}

1. **PARTE I Sebastian Palma**

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

| Nombre estudiante | [**SEBASTIAN ANDRES PALMA ESPINOZA**](mailto:se.palmae@duocuc.cl) |
| --- | --- |
| Rut | **20.722.122-8** |
| Carrera | **Ingenieria en informatica** |
| Sede | **Maipú** |

| **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. |

| Nombre del proyecto | **Sistema Unidad Territorial** |
| --- | --- |
| Área (s) de desempeño(s) | **Analysis and evaluation of IT solutions.**  **Software development.** |
| Competencias | **Develop a software solution using techniques that systematize the development and maintenance process, ensuring that objectives are achieved.**  **Build data models to support the organization's requirements according to a defined and scalable design.**  **Perform certification testing of both products and processes using industry-defined best practices.** |

| **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. |

| Relevancia del proyecto APT | **Currently, organizations use IT tools to improve their projects in terms of organization, communication, time reduction, costs, labor, energy, and material resources, which is why they are constantly seeking technological solutions.**  **The state, municipalities, and neighborhood associations are no exception, with the latter being the most neglected in terms of technology use. A neighborhood association is a community organization of a territorial nature, representing the people who live in the same neighborhood, whose purpose is to promote community development, defend the interests and rights of residents, and represent them before the authorities.**  **This project proposes an IT solution that can be adapted to the reality of any neighborhood association in Chile and meets the needs of the management team and residents.**  **It is hoped that the system developed will enable the organization of activities, projects, documents, and the members of the neighborhood association.** |
| --- | --- |
| Descripción del Proyecto APT | **Build a system that improves the management of the territorial unit. As high-level requirements, the system is expected to fulfill the following functions:**  **Internal use by the neighborhood council:**  **Management of neighbor registration in the neighborhood council.**  **Management of requests and issuance of residence certificates.**  **Management of neighborhood project applications.**  **(That is, the procedures proposed must be reviewed and approved or rejected by the board or authorized personnel, and applicants must receive the decision via email).**  **Sending notifications and notices to the inhabitants of the territorial unit via poster-type notices, email, and/or WhatsApp.**  **Publication of news.**  **Public use:**  **Registration of residents in the neighborhood association.**  **Request and issuance of residence certificates.**  **Submission of neighborhood projects; only members of the neighborhood association may submit projects.**  **Requests from residents of the territorial unit, sports fields, halls, squares, etc. This will be managed with a calendar.**  **Registration of residents for neighborhood activities or others, depending on availability.**  **Receipt of notifications and notices to residents of the territorial unit via poster-type notices, email, and/or WhatsApp.**  **News display**  **The system can be a responsive website connected to a database.**  **It must include usability features so that the director or assigned staff can manage the system without the need for computer skills.**  **We suggest visiting a neighborhood association if more information is required.** |
| Pertinencia del proyecto con el perfil de egreso | **The project is entirely relevant, as we are improving processes by implementing website features to meet the management needs of neighborhoods (digital innovation) based on our IT skills.**  **Skills are necessary in the way they are used; software development allows us to structure and store information in an easier, faster, and more scalable way.** |
| Relación con los intereses profesionales | **My professional interests lie more in information analysis and security. This project focuses on software development, which I am good at, and will help me continue practicing the development of innovative proposals.** |
| Factibilidad de desarrollo del Proyecto APT | **This project is feasible because there is a clear need for it among the public. I hope that you won't encounter too many problems developing the app over the course of the semester, because this project is quite a big challenge.**  **You will have as much time as possible to make progress on the project.** |

1. **PARTE I Javier Bravo**

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

| Nombre estudiante | [**JAVIER IGNACIO BRAVO MORALES**](mailto:javi.bravom@duocuc.cl) |
| --- | --- |
| Rut | **20.977.235-3** |
| Carrera | **Ingenieria en informatica** |
| Sede | **Maipú** |

| **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. |

| Nombre del proyecto | **Sistema Unidad Territorial** |
| --- | --- |
| Área (s) de desempeño(s) | **Analysis and Evaluation of IT solutions.**  **Software Development.** |
| Competencias | **We will primarily develop a web page that meets the needs of the neighbors.**  **A database model will be built to store the neighbors’ user data.**  **Security tests will be carried out on the web page through a program that performs different checks.** |

| **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. |

| Relevancia del proyecto APT | **We chose this project because it contributes to and helps the community. This project facilitates the management of the neighborhood association by handling documentation and assigning roles to different neighbors.** |
| --- | --- |
| Descripción del Proyecto APT | **Build a system that improves the management of the territorial unit, expected to meet some functions such as: management of neighbor registration in the neighborhood association, approval of certificates, etc.**  **It is suggested to visit a neighborhood association if further information is required.** |
| Pertinencia del proyecto con el perfil de egreso | **It fits our graduate profile since what is expected for the project is exactly what we are expected to achieve in the professional field. We must define a methodology, program the system, perform tests, and ensure the system is working 100%.** |
| Relación con los intereses profesionales | **This project is not directly related to my professional interests since I would like to work in data analysis, but this project itself is very interesting.** |
| Factibilidad de desarrollo del Proyecto APT | **I would say it is feasible because what is being asked of us is within our reach. Even though we do not have a budget, this project can be carried out without major problems.** |

1. **PARTE I Tomas Aravena**

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

| Nombre estudiante | [**TOMAS ALEJANDRO ARAVENA DIAZ**](mailto:to.aravena@duocuc.cl) |
| --- | --- |
| Rut | **19.233.574-4** |
| Carrera | **Ingenieria en informatica** |
| Sede | **Maipú** |

| **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. |

| Nombre del proyecto | **Sistema Unidad Territorial** |
| --- | --- |
| Área (s) de desempeño(s) | **Analysis and Evaluation of IT Solutions.**  **Software Development.** |
| Competencias | **Develop a software solution using techniques that allow systematizing the development and maintenance process, ensuring the achievement of objectives.**  **Build data models to support the organization’s requirements according to a defined and scalable design over time.**  **Carry out certification tests for both products and processes, using industry-defined best practices.** |

| **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. |

| Relevancia del proyecto APT | **Currently, organizations use IT tools with the purpose of improving organization, communication, and the reduction of time, costs, labor, energy, and material resources in their projects. For this reason, they are constantly seeking technological solutions.**  **The state, municipalities, and neighborhood councils are no exception, with the latter being the most neglected in terms of technology use. A neighborhood council is a community organization of territorial nature, representative of the people who live in the same neighborhood, whose purpose is to promote community development, defend interests, and safeguard the rights of residents, representing them before the authorities.**  **This project proposes an IT solution that can be adapted to the reality of any neighborhood council in Chile and address the needs of both its board of directors and the residents of the community who are over 14 years of age.**  **The developed system is expected to enable the organization of activities, projects, documents, and members of the neighborhood council.** |
| --- | --- |
| Descripción del Proyecto APT | **Build a system that improves the management of the territorial unit. As high-level requirements, the system is expected to meet the following functions:**  **Internal use of the neighborhood council:**  **Management of neighbor registration in the neighborhood council. Management of requests and issuance of certificates of residence. Management of applications for community projects.  (That is, the submitted requests must be reviewed and either approved or rejected by the board or authorized staff, and applicants must receive the resolution via email). Sending notifications and announcements to the residents of the territorial unit through poster-type notices, email, and/or WhatsApp. Publication of news.**  **Public use:**  **Registration of neighbors in the neighborhood council. Request and issuance of certificates of residence. Application for community projects (only members of the neighborhood council can apply). Requests from residents of the territorial unit regarding sports fields, halls, parks, etc. This will be managed with a calendar. Registration of residents for community activities or other events, depending on**  **available capacity. Receipt of notifications and announcements for the residents of the territorial unit through poster-type notices, email, and/or WhatsApp. News display.**  **Additional requirements:**  **The system may be a responsive website connected to a database. It must include usability attributes so that the board or assigned staff can manage the system without the need for IT knowledge. It is suggested to visit a neighborhood council if further information is required.** |
| Pertinencia del proyecto con el perfil de egreso | **I consider that this project is fully related to my graduate profile because it allows me to apply what I have learned throughout my studies, both in my strengths and in the areas where I acknowledge I still need to improve.**  **For example, I especially enjoy data modeling and feel comfortable building the structure that supports a system, so this part of the project will be an opportunity for me to stand out. I also tend to take good programming practices into account, which will help me implement clear and maintainable functionalities.**  **This project will also help me strengthen competencies where I still lack experience. I recognize that I usually focus first on solving a problem before designing a system, and here I will have to work in a more organized way from the beginning. The same applies to certification testing and software security, areas where I do not yet feel fully confident, but which I know I will be able to strengthen by applying them in a practical way during the system’s development.** |
| Relación con los intereses profesionales | **My professional interests are more focused on information analysis and its security. This project is oriented towards software development, which I am also good at, and it will help me continue practicing the development of innovative proposals.** |
| Factibilidad de desarrollo del Proyecto APT | **It is feasible to develop this project because there is a clear need for a specific audience. I hope that throughout the semester I will not encounter many inconveniences while developing the app, since this project is quite a big challenge as well.**  **You will have all the necessary time to move forward with the project.** |

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 | **Develop a web application that meets the residents’ requirements—an app that improves administrative and communication management within a neighborhood.** |
| --- | --- |
| Objetivos específicos | **Develop the database architecture Develop the front end (UI) Develop the API to handle endpoints Document the development Implement features** |

| **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. |

| Descripción de la Metodología |
| --- |
| **Iterative Incremental: Each iteration will include phases of planning, design, development, testing, and feedback, generating a continuous improvement cycle. In this way, the entire system is not expected to be built all at once, but rather functionalities and refinements will be added in each partial delivery.  First iteration = Creation of the deployment environment (DB, Front, Back) including CRUD operations for residents.** |

| **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. |

| **Tipo de evidencia**  **(avance o final)** | **Nombre de la evidencia** | **Descripción** | **Justificación** |
| --- | --- | --- | --- |
| **Progress** | **Requirements Gathering (Document)** | **Document that defines the scope to be developed as agreed upon by the project stakeholders.** | **Requirements gathering is crucial to define the scope of the APT project.** |
| **Final** | **Closing Document** | **Report that summarizes the work carried out, the conclusions, and the results obtained in the APT project.** | **This evidence validates the project development and demonstrates the fulfillment of the stated objectives, reflecting the entire development process.** |
| **Progress** | **Planning and Design Documents (Architecture, GUI, and DB)** | **Set of documents including system architecture diagrams, user interface (GUI) design, and database model.** | **These documents show the planning stage and justify the coherence between the gathered requirements and the system design.** |
| **Final** | **Control and Testing Documents** | **Record of unit, integration, and validation tests, along with the results obtained during system verification.** | **This evidence demonstrates compliance with quality standards and certifies that the developed system works correctly according to the defined requirements.** |
| **Progress** | **Web System (Front-end, Back-end, DB)** | **Progressive development of the web system, including the construction of the front-end in React, the back-end with database connection, and the integration of both components.** | **This evidence demonstrates the technical progress achieved during development and ensures that the different programming stages were executed in an articulated and functional manner.** |

| **7. Plan de Trabajo** |
| --- |
| 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 |
| Propose IT solution alternatives by analyzing processes | Requirements Analysis | Identification of the organization’s needs and requirements gathering to propose a comprehensive IT solution. | Process documentation, computer | 1 week | Javier Bravo,  Sebastian Palma,  Tomas Aravena | . |
| Build data models based on requirements | Database Modeling | Design of the relational model that supports neighbor registration and data management for the organization. | MySQL Workbench, entity-relationship diagram | 1 week | Sebastian Palma |  |
| Build APIs and functions | Backend Development | Programming in Node/FastAPI to connect the frontend with the database, applying best practices. | PC, local server, backend framework | 2 week | Sebastian Palma | Some difficulties may arise due to lack of knowledge about certain functions. |
| Build the architectural model of the solution | Front End | Definition of the client-server architecture, components, and communication between layers. | UML diagrams, modeling tools, HTML, CSS | 4 days | Javier Bravo,  Sebastian Palma,  Tomas Aravena |  |
| Manage IT projects | Planning and Monitoring | Organization of tasks, schedules, and control meetings to ensure project progress. | Trello, schedule in Excel | Throughout the project | Javier Bravo,  Sebastian Palma,  Tomas Aravena | Possible delays in deadlines. |

| **8. Carta Gantt / Roadmap** |
| --- |
| [**Carta gantt**](https://docs.google.com/spreadsheets/d/1bQhfpwSczwrIxfPcF4IY7_qJI1WoQW6t/edit?gid=527865933#gid=527865933) |

**Roadmap en base a Épicas y Historias de usuario**

| **Sprint** | **Semanas** | **Épica / Objetivo** | **Historias de Usuario principales** |
| --- | --- | --- | --- |
| **Sprint 1** | **1–2** | **Initiation and Setup** | **US0.1: As a team, I want to gather requirements and define the backlog.**  **US0.2: As a student, I want to define the architecture (DB, API, UI).** |
| **Sprint 2** | **3–4** | **Neighbor Registration and Management** | **US1.1: As a neighbor, I want to register online to join the committee.**  **US1.2: As an administrator, I want to approve or reject registrations.**  **US1.3: As an administrator, I want to manage the list of registered neighbors.** |
| **Sprint 3** | **5–6** | **Residency Certificates** | **US2.1: As a neighbor, I want to request a residency certificate online.**  **US2.2: As an administrator, I want to approve or reject certificate requests.**  **US2.3: As a neighbor, I want to automatically receive my certificate by email.** |
| **Sprint 4** | **7–8** | **Community Project Management** | **US3.1: As a neighbor, I want to submit community projects through the page.**  **US3.2: As an administrator, I want to approve or reject community projects.**  **US3.3: As an administrator, I want to keep a historical record of submitted projects.** |
| **Sprint 5** | **9–10** | **Communication and Notifications** | **US4.1: As an administrator, I want to publish announcements and news for neighbors.**  **US4.2: As a neighbor, I want to receive notifications via email or WhatsApp.**  **US4.3: As a neighbor, I want to view news on the platform.** |
| **Sprint 6** | **11–12** | **Activity and Reservation Management** | **US5.1: As a neighbor, I want to sign up for community activities organized by the committee.**  **US5.2: As an administrator, I want to manage the capacity of activities.**  **US5.3: As a neighbor, I want to reserve community spaces (courts, rooms, parks).** |
| **Sprint 7** | **13–14** | **Integration and Usability** | **US6.1: As a user, I want to test the integration of modules to ensure system consistency.**  **US6.2: As a neighbor, I want a user-friendly and easy-to-use interface.**  **US6.3: As an administrator, I want the database to function efficiently and securely.** |
| **Sprint 8** | **15-16** | **Testing and Validation** | **US7.1: As a neighbor, I want to test the system before its final implementation.**  **US7.2: As an administrator, I want to validate that the functionalities meet the defined objectives. US7.3: As a team, I want to document the tests and results obtained.** |
| **Sprint 9** | **17** | **Project Completion** | **US8.1: As a team, I want to prepare the final document with conclusions and results.**  **US8.2: As a team, I want to carry out a retrospective to identify improvements for future projects.** |

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-0)