

ABSTRACT

Master's thesis: 113 pages, 12 figures, 1 table, 22 sources, 3 appendixes.

Relevance. In today's software development landscape, efficiently handling client events is a critical task. As data sources diversify and contexts change in different industries, the need for a domain-independent system capable of handling a variety of client events becomes more and more urgent. This research aims to address this problem by developing a methodology and framework for building a universal software system that can efficiently handle client events regardless of domain specifics.

The purpose of the study. The main purpose of this research is to develop a methodology and tools for building a domain-independent software system specifically focused on processing client events. The challenge is to create a system that demonstrates adaptability, scalability, and responsiveness across domains, thereby mitigating the limitations imposed by domain-specific event processing.

Research objectives:

- comprehensive review: Conduct an in-depth analysis of existing event-driven architectures, data processing techniques, and domain-independent systems to identify challenges and best practices.
- conceptual Model Formulation: Development of a conceptual model of a domain-independent software system with a focus on adaptability and scalability in processing client events.
- prototype development and testing: Create a prototype system to validate the proposed methodology. Test its performance using simulated scenarios and real-world use cases to evaluate adaptability, efficiency, and contextual response.

Object of research. The object of this study is the development and implementation of a software system capable of autonomously processing various client events originating from different sources, formats, and domains.

Subject of research. The subject of the research is the development of a methodology and framework for building a domain-independent software system adapted

to efficiently process client events in different domains, while ensuring adaptability and scalability.

The scientific novelty of this research is that it contributes to the creation of a comprehensive methodology and framework for building a domain-independent software system focused on client event processing. The research is aimed at introducing innovative approaches to processing heterogeneous event sources and formats, thereby increasing adaptability, scalability and responsiveness, which will ultimately contribute to the development of the software engineering field in creating universal and responsive systems for various domains.

DOMAIN-INDEPENDENT ARCHITECTURE, EVENT-DRIVEN ARCHITECTURE, CLIENT EVENTS, ADAPTABILITY, SCALABILITY, DATA PROCESSING, CONTEXTUAL VARIATIONS, HETEROGENEOUS DATA SOURCES, SYSTEM RESPONSIVENESS, UNIVERSAL SOFTWARE SYSTEMS