}

1. **PARTE I**

| **1. Antecedentes Personales** |
| --- |
| A continuación, se presenta una tabla en la que debes completar la información solicitada. |

| **Nombre Completo** | **Bruno Pérez, Matias Fuentes, Ignacio Fonseca, Marcelo Vivanco** |
| --- | --- |
| **Rut** | **21.055.887-K, 20.871.427-9, 20.452.824-1, 21.050.914-3** |
| **Carrera** | **Computer Engineering** |
| **Sede** | **Puente Alto** |

| **2. Descripción Proyecto APT** |
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| En la descripción debes señalar brevemente el nombre de tu proyecto APT y las competencias del perfil de egreso que vas a poner en práctica. Si en tu carrera están definidas las áreas de desempeño, también menciona a qué áreas de desempeño está vinculado el proyecto. |

| **Tema** | **Sistema POS/ERP** |
| --- | --- |
| **Área (s) de desempeño(s) (Opcional)** |  |
| **Competencias del perfil de egreso** | **Development, adaptation, and/or integration of computational systems, integration of information technologies, development of technological solutions, management of IT projects, management of information** |

| **3. Fundamentación Proyecto APT** |
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| A continuación, se presentan distintos campos que debes completar con la información solicitada. Esta sección busca que describas en detalle tu proyecto y justifiques su relevancia y pertinencia. |

| **Relevancia del proyecto APT** | **I’ve been analyzing this project idea since early 2024 because I became familiar with the challenges that businesses face (mainly SMEs, which are the main target of the business we want to help). Understanding both the behavior of their customers and their product needs is crucial. This project is relevant as it applies well-known and practiced methodologies and technologies** |
| --- | --- |
| **Descripción del Proyecto APT** | **As previously mentioned, this idea helps with:**   * **Improving the intuitive aspects compared to current accessible systems.** * **Better stock control for businesses.** * **More affordable prices.**   **We can realistically enter this market since this solution can be applied to real businesses today. Moreover, I have contacts who could assist in gathering more accurate requirements to meet the real needs of similar businesses.** |
| **Pertinencia del proyecto con el perfil de egreso** | **All the competencies I’ve listed are essential. If they are not well-known, we’ll have to study along the way to polish any gaps in knowledge. All of them are highly relevant in the graduation profile and professional development, particularly in current areas like cloud technologies (e.g., Firestore) and development patterns such as MVC and MVVM. This is why I believe this project is both relevant and suitable** |
| **Relación con los intereses profesionales** | **Throughout our career, several areas have piqued our interests, and we still hold interest in them. Currently, though, we feel this idea will help us grow more. We’re particularly interested in the field of data science, which is why we wanted to go beyond just building this point-of-sale system and also integrate business intelligence, cloud, AI, and machine learning areas. These are fields we wouldn’t mind pursuing in the near future. Although, due to our time constraints, AI/ML components will be optional. The core development will focus on the POS/ERP, with future considerations for feasibility.** |
| **Fortalezas y debilidades para desarrollar el Proyecto APT**  **(Factibilidad)** | **¿Por qué crees que es posible desarrollar tu Proyecto APT?**  **One potential obstacle to the project’s development is the professional practice, but since it only takes up half of the semester, we have a large window to allocate time and ensure the assignment is completed. Estimating time is difficult, as it requires near-daily work, but approximately 540 hours could be allocated. The necessary resources, like the PCs we’ve been using throughout our studies, are already available. Key facilitators include cloud infrastructures for deployment and access to AI APIs, so we don’t need to learn everything about AI from scratch. SMEs are available to gather requirements. External factors like regulations could be a hindrance, but we’ll handle them early to ensure flexibility and proper implementation, including necessary development patterns and licenses.** |

1. **PARTE II**

| **4. Objetivos** |
| --- |
| **En este apartado debes definir objetivos generales y específicos del Proyecto APT. Es importante aclarar que los objetivos se deben plantear en forma clara, concisa y sin dar mayores explicaciones, es decir, deben entenderse por sí solos. Se sugiere redactarlos utilizando un verbo en infinitivo, pues ello obliga a precisar acciones concretas.** |

| **Objetivo general** | **The general objective of this project is to create a solution for small businesses, kiosks, or SMEs. Our main goal is to develop a standard package for these businesses, which includes point-of-sale, inventory management, and supplier management. This will allow businesses to manage their operations, monitor inventory, and track their income daily, monthly, or annually, through system-generated reports.** |
| --- | --- |
| **Objetivos específicos** | **Implement point-of-sale functions.**  **Display sales statistics in charts.**  **Provide control over sales (total value, value with discounts, daily sales, canceling sales, and more).**  **Manage inventory (add, remove, and modify products).**  **Connect to a database to store necessary data (Firebase will be used).**  **Use PouchDB to operate without an internet connection.**  **Generate customizable reports in PDF format.**  **Allow interaction with suppliers (e.g., change product status to paid, pending, etc.).**  **Implement a user management system with role-based access (e.g., admin, worker, HR).** |

| **5. Metodología** |
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| **En el siguiente apartado deberás describir la metodología, propia de tu disciplina, que utilizarás para resolver el proyecto APT antes descrito, incluyendo las etapas y métodos de trabajo.** |

| **Descripción de la Metodología** |
| --- |
| **We will have weekly meetings for organization. The first will be on Mondays to set progress goals, and the second on Thursdays to report on progress and reorganize if we’re behind schedule.**  **Marcelo Vivanco: Frontend development and mockups.**  **Bruno Perez: Frontend development and mockups.**  **Ignacio Fonseca: Documentation and mockups.**  **Matias Fuentes: Documentation and mockups.** |

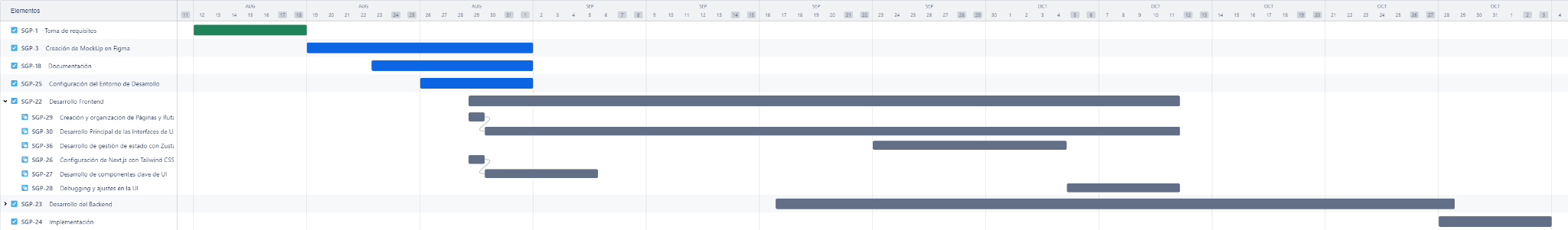
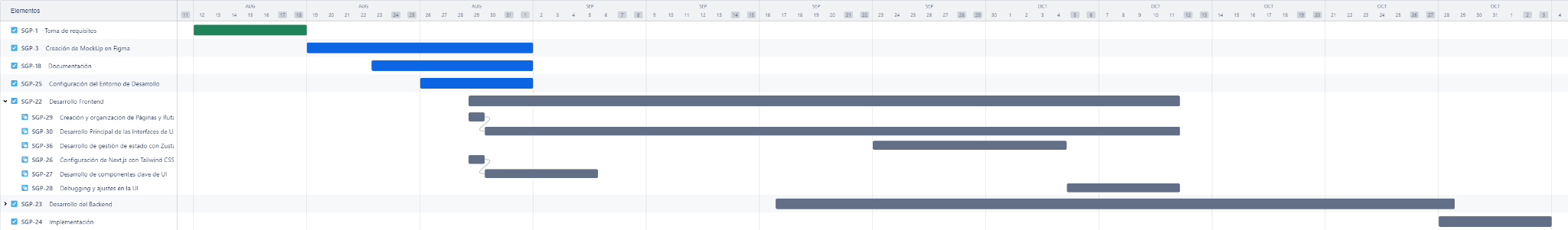
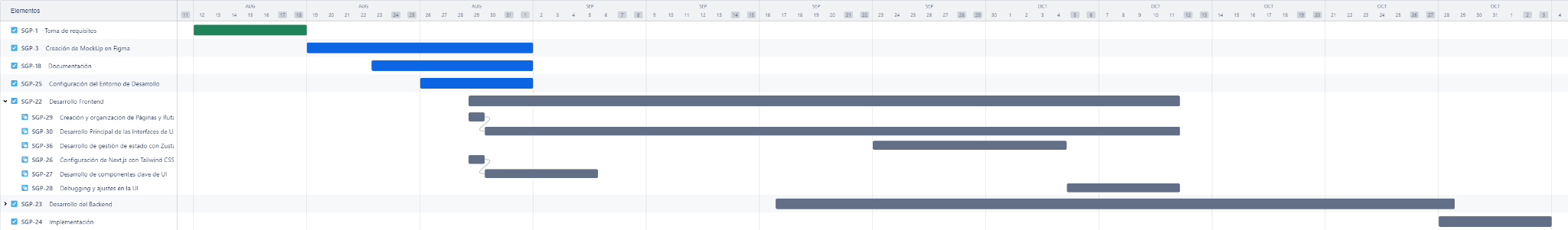
| **6. Evidencias** |
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| **A continuación, describe qué evidencias serán evaluadas en el informe de avance y en el informe final de tu proyecto APT. Estas evidencias deben ser acordadas con tu docente. Se entenderá por evidencia los productos que se desarrollen durante el proyecto y cuyo propósito sea visibilizar o documentar cómo se ha implementado el trabajo.** |

| **Tipo de evidencia**  **(avance o final)** | **Nombre de la evidencia** | **Descripción** | **Justificación** |
| --- | --- | --- | --- |
| **Deliverables** | **Mockups** | **Mockups of all the pages created using Figma to represent how the real application will look, including all tabs and functionalities.** | **Mockups are essential for visualizing the design and functionality of the system before implementation, ensuring that it meets the required specifications.** |
| **Deliverables** | **Acta de Constitución (Constitutional Act)** | **A document defining the project’s scope, limitations, and stakeholders’ involvement.** | **The Acta de Constitución defines the scope and limitations of the project, as well as formalizing the involvement and commitment of stakeholders.** |
| **Deliverables** | **ERS Report** | **Requirements and design specification report for the project, defining necessary functions and behaviors.** | **This report is crucial for establishing the foundation of the project, ensuring that functional and non-functional requirements are met from the outset.** |
| **Deliverables** | **Gantt Chart** | **A Gantt chart detailing time allocation for each task and their sequence.** | **The Gantt chart provides a clear timeline for project activities, essential for efficient time and resource management.** |
| **Deliverables** | **Requirements Spreadsheet** | **Document listing all project requirements and functionalities to ensure clear implementation.** | **This document ensures that all project requirements are clear and complete, allowing for correct implementation and functionality tracking** |
| **Deliverables** | **Meeting Minutes** | **Minutes of each meeting documenting assigned tasks and the project’s status.** | **The meeting minutes document the tasks assigned and the project’s status, ensuring that all team members are aligned and up to date** |
| **Deliverables** | **WBS Matrix** | **Work Breakdown Structure organizing requirements into hierarchical levels.** | **The Work Breakdown Structure (WBS) organizes the project requirements into hierarchical levels, facilitating task assignment and project management** |
| **Deliverables** | **Use Case Diagram** | **A diagram defining the system’s users, interactions, and behavior.** | **Use case diagrams are fundamental for understanding how users will interact with the system and ensuring that all possible interactions are covered** |
| **Deliverables** | **Project Definition Document** | **A document outlining the project’s scope, objectives, weaknesses, strengths, and competencies.** | **This document clearly defines the project’s objectives, scope, limitations, and competencies, providing a complete and realistic vision of what is expected to be achieved** |
| **Deliverables** | **Project Development Document** | **Details the development process and progress.** | **This document details the project’s progress, documenting the implementation process step-by-step** |
| **Deliverables** | **Final Report** | **A comprehensive report covering all project details, progress, and necessary documentation.** | **The final report summarizes the entire project, showing its evolution and ensuring that all objectives and requirements have been fulfilled** |
| **Deliverables** | **60% Completed Project** | **Intermediate evaluation of the project’s progress, ensuring deadlines and expectations are being met.** | **This deliverable allows for evaluation of the project’s progress at an intermediate stage, ensuring that deadlines and expectations are being met** |
| **Deliverables** | **100% Completed Project** | **The final, fully developed project with all functionalities.** | **This is the final result of the project, evaluated in its entirety to confirm that all established objectives have been met** |

| **7. Plan de Trabajo** |
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| **En la siguiente tabla define la planificación de tu Proyecto APT de acuerdo a lo requerido.** |

| **Plan de Trabajo Proyecto APT** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Competencia o unidades de competencias** | **Nombre de Actividades/Tareas** | **Descripción Actividades/Tareas** | **Recursos** | **Duración de la actividad** | **Responsable[[1]](#footnote-0)** | **Observaciones** |
| **Design, develop, implement, and deploy IT solutions for complex problems in the professional specialization.** | **Creation of mockups** | **Creating application mockups** | **Figma, creativity** | **14 days** | **Matías Fuentes, Bruno Pérez, Marcelo Vivanco, Ignacio Fonseca** | **Thanks to Figma, the process of creating the mockups didn’t pose much difficulty, aside from the creativity involved in designing and thinking through the functionality.** |
| **Design, develop, implement, and deploy IT solutions for complex problems in the professional specialization.** | **Creation of Acta de Constitución** | **Completing the constitutional act report** | **Computer, Google Drive account** | **4 days** | **Ignacio Fonseca** | **There were no difficulties with this activity since we had learned how to create the document in previous courses.** |
| **Design, develop, implement, and deploy IT solutions for complex problems in the professional specialization.** | **Creation of Use Case** | **Completing the use case diagram** | **Computer, Google Drive account** | **4 days** | **Bruno Pérez**  **Matías Fuentes** | **This part was a bit more challenging due to figuring out how to make the connections, but other than that, there were no significant issues.** |
| **Design, develop, implement, and deploy IT solutions for complex problems in the professional specialization.** | **Creation of WBS (EDT)** | **Completing the WBS diagram** | ***Computer, internet access (Miro)*** | **4 days** | **Bruno Pérez**  **Matías Fuentes** | **There were no difficulties in completing the WBS.** |
| **Design, develop, implement, and deploy IT solutions for complex problems in the professional specialization.** | **Requirements Spreadsheet** | **Listing project requirements** | **Computer, Excel** | **1 day** | **Bruno Pérez**  **Marcelo Vivanco** | **We had no problems since the requirements had already been gathered before starting the Capstone project.** |
| **Design, develop, implement, and deploy IT solutions for complex problems in the professional specialization.** | **Gantt Chart** | **Creating the Gantt chart** | **Computer, Google Drive account** | **4 days** | **Matías Fuentes**  **Bruno Pérez**  **Marcelo Vivanco**  **Ignacio Fonseca** | **The main challenge was ensuring that the timing was correct, so we wouldn’t have too little time for certain tasks.** |

| **8. Carta Gantt** |
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| Busca un formato de Carta Gantt que te acomode y organiza en este las actividades planificadas en el punto anterior considerando el periodo asignado para el desarrollo de tu Proyecto APT. Debes mantener la temporalidad del periodo académico en el desarrollo de las tres fases que contempla la Asignatura de Portafolio de Título. |



1. [↑](#footnote-ref-0)