Pestaña 1

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Informe Técnico Formativo – Fase 2 Avances Proyecto APT

**Gestión Integral de Proyectos Contratistas**

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# **1. Abstract**

Español

El presente informe detalla el avance del proyecto "BRP", un sistema de gestión integral para proyectos contratistas, que ha alcanzado un 56% de su desarrollo total. Se han finalizado las fases de análisis de requerimientos, el diseño de una arquitectura de tres capas, la implementación de la base de datos en PostgreSQL/Supabase y la construcción de los módulos principales del backend con Node.js y del frontend con React. El equipo se encuentra actualmente en la etapa de integración de sistemas, ejecución de pruebas funcionales y elaboración de la documentación técnica. La gestión del proyecto se ha realizado bajo la metodología ágil Scrum, lo que ha permitido una adaptación eficiente a nuevos requerimientos, como la integración de medidas de seguridad con Cloudflare. El objetivo final es entregar un sistema robusto, estable y de alta calidad que cumpla con los objetivos funcionales definidos.

**Palabras clave**: Gestión de Proyectos, Scrum, Node.js, React, PostgreSQL, Supabase, BRP.

**Abstract (English)**

This report details the progress of the "BRP" project, a comprehensive management system for contractor projects, which has reached 56% of its total development. The initial phases, including requirements analysis, the design of a three-tier architecture, the implementation of the PostgreSQL/Supabase database, and the construction of the main backend (Node.js) and frontend (React) modules, have been completed. The team is currently focused on system integration, functional testing, and the creation of technical documentation. The project has been managed using the Scrum agile methodology, which has allowed for efficient adaptation to new requirements, such as the integration of security measures with Cloudflare. The final goal is to deliver a robust, stable, and high-quality system that meets the defined functional objectives.

**Keywords**: Project Management, Scrum, Node.js, React, PostgreSQL, Supabase, BRP.

# **2. Individual Conclusions**

* **Nicolás Cárcamo Hernández**: The backend development and infrastructure deployment have established a solid and scalable foundation for the BRP system. The successful implementation of the database on Supabase and the deployment of the API on Render have been critical milestones. Integrating Cloudflare for security has significantly strengthened the application's resilience, ensuring that the system is not only functional but also secure. The work completed provides the necessary robustness to support all frontend features and future data processing requirements.
* **David Coo Gallardo**: The redesign of the user interface has been fundamental to improving the project's usability and overall user experience. By leveraging React and Tailwind CSS, we created a responsive, intuitive, and visually appealing design, including key features like the light/dark mode. This focus on the frontend was not merely aesthetic but strategic, ensuring that users can interact with the system's complex functionalities in an efficient and straightforward manner. The current interface successfully translates the project's requirements into a functional and modern user-facing product.
* **Alex Barrientos**: The quality assurance and documentation processes have been essential for maintaining the project's integrity and alignment with its initial goals. Through systematic functional testing, we were able to identify and address minor issues early, preventing them from escalating into significant problems. The creation of detailed documentation, including requirements and architecture diagrams, has provided a clear guide for the development team and ensures the project's long-term maintainability. This systematic approach has guaranteed that the final product is not only functional but also stable and well-documented.

# **3. Reflection**

This development phase has been a significant learning experience in agile collaboration and technical integration. Adhering to the Scrum methodology proved highly effective, particularly in its flexibility. When we identified the need to enhance security, Scrum allowed us to incorporate the implementation of Cloudflare seamlessly into our existing sprints without disrupting the overall project timeline. This adaptability was crucial to improving the final product's quality.

From a technical standpoint, the chosen stack—Node.js for the backend and React for the frontend—has proven to be a powerful combination for building a modern and efficient web application. The main challenge has been the integration phase, where connecting the backend services with the frontend components required precise coordination and constant communication. Using tools like Trello for task management and GitHub for version control was instrumental in keeping the team aligned and ensuring a smooth workflow. This experience has reinforced the importance of clear role definition and proactive communication in overcoming technical hurdles and achieving our collective goals.