}

**Guide 1. Definition of APT Project**

**Capstone Course**

1. **PART I**

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

|  |  |
| --- | --- |
| Student Name | **Isaac Marin Sotelo, Nicolas Gonzalez Gonzalez, Byron Yañez Orellana** |
| ID Number (RUT) | **21.198.998-K, 21.143.751-0, 21.409.807-5** |
| Degree Program | **Computer Engineering** |
| Campus | **Puente Alto** |

|  |
| --- |
| **2. APT Project Description** |
| In the description, you should briefly state the name of your APT project and the graduate profile competencies you will put into practice. If your degree program has defined performance areas, also mention which areas the project is related to. |

|  |  |
| --- | --- |
| Project Name | *Conectemos Chile* |
| Performance Area(s) | * *Software development in web and desktop environments.* * *Management of information technology projects.* * *Design of user interfaces and user experience (UI/UX).* * *Quality assurance and software testing (QA). |* |
| Competencies | * *Apply analysis and software design methodologies for building information systems.*   *● Develop web and desktop applications using modern languages and frameworks.*   * *Implement relational databases and ensure data security and integrity.* * *Manage IT projects by applying best practices in planning, control, and documentation.* * *Carry out functional and non-functional tests to ensure system quality.* * *Design usable and accessible interfaces aimed at improving the user experience.* |

|  |
| --- |
| **3. APT Project Justification** |
| Below are different fields that you must complete with the requested information. This section aims for you to describe your project in detail and justify its relevance and pertinence. |

|  |  |
| --- | --- |
| Relevance of the APT Project | *The Conectemos Chile project arises as a response to the need to modernize and optimize the management of appointments and administrative processes in clinics and psychological care centers. Currently, many of these processes are manual or dispersed, generating inefficiencies, data duplication, and time loss for both patients and professionals.*  *This project is framed within the context of mental health care in Chile, an area that has gained great relevance after the increased demand for services in the post-pandemic period. Its impact covers both patients (who will be able to schedule and manage their appointments more efficiently) and psychologists and administrative staff (who will have centralized digital tools).*  *The social contribution of the project lies in improving the user experience in accessing health services, contributing to* ***digital transformation*** *in such a critical sector as mental health.* |
| APT Project Description | *The project consists of the design and implementation of a* ***Comprehensive Clinical Management System*** *that includes:*   * ***An informative Landing Page*** *with access to online reservations.* * ***A web reservation system*** *that allows scheduling, canceling, and rescheduling appointments in real time.* * ***A desktop application*** *for internal management (patients, psychologists, rooms, and services).* * ***A reporting module*** *with export options to PDF and Excel. In this way, the aim is to address the issue of disorganization and improve administrative efficiency in clinical care.* |
| Relevance of the Project to the Graduate Profile | *The project is directly linked to the graduate profile of the Informatics and Telecommunications degree program, as it requires applying competencies in:*   * ***System analysis and design.*** * ***Software development in web and desktop environments.*** * ***Database management and administration.*** * ***Software testing and quality control.***   ***● Software testing and quality control.*** *In this way, the project is relevant to professional training, as it integrates the main profile skills into a single practical case.* |
| Relationship with Professional Interests | *The Conectemos Chile project is aligned with the professional interests of the team, as it allows them to put into practice knowledge in application development, project management, and interface design. Likewise, it offers an experience that strengthens employability in the field of* ***digital transformation for health****, a sector with high labor and social projection.* |
| Feasibility of APT Project Development | ***Feasibility of APT Project Development*** *The project is feasible to develop within the semester, since a phased work plan has been structured (Planning, Analysis, Development, Testing, and Implementation) with deadlines set in the* ***Gantt Chart*** *and clear activities in the* ***WBS Matrix****.*   * ***Semester duration****: adjusted to the period August 11 – December 5.* * ***Hours assigned to the course****: sufficient to cover the main activities.* * ***Required materials****: available development tools (Visual Studio Code, PostgreSQL databases, GitHub).* * ***External factors****: teamwork and teacher guidance that facilitate the correct execution of the project.* |

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 must be stated clearly and concisely, without further explanations; in other words, they must be self-explanatory. It is suggested to write them using an infinitive verb, as this requires specifying concrete actions. |

|  |  |
| --- | --- |
| General Objective | *Design and implement a comprehensive clinical management system that optimizes patient intake processes, appointment scheduling, internal administration, and report generation, improving the efficiency of care and the user experience.* |
| Specific Objectives | * *Develop an informative landing page that facilitates patient intake and access to the reservation system.* * *Implement a web reservation system that allows scheduling, canceling, and rescheduling appointments in real time.* * *Build a desktop application that centralizes the management of patients, psychologists, rooms, and services.* * *Design and implement a reporting module with basic exports to PDF and Excel for administrative decision-making.* * *Ensure the security, availability, and usability of the system through functional and non-functional testing.* * *Train administrative and clinical staff in the use of the system to ensure proper adoption.* |

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

|  |
| --- |
| Description of the Methodology |
| *The project will be developed under an* ***agile incremental methodology****, organizing activities into iterative phases of planning, analysis, design, development, testing, and implementation.*  *The main stages are:*   * ***Planning****: definition of the project charter, work team, general requirements, and schedule.* * ***Analysis and Design****: gathering of specific requirements, preparation of the ERS document, use case diagrams, and mockups.* * ***Development****: implementation of the main modules (landing page, reservations, desktop, reports) and database scripts.* * ***Testing and QA****: execution of functional, usability, and security tests, with feedback from end users.* * ***Implementation and Closure****: system migration to production, user training, preparation of the user manual, and project closure report.*   *The work will be carried out* ***collaboratively****, assigning specific responsibilities to each team member:*   * ***Byron Yáñez****: project manager and general coordination.* * ***Isaac Marín****: programmer analyst and DBA.* * ***Esteban Cavieres****: QA and functional testing.* * ***Nicolás Gonzales****: interface and usability design.*   *This methodology will allow continuous progress delivery, maintain quality control, and ensure that the system meets the requirements set by the clinic.* |

|  |
| --- |
| **6. Evidence** |
| Below, describe which 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 instructor.  Evidence refers to the products developed during the project whose purpose is to make visible or document how the work has been implemented. |

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Evidence (progress or final)** | **Evidence Name** | **Description** | **Justification** |
| Progress | Project Charter | *Initial document that defines objectives, scope, team, and project schedule.* | Allows alignment of the team and validation of the project fundamentals with the instructor. |
| Progress | APT Project Definition | Document that defines the project scope and purpose. | Clearly delimits the work to be carried out. |
| Progress | ERS | Requirements specification document. | Ensures that system requirements are recorded. |
| Progress | System Requirements | Record of functional and non-functional requirements. | Serves as the basis for analysis and design. |
| Progress | Gantt Chart | Project schedule. | Organizes times and delivery milestones. |
| Progress | Extended Use Cases | Document with user and system interactions. | Models the main processes. |
| Progress | Mockups | Graphic mockups of the interfaces. | Validates the design with users. |
| Progress | Architecture Document (DAS) | Defines architecture and quality. | Guides development. |
| Progress | Business Process (TO-BE) | Processes with incorporated improvements. | Visualizes how the system will operate |
| Progress | Data Dictionary | Defines technical terminology. | Ensures uniformity in development. |
| Progress | APT Development (intermediate) | Partial system progress. | Shows initial prototype. |
| Progress | Data Dictionary | Defines technical terminology. | Ensures uniformity in development. |
| Progress | APT Development (intermediate) | Partial system progress. | Shows initial prototype. |
| Progress | Database Model | Diagram of tables and interactions. | Structures the data. |
| Progress | Database Table Creation | Tables implemented in SQL. | Enable the database. |
| Progress | PL/SQL Queries | Procedures and queries. | Support the system’s logic. |
| Progress | Final APT Report (progress) | Partial project document. | Consolidate progress results. |
| Final | 100% System Development | Complete final product. | Deliver solution to the client. |
| Final | Test Plan | Document with functional and non-functional tests. | Ensure quality. |
| Final | Change Control Matrix | Record of modifications. | Maintain traceability. |
| Final | Scope Verification | Document that validates completed requirements. | Verify compliance. |
| Final | User Manual | System usage document. | Train users. |
| Final | Project Closure Report | Final project document. | Formalize delivery and closure. |
| Final | APT Presentation | Final project presentation. | Present results to the instructor. |

|  |
| --- |
| **7.** **Work Plan** |
| In the following table, define the planning of your APT Project as required. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| APT Project Work Plan | | | | | | |
| Competency or Units of Competency | Activity/Task Name | Activity/Task Description | Resources | Activity Duration | [[1]](#footnote-1)Responsible | Observations |
| *APT Project* | **Definition of the APT Project** | **Document that describes the purpose, scope, and relevance of the project.** | *Computer, documents* | *11-08-2025 to 15-08-2025* | **Entire team** | *Will be supported by the instructor’s guide for structuring.* |
| *Project Management* | *Project Charter* | *Define objectives, roles, schedule, and initial scope.* | *Computer, institutional document* | *11-08-2025 to 15-08-2025* | *Byron Yañez* | *Base document that will guide the entire project.* |
| *Project Management* | *Requirements Sheet* | *Gathering of functional and non-functional requirements.* | *Computer, Excel, meetings* | *18-08-2025 to 24-08-2025* | *Isaac Marin* | *Validate with client to avoid incomplete requirements* |
| *Project Management* | *Gantt Chart* | *Prepare schedule with tasks, phases, and milestones.* | *MS Project / Excel* | *18-08-2025 to 24-08-2025* | *Byron Yañez* | *Will serve to monitor progress in each phase.* |
| *Project Management* | *ERS Report* | *Document with functional and non-functional system specifications.* | *MS Word* | *25-08-2025 to 01-09-2025* | *Isaac Marín* | *Serves as the technical basis for system design.* |
| *Prototyping* | *Mockups* | *Design interfaces and user flow.* | *Figma / Draw.io* | *25-08-2025 to 01-09-2025* | *Nicolás Gonzales* | *Validate with client before development.* |
| *Project Management* | *Extended Use Cases* | *Describe interactions between user and system.* | *Visual Paradigm* | *01-09-2025 tol 05-09-2025* | *Esteban Cavieres* | *Allows detailing processes before programming.* |
| *Software Architecture* | *DAS Document* | *Define the system architecture and components.* | *MS Word, Visual Paradigm* | *05-09-2025 to 12-09-2025* | *Isaac Marín* | *Will be adjusted if there are changes in DB or modules.* |
| *Business* | *TO-BE Business Process* | *Diagram improved processes after implementation* | *Bizagi / Draw.io* | *12-09-2025 to 18-09-2025* | *Esteban Cavieres* | *Relates the system to business processes.* |
| *Data Management* | *Data Dictionary* | *Record terminology, fields, and entities.* | *MS Excel* | *15-09-2025 to 20-09-2025* | *Entire team* | *Ensures consistency in development.* |
| *APT Project* | *APT Development (intermediate)* | *Partial system progress with DB and initial modules.* | *VS Code* | *18-09-2025 to 25-09-2025* | *Isaac Marin* | *First system prototype.* |
| *APT Project* | *Final APT Report (progress)* | *Intermediate document with progress results.* | *MS Word* | *25-09-2025 to 29-09-2025* | *Entire team* | *Summarizes design and development progress.* |
| *Databases* | *Database Model and Scripts* | *Create tables, relationships, and SQL queries.* | *PostgreSQL* | *25-09-2025 to 05-10-2025* | *Isaac Marín* | *Database ready for integration.* |
| *Programming* | *100% System Development* | *Complete construction of modules (reservations, administration, reports).* | *VS Code* | *06-10-2025 to 07-11-2025* | *Isaac Marin* | *Main project deliverable.* |
| *Quality* | *Test Plan* | *Document with functional, usability, and security tests.* | *MS Word, test plan* | *10-11-2025 to 12-11-2025* | *Esteban Cavieres* | *Guide to validate the system.* |
| *Quality* | *Functional and User Testing* | *Execution of system tests.* | *System, test plan* | *13-11-2025 to 18-11-2025* | *Esteban Cavieres* | *May be delayed if major corrections are required.* |
| *Quality* | *Change Control Matrix* | *Record of changes made during development and testing.* | *MS Excel* | *19-11-2025 to 21-11-2025* | *Byron Yañez* | *Ensures traceability of modifications* |
| *Quality* | *Scope Verification* | *Document that validates requirement compliance.* | *MS Word* | *22-11-2025 to 24-11-2025* | *Entire team* | *Ensures objectives have been met.* |
| *Documentation* | *User Manual* | *Draft system usage guide.* | *MS Word* | *25-11-2025 to 29-11-2025* | *Nicolás Gonzales* | *Facilitates adoption by users.* |
| *Implementation* | *Production Migration* | *Deploy system in real environment.* | *Server, internet* | *30-11-2025 to 03-12-2025* | *Isaac Marín* | *Coordinate with DBA and QA.* |
| *Implementation* | *Project Closure Report* | *Document that formalizes delivery and closure of the project.* | *MS Word* | *04-12-2025 to 05-12-2025* | *Byron Yañez* | *Final validation with client.* |
| *Presentation* | *APT Presentation* | *Final project presentation.* | *PowerPoint* | *05-12-2025* | *Entire team* | Delivery and defense of the project. |

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity** | **Fase 1** | | | | **Fase 2** | | | | | | | | | | | | **Fase 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** |
| **Definition of APT Project** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Project Charter** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Requirements Sheet** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Gantt Chart** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **ERS Report** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Mockups / Prototypes** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Extended Use Cases** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **DAS Document** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **TO-BE Process** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Data Dictionary** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **APT Development (intermediate)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Final APT Report (progress)** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Database Model and Scripts** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **100% System Development** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Test Plan** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Functional/User Testing** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Change Control Matrix** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Scope Verification** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **User Manual** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Production Migration** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Project Closure Report** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **APT Presentation** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |

1. [↑](#footnote-ref-1)