}

1. **PART I**

| **1. Personal Information** |
| --- |
| Fill in the table below with the requested information. |

| **Student Name** | **Felipe Díaz**  **Jeremías Canto**  **Marcelo Criado**  **Javiera Marchant** |
| --- | --- |
| Rut | **21.26.968-4**  **20.580.582-6**  **20.409.000-9**  **19.605.929-6** |
| Degree Program | **Information Technology Engineering.** |
| Campus | **Padre Alonso Ovalle.** |

| **2. APT Project Description** |
| --- |
| In this section, briefly describe the name of your APT project and the graduation profile competencies you will apply. If your program has defined performance areas, mention which performance areas your project is linked to. |

| Project Name | *“Teamfit”* |
| --- | --- |
| Performance Area(s) | Data analysis, data science, programming, business intelligence, and others. |
| Competencies | Developing a software solution, building Data Models, building programs and routines of varying complexity and managing IT projects. |

| **3. APT Project Justification** |
| --- |
| Complete the following fields with the requested information. This section aims to describe your project in detail and justify its relevance and pertinence. |

| Relevance of the APT Project | * *Why did you choose this topic? Why is this topic relevant to your career field?*   The main idea behind this project consists in the optimization of internal processes of the company, which presents an important challenge for the team, as it is strongly related to competencies required to advance our professional plan.   * *Where is the situation you are going to address located (e.g., country, region, municipality or institution)?*   It 's located in Santiago, Chile, near the Tobalaba metro station in the companies of Roda-e. The most important thing is the need to optimize the resource management of the institution.   * *Who is affected or impacted by the situation you are going to address (e.g., age group, service users, etc.)?*   Employees and Managers of RODA. Specifically the different people in charge of assigning project hours.   * *What would be the value contribution (real or simulated) of your APT Project for the work and/or social context in which it would be placed?*   Improving this company’s resource management could mean that this tool could later be modified in such a way to be generalized and massified so that all companies may apply it to their systems and it becomes a natural part of the company's activities. Also, by improving the employees' work times, productivity goes up and the need to work overtime to finish projects is nullified, which helps with the worker’s mental health. |
| --- | --- |
| APT Project Description | This project aims to solve problems related to the allocation of the company’s hours using a ML algorithm. This project consists of a webpage that can verify and monitor the different processes. On top of this, it is considered that it should contain various maintenance tools to prevent system security failures. |
| Relevance of the project to the graduation profile | El proyecto está directamente relacionado con el perfil de egreso de la carrera de ingeniería en informática. Requiere habilidades en desarrollo de software, construcción de modelos de datos, programación de aplicaciones multiplataforma y realización de pruebas. Además, contribuye a la construcción de soluciones de valor y que cumplen con los estándares del mercado. Si el proyecto se realiza con éxito, se valida la pertenencia en relación con los conocimientos y habilidades básicos que se pueden destacar de la carrera. |
| Relation to professional interests | This project is related to our professional interests because it’s related to programming and business intelligence. We have to program and use different Machine Learning techniques in order to generate our solution, taking into consideration different phases and needs that must be realized.  In addition to this, it is relevant as it presents a challenge for us, being more complex than projects we’ve done before, with integrations that we don’t fully understand yet. |
| Feasibility of developing the APT Project | This project is plausible due to the amount of time given and the tools we have. First, among the different months indicated it is possible to generate a ML algorithm that allows us to return useful and effective answers to the company. This is considering our knowledge from having realized Data Analysis in previous subjects.  On the other hand, the coding of the system is doable during this period of time due to the amount of members the team has, despite that, this can vary as the semester progresses as some members may have less time for this project from having to do their “internship”. |

1. **PART II**

| **4. Objectives** |
| --- |
| In this section, you must define the general and specific objectives of the APT Project. It is important to clarify that the objectives should be stated clearly and concisely without giving further explanations, meaning they should be understandable on their own. It is suggested to write them using an infinitive verb, as this compels you to specify concrete actions. |

| General Objective | The project looks to create a web platform capable of calculating the amount of hours needed for a project using Machine Learning algorithms. This result must be able to be sent to or used by another project which will be integrated after completion. |
| --- | --- |
| Specific Objectives | * User creation and maintenance to manage access to the system. * Odoo integration to get the projects to manage. * Management of the projects used to indicate which must be taken into account for the calculus * Action history management to know previous actions made |

| **5. Methodology** |
| --- |
| In the following section, describe the methodology specific to your discipline that you will use to solve the previously described APT Project, including the stages and working methods. |

| Methodology Description |
| --- |
| The project will be developed using agile methodology, using the SCRUM framework, dividing roles as previously agreed by the team members, the assigned roles are as following:   * Jeremías Canto - Product Owner: In charge of establishing communication with the client and the professor in charge for consultory and delivering progress updates, responsible for organizing with the second Team for future integrations and for creating and evaluating user stories. This person is also the primary individual responsible for creating documentation, in addition to participating in the programming of the project- * Felipe Diaz - Scrum Master: In charge of speeding up and facilitating the communication of the team and the results delivered by the client and teacher in charge, he guides the development team for the organization and assignment of tasks. in addition to participating in the programming of the project. * Javiera Marchant - Developer: Main person in charge of developing and improving the base algorithm used for the data analysis solicited by the client, in charge of revising the graphic interface, in addition to participating in the proposition of ideas, fixes to the system and making documentation used for team organization. * Marcelo Criado - Developer: In charge of developing diverse modules used and solicited by the client, in addition to participating in the development and organization of documentation used for the project, for CAPSTONE as a subject as well as the one shown to the client and teacher in charge.   In Addition to this, diverse programs for programming and management to ease the development and organization of the project, some of these programs are:   * Odoo: To manage the tasks of every member of the team. * Excel: To make the backlog, dailies, burndown chart, etc. * Word: For many other documents like a Project Charter, Project Definition, minutes, etc * Discord: Where the development team will mainly have it’s remote reunions * Google Meet: For meetings with the client and the teacher in charge, also meetings to showcase progress and sprint reviews, |

| **6. Evidence** |
| --- |
| Describe what evidence will be evaluated in the progress report and in the final report of your APT project. This evidence must be agreed upon with your teacher. Evidence will be understood as the products developed during the project, whose purpose is to visualize or document how the work has been implemented. |

| **Type of Evidence (progress or final)** | **Name of the Evidence** | **Description** | **Justification** |
| --- | --- | --- | --- |
| **Progress** | **Increment 1** | **An increment of the initial development. It is considered that there’ll be an upgrade to the clustering.** | **Essential to increase the project’s value and to appease the client’s needs.** |
| **Final** | **Increment 2** | **Final MVP increment, it is considered an implementation with Odoo.** | **Essential to cover the client’s needs and to give closure to the project.** |
| **Progress** | **Burndown Chart** | **This document shows the progress the development team made during the sprint.** | **Shows the progress made to the project during the current sprint.** |
| **Progress** | **Sprints Reviews** | **Compiles the tasks made during the sprint and compares them with the progress and quality of the product. I think.** | **Review of the sprints to know the team’s progress.** |
| **Progress** | **Dailies** | **This document describes what every team member has done that day and their respective difficulties to realize the task at hand.** | **Evidence of the team member’s work during the project.** |
| **Progress** | **Backlog** | **This document is for making, ordering and prioritizing the user stories necessary for this project.** | **Essential for organizing and developing ideas.** |
| **Progress** | **Lean Inception** | **Beginning of the project, it indicates the system’s main characteristics and functionalities . In addition it also shows the initial plan.** | **Essential to better define the project and the objective client-** |
| **Progress** | **Project Definition** | **Document to indicate the characteristics and functionalities of the project.** | **Shows how to develop the system, the scope and the objectives.** |

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

| **APT Project Work Plan** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Competency or Competency Units | Name of Activities/Tasks | Description of Activities/Tasks | Resources | Activity Duration | Responsible Person | Observations |
| Database | Create Database | Create the tables that will be used for the website | Postgres  Dbeaver | 1 Día | Felipe Díaz |  |
| Database | Update and approve Database changes | Update tables according to the changes needed for the project | Postgres  Dbeaver | 1 Semana | Felipe Díaz |  |
| Programming | Website development | Desarrollo de las funciones a realizar Development of the website and its different functions to work | Visual Studio | 10 Semanas | Javiera Marchant  Marcelo Criado  Felipe Díaz  Jeremías Canto |  |
| Programming | API Connection | Connection with needed APIs for the system to work properly | Visual Studio  Odoo API | 4 semanas | Marcelo Criado | This activity may change the person responsible according to the performance of the person. |
| Programming | Integration with external modules | Integration with other development team | Visual Studio | 2 Días | Marcelo Criado |  |
| Programming | Development of programming standard | Define and apply different good practices and standards to use in programming. | Visual Studio | 2 semanas | Felipe Díaz |  |
| Project Management | Definition of activities and progress | Define activities to do through the sprint and specify the expected progress. | Excel | Todo el proyecto | Jeremías Canto |  |
| Project Management | Progress Monitoring | Monitoring of the progress of the development team. | Excel  Odoo | Todo el proyecto | Jeremías Canto |  |
| Project Management | Backlog creation | Creation and prioritizing the user stories used for the sprint and project development | Excel | Todo el proyecto | Jeremías Canto |  |
| Project Management | Lean Inception | Specifying the initial scope and functionalities, features and most important characteristics of the system. | Miro | 3 Días | Equipo de trabajo |  |
| Machine Learning | Classifier Algorithm | Classifier algorithm that shows the hour use. | Google Collab | 10 Semanas | Felipe Diaz |  |

| **8. Gantt Chart** |
| --- |
| Find a Gantt Chart format that suits you and organize the planned activities from the previous section, considering the period assigned for the development of your APT Project. You must maintain the timeline of the academic period in the development of the three phases covered by the Capstone Course. |

| **Activity** | **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** |
| Defining progress and tasks. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Team Monitoring |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Backlog generation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lean Inception |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Database Creation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Monitor Database Updates |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Webpage development |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Classification Algorithm |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| API connection |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| External modules integration |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Programming standards generation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |