BRNO UNIVERSITY OF TECHNOLOGY
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Excel@FIT 2025
http://excel.fit.vutbr.cz

Ruffe - Multiplatform Application with an Interactive Map of Fishing Grounds in the Czech Republic

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Abstract

Focus of this project is on the development of a multiplatform application within the .NET ecosystem that allows user to display the fishing areas on an interactive map. The objective is to create a user friendly application providing anglers with easy access to up to date information about fishing areas, including their boundaries, regulations, access points, permitted fishing techniques, updates, and other relevant details. The application also allows users to add their own posts, photos, and comments, fostering better communication and knowledge-sharing within the fishing community. As part of the project, an algorithm is developed to extract data from sources provided by fishing associations, alongside with an application server, a web client, and a desktop client. The result of this work is an application that not only simplifies navigation and trip planning for anglers but also enhances their connectivity and facilitates the sharing of up to date information.

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1. Introduction

Fishing regulations in the Czech Republic are highly dependent on the type and location of the water body. Rivers, streams, reservoirs, and canals often fall under different sets of rules, further complicated by factors such as national park protections, private land ownership, or special conservation zones. Each environment may impose specific limitations on fishing seasons, species, equipment, or catch limits. As a result, it can be challenging for anglers to navigate and comply with the correct regulations for each district, especially when up-to-date information is scattered across multiple sources.

The core problem addressed is the absence of a unified, interactive, and user-friendly platform that provides anglers in the Czech Republic with up-to-date, detailed information about fishing districts, their regulations, maps, and community updates, developed in cooperation with fishing organizations to ensure reliability and accuracy.

Currently available resources are fragmented across various websites, PDFs, and physical documents, making it difficult for anglers to quickly access reliable information, plan their trips, and stay compliant with fishing rules. The most important documents regarding fishing regulations are available at the official Czech Fishing Union website [1] and Moravian Fishing Union website [2].

The core objective is to design and implement a multiplatform application (web and mobile) that allows users to easily search, filter, and browse fishing districts, view detailed information including restrictions, and interact with an intuitive, interactive map.

The bonus objectives focus particularly on allowing users to contribute posts and photos to individual districts, enabling GPS-based location features for easier navigation to fishing areas and providing administrative tools for easier data management and updates.

Currently, available solutions for anglers are limited to either native mobile applications or web portals. The most notable mobile apps, Fishinda [3] and Fishsurfing [4], primarily focus on social networking and sharing catches, with interactive maps playing a secondary role. Fishinda offers a map of fishing locations but only with simple icons rather than detailed water flows, and some features are locked behind a paywall. Fishsurfing provides a richer interactive map with categorized points of interest, a marketplace, and web access, yet detailed district information remains basic.

In the web domain, platforms like Najdirevir.cz and rybsvaz.cz offer interactive maps of fishing districts. Najdirevir.cz [5] covers Czech fishing areas but struggles with technical issues like long loading times and mandatory login. Rybsvaz.cz [6], the official Czech Fishing Union portal, provides detailed district data through its map, but lacks a mobile application, although one is planned for late 2025. Overall, existing solutions are either fragmented, focused on social aspects, or limited in terms of data quality, interactivity, and cross-platform accessibility.

The project delivers Ruffe, a modern multiplatform application that provides Czech anglers with access to interactive maps of fishing districts, detailed regulatory information, and user-contributed content — all within a single, intuitive platform. Developed in collaboration with anglers' organizations and the influential fishing retailers.

The system consists of an ASP.NET Core backend, a Blazor WebAssembly web application, and a native MAUI mobile application. Public data and contributions from partner organizations are aggregated, processed using custom parsing algorithms, and displayed through an interactive map interface. Ruffe simplifies exploration of fishing areas, supports regulation compliance, and strengthens the connection between anglers and fishing organizations.

This project presents a fully functional multiplatform application that significantly improves the accessibility and reliability of information about fishing districts in the Czech Republic. The project was developed in cooperation with PS Sehradice [7] and the influential brand MOJE Rybařina [8], ensuring that the data sources are accurate, up-to-date, and reflect the real needs of the angling community. The application integrates information on more than 1700 fishing districts, covering streams, rivers, reservoirs, canals, and protected areas across the country. It also connects users with almost 600 fishing organizations and associations, providing not only district information but also contact details for responsible organizations.

Ruffe is available across multiple platforms, including a web client (Blazor WebAssembly) at ruffe-reviry.com and a native mobile app (MAUI) for Android and iOS devices, ensuring broad accessibility. It features interactive maps that visualize district boundaries based on the Leaflet JavaScript library [9], restrictions, and GPS positioning. The application supports community-driven content, allowing users to contribute posts, photographs, and comments related to specific districts, thus strengthening communication within the angling community. Altogether, the project delivers a scalable, maintainable, and unique solution tailored to the needs of modern anglers in the Czech Republic.

2. Conclusions

Based on initial feedback from users and contacted organizations, it is evident that the application fulfills its intended purpose and was warmly welcomed by the fishing community. Nevertheless, some requests have been raised regarding features that were postponed due to time constraints and are planned for future development, such as enhanced offline map capabilities, a module for organizing angling competitions, and expanded community functionalities such as children's fishing days, fish harvest events, and similar activities. Ruffe provides a solid and scalable foundation for further improvements and long-term growth.

Acknowledgements

I would like to express my sincere gratitude to my supervisor Ing. Jan Pluskal, Ph.D. for his guidance, support, and valuable feedback throughout the development of this project. Special thanks also go to PS Sehradice and Moje Rybařina for their cooperation, data contributions, and assistance in ensuring the accuracy and relevance of the fishing district information used in this application. And also for the assistance provided through closed testing and increased public awareness of the Ruffe application.

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