's structure. It outlines the core components and their interactions, offering insights into how the system's architecture supports scalability and maintainability. The detailed design section delves into the granular aspects of each subsystem. It provides in-depth explanations and specifications that guide the implementation phase. Both sections collectively ensure that the design adheres to the specified requirements:

- **Functional Requirements:** Ensuring that each subsystem fulfils its intended purpose and operates correctly within the system.
- **Non-functional Requirements:** Addressing performance, security, scalability, and other critical nonfunctional aspects.

This documentation serves as a foundational reference for developers, architects, and stakeholders, ensuring alignment and clarity throughout the development process.

1. Introduction

1.1 Scope of the Deliverable

This deliverable has been produced in the context of the Digital Europe Project “TRUST-FOOD – Advanced Digital Skills on Blockchain for Trusted Food Supply Chains,” which is co-funded by the European Commission under the Grant Agreement ID: 101100804. Deliverable 4.3 deals specifically with the high-level architecture and low-level design principles followed for each subsystem of the Integrated Software Training System and is part of Work Package 4 (WP4).

The architecture and design of each subsystem are mainly built upon the requirements defined in Task 4.1 (D4.1), the feedback we received from the partners after the rapid prototype development (D4.2), and the Brainstorming Interactive Approaches proposed by the partners (Tasks 3.4 and 4.2). Deliverable D4.1 describes the functional and non-functional requirements, as well as the technical specifications, while Deliverable 4.2 presents the rapid prototypes and the comments and recommendations received from the partners.

This deliverable combines all insights and requirements of the before mentioned deliverables and Tasks, including:

- A clear description of the individual subsystem,
- Specifications of graphical interfaces,
- Essential functional requirements of each subsystem,
- A graphical overview of the high-level architecture.

1.2 Structure of the Deliverable

The structure of the document is as follows:

SECTION 2 illustrates the high-level architecture of the Integrated Software Training System (ISTS).

SECTION 3 presents each subsystem’s detailed design principles.

SECTION 4 illustrates the requirements that have been addressed.

SECTION 5 the conclusion.

2. High Level Architecture of the Integrated Software Training System (ISTS).

2.1 Website Application Architecture.

2.1.1 Front Office

2.1.1.1 Overview

The front office of the TRUST-FOOD Website Application (<https://trust-food.ubitech.eu/>) is designed to deliver a comprehensive and user-friendly experience for all visitors and authenticated users. Key functionalities and components are organized to ensure efficient access and interaction with the website's educational content and resources.

2.1.1.2 Informative Pages for All Users

All visitors, regardless of their authentication status, can access the following informative pages:

- ❖ About
- ❖ Courses List View
- ❖ Course Detail Info Page
- ❖ Contact
- ❖ FAQ
- ❖ Terms of Use
- ❖ Handbooks
- ❖ Webinars
- ❖ Cookies Policy
- ❖ Accessibility Settings: A sticky menu plugin that allows users to adjust font size, colors, and other accessibility features.

2.1.1.3 Authenticated Users

Users who register and log in as trainees can access the full suite of course-related functionalities:

- ✓ **Course Enrolment:** Authenticated users can enrol in courses via the course detail page.
- ✓ **Course Material Access:** After enrolment, users gain access to course materials, including PDFs, videos, formative assessments, and quizzes.
- ✓ **Course Completion:** Upon completing courses, users can obtain certificates.

2.1.1.4 User Profile

Authenticated users have access to a detailed profile section where they can:

- **Settings:** Update user details such as avatar, credentials, and other account information.
- **Enrolled Courses:** View and filter enrolled courses by status (in progress, finished, failed).
- **Answered Quizzes:** Review quizzes taken, and scores achieved.
- **Certificates:** Access and download certificates for completed courses.

2.1.1.5 Authenticated User Roles

- ❖ **Admin:** Can access, edit, and delete all courses, quizzes, and certificates. Manages site settings and user permissions.
- ❖ **Trainer (LP Instructor):** Can edit and delete only the courses they created; view courses created by others.
- ❖ **Trainee (Subscriber):** Can enrol in courses, access course materials, complete courses, and receive certificates.

As noted in the website's back-office section, additional roles are supported, but the ones mentioned are crucial for the core functionality of the website.

2.1.1.6 Google Analytics

Google Analytics is integrated into the Website Application to track user interactions, providing valuable insights into user behaviour and engagement with the site.

2.1.1.7 Conclusion

The TRUST-FOOD Website's Application front office provides a comprehensive and user-centric interface, ensuring that both authenticated and unauthenticated users can effectively access and benefit from the educational content and resources. By leveraging a combination of solid user management, seamless course delivery, and insightful analytics, the Website Application successfully meets its educational objectives. The following diagram visually depicts the information mentioned above.

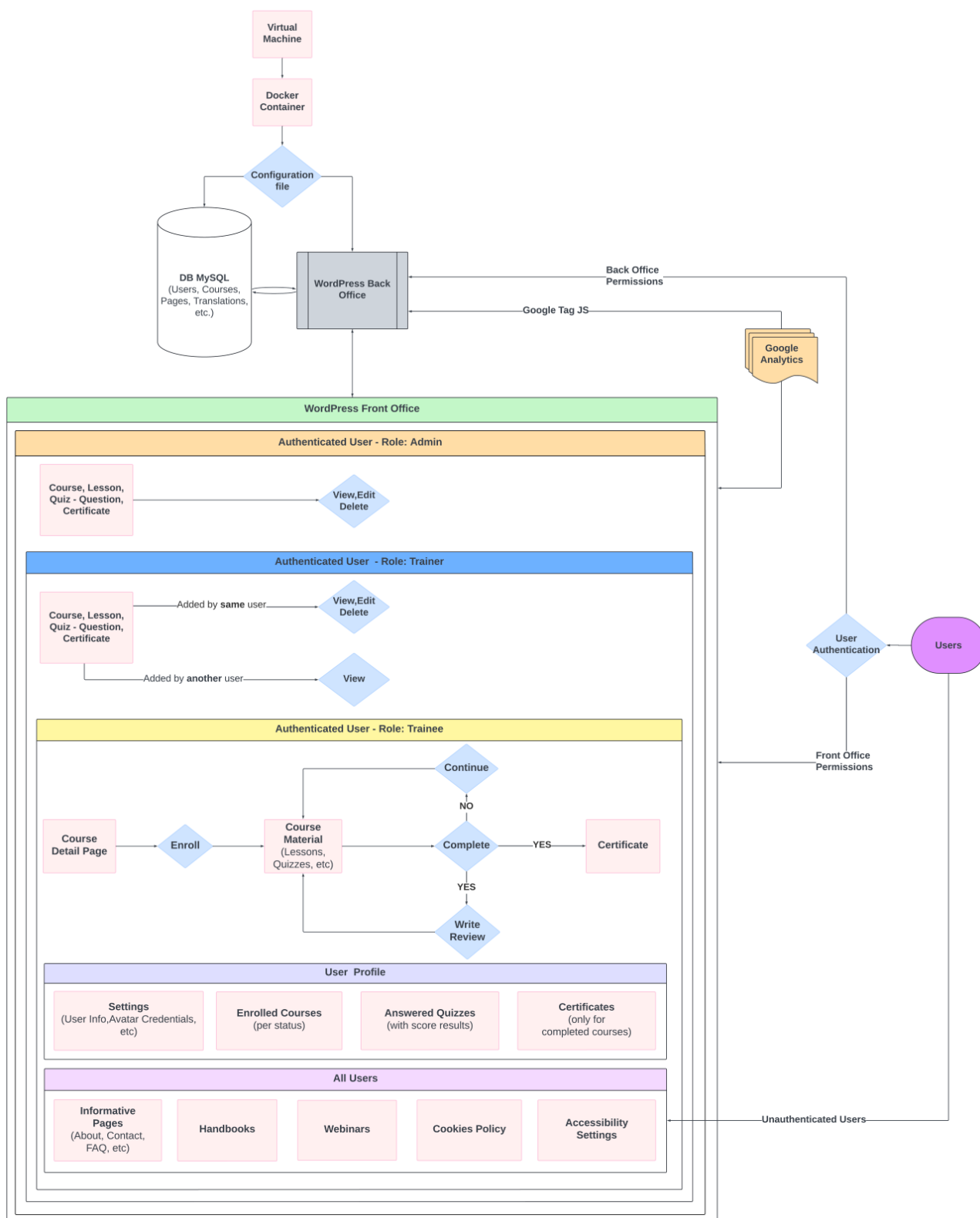


Figure 1: 2.1.1 Website Application – Back Office Architecture

2.1.2 Back Office

2.1.2.1 Overview

The back office of the TRUST-FOOD Website Application is designed to facilitate comprehensive management and administrative tasks. It includes functionalities for course management, user roles, multilingual content management, statistics, and various other administrative functions. This document outlines the architecture and implementation of the back office, providing a detailed view of the components and processes involved.

2.1.2.2 Virtual Machine Setup

The Website Application is hosted on a virtual machine (VM) configured to support high availability and reliability. A daily scheduled backup of the VM snapshot is performed with a 5-day retention policy to ensure data integrity and recovery capabilities.

2.1.2.3 Docker Containerization

The WordPress instance is created using a Docker container, defined by a *docker-compose.yml* file. This setup includes both the WordPress application and a MySQL database, providing a scalable and isolated environment.

2.1.2.4 Database Management

The MySQL database is a critical component, storing all essential data such as user profiles, course content, page information, plugin settings, and transactional data. Regular backups and maintenance ensure data consistency and security.

2.1.2.5 Key Components and Plugins

The back office utilizes a variety of plugins to enhance functionality and streamline administrative tasks:

2.1.2.5.1 LearnPress LMS

- Core plugin for managing courses, quizzes, and educational content.
- LearnPress - Certificates: Generates certificates for course completion.
- LearnPress - Course Review: Enables course feedback and ratings.

2.1.2.5.2 Elementor Builder

- Drag-and-drop builder for designing custom page layouts.
- Essential Addons for Elementor: Adds advanced widgets and features.

2.1.2.5.3 Thim Core and Thim for Elementor

- Integrates LearnPress with Elementor, enabling seamless course design and management.

2.1.2.5.4 Polylang for Translations

- Manages multilingual content, supporting seven languages.
- Connect Polylang for Elementor: Ensures compatibility between Polylang and Elementor.

2.1.2.5.5 User Roles Management

Custom roles for managing different levels of access and permissions:

- ☐ **Subscriber (Trainee):** Enrolls in courses, accesses materials, and obtains certificates.
- ☐ **LP Instructor (Trainer):** Edits own courses, views others' courses, and has limited admin access.
- ☐ **Admin:** Full access to all functionalities, including course and user management.
- ☐ **Translator:** Manages translations across supported languages.
- ☐ **Web Designer:** Handles design and layout.
- ☐ **Shop Manager:** Manages e-commerce aspects (currently not in use).
- ☐ **Customer:** Access similar to Subscriber, tailored for e-commerce.
- ☐ **Contributor:** Writes and manages own posts without publishing rights.
- ☐ **Author:** Publishes and manages own posts.
- ☐ **Editor:** Publishes and manages posts, including those of other users.

2.1.2.5.6 Loco Translate

- Allows direct translation management from the WordPress dashboard.

2.1.2.5.7 Other Plugins

- **All-in-One WP Migration:** Facilitates easy migration and backup of the website.
- **Complianz | GDPR Cookie Consent:** Manages cookie consent to comply with regulations.
- **Download Monitor:** Manages downloadable files and tracks download statistics.
- **LiteSpeed Cache:** Enhances website performance through advanced caching techniques and optimization features.
- **Post SMTP:** Ensures reliable email delivery.
- **PDF Poster:** Embeds PDF files directly into posts and pages.
- **Tablesome:** Manages tables and data entries.
- **WP Events Manager:** Manages events and registrations.
- **WP Maximum Upload File Size:** Sets the maximum file upload size.
- **WPCode Lite:** Adds custom code snippets.

- **WPS Hide Login:** Enhances security by changing the login URL.

2.1.2.6 Custom Code and Enhancements

The back office includes custom CSS and JavaScript code for enhanced functionality and responsiveness:

➤ Custom CSS

- Located under Elementor -> Custom Code -> Global CSS file.
- Implements custom styles and improvements to website application responsiveness.
- Custom styles in the page or template for a standalone application

➤ JavaScript Code Snippets

- Resume video feature in Lessons, located in Elementor -> Custom Code -> Resume Video.
- The features managed under Code Snippets -> Code Snippet are:
 - Close course filters on smaller devices when filter or reset buttons are pressed.
 - Making the organisation field conditionally required based on whether the user has checked Employee or Jobseeker.
 - Google Analytics tag for statistics.

➤ Header & Footer Customizations

- CSS for the Learning Resources table view is added under:
- Code Snippets -> Header & Footer -> Header.

2.1.2.7 Monitoring and Analytics

The back office integrates Google Analytics for tracking and analyzing website application usage, providing insights into user behavior and site performance. Custom Google Tag JS is implemented for comprehensive data collection.

2.1.2.8 Security Measures

The back office employs several security measures to protect data and ensure secure access:

- **SSL/TLS Encryption:** Ensures secure data transmission.
- **Role-Based Access Control:** Restricts access based on user roles.
- **Security Plugins:** WPS Hide Login, Hide Admin Bar Based on User Roles.

2.1.2.9 Conclusion

The back office of the TRUST-FOOD Website Application is a robust and well-architected system, designed to support comprehensive course management, multilingual content, and secure user interactions. Using

The following image visually depicts the information mentioned above.

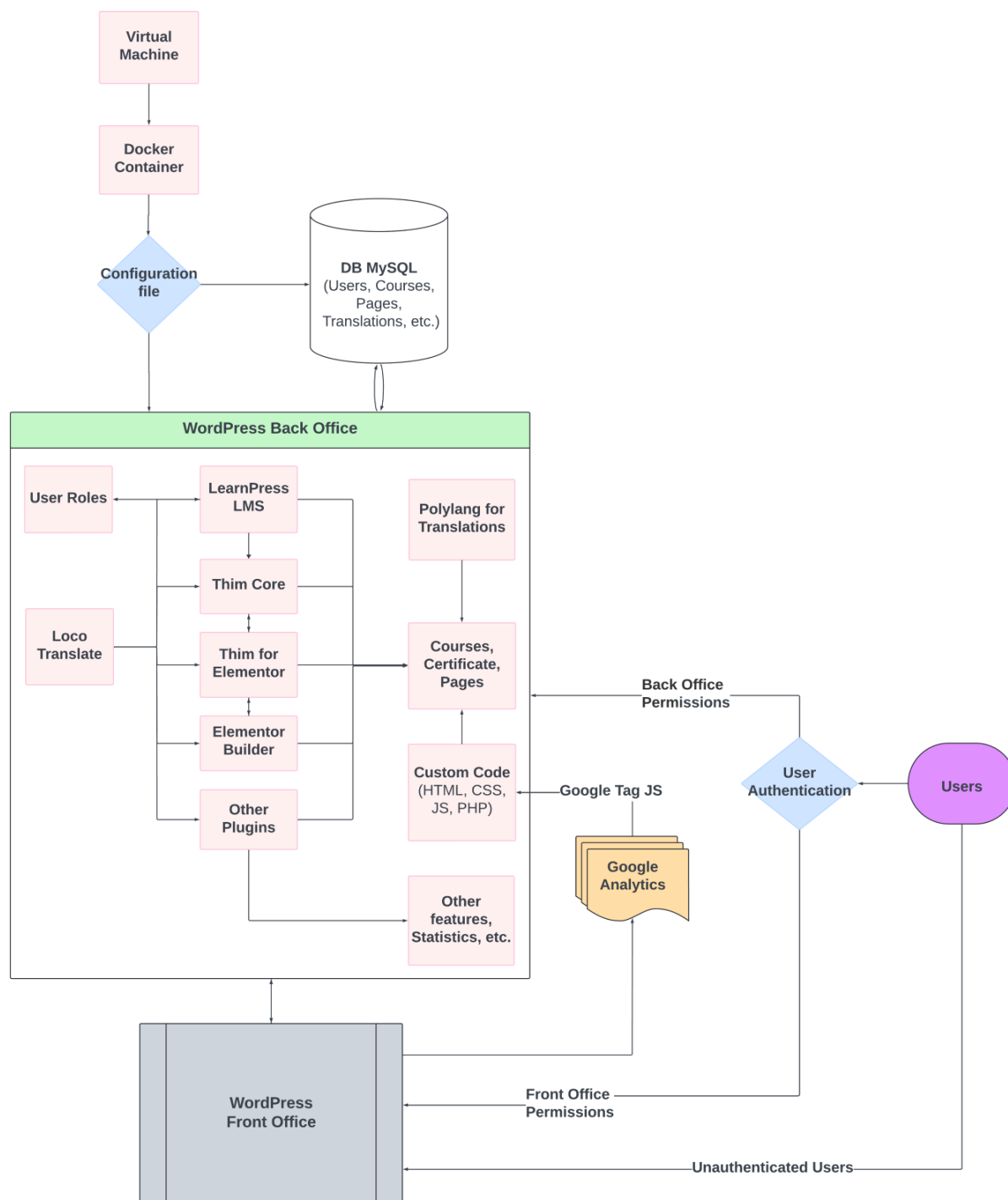


Figure 2: 2.1.2.1 Website Application – Back Office Architecture

2.2 Mobile Application Architecture

2.2.1 Mobile Application

The Trust Food mobile application is designed to provide users with an interactive and personalized learning experience, leveraging modern technologies and a user-friendly interface. The app's architecture is detailed below:

2.2.1.1 Frontend

- **Framework:** The app is built using React Native, a popular framework for building cross-platform mobile applications. React Native allows for a consistent look and feel across both iOS and Android devices.
- **Development Language:** TypeScript is used for development, providing strong typing and better tooling, which enhances code quality and maintainability.
- **UI Components:**
 - **Home Screen:** The entry point of the app, featuring sections such as "About," "Discover Your Level Quiz," and "Showcase Your Expertise Quiz." Users can start quizzes directly from this screen.
 - **Quiz Screens:** Multiple-choice question screens that users navigate through during the quizzes. Each quiz comprises a variable number of questions, culminating in a final screen with recommendations.
 - **Final Screen:** After completing a quiz, users are presented with a congratulatory message, recommended courses, and a "Go to Courses" button that redirects them to the Trust Food website.
 - **Additional Screens:** Includes About, FAQ, and QR Code screens for additional information and functionality.

2.2.1.2 Backend

- **API Integration:** The app interacts with backend services using RESTful APIs. These APIs handle data retrieval and submission, ensuring seamless communication between the frontend and the server.
- **React-Query:** This library is utilized for data fetching, caching, synchronization, and managing server state, ensuring efficient and effective data handling.

2.2.1.3 DevOps and Deployment

- **Fastlane:** The app uses Fastlane for continuous integration and continuous deployment (CI/CD). Fastlane automates the building, testing, and deployment process, facilitating smooth and frequent updates to the app.

2.2.1.4 User Flow

- **No Authentication Required:** The app is accessible to all users without the need for authentication, ensuring ease of access and a frictionless user experience.
- **Quiz Selection:** Users start by choosing one of two quizzes on the home screen – "Discover Your Level" or "Showcase Your Expertise."
- **Quiz Progression:** Users navigate through a series of questions, selecting answers and progressing through the quiz at their own pace.
- **Final Recommendations:** Upon completion, users receive tailored course recommendations based on their quiz performance. The "Go to Courses" button redirects users to the Trust Food website, where courses are filtered by the user's achieved level or category of expertise.

2.2.1.5 External Integration

- **Course Redirection:** The app integrates with the Trust Food website, specifically the courses page (<https://trust-food.ubitech.eu/courses/>). Depending on the quiz results, users are directed to a filtered list of courses that match their level of knowledge or area of expertise.

2.2.1.6 Design Principles

- **User-Friendly Interface:** The app is designed to be intuitive and easy to navigate, ensuring a positive user experience.
- **Responsive Design:** The UI components are designed to be responsive, providing a consistent experience across different device sizes and orientations.
- **Accessibility:** Considerations are made to ensure the app is accessible to a diverse range of users, including those with disabilities.

In summary, the Trust Food mobile app's high-level architecture leverages modern technologies and best practices to provide users with an engaging and educational experience. The combination of React Native, TypeScript, React-Query, and Fastlane ensures a robust, maintainable, and scalable application that meets the needs of its users effectively. The following image visually depicts the information mentioned above.

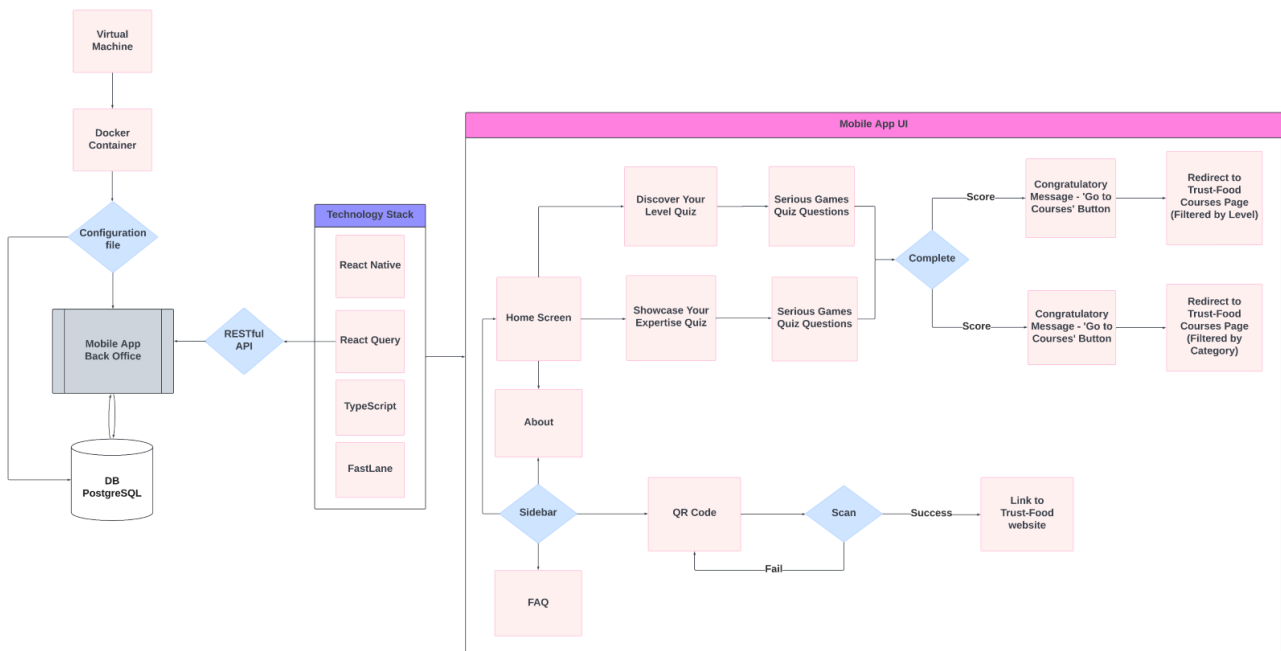


Figure 3: 2.2.1 Mobile Application

2.2.2 Back Office

The back office of the TRUST-FOOD mobile application is designed to provide robust content management and user data handling capabilities. It utilizes a combination of modern technologies to ensure the system is scalable, secure, and efficient. Below is a detailed description of each component and its role within the architecture.

2.2.2.1 Technologies Used

- **Quarkus (v3.8):** A Kubernetes-native Java framework tailored for GraalVM and HotSpot, offering fast startup times and low memory footprint. Quarkus is used for building the RESTful APIs that the mobile app interacts with.
- **Java 21:** The latest long-term support version of Java, providing modern language features and enhancements for building robust and maintainable server-side applications.
- **Docker:** Used for containerizing the Quarkus application, ensuring consistent deployment across different environments and facilitating scalability.
- **Postgres (v16.1):** A powerful, open-source object-relational database system. It is used to store all application data, including user information, quiz data, and course details.
- **Keycloak (v23):** An open-source identity and access management solution. It handles authentication and authorization, ensuring secure access to the application and its resources.
- **MinIO (RELEASE 2024.xxx):** A high-performance, S3-compatible object storage system. MinIO is used to store large files and media assets, providing scalable and reliable storage solutions.

2.2.2.2 Component Interactions

- **Frontend (React Native)**
The mobile app is built using React Native, providing a seamless user experience across both iOS and Android platforms. It communicates with the backend through RESTful APIs.
- **RESTful API (Quarkus, Java 21, Docker)**
The backend services are built using Quarkus and Java 21. These services expose RESTful APIs that the mobile app interacts with. Docker is used to containerize these services, ensuring consistent deployment and easy scaling.
- **Database (Postgres v16.1)**
Postgres is used as the primary database for storing all application data. This includes user profiles, quiz questions, answers, and course recommendations. Postgres is known for its robustness and reliability, making it an ideal choice for the application.
- **Authentication (Keycloak v23)**
Keycloak manages user authentication and authorization. It provides secure login and access control mechanisms, ensuring that only authorized users can access certain features of the app.
- **Storage (MinIO RELEASE 2024.xxx)**

MinIO is used for object storage, handling large files and media assets. This includes images, videos, and other files that the application might need to store and retrieve efficiently.

2.2.2.3 Back Office UI Screens

- **About Page Editor**
Admins can edit the content of the About page through a dedicated UI screen. This interface allows for updating text, adding images, and formatting content to keep users informed about the app.
- **FAQ Management**
Admins can view existing FAQ questions and answers, add new ones, edit or delete existing ones through a user-friendly interface. This ensures that the FAQ section is always up-to-date with the most relevant information for users.
- **Quiz Management**
Serious games and quizzes can be managed via an interface where admins can view, edit, add, or remove questions. Each question can have multiple options, and admins can set the corresponding points for each option. This flexibility allows for the creation and maintenance of engaging and educational quizzes.
- **Results Configuration**
In the results tab, admins can define the "Go to Courses" button link based on the user's quiz performance. They can specify the link to the courses page on the Trust Food website, filtered according to the user's score percentage. This ensures users are directed to the most appropriate courses based on their quiz results.

2.2.2.4 User Flow

- Users interact with the mobile app built using React Native.
- The app sends requests to the backend services built with Quarkus and Java, which are containerized using Docker.
- The backend services interact with the Postgres database to fetch or store data as required.
- Authentication requests are handled by Keycloak, ensuring secure access.
- Large files and media assets are stored and retrieved from MinIO.

This high-level architecture ensures that the Trust Food mobile app is robust, scalable, and secure, providing users with a seamless and reliable experience. The back office's comprehensive management capabilities ensure that the app's content is always current and relevant, enhancing the overall user experience.

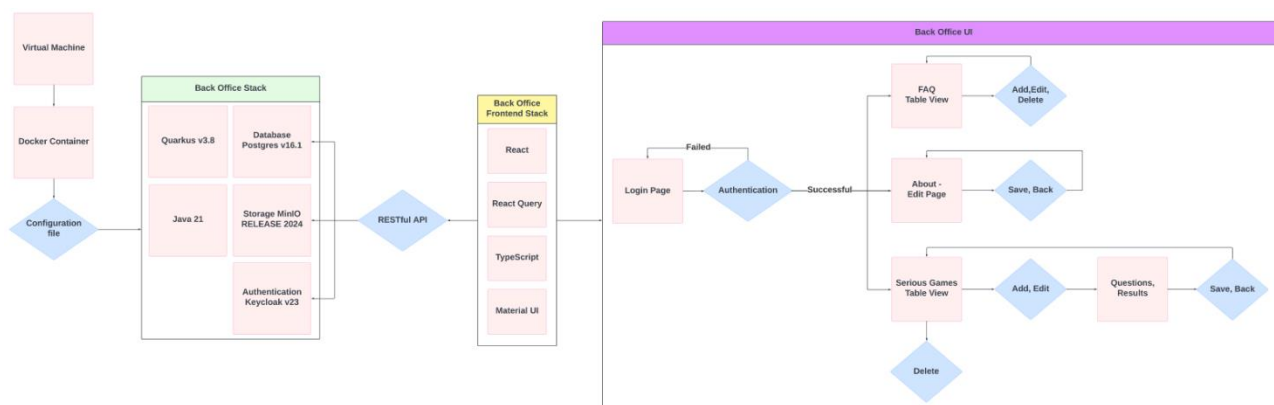


Figure 4: 2.2.2 Mobile Application – Back Office

3. Each Subsystem's Detailed Design Principles.

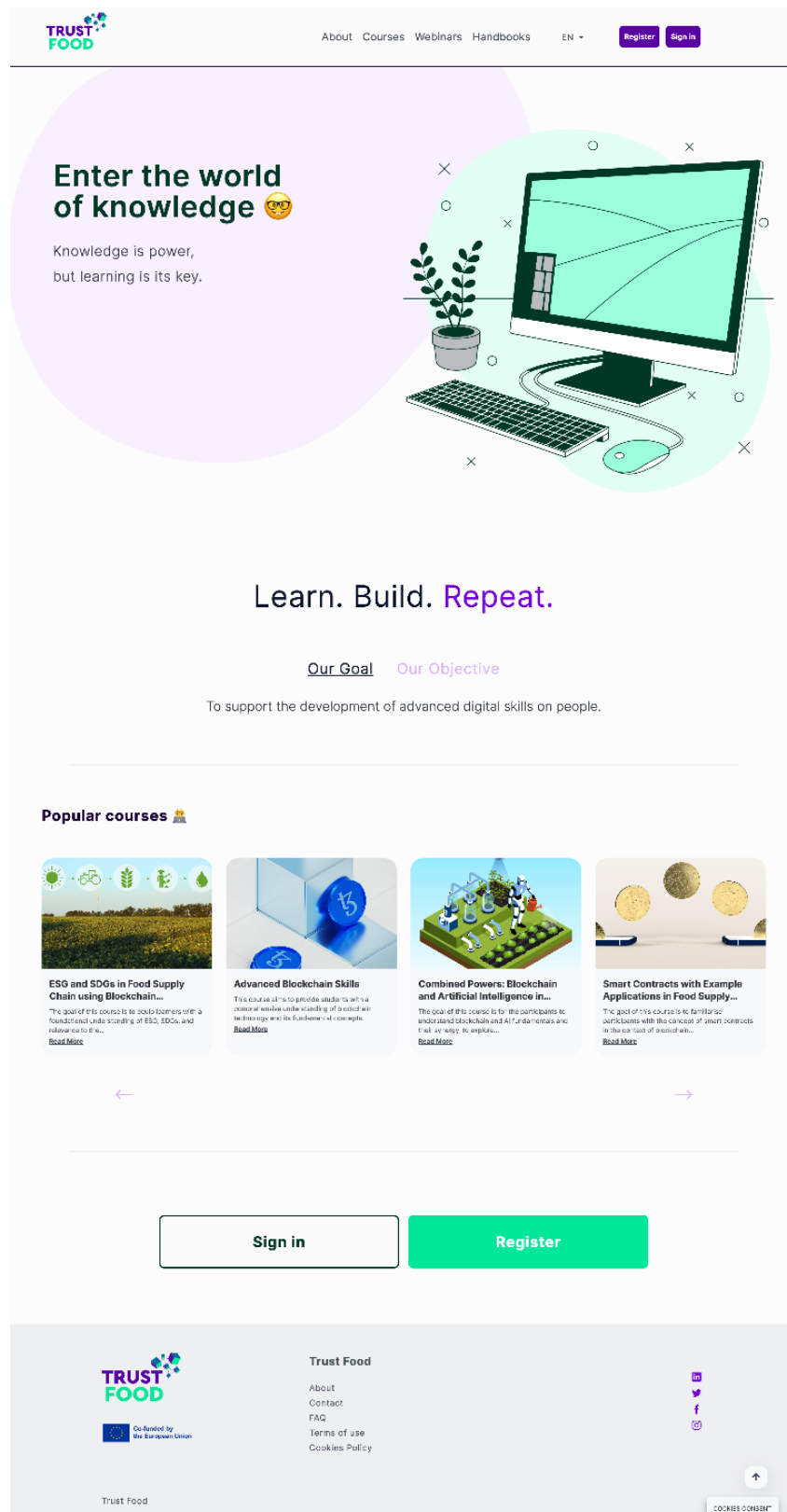
3.1 Website Application Design

3.1.1 Website

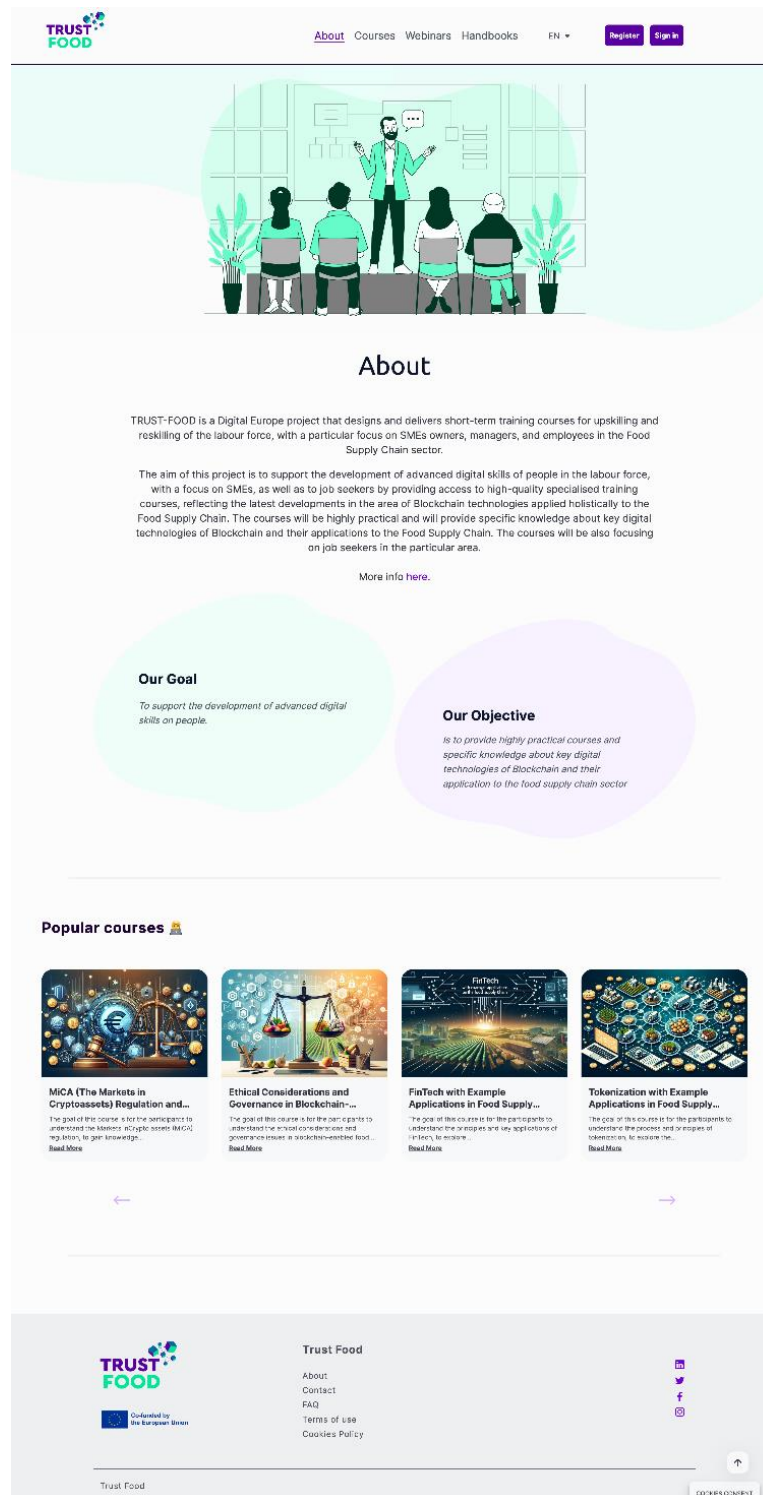
The courses website application is designed using a robust Content Management System (CMS) based on the WordPress framework, enhanced by the Eduma theme and LearnPress Learning Management System to support e-learning capabilities. Key features and pages include:

- ✓ **About:** Information about the institution and its mission.
- ✓ **Courses:** A detailed catalog of available courses, including descriptions, syllabi, and enrolment options.
- ✓ **Certificate Issuance:** Tools for generating and distributing certificates upon course completion.
- ✓ **Login and Registration:** User authentication and enrolment processes.
- ✓ **Profile:** A user dashboard where individuals can view all the courses they are enrolled in and their status, certificates earned, quiz scores, and account settings.
- ✓ **Webinars:** A schedule of upcoming and past webinars available for viewing.
- ✓ **Handbooks:** Access to comprehensive guides and resources related to the courses.
- ✓ **FAQ:** Answers to frequently asked questions to assist users.
- ✓ **Contact:** Contact information and a form for inquiries.
- ✓ **Cookies:** Details on cookie usage and management.
- ✓ **Terms of Use:** Information on the terms and conditions for using the site.

The website application also utilizes Learnpress as the Learning Management System (LMS), Elementor for page building, Polylang for multilingual support, and various other plugins to enhance functionality and user experience. These tools ensure the efficient management and delivery of course content, making the e-learning process smooth and user-friendly.



Picture 1: 3.1.1.1 Website - Homepage



Picture 2: 3.1.1.2 Website – About page



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Showing 120 of 24 results



Blockchain Technology in the Supply Chain

Blockchain technology is a distributed ledger technology that allows for secure and transparent transactions. It is used in various industries, including supply chain management, to track the origin and movement of goods.



Combined Powers Blockchain and Artificial Intelligence in the Supply Chain

Blockchain and Artificial Intelligence (AI) are two powerful technologies that can be combined to create a more efficient and secure supply chain. AI can analyze data from the blockchain to identify patterns and predict future trends.



Introduction to Blockchain Technology and Digital Assets

Blockchain is a decentralized digital ledger that records transactions across many computers. It is the underlying technology for cryptocurrencies like Bitcoin and Ethereum. Digital assets are digital representations of physical assets, such as real estate or art.



Exploring Digital Asset Management and Tokenization

Digital asset management (DAM) is the process of storing, organizing, and securing digital assets. Tokenization is the process of converting physical assets into digital tokens on a blockchain.



NCA (The Markets in Cryptoassets) Regulation and its Impact on the Cryptocurrency Market

The Markets in Cryptoassets (MiCA) Regulation is a European Union regulation that aims to create a clear and consistent regulatory framework for cryptoassets. It will have a significant impact on the cryptocurrency market.



Perfect with Example Applications in Food Supply Chain

Blockchain technology has many applications in the food supply chain, including tracking the origin of food, reducing food waste, and improving food safety.



Tokenization with Example Applications in Food Supply Chain

Tokenization is the process of converting physical assets into digital tokens on a blockchain. It has many applications in the food supply chain, including tracking the origin of food and reducing food waste.



Introduction to Blockchain in the Food Supply Chain: Building Trust

Blockchain technology can be used to build trust in the food supply chain by providing a transparent and secure record of transactions.



Basic Blockchain Skills

This course covers the basic concepts and terminology of blockchain technology, including distributed ledgers, consensus mechanisms, and smart contracts.



Advanced Blockchain Skills

This course covers advanced concepts and techniques in blockchain technology, including smart contracts, decentralized applications (dApps), and blockchain-based security.



Areas of application for Blockchain Technology

Blockchain technology has many applications in various industries, including supply chain management, healthcare, and finance.



Smart Contracts with Example Applications in Food Supply Chain

Smart contracts are self-executing contracts with the terms of the agreement between two or more parties. They have many applications in the food supply chain, including tracking the origin of food and reducing food waste.



Blockchain platforms for the Food Supply Chain

There are many blockchain platforms available for use in the food supply chain, each with its own features and benefits.



Blockchain and Transparency in the Food Supply Chain

Blockchain technology can be used to increase transparency in the food supply chain by providing a transparent and secure record of transactions.



Blockchain Applications for Food Quality Assurance and Traceability

Blockchain technology can be used to ensure food quality and traceability by providing a transparent and secure record of transactions.



ESG and SDGs in Food Supply Chain using Blockchain

Blockchain technology can be used to track and report on ESG (Environmental, Social, and Governance) and SDG (Sustainable Development Goal) metrics in the food supply chain.



Climate Action, Energy Transition and Blockchain in Food Supply

Blockchain technology can be used to support climate action and energy transition in the food supply chain by providing a transparent and secure record of transactions.



Blockchain Adoption Strategies for Small and Medium-sized Enterprises

Small and medium-sized enterprises (SMEs) can benefit from blockchain technology by improving their supply chain efficiency and reducing costs.



Ethical Considerations and Governance in Blockchain

Blockchain technology raises ethical considerations and governance issues, such as privacy, security, and accountability.



Combined Powers Blockchain and Internet of Things in the Supply Chain

Blockchain and Internet of Things (IoT) technology can be combined to create a more efficient and secure supply chain.

Filter

Search

Search Results

Categories

- Blockchain Technology
- Supply Chain Management
- Digital Assets
- Tokenization

Levels

- Beginner
- Intermediate
- Expert

Author

- Trust Food
- Blockchain Academy
- Supply Chain Institute
- Digital Asset Group
- Tokenization Experts

Tags

- Blockchain
- Supply Chain
- Digital Assets
- Tokenization
- Smart Contracts
- Decentralized Applications
- Food Supply Chain
- Quality Assurance
- Traceability
- ESG
- SDGs
- Climate Action
- Energy Transition
- Small and Medium-sized Enterprises
- Ethical Considerations
- Governance
- Internet of Things

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Picture 3 : 3.1.1.3 Website – Courses page

D4.3: System Design, 30/06/2024

Page 28

Roadmap for the use of Blockchain Technologies in the Food Supply

This course aims to provide students with a comprehensive understanding of blockchain technologies and their applications in the food supply chain.



Teacher

TRUST-FOOD - Agrifood Croatia

Categories

Information & communication technologies

Review

★★★★★

Course results 0%
In Progress



CONTINUE

FINISH COURSE

Course Features

- Lectures 14
- Quizzes 8
- Duration 5 hours
- Skill level Intermediate
- Language English
- Students 4
- Certificate Yes
- Assessments Yes

OVERVIEW

COURSE DESCRIPTION

This course aims to provide students with a comprehensive understanding of blockchain technologies and their applications in the food supply chain. By the end of the course, students are expected to acquire the following skills and knowledge: 1) Explore the food supply chain ecosystem, 2) Identify opportunities for blockchain adoption, 3) Evaluate blockchain implementation strategies, 4) Examine real-world case studies, 5) Assess the impact of blockchain on the food industry, 6) Develop a roadmap for blockchain integration, 7) Ethical and legal considerations.

Picture 4 : 3.1.1.4.1 Website – Course Details page | Part 1

CURRICULUM

LESSON 1 0/3

- Lecture 1.1 Lesson 1.1 – Introduction to Blockchain Technology ✓
- Lecture 1.2 Lesson 1.2 – Introduction to Blockchain Technology ✓
- Quiz 1.3 Lesson 1 – Questions 4 questions ✓

LESSON 2 0/2

- Lecture 2.1 Lesson 2 – Introduction to the food supply chain ecosystem ✓
- Quiz 2.2 Lesson 2 – Questions 4 questions ✓

LESSON 3 0/3

- Lecture 3.1 Lesson 3.1 – Use cases and benefits of blockchain in the food industry ✓
- Lecture 3.2 Lesson 3.2 – Use cases and benefits of blockchain in the food industry ✓
- Quiz 3.3 Lesson 3 – Questions 4 questions ✓

LESSON 4 0/2



CONTINUE

FINISH COURSE

Course Features

- Lectures 14
- Quizzes 8
- Duration 5 hours
- Skill level Intermediate
- Language English
- Students 4
- Certificate Yes
- Assessments Yes

Overview Curriculum Instructor Reviews

CONTINUE FINISH COURSE

Picture 5 : 3.1.1.4.2 Website – Course Details page | Part 2

Quiz 7.3 Lesson 7 – Questions 4 questions ✓

LESSON 8 0/5

Lecture 8.1 Lesson 8.1 – Fair trade, sustainability, and responsible sourcing ✓

Lecture 8.2 Lesson 8.2 – Fair trade, sustainability, and responsible sourcing ✓

Lecture 8.3 Lesson 8.3 – Fair trade, sustainability, and responsible sourcing ✓

Lecture 8.4 Lesson 8.4 – Fair trade, sustainability, and responsible sourcing ✓

Quiz 8.5 Lesson 8 – Questions 4 questions ✓



CONTINUE FINISH COURSE

Course Features

- Lectures 14
- Quizzes 8
- Duration 5 hours
- Skill level Intermediate
- Language English
- Students 4
- Certificate Yes
- Assessments Yes

INSTRUCTOR



TRUST-FOOD - Agrifood Croatia

Overview Curriculum Instructor **Reviews**

CONTINUE FINISH COURSE

Picture 6: 3.1.1.4.3 Website – Course Details page | Part 3

REVIEWS

Average Rating

5
★★★★★
1 rating

WRITE A REVIEW

Reviews



Trust-Food
★★★★★
Excellent course
very helpful

Detailed Rating

Rating	Percentage
5	100%
4	0%
3	0%
2	0%
1	0%



CONTINUE FINISH COURSE

Course Features

- Lectures 14
- Quizzes 8
- Duration 5 hours
- Skill level Intermediate
- Language English
- Students 4
- Certificate Yes
- Assessments Yes

Overview Curriculum Instructor **Reviews**

CONTINUE FINISH COURSE

Picture 7: 3.1.1.4.4 Website – Course Details page | Part 4

Picture 8: 3.1.1.5.1 Website – Course Lessons page / Part 1

Picture 9: 3.1.1.5.2 Website – Course Lessons page / Part 2

Search for course content 1 of 22 items

LESSON 1 0/3

1.1 Lesson 1 – Questions 4 questions ✓

LESSON 2 0/2

2.1 Lesson 2 – Introduction to the food supply chain ecosystem ✓

2.2 Lesson 2 – Questions 4 questions ✓

LESSON 3 0/3

3.1 Lesson 3.1 – Use cases and benefits of blockchain in the food industry ✓

3.2 Lesson 3.2 – Use cases and benefits of blockchain in the food industry ✓

3.3 Lesson 3 – Questions 4 questions ✓

LESSON 4 0/2

4.1 Lesson 4 – Private vs. public blockchains ✓

4.2 Lesson 4 – Questions 4 questions ✓

LESSON 5 0/2

5.1 Lesson 5 – Real-world examples of successful blockchain implementations. ✓

5.2 Lesson 5 – Questions 4 questions ✓

LESSON 6 0/2

6.1 Lesson 6 – Assessing the readiness and feasibility of blockchain adoption. ✓

6.2 Lesson 6 – Questions 4 questions ✓

LESSON 7 0/3

Lesson 1 – Questions

75%
0%

Passed ✓

Time spent 00:00:08
Points 3 / 4
Questions 4
Correct 3
Wrong 1
Skipped 0
Minus points 0

RETAKE REVIEW

Last Attempt

Questions	Time spent	Marks	Passing grade	Result
1 / 4	00:00:10	1 / 4	0%	25.00%
1 / 4	00:00:48	1 / 4	0%	25.00%

Prev Next

Picture 10 : 3.1.1.5.3 Website – Course Lessons page | Part 3

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Register a new account

Username

Email

Password

Repeat Password

☐ I accept the Terms of Service

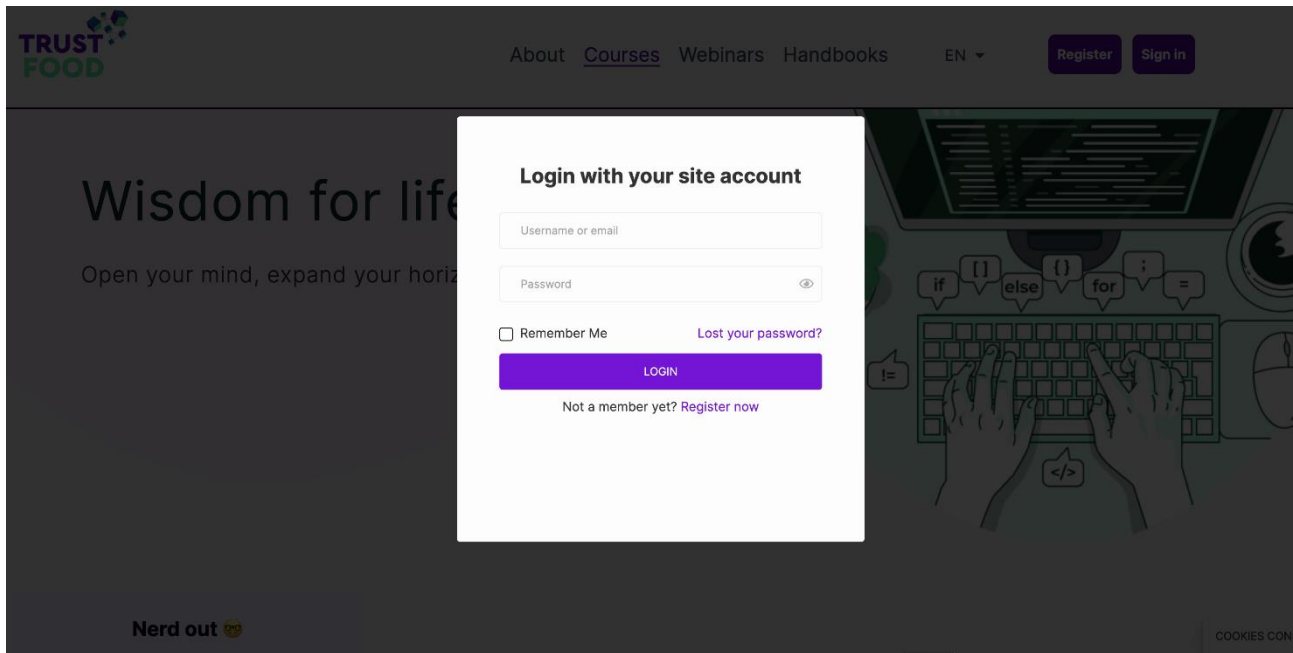
SIGN UP

Are you a member? Login now

Nerd out

PODOLIS COURSES

Picture 11 : 3.1.1.6 Website – Register popup



Picture 12 : 3.1.1.7 Website – Login popup


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Enrolled Course	Inprogress Course	Finished Course	Passed Course	Failed Course
7	6	1	1	0

[All](#)
[In Progress](#)
[Finished](#)
[Passed](#)
[Failed](#)

	Name	Result	Expiration time	End time
	Introduction to Blockchain in the Food Supply Chain...	8.33%	April 9, 2024 2:45 pm	-
	MICA (The Markets in Cryptoassets) Regulation an...	0%	May 17, 2024 3:32 pm	-
	Exploring Digital Asset Management and Tokenization	7.14%	May 24, 2024 2:18 pm	-
	Εξερευνώντας τη διαχείριση ψηφιακών περιουσιακών...	0%	May 27, 2024 9:49 pm	-
	Smart Contracts with Example Applications in Food Supply...	0%	May 28, 2024 8:15 pm	-
	Roadmap for the use of Blockchain Technologies in...	0%	June 4, 2024 7:02 pm	-




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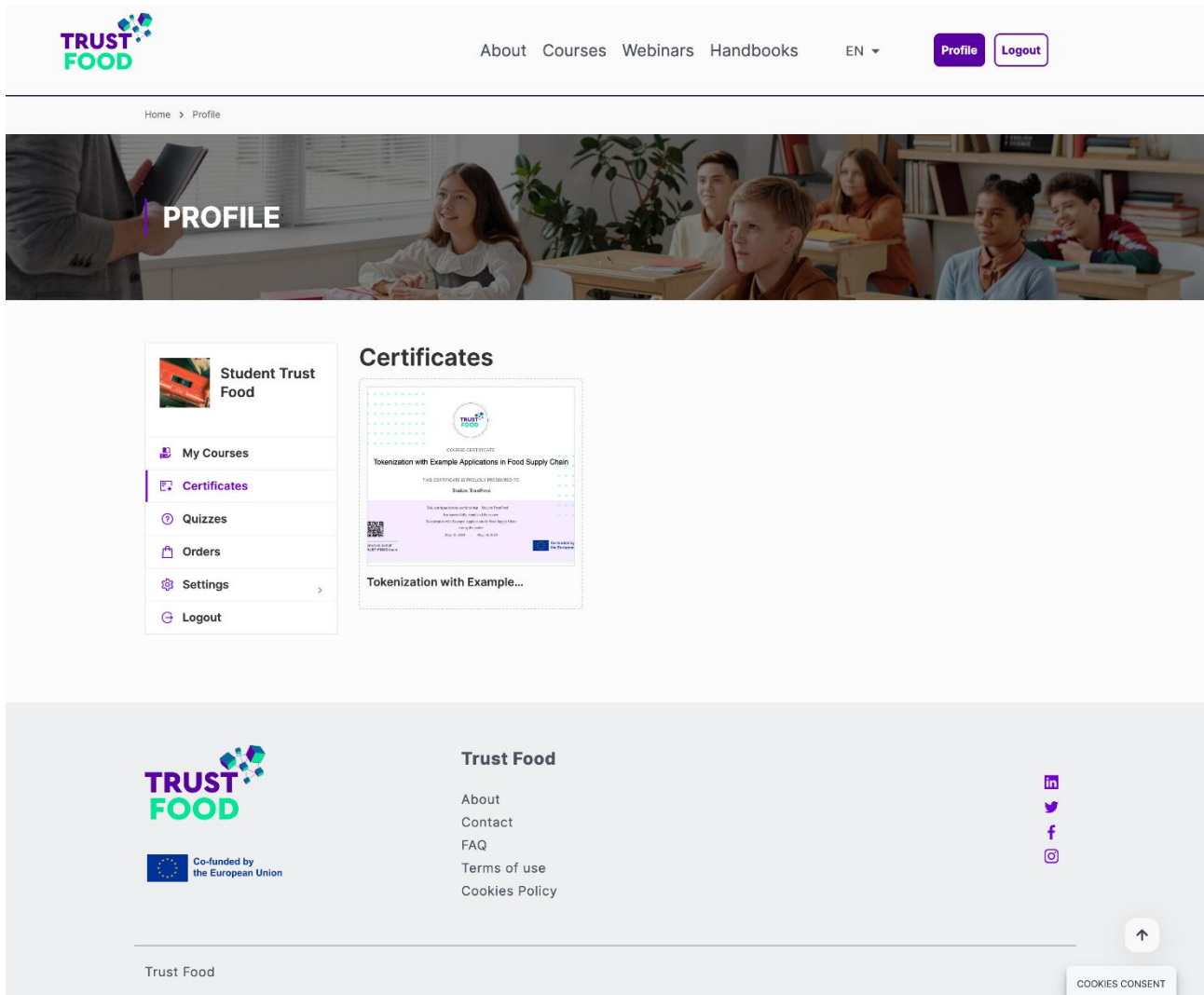
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COOKIES CONSENT

Picture 13 : 3.1.1.8.1 Website – Profile page | My Courses



Picture 14 : 3.1.1.8.2 Website – Profile page | Certificates



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>
Profile



PROFILE



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Orders
Settings
Logout

All
Finished
Passed
Failed

Quiz	Result	Time spent	Date
Lesson 1 – Questions	0% In Progress	--:--	June 5, 2024
Lesson 1 – Questions	0% Completed	00:00:09	May 29, 2024
Διάλεξη 1 – Αξιολόγηση	0% In Progress	--:--	May 27, 2024
Lesson 7 – Questions	66.67% Completed	00:00:19	May 17, 2024
Lesson 2 – Questions	50% Completed	00:00:21	April 9, 2024

Displaying 1 to 5 of 5 quizzes.




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Picture 15 : 3.1.1.8.3 Website – Profile page | Quizzes


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PROFILE



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[Certificates](#)
[Quizzes](#)
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General
Avatar
Password

First name
Last name

Student
TrustFood

Display name*
Email address*

Student TrustFood
asiana@ubitech.eu

Biographical Info

Share a little biographical information to fill out your profile. This may be shown publicly.

☒ Are you a Job Seeker?
☐ Are you an Employee?

Current Organization

Facebook Profile
Twitter Profile

https://
https://

Youtube Channel
Linkedin Profile

https://
https://

SAVE CHANGES




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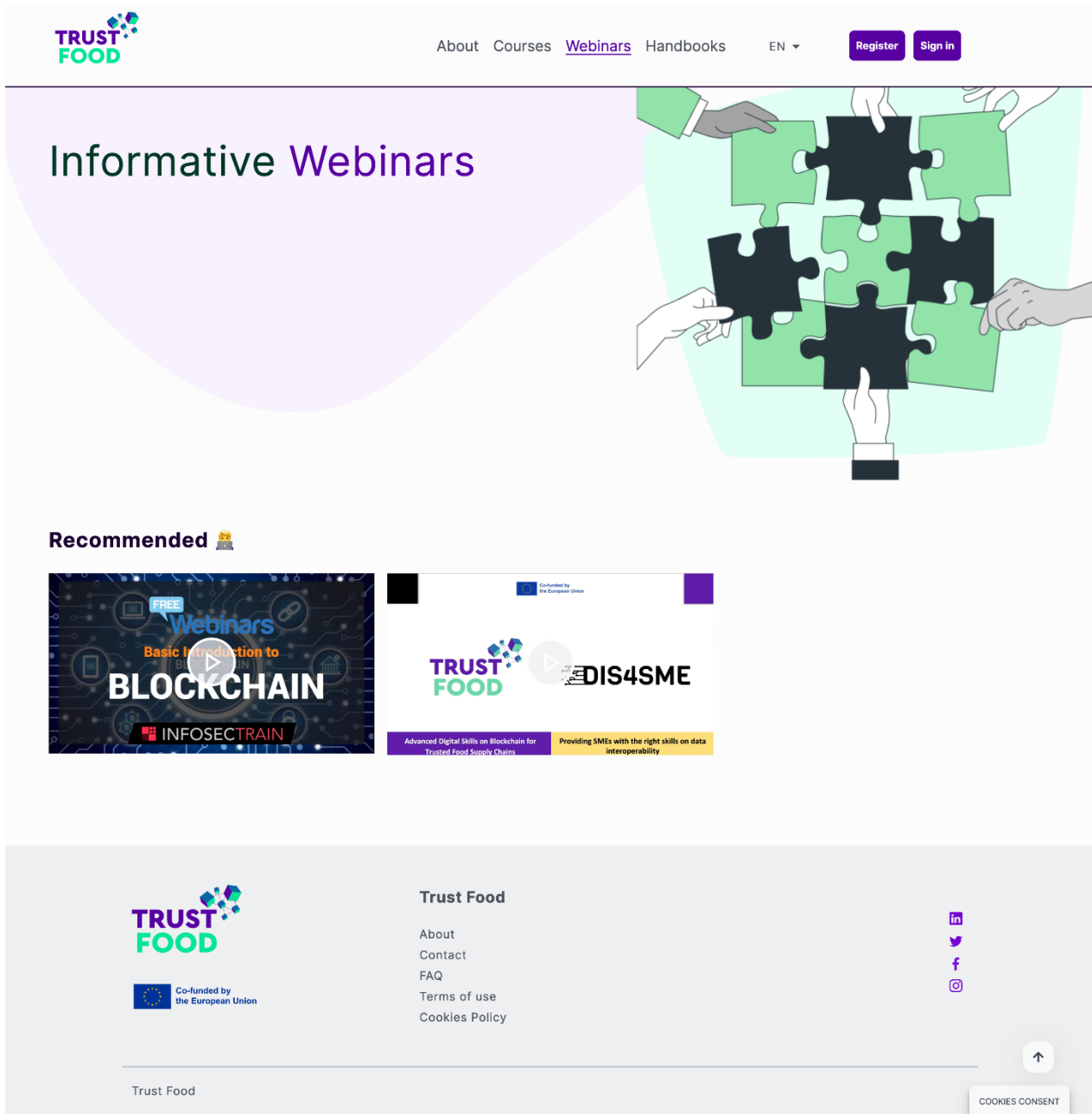
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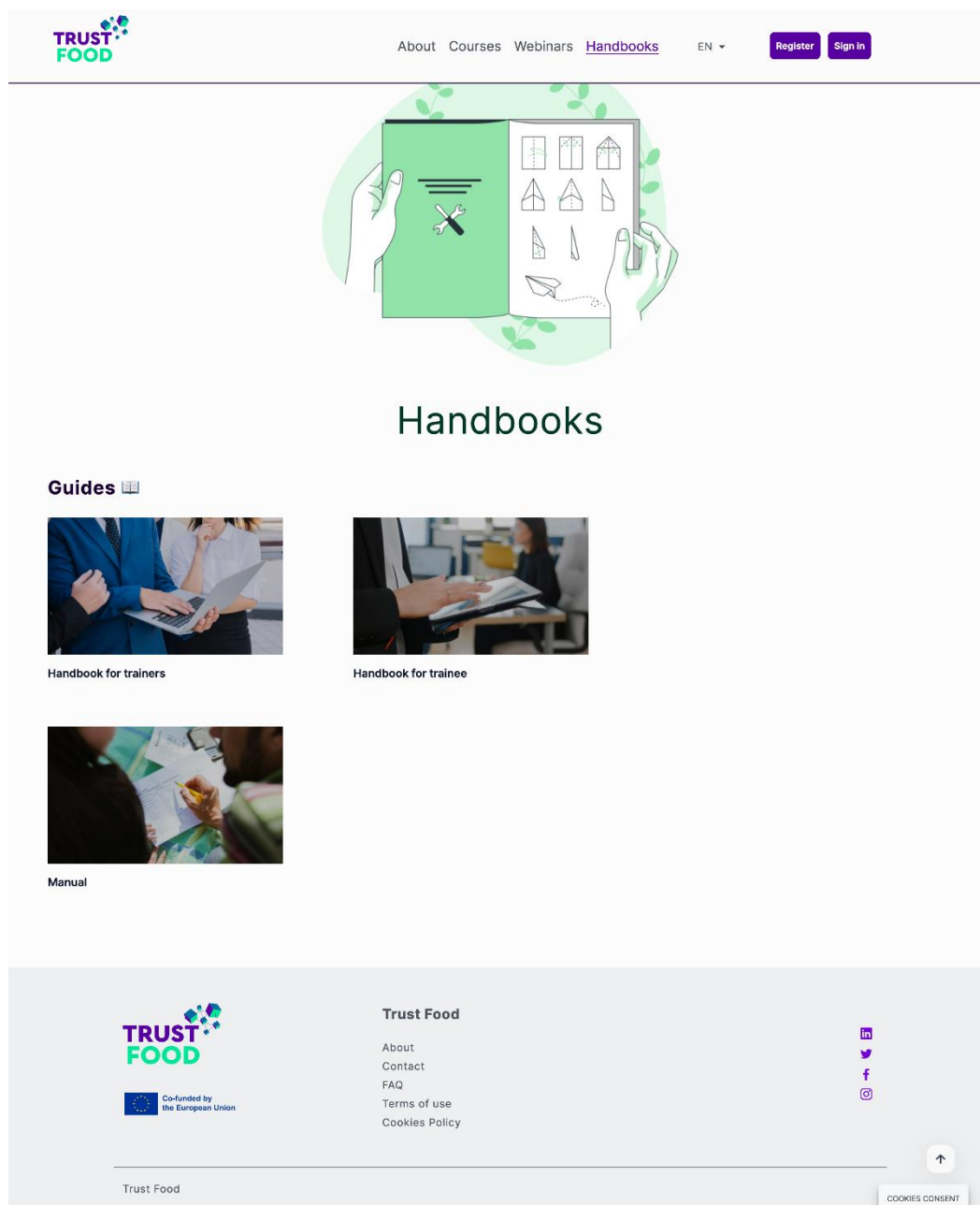
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Picture 16 : 3.1.1.8.3 Website – Profile page | Settings



Picture 17 : 3.1.1.9 Website – Webinars page



Picture 18 : 3.1.1.10 Website – Handbooks page



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Have question about TRUST-FOOD?
Need more information from our website?
We're here to help!

Send us you request by filling out the form and you will receive a response as soon as possible.

Name

Email

Message

Send



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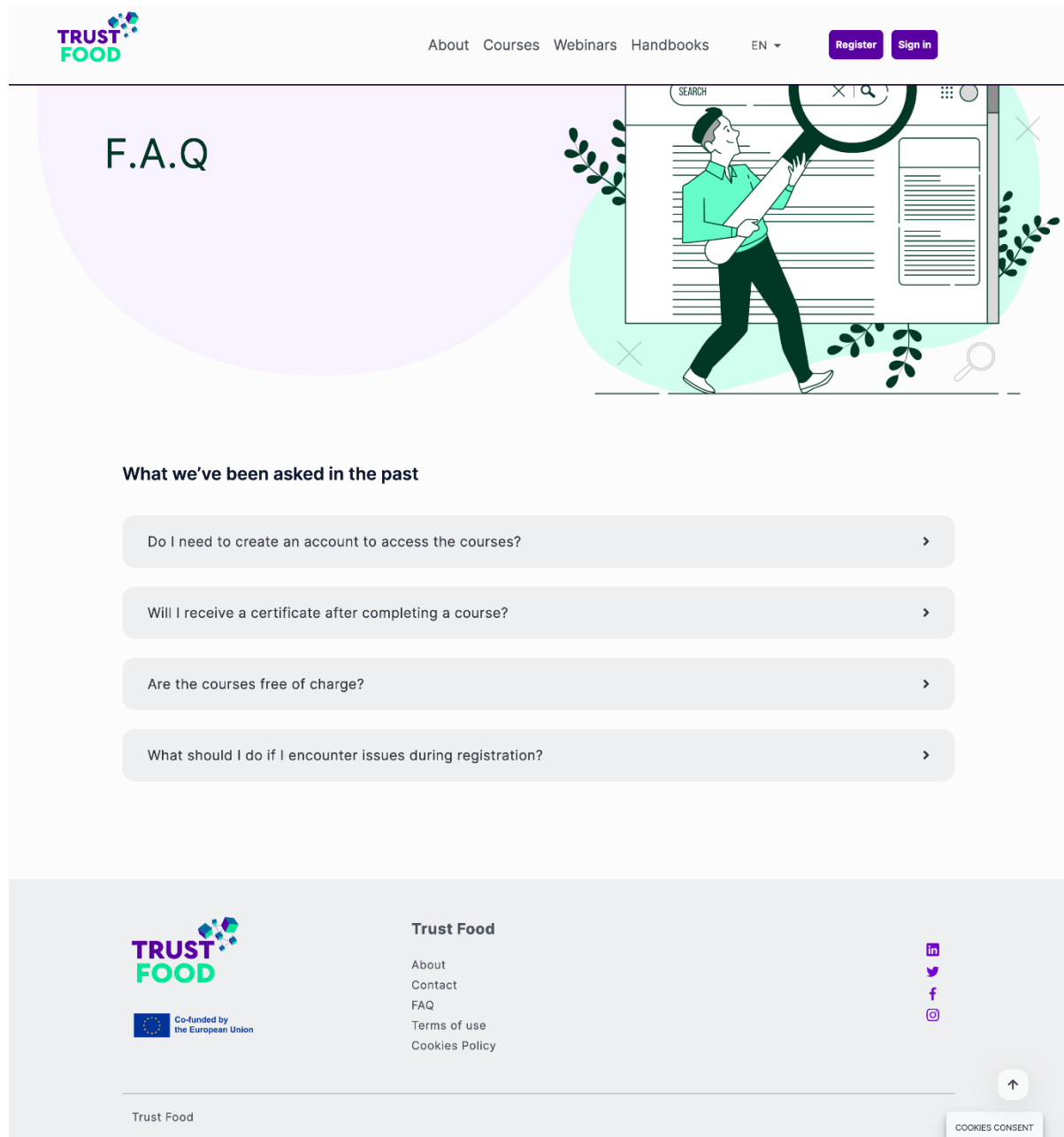
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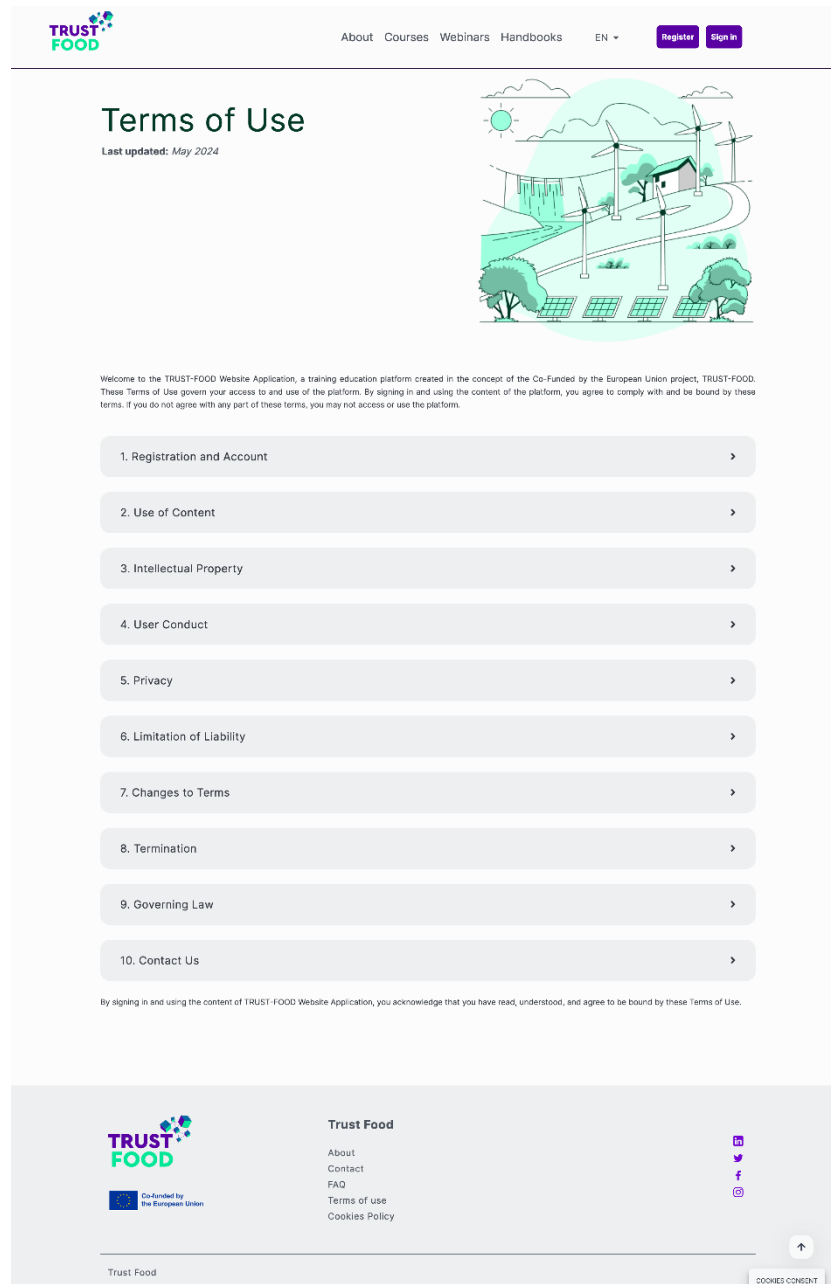
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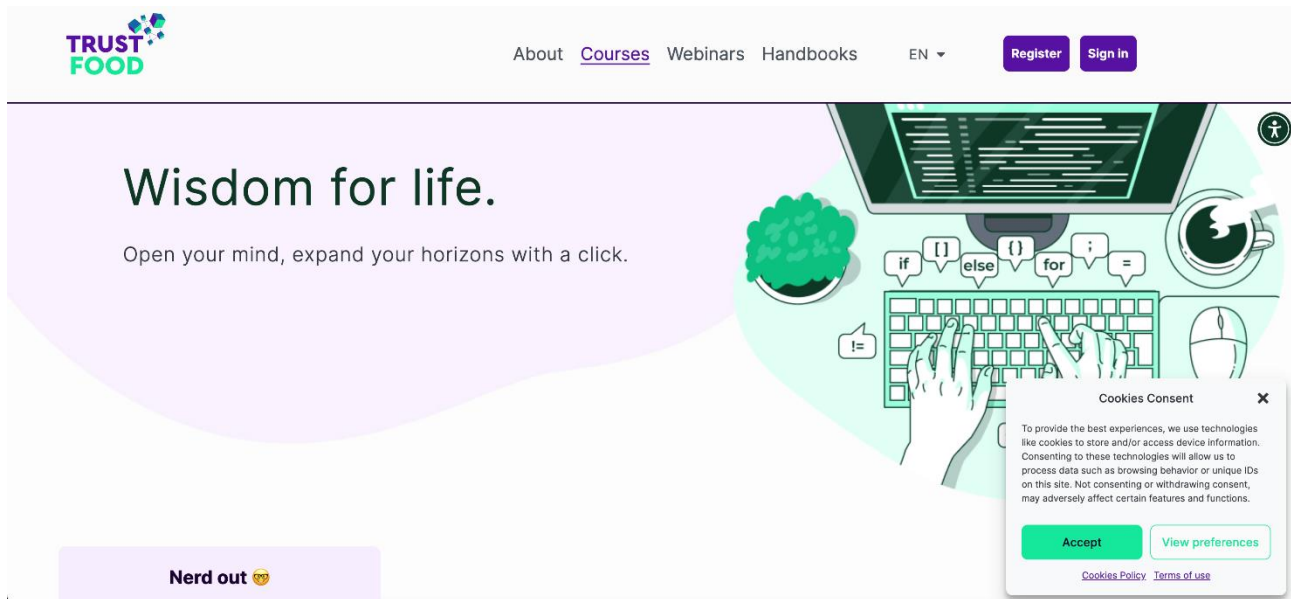
Picture 19 : 3.1.1.11 Website – Contact page



Picture 20 : 3.1.1.12 Website – FAQ page



Picture 21 : 3.1.1.13 Website – Terms of use page



Picture 22 : 3.1.1.14 Website – Cookies Consent banner



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Cookies Policy

This Policy, which was last modified on May 19, 2024, was approved by the Trust Food Board and is available on the website.

1. Introduction

Our website, [Control and Food Protection](#), uses cookies. The website uses cookies and other related technology for various purposes, including to enhance your browsing experience, to analyze and improve our website, to manage site usage, and to assist in our marketing efforts. The cookies are used to store information about your preferences, your site usage, and other information to improve your experience on our website.

2. What are cookies?

A cookie is a small file that is sent to your browser and is stored on your computer or mobile device. The information contained in the cookie is used to enhance your experience on our website.

3. What are scripts?

A script is a piece of code that is used to enhance the functionality of a website. Scripts are used to enhance the functionality of a website and to provide a better user experience.

4. What is a web beacon?

A web beacon is a small file that is used to track the usage of a website. Web beacons are used to track the usage of a website and to provide a better user experience.

5. Cookies

5.1. Essential cookies

Some cookies are essential for the website to work properly. These cookies are used to enhance the functionality of the website and to provide a better user experience.

5.2. Analytics cookies

These cookies are used to track the usage of the website. These cookies are used to track the usage of the website and to provide a better user experience.

5.3. Marketing cookies

These cookies are used to track the usage of the website. These cookies are used to track the usage of the website and to provide a better user experience.

6. Placed cookies

Element	Cookie Name
WordPress	WordPress
SourceBuster JS	SourceBuster JS
Google Analytics	Google Analytics
Complianz	Complianz
Polylang	Polylang
Miscellaneous	Miscellaneous

7. Consent

When you visit our website for the first time, we will show you a consent banner. You can click on the banner to accept or decline the cookies.

8. Enabling/disabling and deleting cookies

You can enable or disable cookies in your browser. You can also delete cookies from your browser.

9. Your rights with respect to personal data

You have the following rights with respect to your personal data:

- Right to access your personal data
- Right to rectify your personal data
- Right to delete your personal data
- Right to restrict your personal data
- Right to object to your personal data
- Right to port your personal data

10. Contact details

For more information, please contact us at [info@trustfood.eu](#).



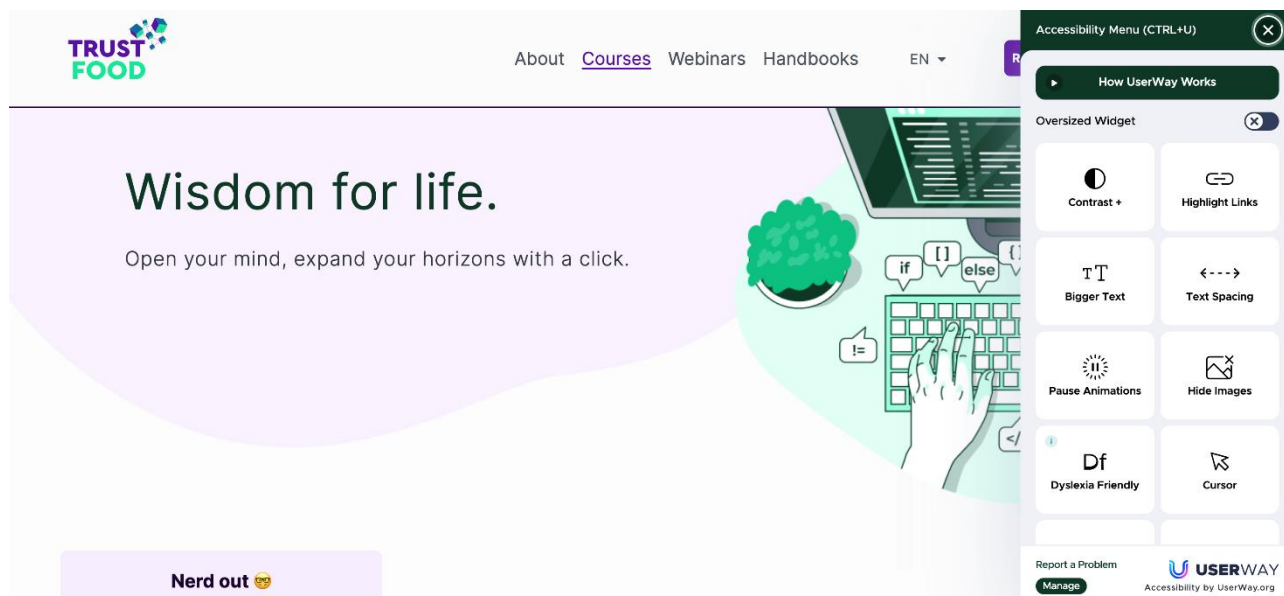
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Picture 23 : 3.1.1.15 Website – Cookies Policy page



Picture 24 : 3.1.1.16 Website – Accessibility menu



Looks like a 404

This page doesn't exist.

Double check the URL or contact the administrator for assistance.
Thank you!



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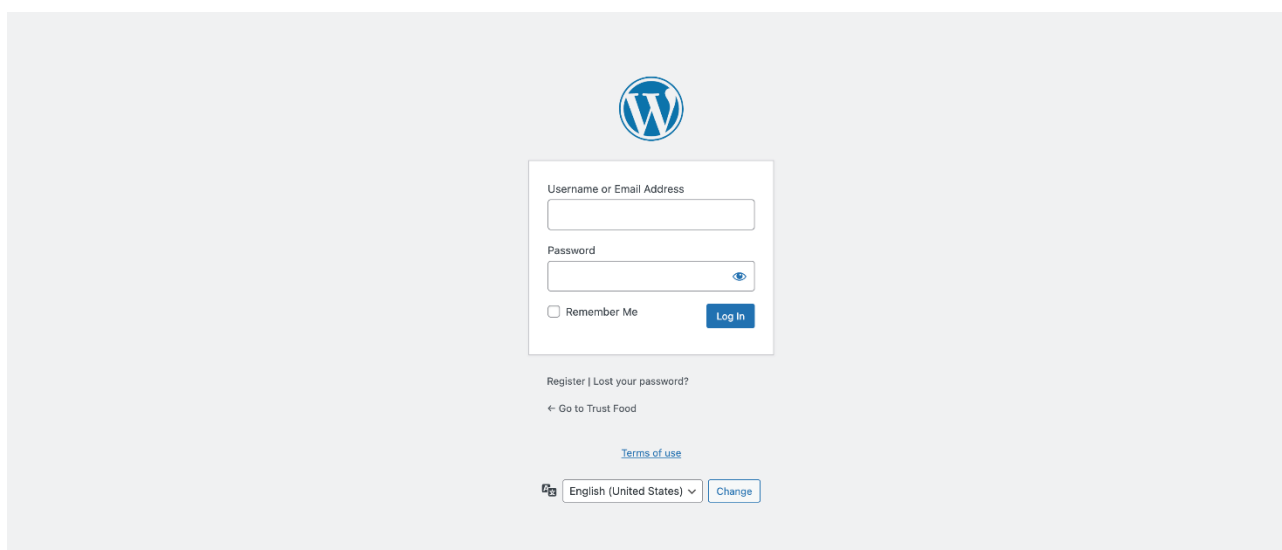
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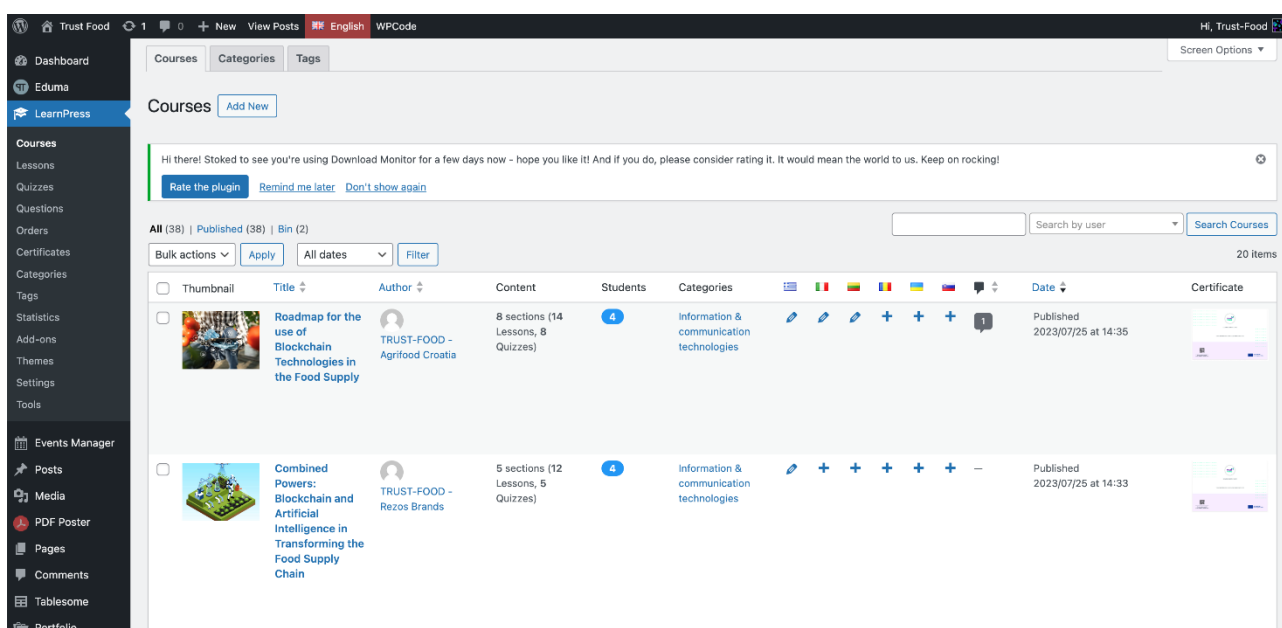
Picture 25 : 3.1.1.17 Website – 404 Not found page

3.1.2 Website CMS

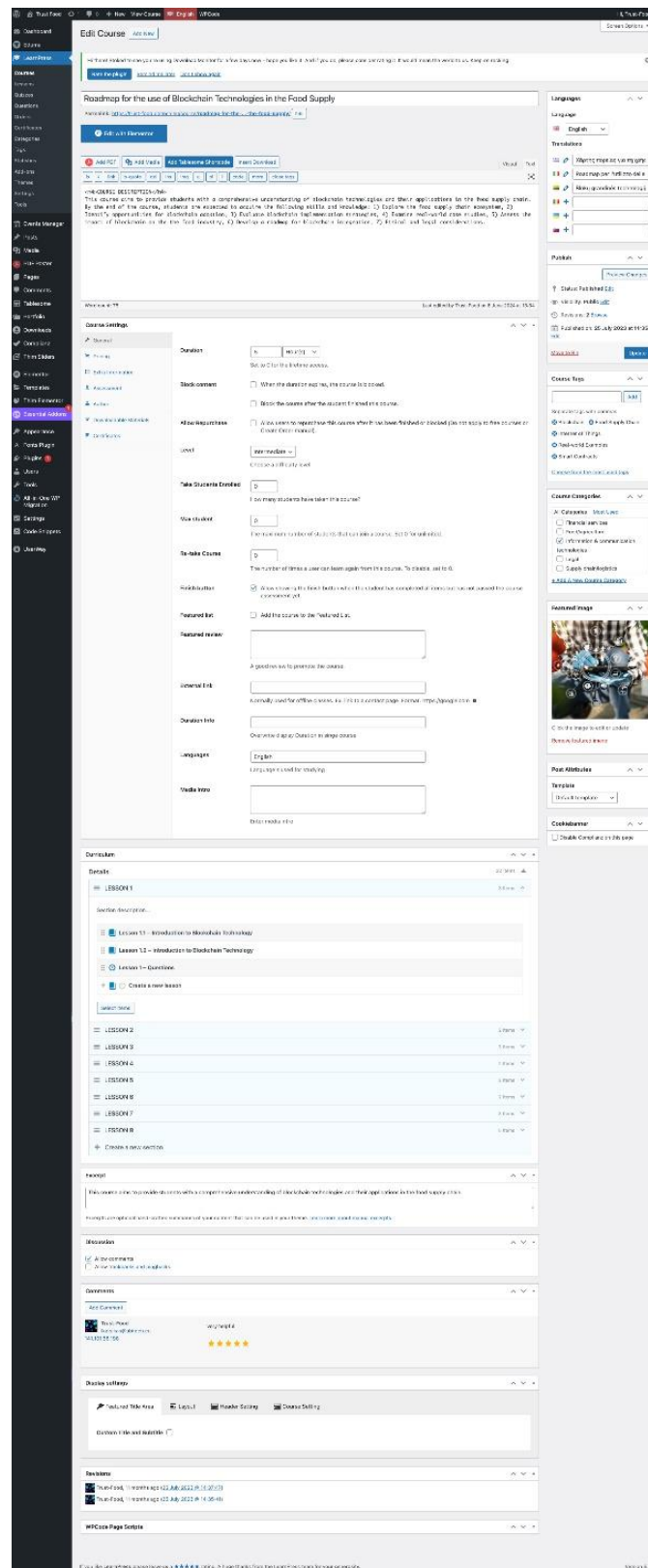
The design of the Content Management System (CMS) for the website application is built on a typical WordPress framework, incorporating the Eduma theme and LearnPress, which is a Learning Management System, to facilitate e-learning capabilities. Additionally, Elementor builder, Polylang for translations and various other plugins have been integrated to enhance the website's functionality and user experience. These tools collectively support the seamless management and delivery of course content, user authentication, enrolment processes, and certificate issuance. You may view some indicative key pages and functions in the following images.



Picture 26 : 3.1.2.1 Website CMS – Login



Picture 27 : 3.1.2.2 Website CMS – Courses table view



The screenshot displays the 'Edit Course' interface in the Trust Food CMS. The main content area is titled 'Roadmap for the use of Blockchain Technologies in the Food Supply'. The interface is divided into several sections:

- Course Settings:** Includes fields for 'Duration' (set to 10), 'Block comment', 'Add requirements', 'Unit' (set to 'new module'), 'Take Students Enrolled' (set to 0), 'View student', 'To take Course', 'Hold student', 'Featured list', 'Featured image', 'General title', 'Duration info', 'Languages' (set to 'English'), and 'Video info'.
- Course Topics:** A list of topics including 'Blockchain', 'Food Safety', 'Food Quality', 'Food Security', 'Food Sustainability', 'Food Traceability', 'Food Security', 'Food Safety', 'Food Quality', 'Food Security', 'Food Sustainability', 'Food Traceability', 'Food Security', 'Food Safety', 'Food Quality', 'Food Security', 'Food Sustainability', 'Food Traceability'.
- Course Modules:** A list of modules including 'Lesson 1 - Introduction to Blockchain Technology', 'Lesson 2 - Introduction to Blockchain Technology', 'Lesson 3 - Introduction to Blockchain Technology', 'Lesson 4 - Introduction to Blockchain Technology', 'Lesson 5 - Introduction to Blockchain Technology', 'Lesson 6 - Introduction to Blockchain Technology', 'Lesson 7 - Introduction to Blockchain Technology', 'Lesson 8 - Introduction to Blockchain Technology'.
- Course Description:** A text area containing the course description.
- Course Objectives:** A list of objectives including 'Understand the importance of blockchain technology in the food supply chain', 'Identify the key players in the food supply chain', 'Analyze the challenges and opportunities of blockchain technology in the food supply chain', 'Develop a business plan for a blockchain-based food supply chain', 'Implement a blockchain-based food supply chain', 'Evaluate the impact of blockchain technology on the food supply chain'.
- Course Settings (Bottom):** Includes fields for 'Featured Title Area', 'Unit', 'Module', 'Course Title', 'Course Description', 'Course Objectives', 'Course Modules', 'Course Topics', 'Course Modules', 'Course Topics', 'Course Modules', 'Course Topics'.

Picture 28 : 3.1.2.3 Website CMS – Course Edit page

Trust Food

0

New

English

WPCode

Hi, Trust-Food

Dashboard

Eduma

LearnPress

Courses

Lessons

Quizzes

Questions

Orders

Certificates

Categories

Tags

Statistics

Add-ons

Themes

Settings

Tools

Events Manager

Posts

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PDF Poster

Pages

Comments

Tablesome

Portfolio

Lessons

Add New

Hi there! Stoked to see you're using Download Monitor for a few days now - hope you like it! And if you do, please consider rating it. It would mean the world to us. Keep on rocking!

Rate the plugin

Remind me later

Don't show again

All (238) | Mine (120) | Published (238) | Bin (6) | Unassigned (2) | No Preview (238)

Bulk actions

Apply

All dates

Filter

223 items

1 of 12

Title

Lesson 1.1 – A Holistic Approach to Food Supply Chain Integrity

Trust-Food

Blockchain and Traceability in relation to Food Supply Chain Integrity

Picture 29 : 3.1.2.4 Website CMS – Lessons table view

Trust Food | 1 | New | English | WPCode | Hi, Trust-Food

Dashboard | Eduma | LearnPress

Quizzes | New Quiz

Hi there! Stoked to see you're using Download Monitor for a few days now - hope you like it! And if you do, please consider rating it. It would mean the world to us. Keep on rocking!

[Rate the plugin](#) [Remind me later](#) [Don't show again](#)

All (152) | Mine (57) | Published (149) | Drafts (3) | Bin (2) | Unassigned (5)

Bulk actions All dates Search by user Search Quizzes

132 items 1 of 7

☐	Title	Author	Course	Questions	Date	+	+	+	+	+	+	+	+	+	+	+	+	+
☐	Lesson 4 – Questions	tfadmin	Climate Action, Energy transition and Blockchain in Food Supply chain	7	Published 2024/05/06 at 10:42	+	+	+	+	+	+	+	+	+	+	+	+	+
☐	Lesson 1 – Questions	Trust-Food	Introduction to Blockchain Technology and Digital Assets	3	Published 2024/03/19 at 10:48	+	+	+	+	+	+	+	+	+	+	+	+	+
☐	Lesson 1 – Questions	tfadmin	Basic Blockchain Skills	4	Published 2024/06/05 at 09:04	+	+	+	+	+	+	+	+	+	+	+	+	+
☐	Lesson 1 – Questions	tfadmin	Blockchain Adoption Strategies for Small and Medium-sized Enterprises in the Food Sector	3	Published 2024/05/31 at 09:46	+	+	+	+	+	+	+	+	+	+	+	+	+
☐	Lesson 1 – Questions	Trust-Food	Introduction to Blockchain in the Food Supply Chain: Building Trust and Ensuring Safety	4	Published 2024/03/27 at 13:20	+	+	+	+	+	+	+	+	+	+	+	+	+
☐	Lesson 1 – Questions	tfadmin	Blockchain platforms for the Food-Supply Chain	3	Published 2024/06/05 at 14:07	+	+	+	+	+	+	+	+	+	+	+	+	+

Picture 30 : 3.1.2.5 Website CMS – Quizzes table view

Edit Question
Add New

Screen Options

Hi there! Stoked to see you're using Download Monitor for a few days now - hope you like it! And if you do, please consider rating it. It would mean the world to us. Keep on rocking!

Rate the plugin
Remind me later
Don't show again

A blockchain is a sequence of data packages (blocks) in which the complete list of transaction records is kept. What is the :

Permalink: <https://trust-food.ubitech.eu/questions/a-blockchain-is-...he-genesis-block/>
Edit

Edit with Elementor

Add PDF
Add Media
Add Tablesome Shortcode
Insert Download

Visual
Text

b
i
link
b-quote
del
ins
img
ul
ol
li
code
more
close tags

Word count: 0
Last edited on 30 May 2024 at 13:50

Answer Options

Details
Single Choice

Answers	Correction
a. The first block in the chain	☒
b. The cryptographic hash that links one block to another	☐
c. The transaction details and timestamp of a block	☐

Add a new Answer

Question Settings

Points
1
Points for choosing the correct answer.

Hint
The instructions for the user to select the right answer. The text will be shown when users click the 'Hint' button.

Explanation
The explanation will be displayed when students click the "Check Answer" button.

Assigned
Blockchain and Traceability in relation to Food Supply Chain Integrity
View
Lesson 4 - Questions - View

Languages
Language
English
Translations

Publish
Preview Changes
Status: Published
Edit
Visibility: Public
Edit
Published on: 30 May 2024 at 13:50
Edit
Move to Bin
Update

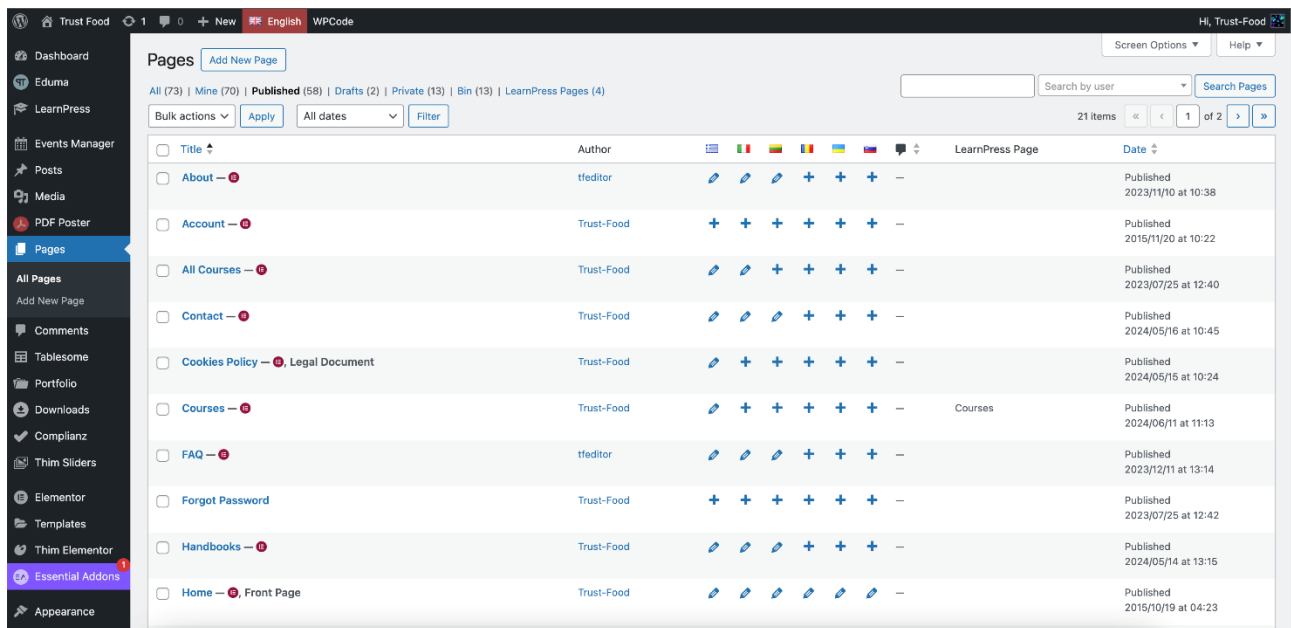
Question Tag
Add
Separate tags with commas
Choose from the most used tags

Post Attributes
Template
Default template

Cookiebanner
Disable Compianz on this page

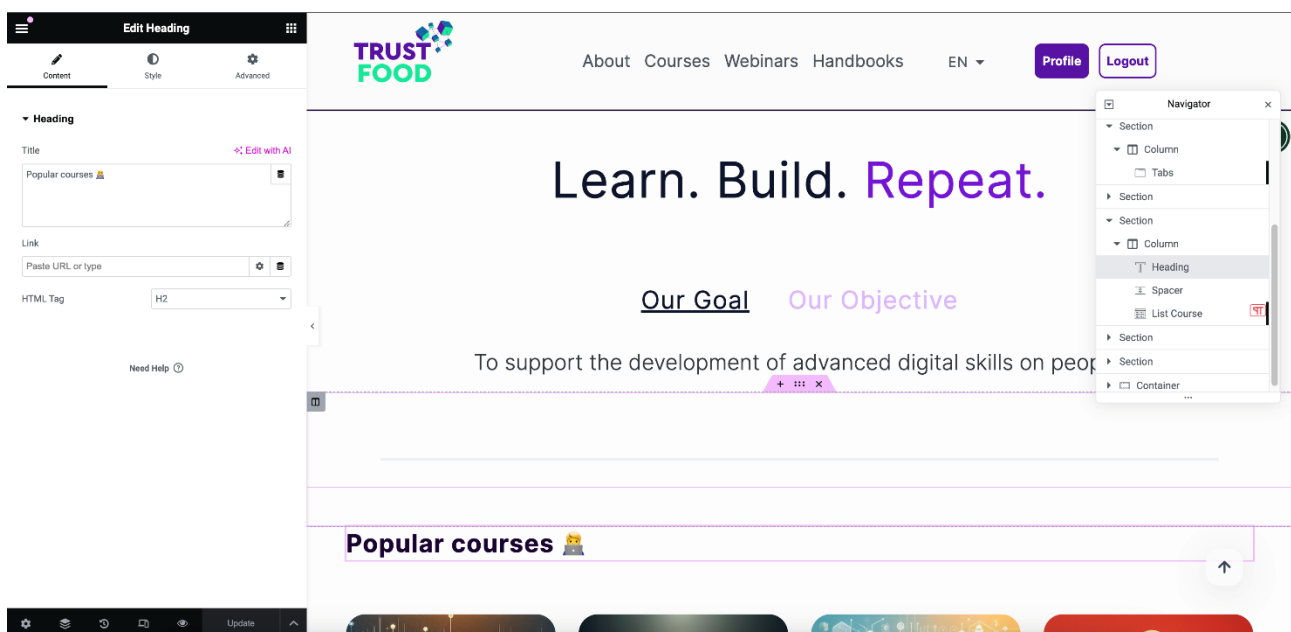
Picture 31 : 3.1.2.6 Website CMS – Question Edit page

Picture 32 : 3.1.2.7 Website CMS – Certificate Edit page

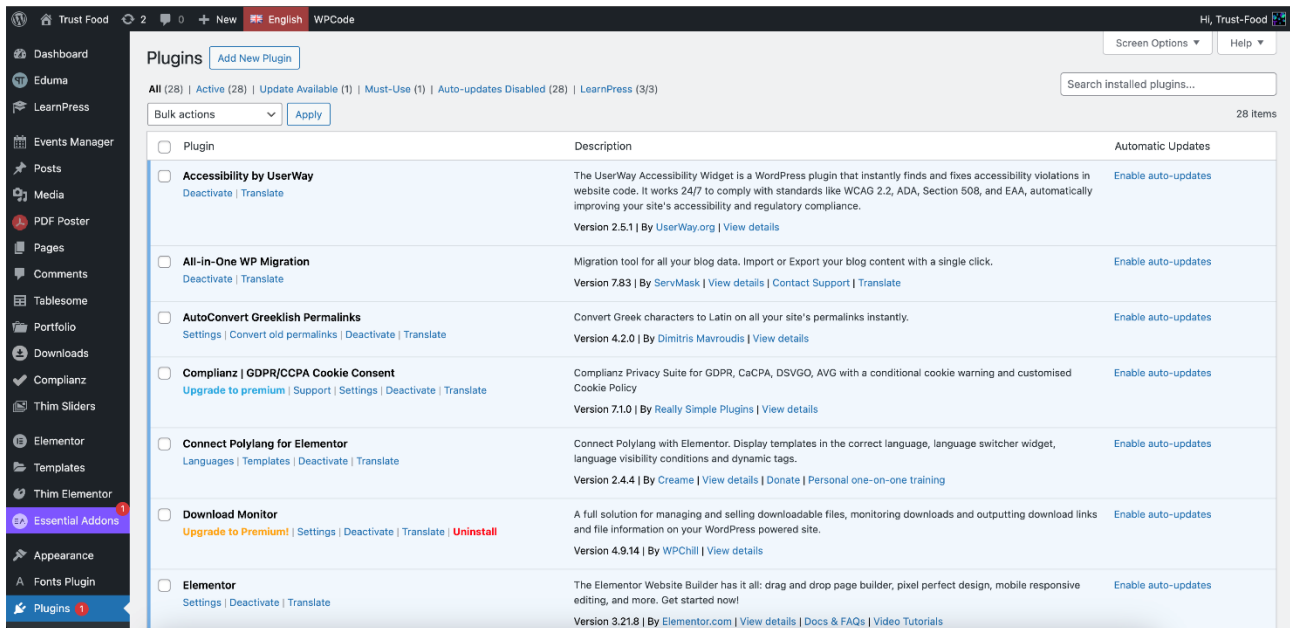


Title	Author	Status	LearnPress Page	Date
About	tfeditor	Published		Published 2023/11/10 at 10:38
Account	Trust-Food	Published		Published 2015/11/20 at 10:22
All Courses	Trust-Food	Published		Published 2023/07/25 at 12:40
Contact	Trust-Food	Published		Published 2024/05/16 at 10:45
Cookies Policy - Legal Document	Trust-Food	Published		Published 2024/05/15 at 10:24
Courses	Trust-Food	Published	Courses	Published 2024/06/11 at 11:13
FAQ	tfeditor	Published		Published 2023/12/11 at 13:14
Forgot Password	Trust-Food	Published		Published 2023/07/25 at 12:42
Handbooks	Trust-Food	Published		Published 2024/05/14 at 13:15
Home - Front Page	Trust-Food	Published		Published 2015/10/19 at 04:23

Picture 33 : 3.1.2.7 Website CMS – Pages table view



Picture 34 : 3.1.2.8 Website CMS – Page (Home) Edit with Elementor



Plugins [Add New Plugin](#)

All (28) | Active (28) | Update Available (1) | Must-Use (1) | Auto-updates Disabled (28) | LearnPress (3/3)

Bulk actions [Apply](#) 28 Items

Plugin	Description	Automatic Updates
☐ Accessibility by UserWay Deactivate Translate	The UserWay Accessibility Widget is a WordPress plugin that instantly finds and fixes accessibility violations in website code. It works 24/7 to comply with standards like WCAG 2.2, ADA, Section 508, and EAA, automatically improving your site's accessibility and regulatory compliance. Version 2.5.1 By UserWay.org View details	Enable auto-updates
☐ All-in-One WP Migration Deactivate Translate	Migration tool for all your blog data. Import or Export your blog content with a single click. Version 7.83 By ServMask View details Contact Support Translate	Enable auto-updates
☐ AutoConvert Greeklish Permalinks Settings Convert old permalinks Deactivate Translate	Convert Greek characters to Latin on all your site's permalinks instantly. Version 4.2.0 By Dimitris Mavroudis View details	Enable auto-updates
☐ Complianz GDPR/CCPA Cookie Consent Upgrade to premium Support Settings Deactivate Translate	Complianz Privacy Suite for GDPR, CaCPA, DSGVO, AVG with a conditional cookie warning and customised Cookie Policy Version 7.1.0 By Really Simple Plugins View details	Enable auto-updates
☐ Connect PolyLang for Elementor Languages Templates Deactivate Translate	Connect PolyLang with Elementor. Display templates in the correct language, language switcher widget, language visibility conditions and dynamic tags. Version 2.4.4 By Creame View details Donate Personal one-on-one training	Enable auto-updates
☐ Download Monitor Upgrade to Premium! Settings Deactivate Translate Uninstall	A full solution for managing and selling downloadable files, monitoring downloads and outputting download links and file information on your WordPress powered site. Version 4.9.14 By WPChill View details	Enable auto-updates
☐ Elementor Settings Deactivate Translate	The Elementor Website Builder has it all: drag and drop page builder, pixel perfect design, mobile responsive editing, and more. Get started now! Version 3.21.8 By Elementor.com View details Docs & FAQs Video Tutorials	Enable auto-updates

Picture 35 : 3.1.2.9 Website CMS – Plugins page

3.2 Mobile Application Design

3.2.1 Mobile app

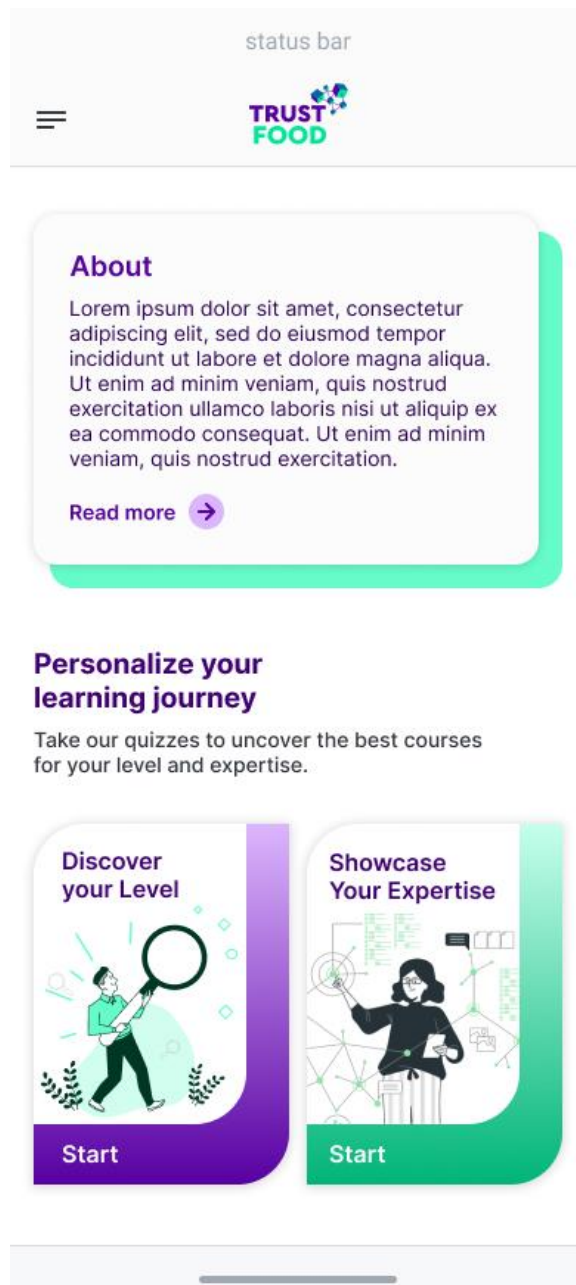
The mobile app's core functionality includes two distinct types of quizzes aimed at assessing the user's knowledge of the Food Supply Chain. The first quiz type evaluates the user's knowledge level, categorized into beginner, intermediate, and expert. The second quiz type focuses on specific categories such as Information & Communication Technologies, Supply Chain/Logistics, Financial Services, Food/Agriculture, and Legal. Upon completing these quizzes, users will receive scores that guide them to recommended courses on the TRUST-FOOD website, tailored to their expertise level. Additionally, the app will feature an "About" screen to introduce its concept and goals, an FAQ page addressing frequent questions and providing a contact email, and a QR code scanning screen. This QR code scanner will link users to specific pages on the TRUST-FOOD website, as referenced in the project's informational leaflets and banners. Detailed information is provided in the following descriptions for each screen, accompanied by their corresponding images.

The first image labelled "Picture 36: 3.2.1.1 Mobile App - Splash Screen," depicts the splash screen of the application. This is the initial screen presented to the user as the app is opening and loading.



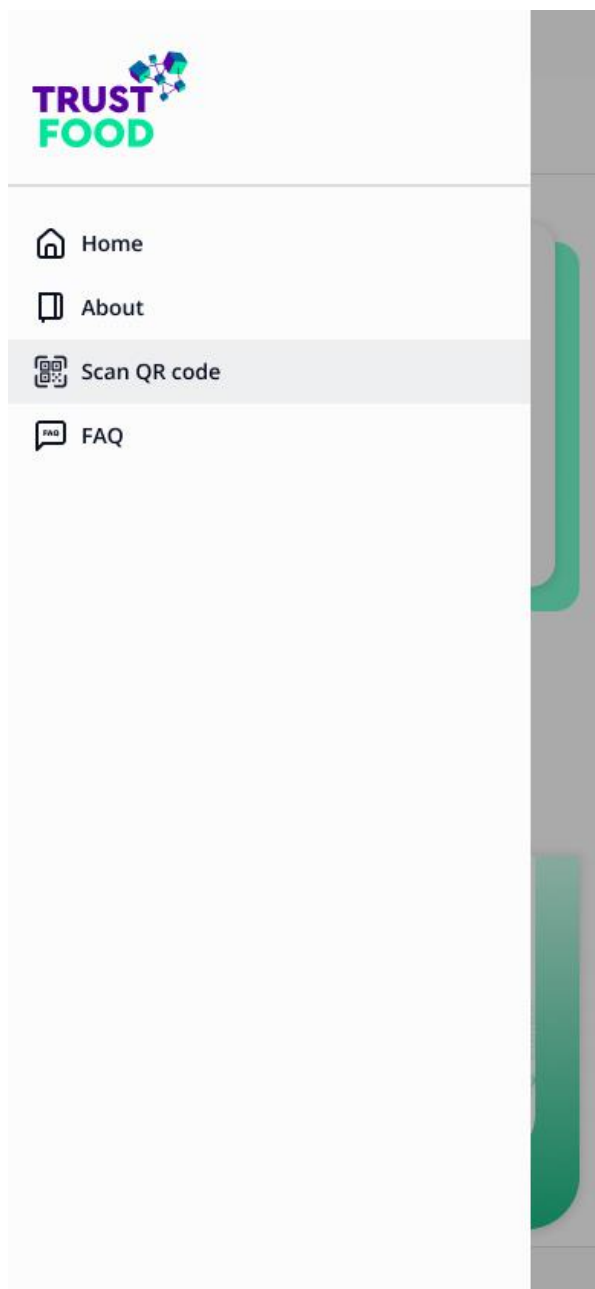
Picture 36 : 3.2.1.1 Mobile app - Splash screen

The image labelled "Picture 37: 3.2.1.2 Mobile App – Home Screen" illustrates the application's home screen. This screen features an excerpt from the About section, introducing the user to the app. Below this introduction, the app prompts the user to begin their personalized learning journey by offering two distinct types of quizzes: one based on the user's knowledge level and the other based on specific areas of expertise, as previously mentioned.



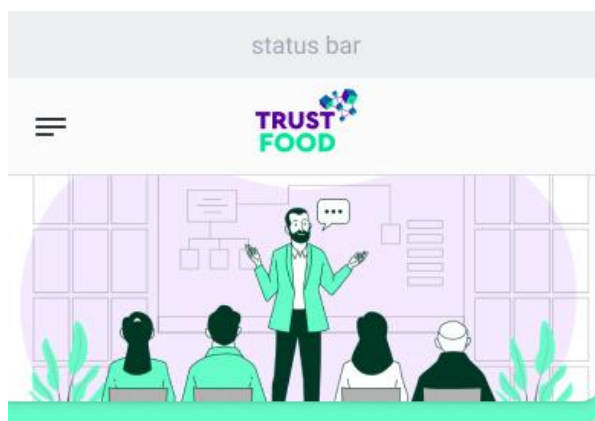
Picture 37 : 3.2.1.2 Mobile app – Home screen

The app's sidebar (Picture 38: 3.2.1.3 Mobile app – Sidebar/Menu), featuring menu items such as "Home," "About," "Scan QR code," and "FAQ," serves as a navigational hub for users to access key functionalities and information seamlessly. Each menu item provides direct access to its respective feature or content area within the app.



Picture 38 : 3.2.1.3 Mobile app – Sidebar/Menu

The about screen, identified as "Picture 39: 3.2.1.4 Mobile App – About Screen," offers users insight into the background and mission of TRUST-FOOD. Here, users can access concise information detailing the organization's values, goals, and objectives. Through this screen, TRUST-FOOD aims to foster transparency and establish a deeper connection with its audience by providing a clear understanding of its purpose and aspirations.



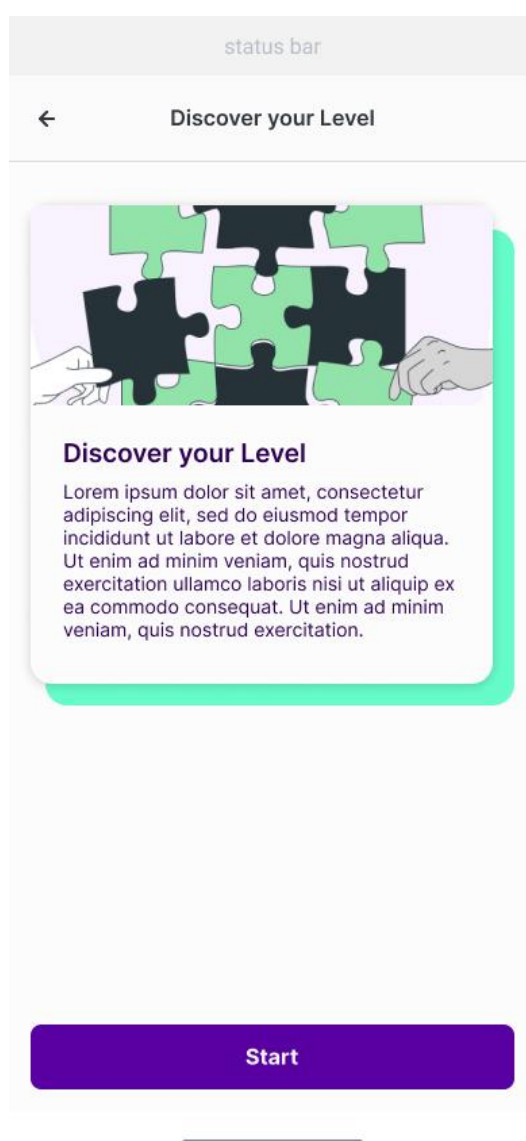
About us

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

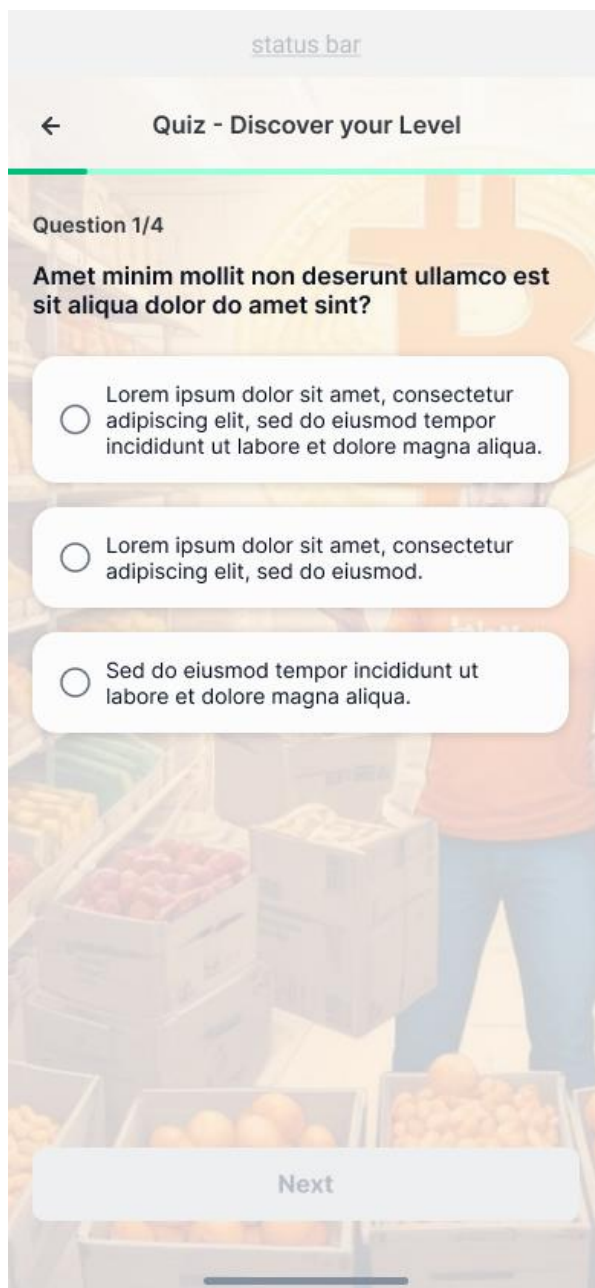
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Picture 39 : 3.2.1.4 Mobile app – About screen

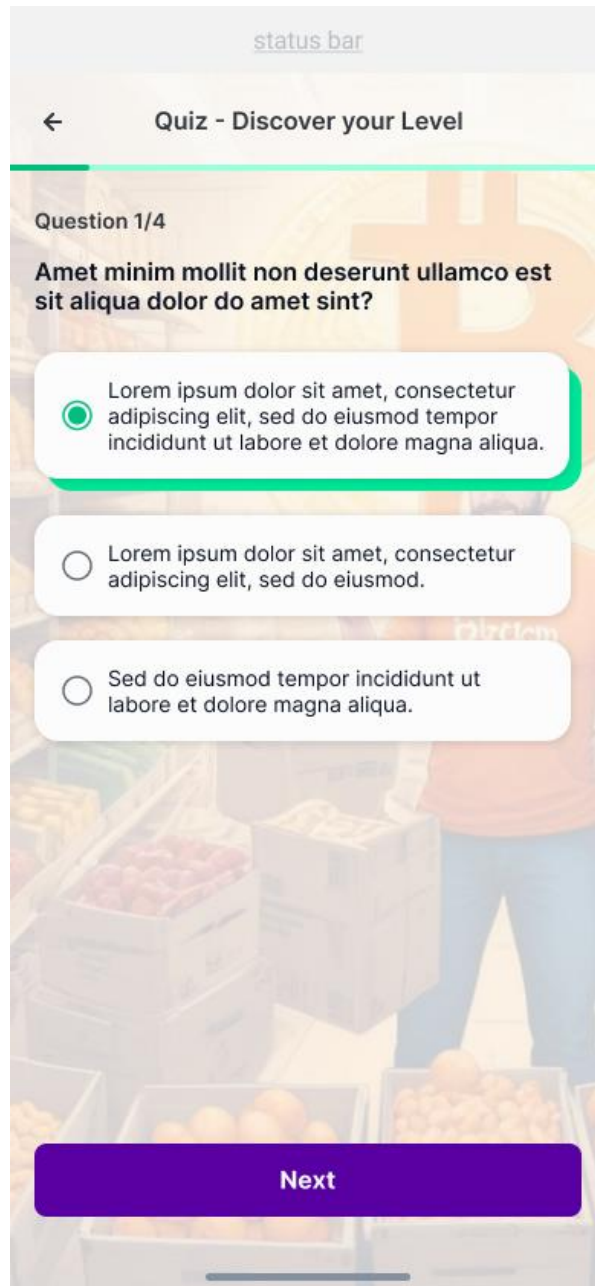
The sequence of images (Picture 40 - Picture 44) illustrates the user journey through the "Discover your Level" quiz feature in the application. It begins with the initial screen titled "Discover your Level," which introduces the quiz with a brief description and a "Start" button to initiate the process. The user is then guided through multiple-choice question screens, each displaying a question with several answer options. As the user selects an answer, indicated by the highlighted option, they can proceed by tapping the "Next" or "Complete" button. The journey concludes with a final screen that features a congratulatory animated image and a list of recommended courses based on the user's answers. The user can press the "Go to Courses" button, which leads to the website's [courses page](#) filtered by criteria according to the user's results.



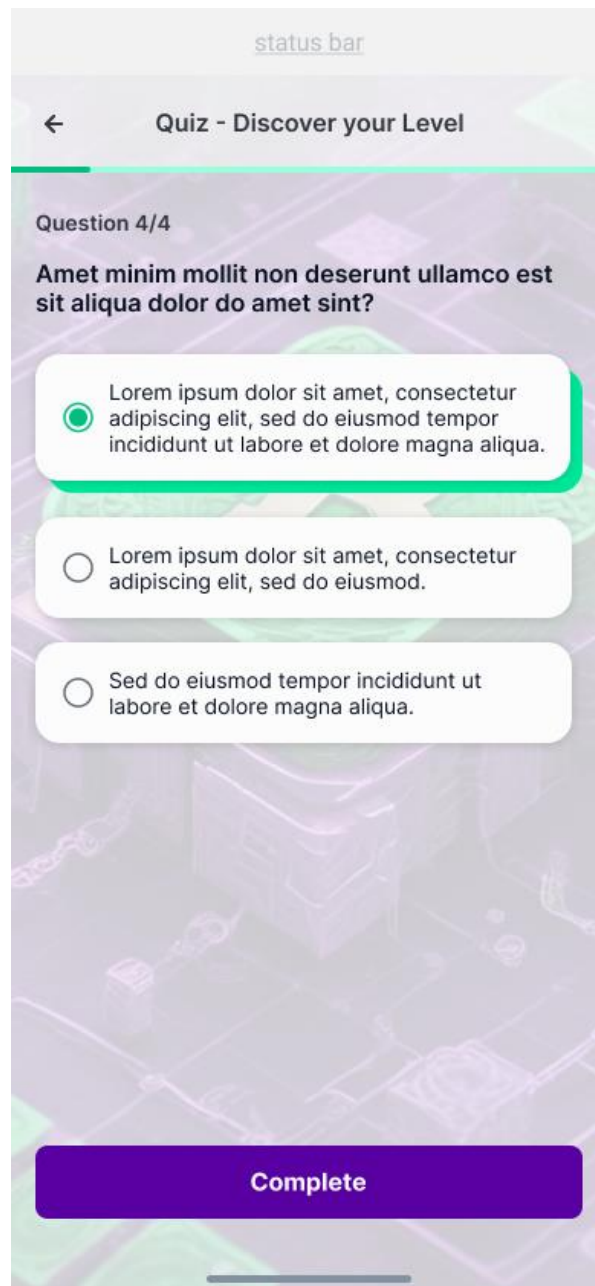
Picture 40 : 3.2.1.5 Mobile app – Quiz Start screen



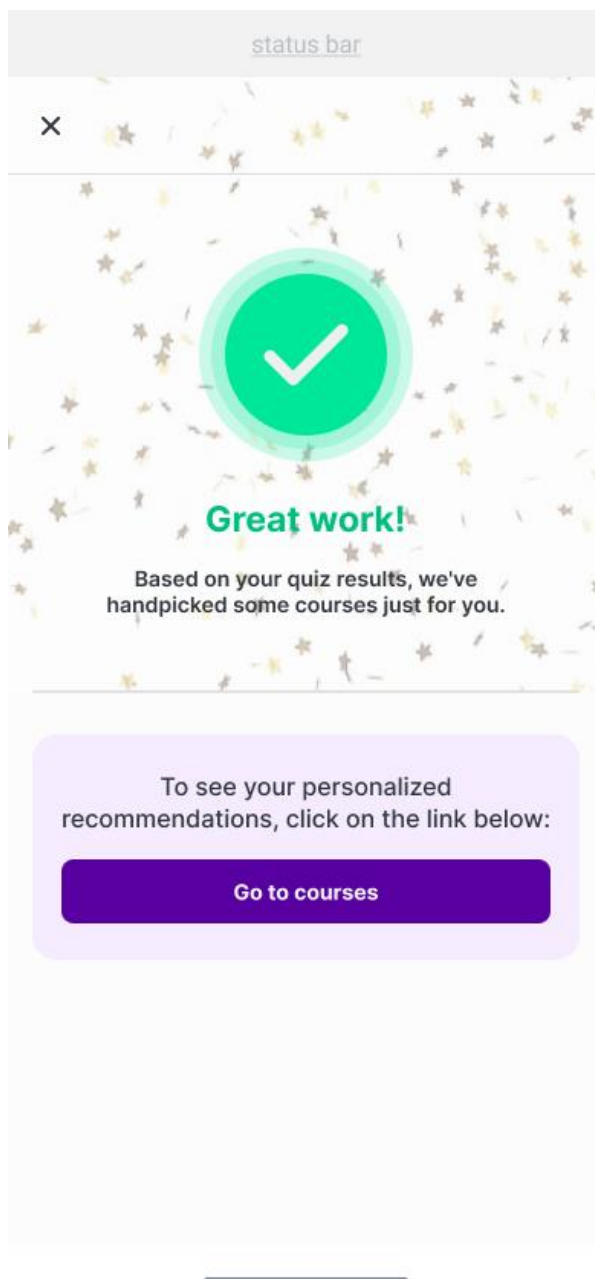
Picture 41 : 3.2.1.6 Mobile app – Quiz Question screen



Picture 42 : 3.2.1.7 Mobile app – Quiz Question & Answer screen

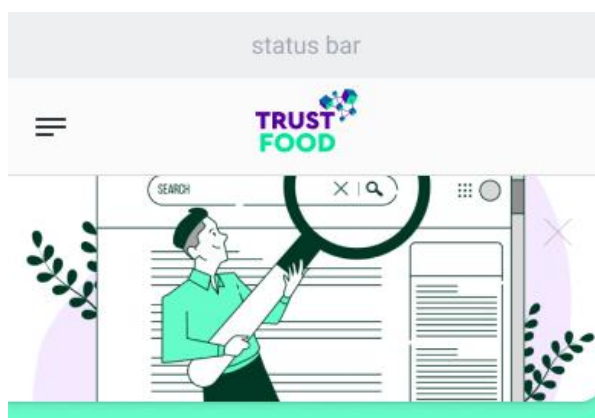


Picture 43 : 3.2.1.8 Mobile app – Quiz Complete screen



Picture 44 : 3.2.1.9 Mobile app – Quiz Question & Answer screen

The following image labelled as "Picture 45: 3.2.1.10 Mobile App – FAQ Screen" illustrates the application's FAQ screen. This screen provides a series of expandable sections containing answers to frequently asked questions. Each section is summarized by a heading, and when expanded, reveals additional text intended to address common inquiries and provide further clarification.



FAQ

Lorem ipsum dolor sit amet, consectetur adipiscing elit. ^

Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. v

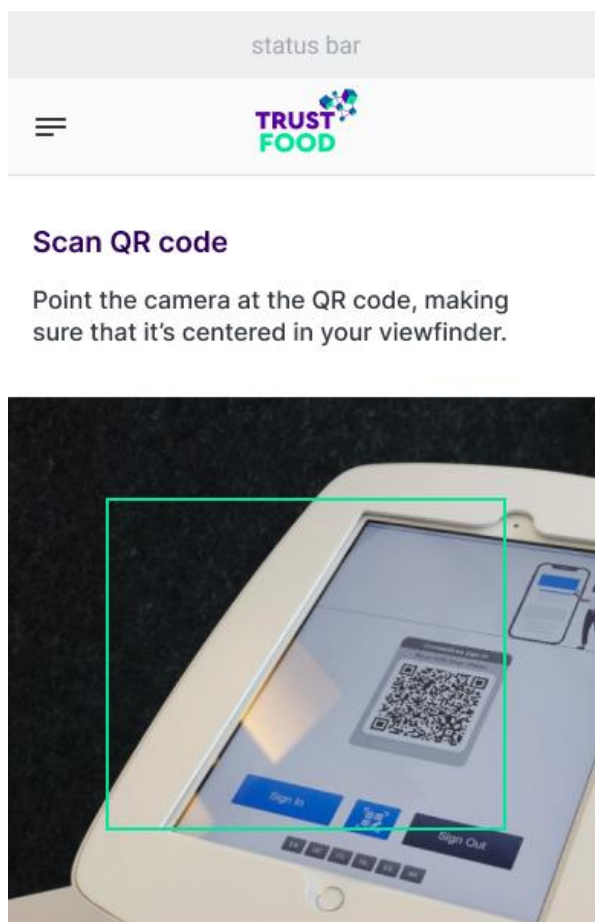
Lorem ipsum dolor sit amet, consectetur adipiscing elit. v

Lorem ipsum dolor sit amet, consectetur adipiscing elit. v

Picture 45 : 3.2.1.10 Mobile app – FAQ screen

The QR code screen, denoted as "Picture 46: 3.2.1.11 Mobile App – QR Code screen", serves as a gateway for users to interact seamlessly with TRUST-FOOD's printed materials. Users can utilize their device's camera to

scan QR codes found in leaflets, brochures, and banners associated with TRUST-FOOD. Upon scanning, users are promptly directed to the relevant page within the website, facilitating efficient access to additional information or resources aligned with their interests or inquiries.

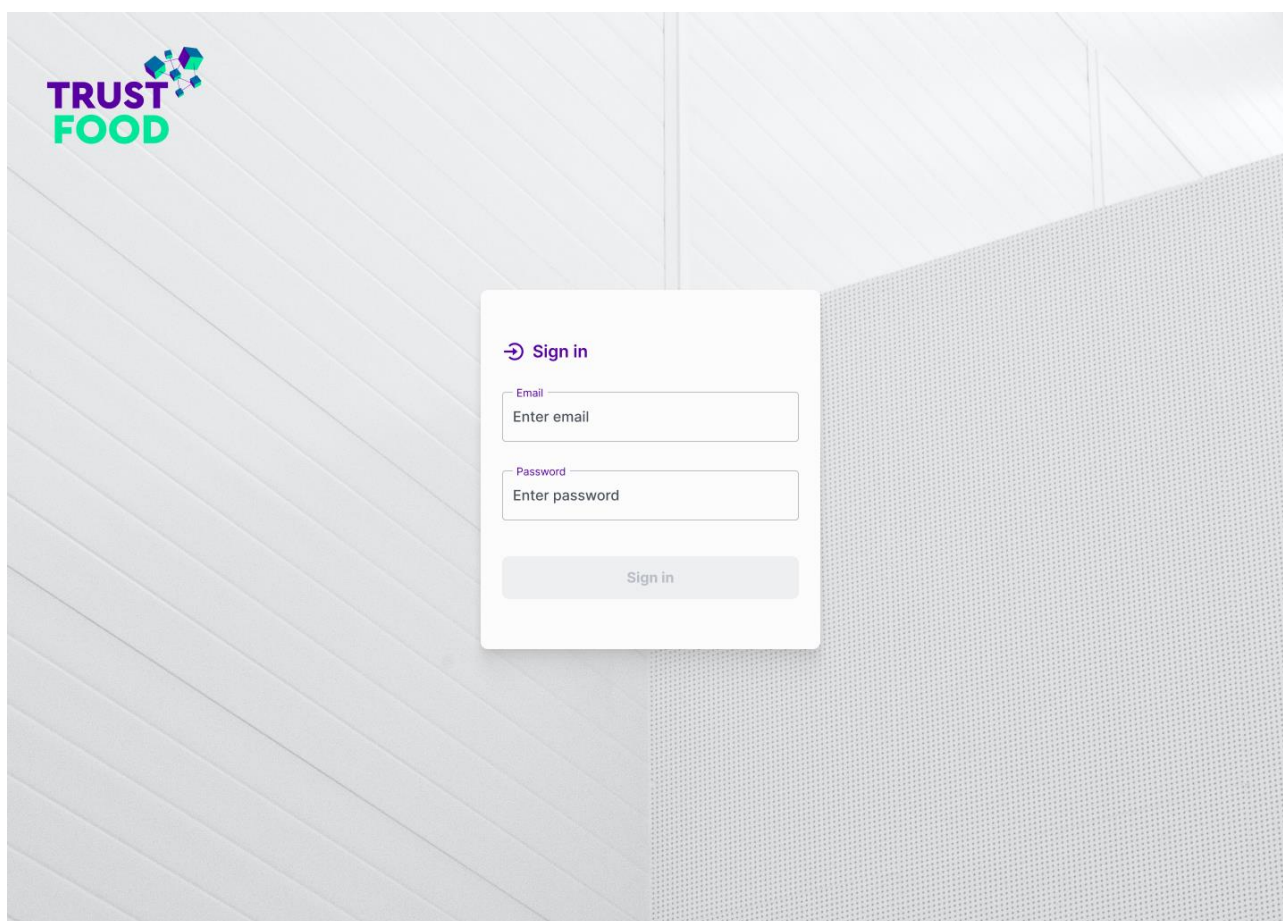


Picture 46 : 3.2.1.11 Mobile app – QR Code screen

3.2.2 Mobile app CMS

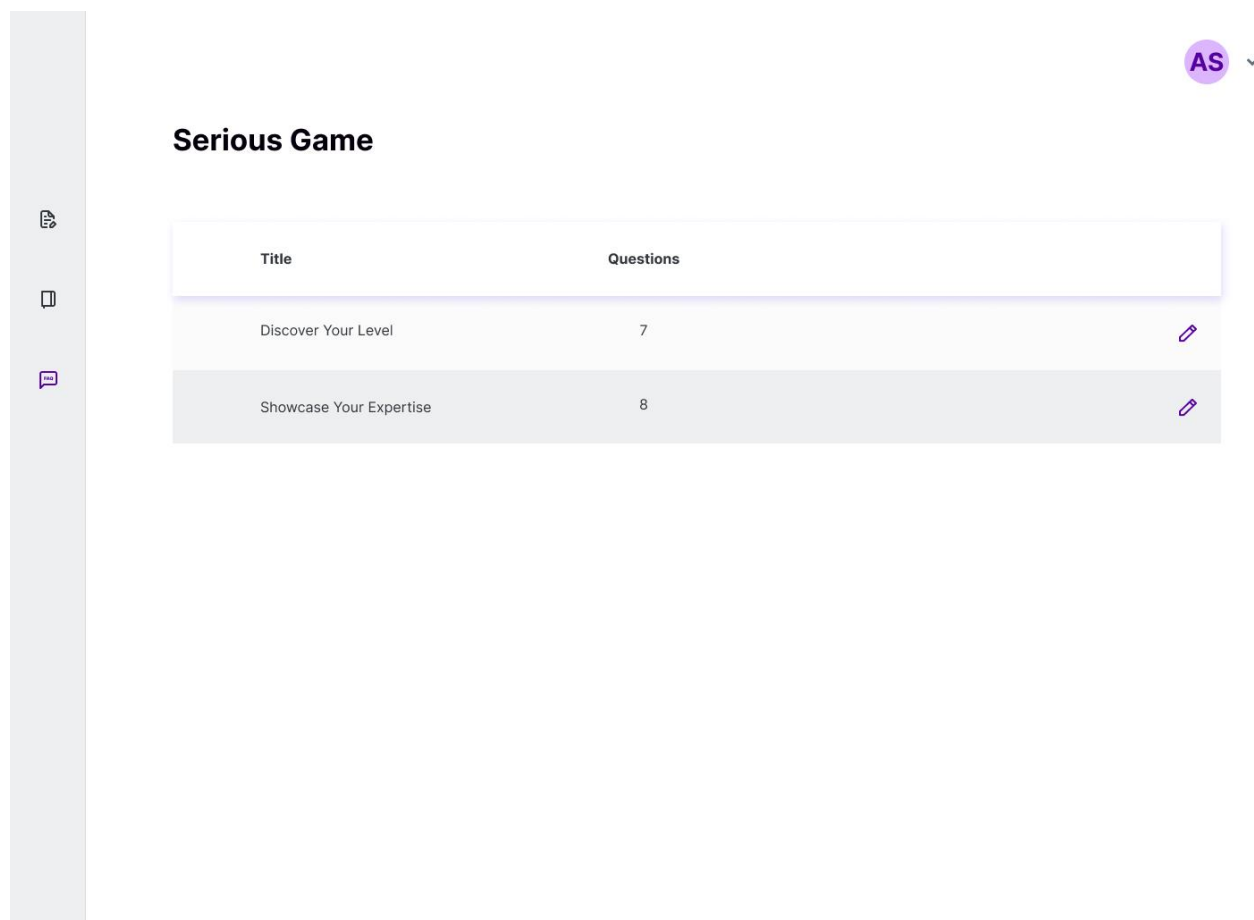
The content management system (CMS) of the mobile app is designed to provide administrators with comprehensive tools for managing the app's content and user interactions. Detailed information on each back-office screen is provided in the following descriptions, accompanied by their corresponding images.

The CMS begins with a login page, ensuring that only authenticated admin users can access the mobile app's content management system.



Picture 47 : 3.2.2.1 Mobile app CMS – Login

The CMS includes a "Serious Game Edit" interface, where administrators can view and edit the quizzes.



Picture 48 : 3.2.2.1 Mobile app CMS – Serious Games Table View

This interface features two primary tabs: "Questions" and "Results." In the "Questions" tab, administrators can enter quiz questions, offer multiple answer options, designate the correct answers, assign points, and attach background photos to enhance the quiz experience.

Serious Game

Discover Your Level

Questions Results

Question 1

Question

Enter question

Answers	Correction
First option	☒
Second option	☐
Third option	☐

Add more

Points

Select Points

Background photo

Attach photo

[Max: 100MB - Ratio: 3x4]

Add more

Back

Save

Picture 49 : 3.2.2.2 Mobile app CMS – Serious Games Edit | Questions Tab

The "Results" tab allows for the configuration of result criteria based on quiz scores, linking specific resources or further information to users based on their performance.

AS

Serious Game

Discover Your Level

Questions
Results

Result per score

Percentage
20

Link
www.loreipsum.dolar

Percentage
Select percentage

Link
Enter question

Percentage
Select percentage

Link
Enter question

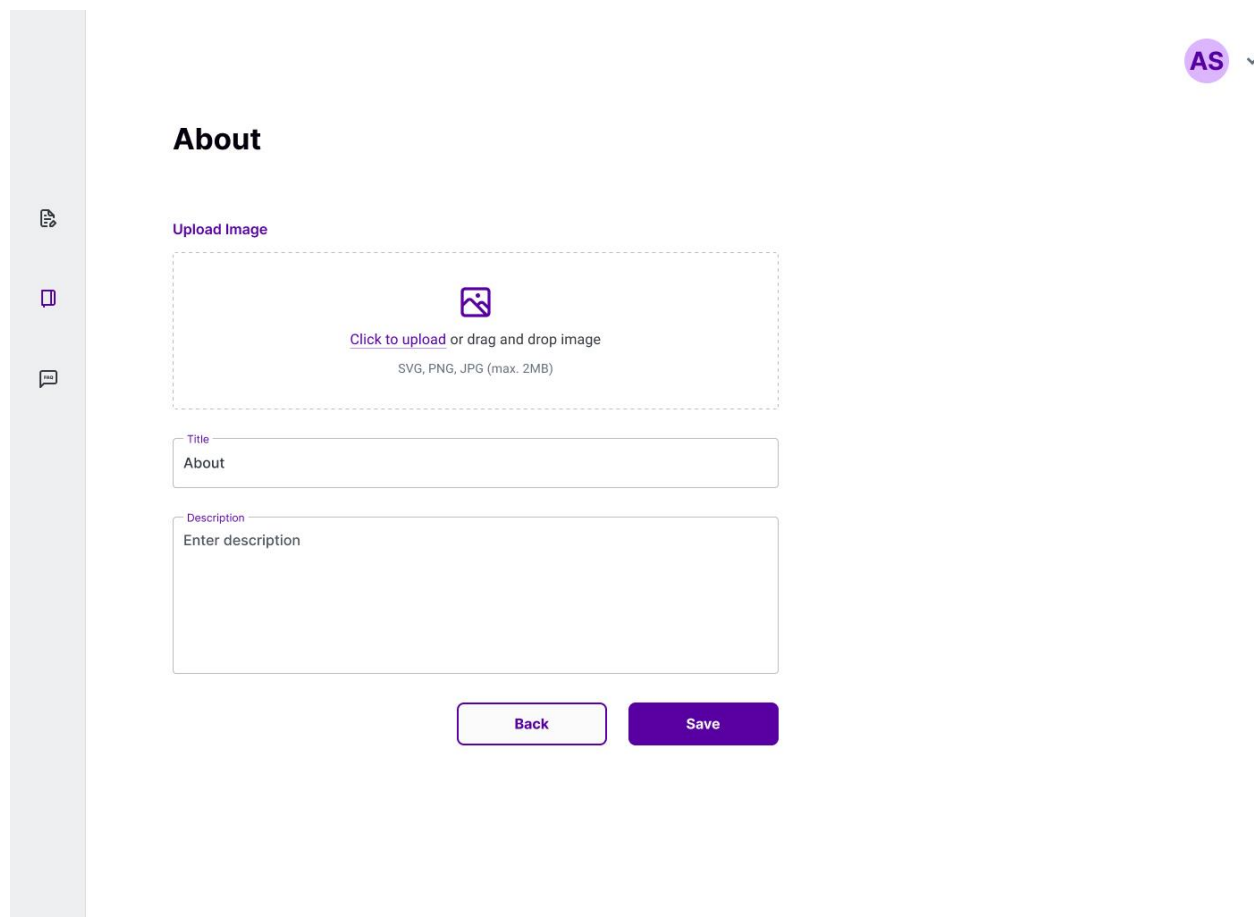
Add more

Back

Save

Picture 50 : 3.2.2.3 Mobile app CMS – Serious Games Edit | Results Tab

Additionally, the back office includes editable sections for the app's "About" page, FAQ, and user settings. The "About" page editor allows administrators to update the content that introduces the app's concept and goals.



About

Upload Image

Click to upload or drag and drop image
SVG, PNG, JPG (max. 2MB)

Title
About

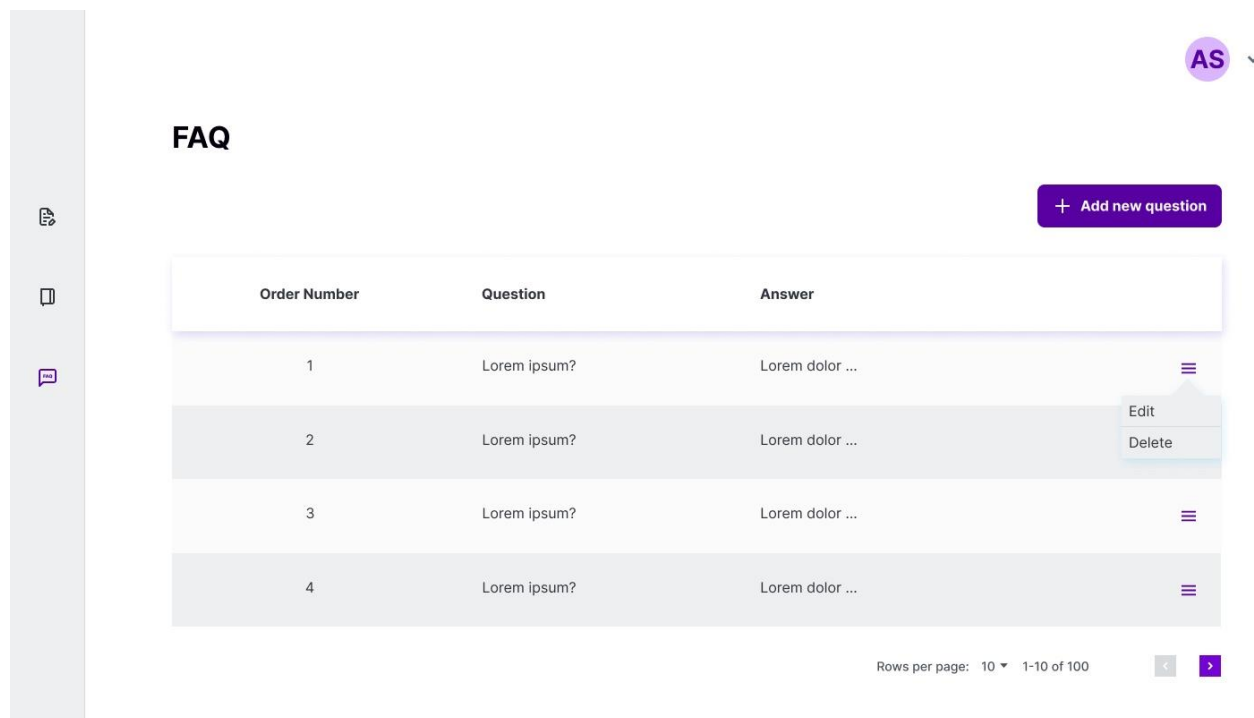
Description
Enter description

Back Save

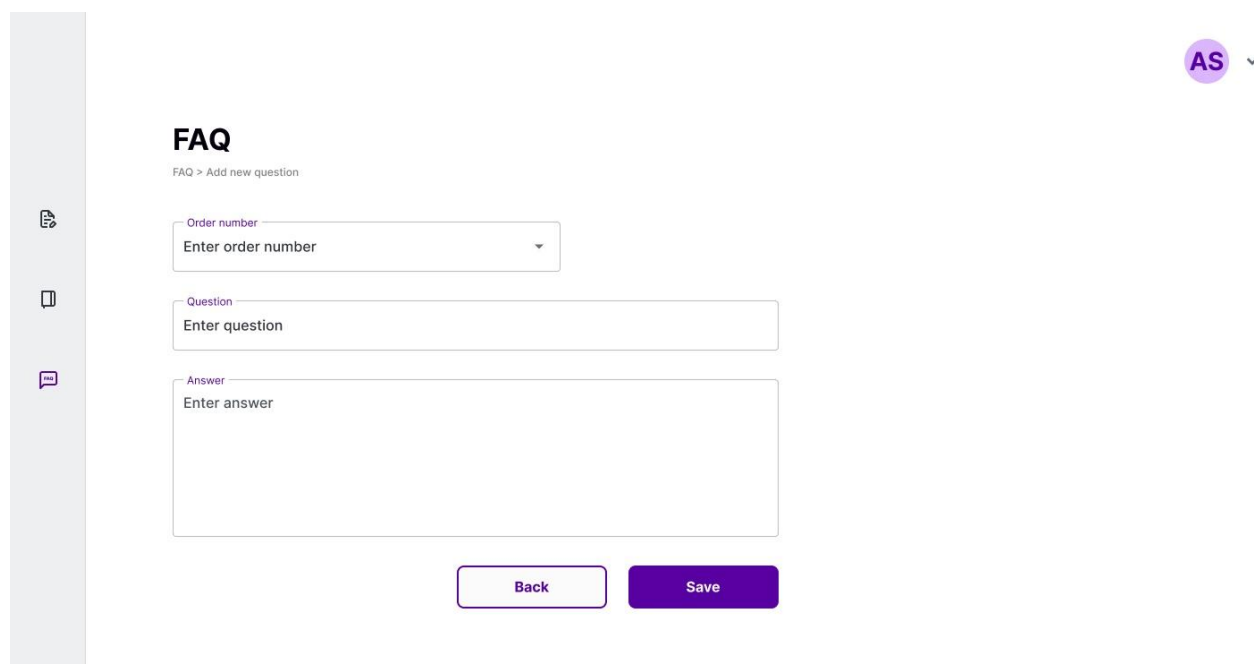
AS

Picture 51: 3.2.2.4 Mobile app CMS – About Edit

The FAQ pages display all questions and answers in a table format, with options to edit or delete each entry and an "Add New" button for creating new entries. Administrators can also set the order number to arrange the sequence of questions in the mobile app.

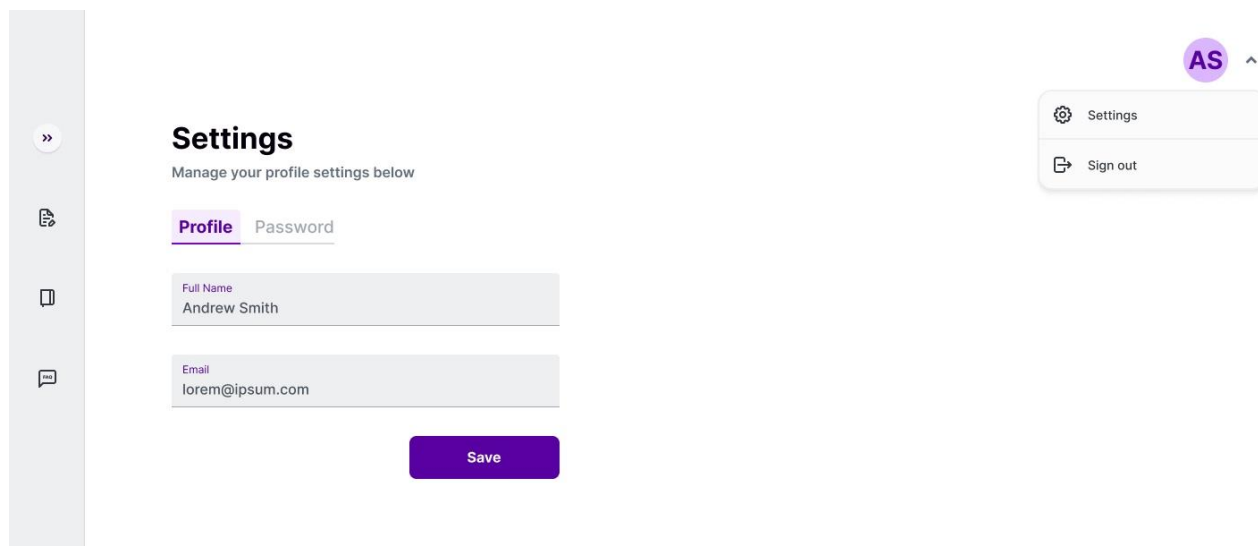


Picture 52 : 3.2.2.5 Mobile app CMS – FAQ Table View



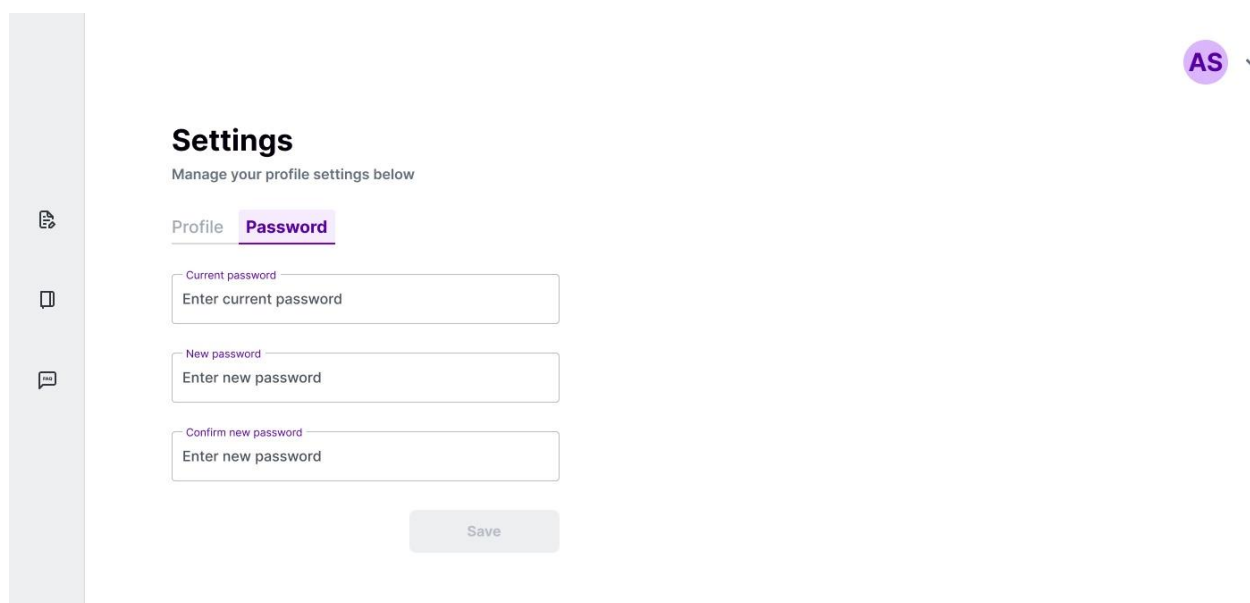
Picture 53 : 3.2.2.6 Mobile app CMS – FAQ Add New

The user settings page offers fields for users to update their full name, email address, and password, ensuring their personal information is current and secure.



The screenshot shows the 'Settings' page in a mobile app. On the left is a vertical sidebar with three icons: a double arrow, a document, and a speech bubble. The main content area is titled 'Settings' with the subtitle 'Manage your profile settings below'. There are two tabs: 'Profile' (selected) and 'Password'. Under the 'Profile' tab, there are two input fields: 'Full Name' with the value 'Andrew Smith' and 'Email' with the value 'lorem@ipsum.com'. A purple 'Save' button is at the bottom. On the right, there is a user profile card with a purple circle containing 'AS' and a dropdown arrow. Below it are two buttons: 'Settings' (with a gear icon) and 'Sign out' (with a door icon).

Picture 54: 3.2.2.7 Mobile app CMS – Settings | Profile Tab



The screenshot shows the 'Settings' page in a mobile app, specifically the 'Password' tab. The sidebar and 'Settings' header are the same as in the previous image. The 'Password' tab is selected, showing three input fields: 'Current password' (placeholder: 'Enter current password'), 'New password' (placeholder: 'Enter new password'), and 'Confirm new password' (placeholder: 'Enter new password'). A grey 'Save' button is at the bottom. On the right, the user profile card shows 'AS' with a dropdown arrow.

Picture 55 : 3.2.2.7 Mobile app CMS – Settings | Password Tab

4. Addressed Requirements.

In this section, the Functional and Non-Functional Requirements, that has been addressed, will be mentioned, and explained.

4.1 Functional Requirements

The Functional Requirements specify the desired functionality of the software and serve as the foundation for its design and development process, ensuring that the final product meets user expectations. The Functional Requirements of the platform have been selected and defined through T4.1 and Deliverable 4.1.

Functional Requirements	Addressed	Not addressed
The ideal time for every class/lesson in each course is maximum 30 min.	X	
Every course supports videos and presentations of the course content.	X	
Suggested courses, depending on the chosen language.	X	
Suggested courses depending on the expertise.	X	
The video of each lesson/ chapter does not have to restart if the trainee stops it in the middle of the chapter/lesson.	X	
Each course has subtitles.		X
Download certificates, course registration sheets, and evaluations.	X	
The platform/ system supports recorded webinars.	X	
The platform/system allows changes to user information.	X	
The trainees and trainers are able to access the webpage and its features via a mobile friendly browser interface.	X	
The platform/ system enables users to download content in PDF format from a computer or a mobile service.	X	
The platform/system send confirmation and status emails to the users.	X	

Table 1 : Functional Requirements

As demonstrated in the table above, most of the functional requirements have been addressed and incorporated into the development of the Website Application.

The sole functional requirement that remains unfulfilled is the one referred to as "Each course has subtitles." This requirement was overlooked since every course is already available in seven languages (English, Greek, Italian, Lithuanian, Slovenian, Romanian, and Ukrainian), including the front office of the Website Application.

4.2 Non - Functional Requirements

Non-functional requirements (NFRs) are the criteria that specify the operation and attributes of a system, rather than its specific behaviours or functions. These requirements define the quality attributes, performance benchmarks, and constraints that the system must adhere to, ensuring its overall efficiency, reliability, and user satisfaction. The Non - Functional Requirements of the platform have been selected and defined through T4.1 and Deliverable 4.1, as described in the table below.

Category	Non-Functional Requirements	Addressed	Not addressed
Performance Efficiency	The system must accept batch uploads of files.	X	
	Response mean time: The response time of the site is highly related to the available deployment resources (CPU, ram, and disc). Using commodity hardware, the average response time of a site served from a WordPress infrastructure will be of some seconds.	X	
	The system must support 10 users at the same time (concurrent users).	X	
Reliability	The system must track and display student information	X	
Usability	The system will support Mobility (e.g., phones and tablets).	X	
	The system will support all current versions and any previously supported versions of	X	

	modern web browsers including Firefox, Google Chrome, and Safari.		
	The system will have unique course numbers.	X	
	The system will relate a set of courses that belong together in a series with a unique identifier.		X
	The system will accept training material in Adobe Acrobat Reader (PDF).	X	
	The system will accept standard video file formats (mp4, m4v, webm, ogv) and embed video links.	X	
	The system will accept standard image formats (.jpg, .jpeg, .png, .gif, .ico).	X	
Security	The system will provide configurable role-based authentication.	X	
	Website administrator URL will be custom and only shared with admin and trainer roles.	X	
Maintainability	Planned system downtime must be scheduled at least 24 hours in advance	X	
	Planned system updates, patches and support must occur without service disruption.	X	
Scalability	The system must be able to track interest in a course by the unique course numbers.	X	

Table 2 : Non - Functional Requirements

All non-functional requirements of the platform have been addressed, except for the requirement titled “The system will relate a set of courses that belong together in a series with a unique identifier.” This requirement was not applicable to the course structure, as there are no courses that belong to a series.

5. Conclusion

This deliverable presents a comprehensive documentation of the design principles adhered to for each subsystem, encompassing both high-level architectural and low-level detailed designs. By thoroughly detailing the methodologies and principles employed, this documentation ensures that all functional and nonfunctional requirements are meticulously addressed. The high-level architectural design section provides an overarching view of the system's structure, delineating the interactions between core components and the foundational technologies utilized.

The low-level detailed design section offers in-depth explanations of each subsystem, including detailed descriptions of structures, and specifications. This detailed information facilitates a deeper understanding of the implementation process and ensures that every aspect of the subsystems aligns precisely with the project's requirements.

In conclusion, this deliverable lays a robust foundation for the platform's success by thoroughly documenting the design principles governing the development of each subsystem, thereby ensuring that all functional and nonfunctional requirements are met to the highest standards.