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1. **PART I**

| **1. Personal Background** |
| --- |
| Below is a table in which you must complete the requested information. |

| Student Name | **Jeremy Opazo, Cedre Morales, Maximiliano Mendoza** |
| --- | --- |
| Tax ID | **21,378,423-4, 21,325,210-0, 21,059,913-4** |
| Major | **Computer Engineering** |
| Location | **Maìpu** |

| **2. Description APT Project** |
| --- |
| SERVICLEMANT LIMITADA is a cleaning company focused on the industrial sector. The company has been in the market since 2014 and has never wanted to take the next step to improve. Today, SERVICLEMANT LIMITADA wants to take that step in order to enter the industrial cleaning market. To do so, they have contacted us, and we will provide a solution based on our computer science expertise, which will involve software development using systematic methodologies for this case and programming queries and routines in databases. |

| Project name | SERVICLEMANT LIMITADA |
| --- | --- |
| Area(s) of performance | *Software development.* |
| Competencies | *Software development using systematic methodologies for this case and programming queries and routines in databases.* |

| **3. APT Project Rationale** |
| --- |
| Below are several fields that you must complete with the requested information. This section asks you to describe your project in detail and justify its relevance and significance. |

| Relevance of the APT project | *Well, this case was presented to us because one of the members has a slight connection with the owner of SERVICLEMANT LIMITADA. This case is relevant because it is a small company that wants to take the next step, even though it has been in the market for a long time and has not wanted to leave its comfort zone.*  *This company has been in Chile since 2014 with a location in Providencia offering industrial cleaning services with archaic and inefficient systems.*  *Our contribution will be significant for this company, as the development of a website is essential for its growth and promotion. This website will remain active and operational for as long as the owner wishes.* |
| --- | --- |
| APT Project Description | *The project is feasible because it responds to a real need of SERVICLEMANT LIMITADA, which seeks to modernize in order to compete in the industrial cleaning sector. The course covers IT tools and knowledge that enable the development of technological solutions such as those required by the company. In addition, we have the time, resources, and access to information necessary to carry out the project within the academic period, applying what we have learned in class in a practical way.* |
| Relevance of the project to the graduate profile | *This APT project will require us as a group to use all our knowledge of software development and database utilization, as it will be 100% necessary to carry out a successful project.*  *Software development will be used to develop a website and incorporate all the requirements and adjustments requested by the client. This page will seek efficiency and empower the company so that it can finally enter the market alongside its competitors.* |
| Relationship to professional interests | *There are many ways in which this project relates to our professional interests, as we are interested in working on challenging and realistic projects that allow us to work as a team and develop software that a company and its employees can use to meet their need for more job opportunities and attract more clients based on their experience in the field.* |
| Feasibility of developing the APT project | *We will be able to develop this project because all the members of the group have a good understanding of what this project requires. Therefore, we will not need more time than we have been given to develop the project. We will allocate 4 hours a day from Monday to Friday to develop and focus solely on this project. In terms of materials, we have everything we need for the project. Something that could facilitate its development is the correct use of the internet (websites for the languages we use, AI focused on development). The teachers at the headquarters are also a great help, as we can ask them questions and they can assist us in the successful development of the project.* |

1. **PART II**

| **4. Objectives** |
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| In this section, you must define the general and specific objectives of the APT Project. It is important to clarify that the objectives must be stated clearly, concisely, and without further explanation; that is, they must be self-explanatory. It is suggested that they be written using an infinitive verb, as this requires specifying concrete actions. |

| General objective | *To develop a technological solution that allows the internal processes of SERVICLEMANT LIMITADA to be digitized and optimized, in order to improve its operational efficiency and position itself competitively in the industrial cleaning sector during the current academic semester.* |
| --- | --- |
| Specific objectives | *-Identify the company's functional and technical requirements through interviews and document analysis during the first two weeks of the project.*  *-Design a proposed IT solution (such as a management system, website, or internal application) tailored to the needs of SERVICLEMANT.*  *-Develop a functional prototype of the proposed solution using technological tools seen in the course, within a period of four weeks.*  *-Evaluate the prototype with key users in the company, gathering useful feedback for future improvements during the last week of the project.* |

| **5. Methodology** |
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| In the following section, you must describe the methodology, specific to your discipline, that you will use to complete the APT project described above, including the stages and working methods. |

| Description of the Methodology |
| --- |
| *The project will be developed using an applied research and functional prototype development approach, using an agile methodology to ensure partial deliveries, constant feedback, and iterative improvements during the process.*  *Techniques and tools to be used*  *Development languages: HTML, CSS, and JavaScript, for the creation of a functional web interface.*  *Use cases: To define the requirements and functionalities of the system from the user's perspective.*  *Editing and development: Visual Studio Code as the development environment.*  *Communication: Regular meetings (virtual or in person) to review progress and coordinate the team.* |

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

| **Type of evidence**  **(progress or final)** | **Name of evidence** | **Description** | **Justification** |
| --- | --- | --- | --- |
| **Progress** | **Requirements gathering document** | Document that compiles the needs, functionalities, and expectations of the client or end user regarding the website. It includes interviews, surveys, or meetings held. | It is essential to ensure that the project's development is based on the client's actual needs and not on assumptions. This document guides the rest of the work. |
| **Progress** | **Sketches and interface design (Mockups)** | Set of sketches, wireframes, and digital mockups that show the appearance and structure of the website. Main screens, layout of elements, menus, buttons, and other visual components are represented. | Visualizing the interface allows for early adjustments and validation with the client prior to development. This saves time, prevents errors, and improves the user experience from the design stage. |
| **Progress** | **Project planning and schedule** | Document or tool (such as a Gantt chart) that defines the project phases, specific tasks, delivery dates, and responsible parties. It includes the schedule for progress, deliveries, and testing. | Planning the work allows for clear control of progress, facilitates meeting deadlines, and distributes the work appropriately among team members. |
| **Final** | **Functional prototype of the website** | A version of the website that is already programmed, navigable, and has the main functionalities operational, in accordance with the client's requirements. | This is tangible evidence of the work done. It allows the client to review, interact with, and validate the product before its final delivery or publication. |
| **Final** | **User manual** | A practical guide that explains step by step how to use the website. It includes screenshots, feature descriptions, instructions for performing common tasks, and solutions to basic problems. | It is essential for the client or end user to be able to use the system independently, without requiring constant technical assistance. |
| **Final** | **Testing log and customer feedback** | Document presenting the results of functional, usability, and bug fixes tests. It also includes observations, comments, and suggestions from the customer after evaluating the prototype. | It allows the website to be improved before final delivery, ensuring that it meets requirements, is easy to use, and satisfies the customer. |
| **Final** | **Final project report** | Comprehensive document summarizing all the work carried out on the project. It contains the introduction, objectives, methodology, development, evidence, results, conclusions, and recommendations. | It reflects the entire work process, lessons learned, and results achieved. It is a formal closure that supports the fulfillment of the project's goals. |

| **7. Work Plan** |
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| The following table defines the planning of your APT Project as required. |

| **APT Project Work Plan** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Competence or units of competence | Name of Activities/Tasks | Description of Activities/Tasks | Resources | Duration of activity | Responsible[[1]](#footnote-0) | Comments |
| ICT project management | Definition of scope and objectives | Identify project goals, deliverables, and limits | Meetings, client documents | 3 days | Project leader | Necessary to align expectations |
| *Systems analysis* | *Preliminary analysis of the company* | *Evaluate current processes, technologies, and needs* | *Interviews, document analysis* | *5 days* | *Analyst* | *Basis for requirements gathering* |
| *Project planning* | *Detailed project planning* | *Development of schedule, tools, methodologies, and assignments* | *Management software, Excel, Meetings* | *2 days* | *Project leader* | *Requires management validation* |
| *Requirements engineering* | *Stakeholder interviews* | *Meetings with key users to understand needs* | *Questionnaires, meetings, recordings* | *4 days* | *Analyst* | *All meetings must be recorded* |
| *Requirements engineering* | *Document analysis* | *Review of current processes and documents* | *Manuals, diagrams, minutes* | *5 days* | *Analyst* | *Complements interviews* |
| *Requirements engineering* | *Requirements validation* | *Review of requirements with users and managers* | *Meeting with presentation of requirements* | *3 days* | *Analyst* | *Validation minutes must be signed* |
| *Software design* | *Database and flow modeling* | *Logical design of data structure and process diagrams* | *UML/ER tools, DB Designer* | *5 days* | *Architect* | *Must align with requirements* |
| *Software design / UX/UI* | *Interface design* | *Create user-friendly interface prototypes* | *Figma, Adobe XD, user feedback* | *3 days* | *UX/UI designer* | *Client validation required* |
| *Software design* | *Design review and approval* | *Internal and client evaluation of functional and visual design* | *Design document, prototypes* | *2 days* | *Architect, client* | *Requires formal approval* |
| *Software development* | *Development environment configuration* | *Prepare servers, repositories, dependencies* | *Git, local/remote servers* | *3 days* | *DevOps / Backend* | *Required before coding* |
| *Software development* | *Backend development* | *Programming business logic, DB connection, and REST API* | *Server language (e.g., NodeJS, Laravel), DB (e.g., MySQL)* | *12 days* | *Developer* | *Requires unit testing* |
| *Software development* | *Frontend development* | *Implement web interface according to UX/UI design* | *HTML/CSS/JS, framework (e.g., React/Vue)* | *8 days* | *Developer* | *Parallel backend integration* |
| *Software development* | *System integration* | *Connect backend, frontend, and database* | *Continuous integration tools* | *2 days* | *Developer* | *Minimum functional validation* |
| *Quality control* | *Internal unit and functional testing* | *Test each module individually and together* | *Test cases, test scripts* | *5 days* | *QA / Dev* | *Document errors and improvements* |
| *Validation with the client* | *Testing with key users* | *Deliver functional version to client for validation* | *User feedback, forms* | *3 days* | *QA / Client* | *Critical validation prior to closure* |
| *Quality control* | *Final adjustments and corrections* | *Correction of detected errors and minor improvements* | *Development tools* | *2 days* | *Developer* | *Close pending tasks* |
| *Technical documentation and training* | *Preparation of technical documentation and user manual* | *Preparation of technical documentation and user manual* | *Word, PDF, screenshots, diagrams* | *5 days* | *Documenter* | *Useful for support and training* |
| *End-user training* | *Training for SERVICLEMANT staff* | *Train key users in the use of the system* | *Presentations, demos, practical sessions* | *3 days* | *Project leader* | *Schedule in-person or virtual sessions* |
| *Project closure* | *Final delivery and closing report* | *Presentation of the system, signing of the closing report, delivery of documents* | *Minutes, documentation, deployed system* | *3 days* | *Project leader* | *Implies formal end of the project* |

| **8. Gantt chart** |
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| Find a Gantt chart format that suits you and organize the activities planned in the previous point, taking into account the period assigned for the development of your APT Project. You must maintain the academic period schedule in the development of the three phases covered by the Degree Portfolio 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** |
| *Describe activities from the previous point* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |

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 assessment of each member. [↑](#footnote-ref-0)