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**Guía1. Definición Proyecto APT**

**Asignatura Capstone**

1. **PARTE I**

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

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| Nombre estudiante | Alejandro Valenzuela Bovet |
| Rut | 20537438-8 |
| Carrera | Ingeniería Informática |
| Sede | Antonio Varas |

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

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| Nombre estudiante | Gerson Figelist Catalán |
| Rut | 19.084.755-1 |
| Carrera | Ingeniería Informática |
| Sede | Antonio Varas |

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

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| Nombre estudiante | Diego Meynard |
| Rut | 20.721.828-6 |
| Carrera | Ingeniería Informática |
| Sede | Antonio Varas |

1. **PARTE I**

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| **2. Descripción Proyecto APT** |
| 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. |

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| Nombre del proyecto | **MinutIA** |
| Área (s) de desempeño(s) | Mobile application development, software architecture, and IT project management. |
| Competencias | * Manage the configuration of environments, application services, and databases in a business environment to enable operability or ensure the continuity of systems that support business processes in accordance with industry standards. * Develop a software solution using techniques that allow for the systematization of the development and maintenance process, ensuring the achievement of objectives. * Build programs and routines of varying complexity to solve a problem, aligned with market technologies and following good coding practices. * Conduct certification tests for both products and processes using industry-defined best practices. * Build the architectural model of a systemic solution that supports business processes according to the organization's requirements and industry standards. * Manage IT projects, offering alternatives for decision-making according to the organization's requirements. * Solve everyday, scientific, and work-related problems using basic mathematics, proportional relationships, and basic algebra. * Communicate orally and in writing in English in socio-labor contexts at an upper-intermediate level in an intensive modality, according to the TOEIC and CEFR competence tables. * Communicate in English in work-related situations at an intermediate level, related to the field of IT and the development of communication skills, according to the TOEIC and CEFR competence tables. * Generate innovative ideas, solutions, or processes that respond to opportunities, needs, and productive or social demands, in collaboration with others and assuming calculated risks. * Develop entrepreneurial projects based on identifying opportunities in their specialty, applying techniques aligned with the objective, focusing on adding value to the environment. |

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| **3. Fundamentación Proyecto APT** |
| 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. |

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| Relevancia del proyecto APT | The relevance of this project is primarily directed at innovation in the field of meal organization applications, a sector that has so far been dominated by tools with a common factor: being manual applications that are difficult to understand and use. These limitations have prevented many people from fully leveraging the advantages of efficient management of their eating habits.  With MinutIA, we seek to break away from this traditional mold by incorporating advanced artificial intelligence. Our goal is to generate more efficient and faster solutions for those who need a system that assists them in multiple aspects. These include planning their diet in a personalized way, saving money by optimizing the purchase and use of ingredients, discovering new recipes adapted to their tastes and nutritional needs, reducing food waste, and saving time in meal preparation and organization. All this in an easy and intuitive manner.  As a fundamental principle, we aspire for MinutIA to be a useful and accessible application for anyone, regardless of their budget, age, or lifestyle. The application will handle the heavy lifting, offering recommendations and solutions tailored to their specific needs. Additionally, the application will help promote healthy and sustainable habits by encouraging mindful eating and reducing food waste. In essence, MinutIA aims to revolutionize how people interact with their daily meals, making the process simpler, more efficient, and enjoyable. |
| Descripción del Proyecto APT | *.*  MinutIA will be an application that allows each user to scan their shopping receipts and, with the help of artificial intelligence, create a personalized meal plan based on the food they have purchased. This meal plan will not be generic but will adapt to each user's preferences and specific needs, whether due to personal tastes, restrictions, lifestyle, or any other factor.  MinutIA's artificial intelligence will be responsible for generating a daily meal plan, efficiently using each item entered, either by scanning receipts or manually adding products. This way, the user can reduce unnecessary time and money expenses and minimize food waste by making the most of available ingredients.  Each meal plan will include not only the planning of meals but also detailed recipes and all the necessary information to prepare the dishes easily and efficiently. The application will provide clear and precise instructions, ensuring that any user can follow them and enjoy delicious and nutritious meals.  Additionally, MinutIA will include an expense management feature, allowing users to have detailed control over how much they are spending on food and detect potential areas for savings. This feature will help not only optimize financial resources but also promote more conscious and balanced eating. |
| Pertinencia del proyecto con el perfil de egreso | The "MinutIA" project relates to the degree's graduation profile and its competencies because it incorporates several of the key competencies that are part of our academic training. This project requires the integration of technical knowledge in systems, software development, database management, and enterprise service management, all with the goal of offering an efficient solution to a real user need.   * **System and database administration**: Proper configuration of systems and databases is essential to ensure the operability and continuity of MinutIA, complying with industry standards in a business environment. * **Software development and maintenance**: The project requires applying development methodologies that allow the creation of an efficient and adaptable software solution, ensuring its sustainability in the long term. * **Building complex programs**: To generate personalized meal plans, algorithms and routines will be constructed, applying good coding practices and market technologies. * **Testing and certification**: It is essential to follow good software testing practices to ensure the application's quality and reliability. * **Architectural modeling**: The technological architecture design must support the data flow and system processes, ensuring efficiency and continuous availability. * **IT project management**: The ability to manage the project is required, making informed decisions to solve problems and coordinate resources. * **Innovation and entrepreneurship**: MinutIA is an innovative solution that leverages artificial intelligence to address a real need, requiring creativity and entrepreneurship strategies for success in the market. |
| Relación con los intereses profesionales | **Our professional interests** are centered on the development of innovative technological solutions, especially in the areas of artificial intelligence, software development, and more. We are attracted to the idea of creating tools that improve people's quality of life and solve problems efficiently.  The APT Project aligns perfectly with these interests, as MinutIA uses artificial intelligence to optimize meal planning, a daily process that can be complicated for many people. This project allows me to apply knowledge in areas such as software development, databases, and automation, which is essential for my growth in the technological field.  Developing MinutIA will contribute to my professional development by putting my technical skills into practice, in addition to strengthening my ability to manage projects and create solutions with real impact. It will also allow me to deepen my knowledge of artificial intelligence, a field with great potential, and better position myself to face future challenges in my career, opening opportunities in sectors where technology is transforming the way people interact with the world. |
| Factibilidad de desarrollo del Proyecto APT | Developing the APT Project "MinutIA" is feasible, considering the semester duration and the hours assigned to the course. We can structure the development in manageable phases: design, software development, testing, and final adjustments. If we also consider the experience and learning acquired during the degree, it will provide us with the necessary tools to develop the application with the proposed functions.  Factors to consider:   * **Materials**: The necessary resources include development tools, databases, artificial intelligence libraries, and cloud servers. Most of these tools are available for free or are accessible, which will facilitate the project's progress. * **Facilitating factors**: The availability of technologies such as cloud development platforms, AI APIs, and specialized libraries could help reduce the time needed to develop advanced solutions. Additionally, the knowledge acquired during the degree will allow us to implement the project using good practices and modern tools. * **Challenges**: One of the external challenges could be limited time, as developing an AI application requires constant testing and adjustments. To mitigate this factor, we will prioritize essential functions and establish a detailed schedule to manage tasks within the semester. Another potential obstacle could be the technical complexity of implementing AI, but this could be solved by using pre-existing and easy-to-integrate AI frameworks, such as ChatGPT. |

1. **PARTE II**

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| **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. |

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| Objetivo general | To develop an artificial intelligence application that allows users to optimize their meal planning, considering the food they have purchased and their personal preferences, such as diet types and specific tastes. The objective is to offer a tool that not only simplifies the creation of daily menus but also helps reduce food waste, save time and money, and improve food management efficiently and accessibly for all users. |
| Objetivos específicos | * Implement a receipt scanning system to automatically input the food items purchased by the user. * Incorporate a system to add, delete, or edit products. * Develop an artificial intelligence algorithm that generates personalized meal plans based on the entered food items and user preferences. * Implement a function to define user preferences to generate a meal plan tailored to their tastes. * Incorporate an expense management feature that allows the user to control their food-related finances. * Design a user-friendly interface that facilitates interaction with the application while also making it easy to view and track the meal plan. * Perform system functionality testing and optimization to ensure proper operation. |

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| **5. Metodología** |
| 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. |

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| Descripción de la Metodología |
| For the development of the APT Project MinutIA, we will use the agile Scrum methodology, which is characterized by delivering incremental product updates in short cycles called sprints, each lasting two weeks. The project will be carried out in five sprints, allowing for constant and flexible product evolution.  **Work stages and methods**:   * **Sprint Planning**: At the start of each sprint, a planning meeting will be held to organize the specific tasks to be developed over the next two weeks, prioritizing the most important features of this project. * **Sprint Development**: As previously mentioned, the project consists of five sprints, where each application feature (specific objective) will be developed. This will facilitate task organization and development. * **Sprint Review**: At the end of each sprint, the results will be reviewed, presenting the project's progress against the timeline and evaluating necessary improvements. * **Sprint Retrospective**: The work process will be analyzed to identify opportunities for improvement in the methodology and/or team organization.   **Roles and Responsibilities**:   * **Product Owner** [Alejandro Valenzuela]: Responsible for defining the product's features and prioritizing functionalities. In charge of gathering information for optimal project production. * **Scrum Master** [Gerson Figelist]: Responsible for ensuring adherence to Scrum principles and the correct execution of each sprint to meet deadlines and development goals. * **Development Team** [Diego Meynard and others]: Responsible for developing the software, performing necessary system tests and adjustments, ensuring secure development, and following best practices. |

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| **6. Evidencias** |
| 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. |

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| **Tipo de evidencia**  **(avance o final)** | **Nombre de la evidencia** | **Descripción** | **Justificación** |
| **Interfaz app** | **Frontend MinutIA** | The visual interface of the application will be created, which will be made in React | **Show the platform with which the user interacts and how it will be distributed** |
| **Ballot scanning function and generation of minutes from it** | **Minute generation with AI** | The operation of the star function of the application will be shown, which consists of taking a photo of the purchase receipt and from there the app will generate a minute with the parameters that the user enters. | **Expose the use of microservices, AI and storage processes in the database** |
| **Calendar display function** | **Minute calendar** | The application will present a calendar associated with the current date where it will show how the minutes are distributed over the days. | **Show use of internal microservice and loading-reading of database data.** |
| **Complete APP** | **MinutIA** | The application will be presented in version 1.0, which will be the conformation of the previous evidence plus other minor functions. | **Present the consolidation of the project where the different technical and generic skills acquired during the degree were applied** |

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

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| **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-1) | Observaciones |
| Manage IT projects, offering alternatives for decision making according to the organization's requirements. | Project management | Monitor compliance with stories and epics | JIRA | The whole project | Gerson Figelis |  |
| Develop a software solution using techniques that allow the development and maintenance process to be systematized, ensuring the achievement of objectives. | Application Development | Develop the frontend of the application | Visual code estudio, GIT | 4 weeks | Diego Meynard |  |
| Develop a software solution using techniques that allow the development and maintenance process to be systematized, ensuring the achievement of objectives. | Application Development | Develop the internal Microservice of the application | PYCHARM y GIT | 4 weeks | Alejandro Valenzuela |  |
| Build data models to support the organization's requirements according to a defined and scalable design over time. | Database design and modeling | Create database and connect it to Django | Mysql y Mysql workbrench | 1 week | Alejandro Valenzuela |  |
| Perform certification testing of both products and processes using good practices defined by the industry. | Perform application QA testing | Complete defined quality testing | Excel | 2 weeks | Alejandro Valenzuela |  |
| Perform certification testing of both products and processes using good practices defined by the industry. | Perform application QA testing | Complete defined quality tests. | Excel | 2 weeks | Diego Meynard |  |
| Manage the configuration of environments, application services and databases in a business environment in order to enable operability or ensure the continuity of the systems that support business processes according to standards defined by the industry. | Build and deploy the application | Compile app and deploy services and database in the cloud. | Heroku y android studio | 1 week | Gerson Figelis |  |

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| **8. Backlog** |
| 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. |

Interfaz de usuario gráfica, Aplicación, Teams

Descripción generada automáticamente

1. En caso de que el Proyecto APT sea grupal, en esta columna deben indicar el nombre de los responsables de cada tarea o actividad. Esto posteriormente permitirá diferenciar la evaluación por cada integrante. [↑](#footnote-ref-1)