

# FUNCTIONAL REQUIREMENTS FOR SHELTER MANAGEMENT AUTOMATION PLATFORMS

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## *Анотація*

*У тезах розглядаються функціональні вимоги до програмних платформ для автоматизації діяльності притулків для тварин. Проаналізовано ключові модулі системи: облік тварин, управління усиновленням, комунікація з волонтерами та донорами, а також моніторинг стану здоров'я підопічних. Визначено критерії якості, яким мають відповідати сучасні рішення у цій сфері.*

**Ключові слова:** притулок для тварин, функціональні вимоги, програмна платформа, автоматизація, управління тваринами, усиновлення.

## *Abstract*

*This paper examines the functional requirements for software platforms designed to automate the operations of animal shelters. Key system modules are analyzed, including animal record management, adoption workflow automation, volunteer and donor communication, and health monitoring. Quality criteria for modern shelter management solutions are defined.*

**Keywords:** animal shelter, functional requirements, software platform, automation, animal management, adoption.

## **Introduction**

Animal shelters face significant operational challenges: managing large numbers of animals, coordinating volunteers, processing adoption requests, and ensuring transparency for donors and the public. Despite this, many shelters still rely on paper-based records or fragmented digital tools that lack integration and scalability. The digitalization of shelter operations is therefore a pressing societal and technical problem [1].

This paper defines the functional requirements for a software platform intended to automate core shelter activities, including animal tracking, adoption management, medical record-keeping, volunteer coordination, and reporting.

## **Core Functional Modules**

Based on an analysis of existing solutions and the needs of shelter organizations [2; 3], the following core functional modules are identified:

1. Animal Registry Module. This module provides full lifecycle tracking of each animal from intake to adoption or transfer. Required functions include: registration with unique identifiers (name, species, breed, age, intake date); photo and document attachment; status management (available, under treatment, reserved, adopted); and search/filter by multiple attributes [2].

2. Adoption Workflow Module. Automates the end-to-end adoption process: online adoption application submission, applicant verification, scheduling of shelter visits, digital contract signing, and post-adoption follow-up notifications. This reduces administrative burden and standardizes the adoption pipeline [3].

3. Medical Records Module. Tracks vaccination schedules, veterinary visits, diagnoses, and prescribed treatments. Automated reminders for upcoming medical events ensure timely care. Integration with the animal registry enables full health history access per animal [4].

4. Volunteer and Staff Management. Supports volunteer registration, scheduling, and task assignment. A role-based access control system ensures that staff, volunteers, and administrators operate with appropriate permissions. A built-in notification system facilitates scheduling and urgent communications [1].

5. Donation and Financial Management. Enables online donation acceptance, tracks earmarked and general funds, and generates financial reports. Transparency features such as public expenditure summaries build donor trust and support recurring contributions [5].

6. Reporting and Analytics. Provides dashboards for real-time shelter capacity, animal demographics, adoption rates, and financial summaries. Exportable reports (PDF/CSV) support compliance and stakeholder communication [2].

### **Quality and Non-Functional Considerations**

In addition to functional modules, the platform must satisfy key non-functional requirements. Usability is critical, as shelter staff may not be technically proficient; the interface must be intuitive and accessible on both desktop and mobile devices [3]. Performance requirements mandate response times under 2 seconds under normal load. Security requirements include encrypted data storage, HTTPS communication, and GDPR-compliant personal data handling. The system must be scalable to accommodate shelters of varying sizes, from small local organizations to large regional networks [4; 5].

### **Conclusions**

A comprehensive animal shelter automation platform must address six functional modules: animal registry, adoption workflow, medical records, volunteer management, financial tracking, and analytics. Each module has specific functional requirements derived from real operational needs of shelter organizations. Meeting both functional and non-functional requirements – particularly usability, security, and scalability – is essential for successful deployment and adoption. These requirements form the basis for the design and implementation of the proposed platform.

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