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**First Guide. APT Project Definition**

**Subject: Capstone**

1. **PART I**

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| **1. Personal Background** |
| Below here you will find a table in which you will need to fill in the requested information. |

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| Students Names | **Elias Avendaño e Ignacio Morales** |
| Rut | **21288623-8 y** |
| Career | **Computer Engineering** |
| Subsidiary | **Maipú** |

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| **2. APT Project Description** |
| In the description, you should briefly state the name of your APT project and the skills that you will be putting into practice. If your career path has defined development areas, mention which performance areas the project is linked to. |

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| Projects Name | EcoFinder |
| Development areas | IT project development |
| Skills | **Develop an IT solution using techniques that systematize the development process and allow maintenance, ensuring that project goals are met.** |

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| **3. APT Project Foundation** |
| In this section, you will find various fields that you must complete with the requested information. This section asks you to describe your project in detail and justify its relevance and importance. |

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| Relevance of the APT Project | *The EcoFinder project was chosen to tackle the pollution problem in Chile, which is a big deal because it's messing with people's health and quality of life. It's estimated that 4,500 Chileans die and 3,000 are hospitalized every year due to air pollution, which proves how urgent the issue is. This problem focuses on the city of Santiago, which as the capital has a high population density and economic activity, which worsens pollution levels.*  *This project is highly relevant to the field of IT engineering, as it shows how technology can be used to address a real social and environmental problem. With the development of a multi-platform application, we need to develop an application for mobile and desktop devices with database management, and it needs to be secure. EcoFinder offers three different benefits: social, by promoting the use of technology to address a real social and environmental problem; technological, by creating a cutting-edge and user-friendly solution; and economic, by generating value for partner companies through advertising.* |
| APT Project Description | *EcoFinder's main goal is to promote recycling and to reduce pollution in Santiago, Chile, through an app that rewards users for their participation. The app would work by allowing users to accumulate points when they recycle at designated locations, which then can be redeemed for coupons and discounts at participating stores. In order to address this issue, a multi-platform app will be developed that will be available for PC users (Windows and Mac) and mobile devices (iOS and Android), thus ensuring its accessibility.* |
| Relevance of the project in relation to the graduate profile | *EcoFinder aligns directly with the profile of a computer engineer graduate. Solving this problem requires skills such as designing and implementing software solutions, managing technology projects, applying agile methodologies, and the ability to work in multidisciplinary teams. The development of the application, the points system, and integration with partner companies are concrete actions that reflect the skills acquired during the career.* |
| Relationship with professional interests | *My professional interests are focused on developing software solutions that have a positive impact in society. This project allows me to use my knowledge in an area I'm passionate about: technology and sustainability. By working on EcoFinder, I'll be able to deepen my skills in cross-platform development and project management, contributing to my professional development and preparing me for future challenges in the IT field with a social approach.* |
| Feasibility of Project Development +--APT | 1. *5 months* 2. *4 hours of development* 3. *Computer for development.* 4. *Easy access to information on organic products* 5. *Obtaining licenses/patents for the product and its solutions would involve processing the developments* |

1. **PART II**

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| **4. Goals** |
| In this section, you must define the general and specific goals of the APT Project. It is important to note that the goals must be stated clearly and precisely, without further explanation; in other words, they must be self-explanatory. We suggest writing them using an infinitively verb, as this requires you to specify concrete actions. |

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| General goal | *Develop a multi-platform application, EcoFinder, to encourage and help with recycling in Santiago, Chile, through a rewards system.* |
| Specific goals | *Design the application architecture to ensure its functionality on Windows, Mac, iOS, and Android.*  *Implement a points system that allows users to collect and redeem rewards for coupons. Establish a database to record recycling points, user activity, and participating companies.*  *Create an intuitive and user-friendly interface that facilitates user interaction with the application.*  *Create an intuitive and user-friendly interface that facilitates user interaction with the application.*  *Build a functional prototype of the application to present to potential investors and collaborators.* |

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| **5. Metodology** |
| In this section, you should describe the methodology that you will use to complete the APT project described above, including the stages and working methods. |

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| Methodology Description |
| *For the development of the EcoFinder project, the agile Scrum methodology will be used. This methodology is well suited to the project as it allows for flexible management that can be adapted to changes. The work will be divided into sprints, each lasting two weeks, during which specific functionalities will be developed.*  *The work stages would be the following:*   1. ***Planning and conceptualization: Definition of the projects reach, requirements analysis, and architecture design.*** 2. ***Sprint development: Key functionalities will be implemented, such as the points system, user interface, database integration, and multiplatform capability.*** 3. ***Testing and debugging: Continuous testing will be performed to ensure the application is running correctly.*** 4. ***Launch and presentation: The prototype will be completed and will be prepared for the presentation of the project.***   *The work team, composed of Elías Avendaño and Martín Villena, will have the following responsibilities:*   * **Elías Avendaño*:*** *Liderazgo del proyecto, diseño de la base de datos y desarrollo del backend (lógica del sistema de puntos y gestión de usuarios).* * **Ignacio Morales*:*** *Diseño de la interfaz de usuario (UX/UI) y desarrollo del frontend (programación de las interfaces para las distintas plataformas).* |

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| **6. Evidency** |
| Describe what evidence will be reviewed in the progress report and final report for your APT project. This evidence should be agreed upon with your teacher. Evidence refers to the products developed during the project whose purpose is to highlight or document how the work has been implemented. |

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| **Type of evidence**  **(preliminary or final)** | **Evidence name** | **Description** | **Justification** |
| **Preliminary** | **Requirements Document** | ***Detail the application's features, target audience, and technical requirements.*** | **Demonstrates the planning and conceptualization phase, which forms the basis for project development.** |
| **Preliminary** | **Mockup Design** | **User interface sketches for PCs and mobile devices, showing the layout of elements and navigation.** | **It is used to visualize the design proposal and validate the usability of the application.** |
| **Final** | **Working prototype** | **Beta version of the application that allows users to interact with the points system, redeem rewards, and view recycling points.** | **It is the tangible proof that the proposed solution is achievable and that it has been implemented correctly.** |
| **Final** | **Technical report** | **Document describing the application architecture, the technologies used, the source code, and the tests performed.** | **Document the development process, demonstrating the technical skills applied in the project.** |

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| **7. Work Schedule** |
| In the following table, define the schedule for your APT Project as requested. |

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| **APT Project Work Plan** | | | | | | |
| Competence or units of competence | Activities/Tasks Names | Activities/Tasks Descriptions | Resources | Activity duration | Responsible[[1]](#footnote-1) | Comments |
| Software Analysis and Design | **Project planning** | **Define the reacch, objectives, and work schedule.** | Planning documents, meetings. | *1 week* | **Elías and Ignacio** | A clear definition is the key to avoiding any misunderstandings. |
| Database Management | **Database design** | **Create a database schema to store users, points, coupons, and recycling sites.** | Modeling tools, database manager. | *2 week* | *Elías* | Proper design is the key to performance. |
| Software Development | **Backend development** | **Program the server logic to manage points and coupons.** | Computer, IDE, programming languages. | *4 week* | *Elías* | Data security needs to be a priority. |
| User Interface (UX/UI) | **Frontend development** | **Implement the graphical interface for different platforms.** | Computer, IDE, multi-platform development framework. | *5 week* | *Ignacio* | Ensure a smooth and consistent user experience. |
| Software Testing | **Functionality testing** | **Conduct tests to verify that the application it's working correctly.** | Testing plan, testing software. | *2 week* | *Elías and Ignacio* | Unexpected errors can happen. |
| Project Management | **Presentation preparation** | **Collect results and evidence, and prepare the final report presentation.** | Presentation software, reports. | *1 week* | *Elías and Ignacio* | The quality of the presentation can influence the evaluation. |

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| **8. Gantt chart** |
| Find a Gantt chart format that suits you and organize the activities planned in the previous point, considering the period assigned for the development of your APT Project. You must maintain the academic period timeline in the development of the three phases covered by this ccourse. |

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| **Acctivity** | **Phase 1** | | | | **Phase 2** | | | | | | | | | | | | **Phase 3** | | | |
| **S 1** | **S 2** | **S 3** | **S 4** | **S 5** | **S 6** | **S 7** | **S 8** | **S 9** | **S 10** | **S 11** | **S 12** | **S 13** | **S 14** | **S 15** | **S 16** | | **S 17** | **S 18** |
| **Project planning** | **x** | **x** | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Frontend development** |  |  | **x** | **x** | **x** | **x** | **x** | **x** |  |  |  | **x** | **x** |  |  |  | |  |  |
| **Database design** |  |  |  |  |  |  |  | **x** | **x** | **x** | **x** |  |  |  |  |  | |  |  |
| **Backend development** |  |  |  |  |  |  |  |  |  | **x** | **x** | **x** | **x** | **x** |  |  | |  |  |
| **Functionality testing** |  |  |  |  |  |  |  | **x** |  |  |  |  | **x** | **x** | **x** | **x** | | **x** |  |
| **Presentation** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | **x** |

1. If the APT Project is a group project, the names of those responsible for each task or activity should be indicated in this column. This will subsequently allow for individual feedback for each member. [↑](#footnote-ref-1)