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CREATING AN INTERNET RESOURCE FOR IMPLEMENTING AND MANAGING E-COMMERCE TRANSACTIONS

Abstract. The rapid development of information and communication technologies has significantly transformed traditional commercial activities into digital business models. E-commerce has become an essential component of modern economic systems, enabling businesses to conduct transactions, manage product distribution, and interact with customers through online platforms. This article examines the theoretical and practical aspects of creating an internet resource for implementing and managing e-commerce transactions. The study focuses on the architectural design of web-based systems, database integration, transaction security, user interface optimization, and logistics management. The findings emphasize that a well-designed internet resource enhances transaction efficiency, improves customer satisfaction, and ensures secure and scalable business operations.

Keywords: e-commerce, internet resource, online transactions, web platform, digital commerce, database management, transaction security

СОЗДАНИЕ ИНТЕРНЕТ-РЕСУРСА ДЛЯ ОСУЩЕСТВЛЕНИЯ И УПРАВЛЕНИЯ ТРАНЗАКЦИЯМИ В ЭЛЕКТРОННОЙ КОММЕРЦИИ

Аннотация. Быстрое развитие информационно-коммуникационных технологий значительно трансформировало традиционную коммерческую деятельность в цифровые бизнес-модели. Электронная коммерция стала неотъемлемой частью современных экономических систем, позволяя предприятиям совершать транзакции, управлять распределением продукции и взаимодействовать с клиентами через онлайн-платформы. В данной статье

рассматриваются теоретические и практические аспекты создания интернет-ресурса для осуществления и управления транзакциями в электронной коммерции. Исследование фокусируется на архитектурном проектировании веб-систем, интеграции баз данных, безопасности транзакций, оптимизации пользовательского интерфейса и управлении логистикой. Результаты показывают, что хорошо спроектированный интернет-ресурс повышает эффективность транзакций, улучшает удовлетворенность клиентов и обеспечивает безопасные и масштабируемые бизнес-операции.

Ключевые слова: электронная коммерция, интернет-ресурс, онлайн-транзакции, веб-платформа, цифровая коммерция, управление базами данных, безопасность транзакций

Introduction

In the context of digital transformation, electronic commerce has emerged as one of the most influential sectors of the global economy. The integration of internet technologies into business processes has enabled organizations to expand market reach, reduce operational costs, and improve customer service efficiency.

The creation of an internet resource for e-commerce transactions involves more than simply designing a website. It requires the development of an integrated system capable of product management, customer interaction, secure payment processing, and distribution control. Such resources play a crucial role in facilitating business continuity and competitiveness in the digital marketplace.

The objective of this study is to analyze the scientific and technological foundations of developing an internet resource for implementing and managing e-commerce transactions.

Materials and Methods. The present study employed a methodological approach aimed at investigating the principles of designing an internet resource for e-commerce transaction implementation and management. To ensure the scientific validity of the research, several complementary methods were applied.

First, a **comparative analysis of existing e-commerce platforms** was conducted in order to identify their structural features, functional capabilities, and technological advantages. This method made it possible to evaluate the best practices currently used in digital commerce systems.

Second, a **system design methodology** was applied for developing the web architecture of the proposed internet resource. This approach enabled the modeling of the platform as an integrated and scalable system consisting of interconnected functional modules.

Third, **database modeling techniques** were employed to organize and optimize transaction-related information, including customer data, product information, payment records, and delivery status. Particular attention was paid to data integrity, consistency, and rapid retrieval [2, 11].

In addition, a **functional analysis of payment and distribution modules** was carried out to determine the operational efficiency of the proposed system and its ability to support secure financial transactions and product logistics.

Based on the conducted analysis, the proposed internet resource was designed using a **modular architecture**, which includes the following structural layers:

1. **front-end interface layer**
2. **application logic layer**
3. **database management layer**
4. **payment processing module**
5. **distribution and delivery management module**

Such an architecture ensures system flexibility, maintainability, and scalability.

The front-end layer serves as the primary environment for user interaction with the system. It is designed to ensure accessibility, usability, and a positive user experience. The interface includes several essential components, namely: homepage, product catalog, shopping cart, customer registration and login section, payment interface, order history section.

These elements collectively provide users with convenient navigation and seamless transaction processing.

For the development of a responsive and adaptive interface, modern web technologies such as **HTML5, CSS3, JavaScript, and React** were utilized. These technologies significantly enhance interface performance, responsiveness, and compatibility across multiple devices.

The back-end infrastructure represents the core operational layer of the system, responsible for managing business logic and transaction workflows.

This layer performs the following major functions:

- ✓ product data management
- ✓ user authentication and authorization
- ✓ order processing
- ✓ inventory and stock control
- ✓ delivery status updates

The back-end ensures the stability and reliability of the entire e-commerce platform.

Programming environments such as **Python (Django/Flask), PHP (Laravel), and Node.js** are considered highly effective for implementing this infrastructure due to their scalability and robust framework support.

Conclusion. In conclusion, the creation of an internet resource for implementing and managing e-commerce transactions represents a significant advancement in digital business infrastructure. The integration of secure payment systems, user-centered interface design, and automated logistics management contributes to the effectiveness and sustainability of online commercial operations.

The study confirms that internet-based transaction platforms are essential tools for modern enterprises seeking to enhance competitiveness in the digital economy.

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