

Redesign and Modernization of the INFN Cloud Dashboard: improving efficiency, user-experience, and security

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For over two years the Italian National Institute for Nuclear Physics (INFN) has been actively operating a national cloud platform designed to streamline access to geographically distributed computing and storage resources. This initiative includes a catalog of high-level services that can be instantiated on demand through a web portal. Service descriptions are specified using TOSCA templates, which are processed by an orchestration system that implements a lightweight federation of cloud sites and automatic scheduling features to select the optimal provider for service deployment.

By masking all implementation and infrastructure specifics, the INFN Cloud dashboard acts as a user-friendly gateway, seeking to simplify user interaction with the orchestration and service deployment platform.

In the modern digital landscape, a website reflects an organization's commitment to excellence and user satisfaction. With that in mind, we set out to transform our existing portal, the INFN Cloud Dashboard, into something new, by making it more secure, efficient, and user-friendly while providing a visually appealing interface.

To enhance security, we conducted a comprehensive audit to detect vulnerabilities and integrated state-of-the-art security features. Through various tests, we have improved the platform security to prevent any type of data leak and to maximize the final user privacy.

Another crucial factor is the effectiveness of the website in terms of performance and user retention. To enhance efficiency, we optimized the website's backend infrastructure for speed and scalability. This involved refining the codebase, minimizing the requests, and employing techniques to expedite content delivery.

To improve the user experience, we used an optimal UX strategy that focuses on understanding and addressing the needs and preferences of the target audience. This includes simplifying navigation, streamlining content layout, and enhancing interactivity to make the website more intuitive and enjoyable to use. We achieved that by making the website experience customizable by the end user and through the adoption of a responsive design that ensures seamless access across various devices, providing swift and reliable access to the website's content.

We have also upgraded the design of the website to align it with the INFN visual identity adopting contemporary aesthetics that resonate with users while maintaining brand consistency. This includes the thoughtful use of color schemes, typography, and effects that align with the latest design trends.

Upgrading a website is a continuous process that requires diligence and foresight. By implementing comprehensive security measures, enhancing efficiency, optimizing UX, and refining the design, we aimed to transform the INFN Cloud Dashboard into an immersive and secure digital experience.

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