Technical Report: APT Project - Arte en Masa

| Instituto | Duoc UC |
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| Campus | Plaza Oeste |
| Program | Computer Engineering |
| Course | Capstone |
| Project | Arte en Masa |
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# Abstract

The "Arte en Masa" project aims to develop a web and mobile solution for a local bakery/pastry shop in Peñaflor, Metropolitan Region. This solution seeks to modernize and optimize the sales processes, inventory management, and customer service of the SME. The project integrates key competencies from the Computer Engineering graduate profile, such as web and mobile development, database modeling, and project management. The implementation of this technological solution will allow the company to improve its operational efficiency, expand its market reach, and provide a better experience for its customers.

# Engineering Development

## 1 Brief description of the APT project

The "Arte en Masa" project involves the development of a comprehensive web and mobile solution for a local bakery/pastry shop in Peñaflor, Metropolitan Region. This technological solution aims to modernize and optimize the SME's processes, addressing key aspects such as sales management, inventory, and customer service.

The relevance of this project lies in its potential to transform the operation of a small traditional business, allowing it to adapt to the demands of today's digital market. By implementing this solution, the bakery will be able to:

1. Increase its online visibility, attracting new customers.
2. Improve efficiency in order and stock management.
3. Offer a more convenient and accessible shopping experience for its customers.
4. Obtain valuable data on customer preferences and sales trends.

This project is particularly relevant to the field of Computer Engineering, as it addresses a real and growing need in the market: the digitalization of small and medium-sized businesses. The experience gained in this project will be directly applicable in future professional roles, where the demand for technological solutions for SMEs is constantly increasing.

## 2 Relationship of the APT project with the graduate profile competencies

The "Arte en Masa" project is closely related to several key competencies of the Computer Engineering graduate profile:

1. **Software development:** The project involves creating a web platform and a mobile application, using software development and maintenance techniques.
2. **Data modeling:** It requires building scalable data models to support the management of products, orders, and customers.
3. **Query and routine programming:** The project involves creating queries and routines to manipulate database information, such as inventories and orders.
4. **Certification testing:** Tests will be conducted to ensure that both the website and the app function correctly and meet quality standards.
5. **IT project management:** The team will need to coordinate the project, offering alternatives and making decisions based on business requirements.
6. **IT solutions proposal:** The project involves analyzing the business processes of the bakery/pastry shop to offer appropriate technological solutions.

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## 3 Relationship of the APT project with professional interests

The "Arte en Masa" project aligns significantly with the team's professional interests:

1. **Web and mobile development:** The project allows the team to deepen their knowledge in these areas of great interest and demand in the current job market.
2. **Impact on SMEs:** There is a shared interest in helping small and medium-sized businesses modernize and grow through technological solutions.
3. **Comprehensive experience:** The project offers the opportunity to participate in all phases of software development, from requirements gathering to implementation and testing.
4. **Practical application:** It allows the application of theoretical knowledge acquired during the degree program to a real project with direct impact on a local business.
5. **Innovation:** The team is interested in creating innovative solutions that transform the way traditional businesses operate.

## 4 Feasibility of the project within the course

The "Arte en Masa" project is feasible to be carried out within the framework of the Capstone course for the following reasons:

1. **Time:** The 4-month timeframe is realistic and allows for careful planning and development of each project phase.
2. **Technological resources:** The team has the necessary resources such as computers and internet to carry out the development.
3. **Time management:** Weekly online meetings have been organized to evaluate progress and identify possible obstacles early on.
4. **Academic support:** Capstone classes will serve to address complex issues, ensuring smoother development.
5. **Defined scope:** The project has a clear and limited scope, focusing on essential functionalities that can be developed in the assigned time.
6. **Previous experience:** Team members have experience in web and mobile development, which will facilitate project implementation.
7. **Flexibility:** In case of difficulties, the team is prepared to adjust the scope or seek alternative solutions without compromising the main objectives of the project.