The infobox as an elementary component of map-centred online applications—principle, functionality and implementation using the example of AustrianVineyards.com

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Keywords: geo-communication, thematic maps, atlases, user interface, wine

Abstract:

Web maps are perfectly suited for interactive geo-communication of multimedia content. Additional information such as text, tables, images, videos, or charts can be displayed for different objects shown in the thematic layer. There are numerous possibilities for integrating these media into a web map. One particularly promising approach is the infobox. Infoboxes, in the sense of consistently formatted tables which are present in digital as well as analogue media with a common subject, provide a framework for presenting different types of information in a format that meets the needs of the users. In this way, static and interactive content can be shown side by side. Since the idea of infoboxes is to present information compactly, they also save space. As a result, it is usually possible to display the base map and the infobox at the same time. This is important for successful geo-communication, as the spatial reference then remains visible throughout.

Accordingly, infoboxes together with the base map and its thematic layers form the core of many map-centred web applications. Due to the often-close intertwining of infobox and map, it would be possible to understand infoboxes as an inherent element of digital maps. This would be supported by the fact that, on the one hand, infoboxes are called up through interaction with the map and, on the other hand, influence can be exerted on the map through interaction with the infobox. For the conception of infoboxes for web maps, this means that, in addition to content and visual aspects, the interaction between infobox and map must also be considered. If the design of an appropriate framework is successful, infoboxes prove to be flexible map elements that enable high usability. Nevertheless, the primary function of infoboxes remains the display of information, not the manipulation of the map.

In the light of these features, an infobox was developed as a sidebar for the map-centred web application AustrianVineyards.com. While AustrianVineyards.com uses a map to present where wine-growing areas are located in Austria, the infobox serves to convey a variety of information on the respective wine origins. The content includes photographs, videos, statistical and climatological data as well as text (figure 1). However, AustrianVineyards.com is a project that has been continuously expanded since its release in 2021.

To enable the ongoing inclusion of new elements in the AustrianVineyards.com infobox without reducing the consistency of the design language or usability, a concept was developed that explicitly provides for future extensions of any kind of content. Part of this framework are not only standardised containers that can be filled with content, but also, for example, a style guide for the development of new icons. This ensures that a high degree of visual homogeneity is achieved in the overall appearance of the application's user interface. This is important, especially since AustrianVineyards.com serves as a marketing platform and is intended to contribute to an 'image of excellence' of Austrian wine.

Thus, the infobox in AustrianVineyards.com serves as an exemplary role model for the display of any data with spatial reference. Due to the versatility of its contents—from continuous text to interactive tables and graphs—it covers a broad range of possible visual communication variants. The interaction between the map and the infobox also works in both directions. This means that the infobox not only opens when an object on the base map is clicked on, but also that the infobox has elements that can be used to influence the map. For example, clicking on the infobox title pans to the respective origin.

All in all, the concept of the infobox for AustrianVineyards.com can also be transferred to other map-centred web applications. Only website-specific requirements such as a certain icon family, font type, size and colour or colour

palette have to be adapted without any adaptations to the actual infobox structure being necessary. In this sense, the AustrianVineyards.com infobox is a proof of concept for geo-communication platforms that firstly can be flexibly adapted to a wide range of content and secondly can also be used in other projects. In the future, the integration between map and infobox could be increased, for example by including the legend in the infobox. This would further enhance the merging of map and infobox.
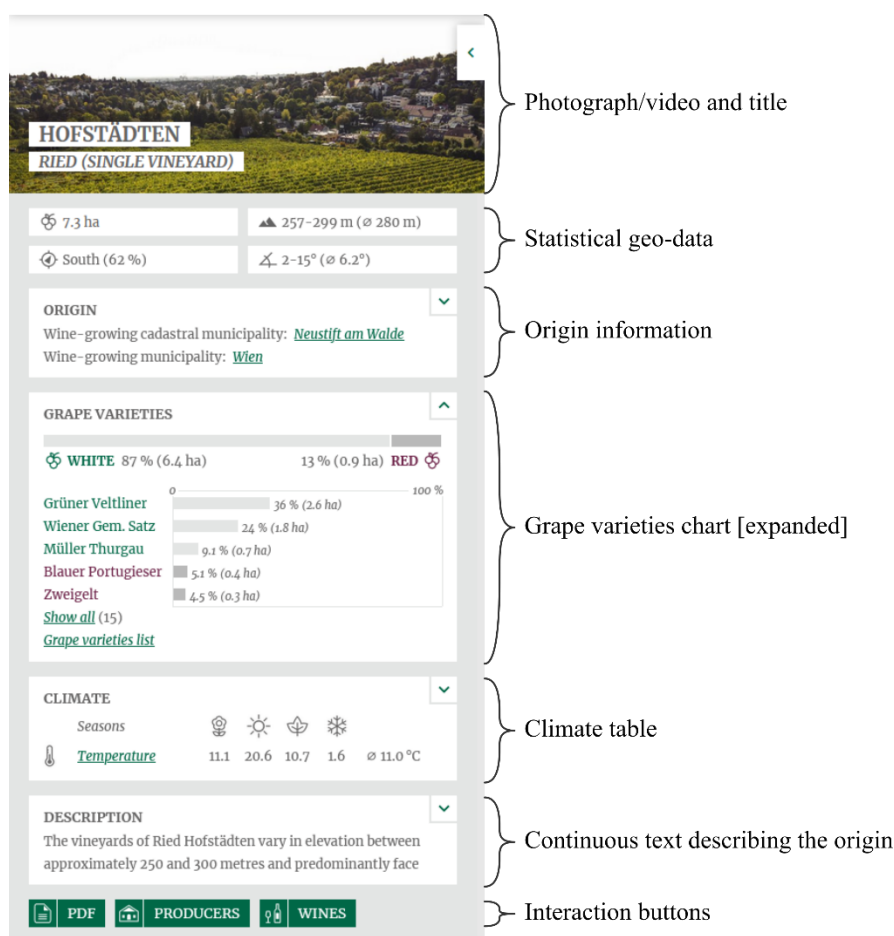

Figure 1. The various sections of the AustrianVineyards.com infobox can be expanded. It is possible to add further modules.