

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

| Project Name | *Teamfit* |
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| Performance Area(s) | Our project encompasses many performance areas; here are the main ones related to computer science:   * Offering IT solution proposals by comprehensively analyzing processes according to the organization's requirements. * Developing a software solution using techniques that systematize the development and maintenance process, ensuring the achievement of objectives. * Building data models to support the organization's requirements according to a defined and scalable design over time. * Creating programs and routines of varied complexity to address the organization's requirements, aligning with market technologies and utilizing coding best practices. * Implementing comprehensive systemic solutions to automate and optimize business processes based on the organization's needs. * Resolving systemic vulnerabilities to ensure that the developed software complies with the industry's security standards. * Developing the transformation of large volumes of data to obtain organizational information and knowledge, supporting decision-making and improving business processes based on the organization's needs. |
| Competencies | * Process and Requirements Analysis * Data Modeling and Management * Databases and Information Handling * Programming and Solution Development * Systemic Solutions Implementation * Cybersecurity * IT Project Management * Data Transformation and Analysis |

| **Final Report Contents** | |
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| 1.Relevance of the APT Project | Roda Energía, an energy services platform of Abastible, is a consulting firm specialized in sustainability services and energy management solutions for various industries. With over 12 years of experience and a portfolio of more than 400 clients, Roda has been collaborating with CITT since 2022, working on innovative solutions such as Licibot. This year, Roda aims to advance solutions for "capacity management" or "resource planning" to optimize staff allocation. |
| 2. Objectives | **General Objective** The main objective of the project is to provide RODA with a tool that offers certainty and confidence when calculating the availability and allocation of resources for the services the company provides.  **Specific Objectives**   * Develop a software tool to optimize staff allocation. * Provide feedback to the commercial areas to improve project cost estimation. * Standardize resource planning through project management tools. * Allow resource adjustments if the planning done by our system does not meet the client's expectations. * Enable a more understandable visualization of projects for the client. |
| 3. Methodology | The project will be developed using agile methodologies, specifically the SCRUM framework, dividing roles as agreed upon by the team. The roles assigned to each team member are as follows:  Abraham Daque - Developer: Lead programmer for the resource allocator, responsible for developing the resource allocator and necessary modules, and implementing the class/table models required for the system's proper functioning.  Thomas González - Support Programmer: Assists the team with development, focusing primarily on supporting Abraham. He is also part of the group responsible for project clustering, which helps identify project types and their key characteristics.  Diego Rivera - Product Owner/Support Programmer: Acts as the client for the project, providing the vision for the system’s development and bridging the communication between the client and developers. Additionally, he assists with programming tasks for the resource allocator, creating the necessary models and tables for development.  Benjamin Ramirez - Front-End Designer: Responsible for the design and presentation of the project, ensuring a user-friendly and visually appealing layout.  Additionally, various programming and management tools will be used to facilitate both development and project organization. Some of the tools used by the team include:  - Odoo: To manage tasks for each team member.  - Excel: For creating the backlog, daily stand-ups, burndown charts, etc.  - Word: For creating various documents such as the project charter, project definition, meeting minutes, etc.  - Discord: For team development meetings.  - Google Meet: For client and professor meetings, as well as progress demonstrations and sprint reviews.  We believe that this methodology has been a great choice, as it has allowed us to progress in different modules and achieve continuous results, maintaining efficient organization throughout the development process. |
| 4.Development | * *Our way of organizing stages or activities was through sprints, each lasting 2 weeks. In these sprints, we defined user stories to complete, and at the end of each sprint, we held a review meeting.* * *At the beginning of the project, we faced challenges with limited experience and poor communication, as we often failed to communicate the issues that arose during development, both with our supervising professor and within our team.* * *Difficulties and Facilitators:* * *In the initial sprints, we struggled to organize ourselves as a team since we had never worked together before. This led to role changes and delays in completing user stories.* * *To resolve the conflicts and problems that arose during the project's development, we had to reorganize the team and collaborate with Group 1. This allowed us to complete the user stories more effectively and improved communication between the team members of both groups.* |
| 5. Evidencies | Below, the relevant evidence is inserted. |

| **Type of evidence**  **(progress or final)** | **Name of the evidence** | **Description** | **Justification** |
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| **Progress** | **Minutas de Reunión (Incluye sprint reviews)** | **Meeting minutes are a written record of the topics discussed, decisions made, and actions to be taken during a meeting.** | **Using them ensures that all participants are aligned, allows for tracking agreements, and guarantees that responsibilities and deadlines are clear to everyone.** |
| **Progress** | **Dailies** | **Dailies, or daily meetings, are brief gatherings where the team discusses the project's progress, obstacles, and plans for the day.** | **Using them keeps the team coordinated, quickly identifies issues, and ensures that everyone is focused on the most important tasks of the day.** |
| **Progress** | **Backlog** | **A backlog is a prioritized list of tasks, features, and requirements that are pending in a project.** | **Using it allows for organizing, prioritizing, and efficiently managing the pending work, ensuring that the team focuses on the most important tasks first.** |
| **Progress** | **Lean Inception** | **Lean Inception is a collaborative methodology used to quickly define the scope, objectives, and key features of a minimum viable product (MVP).** | **Using it aligns the team and stakeholders from the start, accelerating the definition of the MVP and ensuring a focus on delivering value quickly.** |
| **Final** | **Charter Document** | **A high-level presentation of the project's objectives, scope, and responsibilities to gain approval from key stakeholders at the start of the project.** | **The project charter clarifies objectives, defines scope and responsibilities, and obtains approval from stakeholders, ensuring commitment and effective execution from the start.** |
| **Progress** | **Increments** | **A test plan is a document that outlines the testing process for an application, including the identification of errors, their descriptions, and the steps needed to correct them. It serves as a guide to ensure the application functions as expected.** | **Using it allows for continuous value delivery, early feedback, and ensures that the product evolves in an iterative and adaptive manner.** |
| **Final** | **Test Plan** | **A test plan is the process of testing the application, which includes errors and descriptions that need to be corrected.** | **Using it allows you to know the status of the deliverable and helps correct errors that could make it unusable, as well as details that could improve the product's quality to make it more user-friendly.** |
| **Progress** | **Cuaderno Colab** | **Google Colab is a free online tool for running Python code, with access to GPUs and storage on Google Drive, making it ideal for data science and machine learning.** | **This helped in clustering Roda's data to obtain groups that would assist in categorizing and assigning hours.** |
| **Final** | **User Manual** | **A user manual is a document that provides detailed instructions on how to use a product or service. It includes information about its functions, features, setup, and troubleshooting. Its purpose is to help users understand and make the most of the product.** | **It is a necessary document for the end user that provides details on how to use all the product's features, avoiding the need to contact developers for every question and offering immediate solutions.** |
| **Final** | **Architecture Diagram** | **An architecture diagram is a visual representation of the key components of a system and their interactions. It helps to understand the system's structure and the flow of information between its parts.** | **Using an architecture diagram facilitates the understanding of the system's design, identifies potential areas for improvement, and aids in decision-making.** |

| 6. Professional Interests and Career Projections | * It relates to our professional interests because it helps us manage a project, document it, program both front end and back end, and work with a real client with actual needs and problems, allowing us to apply our problem-solving skills. * Diego Rivera: This project helped me practice what I learned about agile methodologies in a real-world setting. I also reinforced my web programming knowledge and learned other related things. However, my professional interests are not yet clear, but I will discover them as I gain more work experience. Regarding my career projections, I would like to complement my professional profile with a postgraduate degree in marketing, and continue deepening my knowledge of software or web development. * Thomas González: Yes, this project helped me gain more insight into my professional interests as it gave me the opportunity to work as a team with a real client and with real documentation. This allowed me to experience firsthand many aspects I will encounter later, including back-end work, which I am now more interested in pursuing. My professional interests are in back-end development, and more recently, automation (thanks to my internship, which sparked this interest). I see myself professionally as someone capable of properly documenting work and working well in a team, something Duoc emphasized during my training. Additionally, I envision myself as a professional who will stay updated with the tech world independently, studying and demonstrating the self-taught profile I developed during my studies. * Abraham Daque: This project helped me better understand client and development team interactions and how to adapt to the client’s needs, which is very helpful to me since I would like to work as a product owner if given the chance. It also allowed me to apply the knowledge I gained throughout my studies, such as planning, requirements gathering, problem analysis, and aligning development goals with those of the project manager and the client. * Benjamín Ramírez: This project helped me deepen knowledge in subjects we had covered a while ago. It also boosted my confidence, as programming a system for a real client without failures can be a bit intimidating. However, seeing the development and the final result made me quite happy. I would also highlight the teamwork aspect, as we managed to organize ourselves and deliver a quality product in all the aspects requested. My professional interests haven’t changed, and without a doubt, I have greatly benefited from this experience. |
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