



SNOW AND AVALANCHE MAP



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SkiTOUR

Skitour is a leading website dedicated to high mountain sports such as ski touring and alpinism. The main goal of the website is to provide information to help people engage in these activities, such as weather data, road maps, and the locations of shelters. Additionally, it provides a platform for individuals to discuss their hobbies and to share any items lost or found in the mountains.



Why this project?

Users of Skitour need to have a quick overview to prepare their ski trip in complete safety, according to the latest weather conditions and thus possible avalanche risks.

Currently, a list of daily avalanche risks bulletin (from Meteo France) is available on Skitour, but data are not linked to a map and it forces the user to leave Skitour to view it.

So how can we provide a visual representation of Meteo France's daily bulletins on a map, so that users can easily access and visualize it from Skitour, to facilitate their trip preparation and minimize the risks ?



The project

The visualization of avalanche risks on a map is an important tool for those who live or work in areas prone to avalanches. By providing information directly on a map, our project aims to make it easier for people to understand and assess the risks in their area.


Our main overlay, which represents the five levels of avalanche risk using different colors, is the most important feature of our application. By providing clear and concise information about the level of risk in a given area, we hope to help people make informed decisions about where to go and what precautions to take.

In addition to the avalanche risk overlay, we also provide overlays for snow, fresh snow, and forecasted weather. These overlays can help users understand how the conditions in their area might change over time, and can provide valuable information for planning trips or activities.


To generate our overlays, we use a large amount of data about the terrain, including information about altitudes, orientations, and slopes. This data is cross-referenced with weather reports to provide the most accurate and up-to-date information possible.



Technologies

The technologies used for the project include PHP for the back-end, as well as HTML, JavaScript, and Leaflet for the front-end. JSON is also used for data transfer and storage.

Firstly,  is a popular programming language for creating dynamic websites, offering great flexibility.

`{json}` is a lightweight and easy-to-read data format, ideal for transmitting data between the back-end and front-end.

`HTML` is used for structure and to integrate page elements. Additionally, `JS` is an essential programming language for interactive map creation projects, as it allows for manipulation of the map and creation of dynamic user interactions. Finally,  is an open-source JavaScript library for creating interactive maps on the web, offering great flexibility and a multitude of features such as zooming, searching, custom icons, etc.

For project management, the team uses  and , two widely used project management tools in the software development industry. GitHub allows for the storage and sharing of the project's source code among developers, while JIRA is a task and issue tracking tool that allows team members to track project progress and manage priorities.