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MANAGEMENT OF QUALITY IN AN IT PROJECT DURING THE DEVELOPMENT OF THE ECOLOGICAL WEB APPLICATION “СМАЧНОГО”

Abstract. The article explores the application of quality management practices in an ecological IT project aimed at reducing food waste. It presents the development of the “СмачноGo” web application, designed with a user-centric approach and aligned with ISO 9001 and ISO/IEC 25010 standards. Key quality characteristics, metrics, and agile practices are outlined to demonstrate a systematic and sustainable development process.

Keywords: Quality management, IT project, software quality model, ISO 9001, ISO/IEC 25010, ecological web application, food waste.

In today's world, the problem of food waste is reaching a global scale. According to the Food and Agriculture Organization of the United Nations (FAO), around 1.3 billion tons of food are lost worldwide each year – almost one-third of all food produced [1]. In Ukraine, estimates by the Ministry of Environmental Protection and Natural Resources show that over nine million tons of food waste are generated annually. At the same time, the lack of clear legislative regulation aimed at preventing food losses complicates efforts in this field [2].

One of the potential solutions is the web application “СмачноGo”, the Ukrainian counterpart to the Too Good To Go platform, which helps reduce food waste by offering surplus meals and products from restaurants, cafés, bakeries, and grocery stores at a discounted price.

The aim of the project is to develop a web application that contributes to the reduction of food waste by creating a digital platform enabling interaction between dining establishments, grocery stores and consumers, with the purpose of ecological and economical use of food products.

Quality management policies:

1. Ensuring a positive user experience through speed, stability and secure operations of the web application.
2. Promoting the reduction of food waste and improving the efficiency of cooperation with suppliers.

The project team includes a project manager, frontend & backend developers, UI/UX designer, QA tester and a security specialist. Quality management is implemented according to the principles of ISO 9001 [3] and ISO/IEC 25010 [4].

The quality planning stage included defining functional requirements (user registration, authorization, order creation and viewing, profile management, payment, notification system) and non-functional requirements (performance, security, compatibility, usability, scalability).

For the “СмачноGo” web application, the most important quality characteristics according to ISO/IEC 25010 were selected – those that most influence user efficiency and system stability (Table 1).

Table 1. Metrics for assessing quality characteristics

Characteristic	Metric	Data collection method	Acceptance criteria
Functional suitability	Percentage of implemented functions	Functional testing	$\geq 95\%$ of functions implemented
Performance efficiency	Average server response time (ms)	System monitoring	≤ 1 second
Usability	User satisfaction rate (%)	Surveys, usability testing	$\geq 80\%$ positive responses
Reliability	Mean time between failures (hours)	Automatic log monitoring	$\geq 99\%$ uptime
Security	Number of critical vulnerabilities	Penetration testing, security audit	0 critical vulnerabilities

The innovation of the “СмачноGo” project lies in the combination of a technological solution with an ecological mission. The application not only helps reduce food waste but also fosters a culture of conscious consumption among users. In the future, implementation is planned for a bonus system, ratings of ecological responsibility of establishments, and a charitable module for the transfer of food products to social organizations.

Thus, quality management of the IT project “СмачноGo” is a key factor for its successful implementation. It ensures technical stability, user satisfaction and sustainable ecosystem development of the product. Adherence to international standards ISO 9001 and ISO/IEC 25010 enhances the web application’s competitiveness and its positive environmental impact.

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