Proposal of a notification system for municipal governments

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Abstract. *The project's objective was to develop a system for sending notifications of various types (e.g., related to administration, cultural and sports events, etc.) by a municipal government, such as the city of Leopoldov. The purpose was to improve communication with citizens, as the current notification methods lack general availability and technical universality. Our solution is a .NET web application acting as a scheduler that periodically checks the database for events to be sent at a specified time and sends a notification to the user – a citizen registered to the system – in a specified time advance. The notification is sent to the user's chosen communication channel via email or an instant messaging service.*

The communication between our system and the IM service – in our case, Viber – works through Viber RestAPI, which uses a developer-managed chatbot. The bot acts as a mediator between the Viber client and our app. It is responsible for the user's subscription (and unsubscribing) and for transferring the messages between the app and the user. The application itself is designed as loosely coupled, with multiple projects grouped under a single solution. Most of the projects are for application logic handling, which consists of scheduling and sending mechanisms, communication with the database via an open-source object-relational mapper EF Core, and also includes a model library. One of the projects is a user interface that serves two main purposes: firstly, it serves as a means for the citizen to register, browse forthcoming events, choose event categories, time advances, and communication channels, and connect them with the application. On the other hand, it's a hub for authorized city employees for event management. Blazor, an open-source web framework from the ASP.NET Core family, was used to develop the user interface.

Keywords. notification system, RestAPI, .NET, Blazor, municipal governments

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