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1. **PART I**

| **1. Personal Background** |
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| Below is a table where you need to complete the requested information. |

| Student Name | **Miguel Rubio, Martin del Rio** |
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| Rut | **19.244.925-1, 20.284.220-8** |
| Major | **Ingenieria en informatica** |
| * Campus | **Duoc UC Antonio Varas** |

| **2. APT Project Description** |
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| The project to be undertaken involves a technological solution related to Chile's new personal data protection law (Law No. 19,628). This solution is designed for any company that does not comply with the regulations of this law. It involves a website that enables the encryption and protection of personal data used by various users. Additionally, it includes a consent system for this data and a record of how the data is being used, ensuring compliance with the data usage cycle. |

| Project Name | Project Secdata |
| --- | --- |
| Area(s) of Performance | The project will allow us to focus on a critical area such as personal data protection, by developing a solution that will need to be implemented in accordance with legal security regulations. The project will be developed using key technologies that provide a robust environment and good documentation, culminating in the creation of a comprehensive system. We will delve into learning the Django Framework, as it is considered a functional tool with great scalability for modern web solution development. Skills in databases and Python will be refined, providing experience in the field of data protection. |
| Competencies | Design, develop, implement, and deploy IT solutions, solving complex problems in their professional area of expertise. In this context, they evaluate and apply standards, frameworks, regulatory requirements, technologies, and methodologies.  Integrate professional ethics and continuous learning into their work.  Manage the configuration of environments, application services, and databases in a business setting to enable functionality or ensure the continuity of systems that support business processes according to industry-defined standards. |

| **3. Fundamentación Proyecto APT** |
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| Below are various fields that you need to complete with the requested information. This section aims to have you describe your project in detail and justify its relevance and appropriateness. |

| Relevance of the APT Project | The project aims to address the issue of improper handling of personal data and non-compliance with Law No. 19,628 on Privacy Protection and Personal Data Protection in Chile.  It is understood that many companies or organizations do not meet legal requirements regarding the data lifecycle, which leads to economic penalties, a lack of confidentiality of personal data, and a loss of organizational integrity.  This affects all individuals using digital services, as they provide their data for use, and workers may engage in poor practices, posing a risk to personal data protection.  This issue is significant in the IT field, as Chile is expected to adapt to future legal requirements. |
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| APT Project Description | The goal of the APT project is to develop a technological solution that allows companies in Chile to comply with Law No. 19,628 on personal data protection. This solution will focus on a web platform that facilitates the encryption and protection of users' personal information, as well as implementing a consent and registration system to monitor the use of this data in accordance with established regulations.  **Description and Approach to Address the Issue**  The project involves creating a secure web platform that offers tools for encrypting personal data, managing user consents, and maintaining a clear record of how and when this data is used. I plan to address the issue using a waterfall development methodology, which allows for detailed planning and sequential development of the project. We will start with a requirements gathering phase through interviews and brainstorming sessions, followed by system design and the creation of robust data models. Subsequently, we will develop the platform, implementing advanced encryption techniques and consent management modules to ensure compliance with legal regulations. Finally, we will conduct thorough testing to ensure the security and functionality of the solution before its implementation in companies. |
| Relevance of the Project to the Graduate Profile | The APT project is directly related to the graduate profile of the Computer Engineering degree, as it involves the design, development, implementation, and deployment of an IT solution that addresses a complex issue: compliance with Law No. 19,628 on personal data protection in Chile. This solution requires the application of regulatory standards, advanced technologies, and appropriate methodologies—core competencies in the graduate profile.  The need to protect personal data and ensure regulatory compliance demands a rigorous evaluation of current regulatory frameworks and the application of best practices in secure software development. To address this issue, it is essential to have a culture of innovation, collaborative work skills, and analytical and critical thinking abilities, as the project requires identifying organizational needs, creating scalable solutions, and ensuring that these are secure and compliant with the law. |
| Relation to Professional Interests | Our professional interests are focused on the development of technological and innovative solutions, specifically in the area of programming. This project will help us develop better techniques for addressing the various risks associated with personal data in Chile under Law No. 19,628, and to implement improved security measures in our solutions, with a focus on data security and anonymity. The project will utilize advanced technologies such as Django Framework, SQL, and Python, which are essential for modern web solution development.  This project will be important for our professional field, as it will provide us with a competitive advantage in the job market. Data security is a legal requirement in Chile today. |
| Feasibility of Developing the APT Project | The ATP Secdata project is feasible and will be developed using the waterfall methodology within the timeframe and resources outlined in the project charter. Our Gantt chart is structured with clear phases (analysis and design, development, and implementation and closure), which will allow for efficient management to deliver the solution.  The project requires web development tools (Django Framework), databases, software and encryption, and servers.  External factors facilitating its development: Access to appropriate technology and support from faculty.  External factors hindering development and solutions: Time constraints, technical complexity, and dependence on external resources.  Duration: 4 months Hours per Subject: 54 hours Daily Hours: 8 hours Total Time: 4 months |

1. **PART II**

| **4. Objectives** |
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| In this section, you should define the general and specific objectives of the APT Project. It is important to clarify that the objectives should be stated clearly, concisely, and without additional explanations, meaning they should be self-explanatory. It is suggested to write them using verbs in the infinitive form, as this requires specifying concrete actions. |

| General Objectives | * **Data Encryption** * **Scalability of the Project** * **Provide Informed Consent** * **Knowledge of Data Lifecycle** * **Offer a secure web solution aligned with Law No. 19,628 for personal data management** |
| --- | --- |
| Specific Objectives | * Implement data encryption. * Develop a scalable system. * Implement a section for obtaining informed consent. * Develop tools for visualizing the data lifecycle. |

| **5. Methodology** |
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| In the following section, you should describe the methodology specific to your discipline that you will use to address the aforementioned APT project, including the stages and methods of work. |

| Description of the Methodology |
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| The waterfall methodology is suitable for this project due to its structured approach, ensuring that each stage is completed thoroughly before moving on to the next. This guarantees that the project meets legal and technical requirements, minimizes risks, and ensures a high-quality outcome.   * **Team Leader:** Coordinates and oversees all project stages, ensuring that objectives are met within the established deadlines. * **System Designer:** Responsible for designing the system architecture and database. * **Back-End Developer:** Handles server logic, data security, and encryption implementation. * **Front-End Developer:** Develops the user interface and ensures an intuitive user experience. * **Testing Engineer:** Conducts and manages software testing to ensure quality and functionality. |

| **6. Evidences** |
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| In the following, describe what evidence will be evaluated in the progress report and in the final report of your APT project. These evidences should be agreed upon with your instructor. Evidence refers to the products developed during the project that aim to visualize or document how the work has been implemented. |

| **Type of Evidence**  **(progress or final)** | **Name of the Evidence** | **Description** | **Justification** |
| --- | --- | --- | --- |
| Progress | System Design Report | Documents with technical specifications, architecture, databases, and encryption and consent modules | Document to visualize the system planning. |
| Progress | Prototype | Initial demo including login and the encryption and consent modules | Visualizes the progress of the solution. |
| Final | Technical Documentation | Manual técnico que describe el código fuente, estructura de base de datos y configuración de encriptación. | Document that will allow for scalability and maintenance. |
| Final | Project Presentation | Technical manual describing the source code, database structure, and encryption configuration | Full system usage verifying compliance with the requirements of Law No. 19,628 on personal data protection. |

| **7. Work Plan** |
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| In the following table, define the planning of your APT Project according to the requirements. |

| **Work Plan for APT Project** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Competency or Competency Units | Name of Activities/Tasks | Description of Activities/Tasks | Resources | Duration of the Activity | Responsible[[1]](#footnote-0) | Observations |
| System Analysis and Design | Planning Phase | Analyze and validate the collected requirements to ensure they are clear, complete, and feasible. Identify potential contradictions and flaws in the information. | **Material Resources:**  Computers and testing devices  Servers or cloud hosting services  **Software:**  Integrated Development Environment (IDE) (e.g., Visual Studio Code)  Development frameworks (React, Django)  Encryption and database management tools (MySQL, PostgreSQL)  **Hardware:**  Development and testing servers  Network and security equipment  **Financial Resources:**  Budget for software licenses and tools  Funds for hosting and cloud storage services  Budget for training and certifications, if needed  . | 1 Month | Miguel Rubio y Martin del Rio | **Code Errors:** Coding may present unforeseen errors that delay development and require additional time for debugging.  **Component Integration:** There may be difficulties in integrating different system components and ensuring they work cohesively. |
|  | Analysis and Design Phase | Gather and document system requirements through interviews, surveys, and analysis of relevant documentation. This includes understanding user needs and legal obligations related to personal data protection. | UI/UX Designers, Requirements Analysts, Project Management Software | 1 Month | Miguel Rubio y Martin del Rio | Ensuring full compliance with Law No. 19,628 may require additional effort to interpret and correctly apply the designs. |
| Development of IT Solutions | Development Phase | Code and develop the system according to the previously approved specifications and designs. This includes creating system functionalities, user interfaces, and implementing the database. Code quality and adherence to requirements are essential at this stage. | Software Developers, Integrated Development Environments (IDEs), Development and Testing Servers | 1 Month | Miguel Rubio y Martin del Rio | The implementation of complex functionalities may result in code that is difficult to manage and debug. |
| Development of IT Solutions | Implementation and Closure | Deployment in the Production Environment, Final Project Status Report | Deployment Tools | 1 Month | Miguel Rubio y Martin del Rio | Deployment may encounter unforeseen issues in the production environment that were not detected in the testing environment. |

| **8. Gantt Chart** |
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| Find a Gantt chart format that suits you and organize the planned activities from the previous section in it, considering the period allocated for the development of your APT Project. You should maintain the timeframe of the academic period for the development of the three phases outlined in the Portfolio Assignment. |

[**https://docs.google.com/spreadsheets/d/1GEO8tNXgTEzF3bfjE2L0VkzSK2\_qwywU/edit?usp=sharing&ouid=103943379156112596562&rtpof=true&sd=true**](https://docs.google.com/spreadsheets/d/1GEO8tNXgTEzF3bfjE2L0VkzSK2_qwywU/edit?usp=sharing&ouid=103943379156112596562&rtpof=true&sd=true)

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)