

ABSTRACT

INFORMATION AND REFERENCE SYSTEM FOR SELECTING A HEALTHY NUTRITION BASED ON INDIVIDUAL CHARACTERISTICS: diploma thesis/ A. M. Kilolo. – Gomel: Sukhoi State Technical University of Gomel, 2026. – Diploma thesis: 130 pages, 27 figures, 6 tables, 18 sources, five appendices.

Keywords: microservice architecture, nutrition planning, ASP.NET Core, React, Entity Framework Core, JWT authentication, meal plan generation, REST API, Docker, dietary constraints.

The object of development is a web-based nutrition planning application with microservice architecture.

The purpose of this work is to develop a self-hostable, open, API-first nutrition planning system that generates personalized meal plans based on user dietary constraints and caloric targets, supports progress tracking, multi-format document export, and role-based access control, deployed as independently scalable Docker containers.

The work was carried out in several stages. The first stage: studying existing systems for selecting healthy diets tailored to individual needs and development tools necessary for the implementation of the system. At the second stage: design, development and verification of an information and reference system for the selection of healthy nutrition taking into account the characteristics of the body. The third stage: economic calculation and justification of the profitability of the development. The fourth stage: an analysis of the implementation of the development from the point of view of resource and energy saving issues.

The student confirms that the thesis has been completed independently, the material provided in the thesis objectively reflects the state of the object being developed, the explanatory note has been checked in the Antiplagiat system (<https://www.antiplagiat.ru>). The originality of the text is 91%. All theoretical and methodological provisions and concepts borrowed from literary and other sources are accompanied by references to the sources indicated in the «List of references».