

Fitness Tracking Mobile System

Giorgi Beraia^a Luka Jikidze^b

Mail: giorgi.beraia074@ens.tsu.edu.ge

^a Computer Science, Faculty of exact and natural sciences, Tbilisi State University, 1 Ilia Chavchavadze Avenue

The thesis addresses the architectural planning, technical implementation, and detailed analysis of the development process of an iOS platform-based fitness tracker application — **FitVoyage**. The main goal of the project is to create a mobile system that provides users with the ability to monitor water intake, body parameters, physical activity, workout plans, and key health-related indicators within a unified and easy-to-use environment.

The thesis discusses the main problems and limitations of modern fitness applications, including functional overload, lack of user-oriented personalization, and dependence of core functionalities on paid models. To address these problems, the frontend part of the application employs the **MVVM (Model–View–ViewModel)** architectural pattern, which ensures code structuring, clear distribution of responsibilities, and easy system scalability in the future.

The integration of **HealthKit** and **WidgetKit** is also analyzed, enabling automatic real-time monitoring of physical activity and water consumption. Data storage, processing, and security are implemented through a Backend system, which increases system reliability and the protection of user data. As a result, the thesis delivers a functional, intuitive, and visually clear fitness platform that contributes to the formation of a healthy lifestyle and the improvement of users' daily habits.