**Guía3. Informe final Proyecto APT**

**Asignatura Capstone**

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| **1. Informe final Proyecto APT** |
| El objetivo de este informe es que describas los aspectos más relevantes de tu Proyecto APT. Es importante que fundamentes las decisiones que tuviste que tomar a lo largo del proceso.  A continuación, encontrarás distintos campos que deberás completar con la información solicitada, los que dan cuenta del resumen de tu proyecto APT y sus principales resultados. |

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| Nombre del proyecto | *AIura: Educational Platform with Artificial Intelligence* |
| Área (s) de desempeño(s) | *Education, Business* |
| Competencias | *Backend programming, database creation and maintenance, problem-solving, requirements management.* |

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| **Contenidos del informe final** | |
| 1. Relevancia del proyecto APT | *This project is highly relevant to the field of Computer Engineering, as it develops an innovative technological solution for the education sector, optimizing course management and facilitating the creation of teaching plans through artificial intelligence, a skill increasingly demanded in the market. The situation addressed is located in Chile, specifically in schools and universities, which are characterized by the need to meet high educational standards set by the Ministry of Education and institutional requirements. The main impact is on teachers, who benefit directly by reducing administrative workload and improving the quality of their lesson plans, as well as students, who receive a more structured education aligned with curricular objectives. The project provides real value to the educational context by enhancing efficiency and innovation through advanced technology, thereby contributing to professional teacher development and improving the country’s education system.* |
| 2. Objetivos | * ***General Objective*** * *Develop a learning management system (LMS) platform that enables teachers in schools and universities to manage their courses and generate automated academic lesson plans through artificial intelligence, tailored to the needs of the subjects, institutional requirements, and Ministry of Education regulations.* * ***Specific Objectives:*** * *Design and implement an academic lesson planning functionality based on artificial intelligence, adapted to the requirements of each subject and educational standards.* * *Develop basic administrative features, such as attendance tracking and grade management, integrated into the LMS.* * *Use Django as the development framework and PostgreSQL as the database to ensure robustness and scalability of the application.* * *Apply the SCRUM methodology to efficiently manage the project and meet established deadlines.* * *Validate the platform through functional and user testing in a simulated or real environment of Chilean schools or universities.* |
| 3. Metodología | *To develop the project, we used the* ***SCRUM methodology****, an agile approach that allows projects to be managed flexibly and efficiently. SCRUM is particularly suitable for software development due to its iterative and incremental approach, which facilitates adaptation to changes and continuous improvement during the process.*  ***Phases and Procedures:***   * ***Start and Planning:*** *Objectives were defined, the Product Backlog was established, and team roles (Scrum Master, Product Owner, and development team) were assigned.* * ***Sprints:*** *The project was divided into one-week iterations, with sprint planning sessions selecting priority tasks and daily stand-up meetings monitoring progress.* * ***Development and Implementation:*** *Core LMS features were implemented, including AI-based lesson planning, attendance tracking, and PostgreSQL integration, alongside unit and integration testing.* * ***Review and Retrospective:*** *At the end of each sprint, functional increments were presented for feedback, and retrospectives identified strengths and improvement areas.* * ***Final Validation and Delivery:*** *Final tests with simulated or real users ensured the LMS met objectives, accompanied by project documentation and presentation.*   ***Methodology Justification:*** *SCRUM was the most suitable methodology to achieve the project goals because it enables quick responses to changing requirements, a critical aspect in innovative projects with advanced features like AI-based lesson planning. Its focus on incremental deliveries ensured product quality and constant communication among stakeholders, aligning development with real user needs.* |
| 4. Desarrollo | *In the APT Project, we followed key stages: start and planning, sprint-based development, functional testing, and final validation. Clear objectives, SCRUM's task organization, and tools like Django and PostgreSQL facilitated the technical implementation. However, challenges arose, including requirement changes, integration issues with AI, and system performance optimization. These were addressed by adjusting the backlog, prioritizing critical tasks, and increasing iterative testing, aligning development with objectives while maintaining product quality.* |
| 5. Evidencias |  |
| 6. Intereses y proyecciones profesionales | *The APT Project allowed me to deepen my professional interests in developing innovative technological solutions, particularly those integrating artificial intelligence to address practical problems in specific sectors such as education. While my initial focus was on software development in general, the project inspired me to explore applied AI and educational system improvements further. I would like to continue creating tools that enhance automation and efficiency across different industries. Professionally, I see myself as a developer focused on implementing advanced technologies, aiming to contribute to social and professional progress through impactful technological solutions.* |