

Development of FairDeal Platform

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Abstract: *FairDeal's digital marketing platform for artisan products is already online and awaiting craftsmen from Bulgaria and Romania. Any manufacturer of souvenirs, handicrafts, jewelry, culinary and other craft products can register and use the digital network for free at “<https://fairdeal.bg>”.*

The information system of digital shops was created under the project of Veliko Tarnovo Municipality and partners from Bulgaria and Romania. The platform is accessible to all interested parties and provides a direct link between manufacturers, craftsmen and customers.

Keywords: *Software; Platform; FairDeal; Commerce; Craft; Online Store*

Разработване на платформа FairDeal

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Резюме: *Платформата за дигитален маркетинг на занаятчийски продукти FairDeal вече функционира и очаква занаятчии от България и Румъния. Всеки производител на сувенири, ръкоделия, бижута, кулинарни и други занаятчийски продукти, може да се регистрира и ползва дигиталната мрежа от магазини напълно безплатно на адрес „<https://fairdeal.bg>“.*

Информационната система от дигитални магазини е създадена по проект на Община Велико Търново и партньори от България и Румъния. Платформата е достъпна за всички заинтересовани лица и дава възможност за директна връзка между производители, занаятчии и клиенти.

Ключови думи: *софтуер; платформа; FairDeal; търговия; занаят; онлайн магазин*

Introduction

The FairDeal project addresses joint development of a practical solution for online trade in local craft products in order to create a sustainable and efficient labour market in cross-border region. Based on the potential of e-commerce shortening supply-user chain, the project aims to provide a fair deal for both suppliers and end-users.

FairDeal e-commerce platform is planned as a cyber-mediator with virtual stores, where interested small and medium-sized businesses, craftsmen and traders across the border area will be able to freely trade in craft products and services. By

building traditional activities with information technologies, the project changes conventional patterns of trade, increasing efficiency in trade relations and creating new jobs and improving the community welfare.

Concepts and Project Approaches

The presented software solution targets at changing traditional business model and improving labor market integration in cross-border region, expanding employment opportunities and work at home, as well as contribution to better integration into labor market of vulnerable and minority groups. Target groups are local farmers and craftsmen seeking an opportunity of offering their products at international level; NGOs in crafts sector; unemployed people looking for opportunities of changing their job; vulnerable groups of the population from cross-border regions, seeking work at home; people looking for a job with flexible work schedules; local authorities and communities searching mechanisms of stimulating youth employment, labor mobility, better inclusion of disadvantaged people in labor market; helping long-term unemployed of returning to work surrounding.

An integrated e-commerce platform is developed, tested and deployed as a virtual shop solution where interested small and medium-sized enterprises, craftsmen in cross-border region can digitally offer their products and services. The software platform presents an opportunity to manage a digital portfolio and a variety of payment options for selected products, facilitating both buyers and sellers (Kussmaul, 2008). The software is accessible to all stakeholders with an option of proven commercial portals integration. In-depth analysis of current market state for handicraft products has also been prepared. Interaction between traditional forms of promotion and marketing solutions aims of highlighting entrepreneurship and a new direction in increasing efficiency of small and medium regional businesses (Lockhart, 2015).

Development of FairDeal Platform

The fully-functional software solution located at <https://fairdeal.bg>, provides various functionalities and modules, ease of navigation and experience to end-users and businesses (Fig. 1).

The user interface functionalities of the platform are built as an independent, responsive design from the internet browsers and operating systems/devices used.

The information system is implemented with standard technologies, supports communication standards, ensuring compatibility with future developments. Business processes and services are independently designed for upgrading, expansion and technical support.

SOA and MVC architectural and design patterns are applied as principles of an object-oriented approach to software development, and application programming interfaces support version attribute.

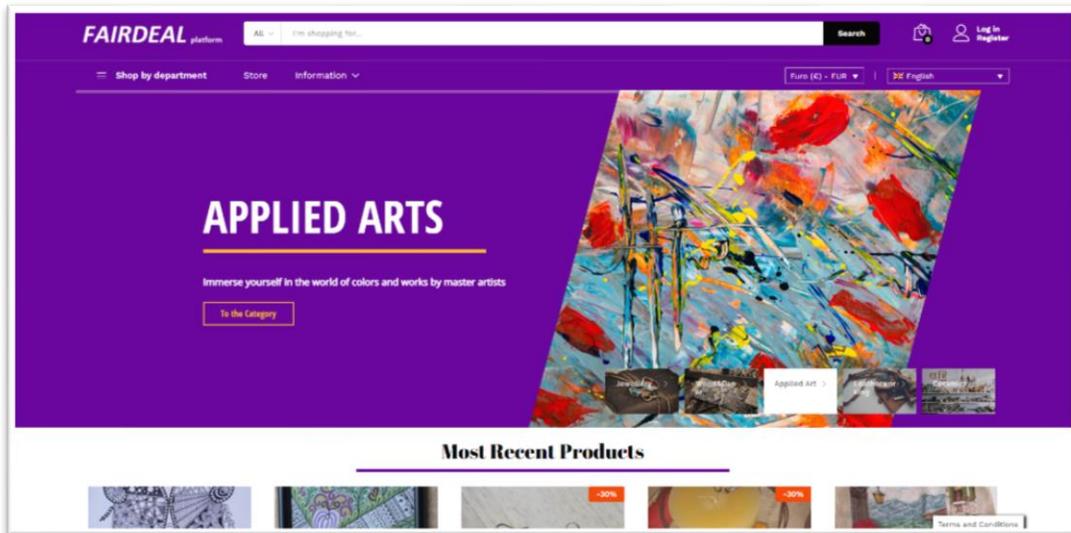


Figure 1. FairDeal software platform

The core base for building the software solution includes practices and methods for conducting e-commerce, using PHP frameworks, and built mainly using PHP, JavaScript, HTML and CSS, basic programming languages for frontend and backend development, privacy and security protocols. Editors are provided for visual, textual and fully graphical processing of pages and publications. Implemented SEO optimization, search engine discoverability, optimized images and permalinks, smooth navigation, sitemap generation functionality are also established.

System Administration Module

An administrative interface implements system management including user control, suppliers, products and orders. These processes provide both functional monitoring of systems performance, important indicators and reports, as well as proper administration to processes and functionalities. It also provides ability to generate reports on platform metrics, including order data, products, payments, and other major objects based on selected parameters. References are also provided in a format allowing subsequent analysis (Dunlap, 2006).

User account management backend module is established through which user profiles can be created and changed. It includes fields for system profiles, demanded data and requirements for structure, length, complexity and additional specific information, depending on the type of user: for customers - delivery address for purchase, address and billing details; for suppliers - basic requisites for each trader, address of management and correspondence, VAT registration, invoice data; bank account details and other payment information; addresses from which relevant

purchase can be obtained. User data and profile information provide full integration with all other modules relevant to user information for the purpose of data integrity and consistency. The profile also has order status, sales history, products and stocks.

Supplier management module provides an opportunity for supplier configuring option to make sales and payments according to custom requirements. Opportunities are accustomed to all platform modules, in order to achieve integrity of data and configuration, ensuring the possibility of parallel operation for modules and systems (Macaulay, 2017).

Sales module delivers functionality with various capabilities related the process of product and trading services.

Search module provides capabilities such as simple search, where users have the ability to seek for a particular resource by keyword or word combination and advanced search for querying various options available including platform information, product name, vendor, description, various parameters.

Message management and notification management module presents functionalities for messages, as well as notifications and feedback, system alerts, communication between buyers and customers, sellers and suppliers.

Category management module has an option for product categories with a functionality of creating and managing different product categories, subcategories, description is also available for users.

Product management and catalog module manages functionality for products, introducing product catalogs, filling in relevant information from users individually for each product or multi-product file and product catalog implementation.

Order management module provides traceability and order administration, as single or mixed orders, involving more products and suppliers combined in one order.

Along with standard information and choice of payment, delivery method is also included in current process for confirmation of type and number of items; selection and input of delivery address; billing data; payment method entry; completion and confirmation of transaction based on payment options, depending on method of payment selected and delivery of order (Tidwell et al., 2020).

Completion of purchase module presents functionality for finalizing transactions by choosing selected products and account from which the purchase is made; pre-login required or according to defined process in analysis phase, entering and confirming data required to make purchase - address of delivery, billing data and order confirmation (Farkas, 2009).

Placing claims and complaints module provides consumers with the opportunity for making claims about the qualities of a product. Claims other than the

merchant are available on the platform in order to identify incorrect business and response from the platform owner.

Electronic wallet and payment module assures that integration of different payment operators is available supporting various payment methods and tools, including bank cards, virtual accounts, cash payments, which manage portfolios of users and service payment transactions as well as a journal of all processes. The module provides mechanisms for allocating and transferring payments to vendors and suppliers - small and medium-sized enterprises, craftsmen.

Payment operator management, methods and tools module presents registration, deletion, loading, downloading functions, provided and maintained for different payment methods and tools.

Making payments module highlights payment and transaction management which is implemented for trade between craftsmen and customers, maintaining flexible payment mechanisms.

Payroll log module provides traceability and centralization of all payments and transactions available, regardless of chosen payment method and instrument, supporting activities for all platform users.

Allocation of payments to supplier module assures a mechanism for allocating and transferring payments, provided for vendors and suppliers - small and medium-sized enterprises, craftsmen, accustomed to specifics of intended payment modules, operators, methods and tools (Hanas and Pryveda, 2019).

Exchange rate management module gives cross-border activity of platform users, exchange rate maintained as an option for setting prices and payments in three currencies - Bulgarian lev, Romanian lea and Euro.

Multilingual module provides all functionalities concerning the information system which are developed with configuration and possibility a user interface in Bulgarian, Romanian and English language.

Conclusions

Development, testing and implementation of an e-commerce platform has been accomplished, where interested small and medium enterprises, craftsmen in cross-border regions can digitally offer their products and services, accessible to all stakeholders, optimizing the trade channel between manufacturers and users.

FairDeal virtual stores platform provides an excellent opportunity for development of small and medium-sized businesses in each municipality the cross-border region Bulgaria – Romania, an online marketing of local crafts products, integrated with world-renowned internet-based retailers, supported by training seminars for Bulgarian and Romanian representatives.

Gradually, a community-based network is also established, ensuring sustainability for both project and platform. It will contribute to the achievement of Interreg V-A Romania – Bulgaria program objectives, promoting information and digitization, acting as a tool of entrepreneurship, ensuring stable employment in the region.

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