**Guía3. APT Project Final Report**

**Capstone Subject**

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| **1. APT Project Final Report** |
| The objective of this report is for you to describe the most relevant aspects of your APT Project. It is important that you justify the decisions you had to make throughout the process.  Below, you will find different fields that you must complete with the requested information, which give an account of the summary of your APT project and its main results. |

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| Project name | *PuntoDuoc* |
| Performance Area(s) | *Development of mobile and web applications.*  *Database management and computer security.*  *Communication and teamwork.* |
| Competencies | *Software development and project management.*  *Design of user experiences in mobile applications.*  *Database administration in NoSQL environments.*  *Application of agile methodologies (Scrum).* |

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| **Contenidos del informe final** | |
| 1. Relevance of the APT project | - Relevance of the APT project: The PuntoDuoc project proposed to address the problem of low student participation in extracurricular activities at the Duoc UC institution. This problem is relevant to the field of academic and professional management because it directly influences the comprehensive training of students, promoting soft skills and reinforcing the sense of community. The specific context is the Duoc UC headquarters, characterized by a high flow of students with different needs for participation in activities. The project impacts students of all majors, teachers and event managers, providing a solution that facilitates registration and participation, and encourages attendance through an incentive system. The added value lies in improving the management and visibility of events, and in offering a modern and efficient tool for students. |
| 2. Objectives | *General objective: Develop an integrated platform (web and mobile) that allows managing, registering and validating attendance at events at Duoc UC, encouraging student participation through a rewards system.*   * *Specific objectives:* * *● Implement a mobile application that facilitates the registration of students and guests and allows them to register for events.* * *● Develop an attendance validation system by scanning QR codes.* * *● Create a web control panel for administrators that allows event and user management.* * *● Implement a points system redeemable for rewards to encourage participation.* |
| 3. Methodology | *Methodology: The project was developed using the agile Scrum methodology, which turned out to be the most appropriate option due to its ability to adapt to changes and maintain constant control of the project's progress. The phases included:*   * *● Initial planning and definition of objectives.* * *● Incremental development and testing in sprint cycles.* * *● Daily meetings to ensure coordination.* * *● Sprint review and retrospective to make necessary adjustments. The choice of Scrum was essential to respond in an agile way to the challenges encountered and adjust the project according to the test results.* |
| 4. Development | ***Development: The project was developed in the following stages:***  ***● Analysis and planning: Identification of requirements and structuring of the project.***  ***● Web and mobile development: Implementation of the administrative website and the mobile application.***  ***● Database Integration: Configuring Firestore for real-time data storage and synchronization.***  ***● Attendance validation tests: Verification of the operation of the QR code scanner and assignment of points.***  ***● Adjustments and refinement: Incorporation of new functionalities such as the waiting list and the statistical panel.***  ***Facilitators and difficulties: Facilitators:***  ***● Use of efficient technologies such as Ionic and Firebase.***  ***● Good team coordination and constant communication. Difficulties:***  ***● Real-time data synchronization issues.***  ***● Complexity in managing multiple types of users. These were addressed through periodic testing and adjustments to the database structure.***  ***Adjustments made:***  ***● Simplification of the event validation system.***  ***● Inclusion of the waiting list and a statistical panel to improve user experience and management.*** |
| 5. Evidence |  |
| 6. Interests and professional projections | The APT project allowed the team to gain experience in implementing modern technologies and managing software development projects in a real environment. This learning has reaffirmed our interest in mobile application development and real-time data management. The skills acquired, such as the application of agile methodologies and the creation of user experiences, are valuable for future job opportunities.  Labor projections: The project has reinforced our interest in continuing to develop technological solutions aimed at event management and community participation. I plan to work on the development of mobile and web applications, looking for new ways to apply emerging technologies to optimize processes and improve the interaction between users and platforms. |

