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1. **PART I**

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

| Student Names | **Giovanni Oyarzun**  **Matias Melivilu** |
| --- | --- |
| Ruts: | **21.533.047-8**  **21.497.970-5** |
| Race | **Computer Engineering** |
| Headquarters | **San Joaquín** |

| **2. APT Project Description** |
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| In the description, you must briefly indicate the name of your APT project and the competencies of the graduate profile that you are going to put into practice. If your career defines performance areas, also mention which performance areas the project is linked to. |

| Project Name | **ForoU** |
| --- | --- |
| Performance Area(s) | * **Software Development: through the design and implementation of the web platform.** * **IT Project Management, by organizing and planning their functionalities** * **Software quality, ensuring a reliable and accessible experience for students.** |
| Competences | **Some of the competencies that we can find are:**   * **Design and develop IT solutions.** * **Solve problems using appropriate technologies.** * **Apply quality standards and methodologies.** * **Foster collaboration, effective communication, and technological innovation.** * **Manage IT projects according to industry methodologies.** * **Develop software solutions applying good coding practices.** * **Ensure software quality through testing and validation.** * **Build scalable data models that support project requirements.** * **Apply English communication skills at elementary level in technical and documentation contexts.** |

| **3. APT Project Rationale** |
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| Below are different fields that you must fill in with the requested information. This section seeks to describe your project in detail and justify its relevance and relevance. |

| Relevance of the APT project | **The ForoU project seeks to respond to a frequent problem in the educational field: the lack of an inclusive, dynamic and accessible space where students can solve academic doubts collaboratively. Existing platforms such as Stack Overflow are usually focused on programming and with dynamics that are not friendly to novice students, which limits participation and learning in the community.**  **The relevance for the field of Computer Engineering lies in the fact that it is a project that involves the design, development and implementation of a real technological solution, which also responds to a transversal problem in the academic field: the need for collaborative learning environments. The context in which it is located is Chile and the Spanish-speaking world, impacting mainly students of higher and secondary education, but open to anyone who seeks to learn and solve doubts in community.**  **With this project, social value is provided by creating a digital environment that fosters collaboration, accessibility and motivation, generating an inclusive alternative for students.** |
| --- | --- |
| APT Project Description | **The goal is to design and develop a collaborative web platform where students can ask questions, answer, share resources, earn achievements through participation, and even access educational microcontent in short video format.**  **To address the problem, key functionalities will be implemented such as:**   * **Elimination of "downvotes" to maintain a positive environment** * **Knowledge level system for classifying questions and answers** * **Gamification through badges and achievements.** * **Advanced search engine, tags, question saving and notifications.** * **Section of short educational "tips" type videos (TikTok format)**   **In this way, the project is not only limited to the programming of a forum, but integrates modern tools to improve the collaborative learning experience.** |
| Relevance of the project with the graduate profile | **It is related because it allows you to put into practice skills such as:**   * **Design and develop IT solutions through platform development.** * **Apply quality standards and development methodologies to ensure that the product is scalable and usable.** * **Solve complex problems with appropriate technologies, in this case applied to digital education.** * **To promote collaboration and innovation, key competencies in today's professional environment.** * **The project requires the construction and management of a robust data model to support the functionalities of the forum (questions, answers, users, achievements, etc.** * **Technical documentation resources and global communities in English will be used, which reinforces communication competence in this language.**   **These competencies are necessary to address the problem, since they imply not only the technical capacity to program the solution, but also the vision of designing a useful, scalable product aligned with real needs.**  **In addition, the project reflects scenarios typical of the field of work of a Computer Engineer, by applying agile methodologies, managing an inclusive digital development project and ensuring the quality of the software through tests and validations. These actions are directly linked to the key functions of the graduate profile.** |
| Relation to Professional Interests | **The professional interests that are related to our project would be: web development and technology applied to education. Our professional goal is to provide solutions that improve people's lives through computing, and this project allows me to explore how digital platforms can foster collaboration and community learning.**  **In addition, carrying out this project will contribute to our professional development by requiring me to apply knowledge of programming, databases, user experience, security and project management, fundamental areas that we find in our field.** |
| Development feasibility of the APT Project | **The project is possible to develop within the academic semester, which lasts approximately 5 months, allocating about 2 hours a day to its progress. The materials required are minimal and accessible: a computer, internet connection and electricity supply.**  **Among the external factors that facilitate development are access to modern technologies, in addition to teaching support that provides guidance and constant feedback.**  **As for the possible difficulties, two main ones are identified:**   * **Time limitation to implement all planned functionalities: this will be addressed by prioritizing an MVP with the essential functions, leaving additional improvements for future stages.** * **Learning curve versus new technologies needed for the project: this will be mitigated through practice and self-learning sessions, using documentation, tutorials and practical exercises before implementing the functionalities.** |

1. **PART II**

| **4. Objectives** |
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| In this section you must define general and specific objectives of the APT Project. It is important to clarify that the objectives must be stated in a clear, concise way and without giving further explanations, that is, they must be understood by themselves. It is suggested to write them using an infinitive verb, as this makes it necessary to specify specific actions. |

| General objective | **Develop Forum, which is an interactive and global web platform for Spanish speakers, which will allow users to ask questions and share answers in different areas of knowledge, promoting collaboration, collective learning and motivation to generate study groups or meet new people.** |
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| Specific objectives | * **Design an intuitive web interface that is adaptable to different devices.** * **Implement a secure user registration and authentication system.** * **Develop functionalities for categorization and efficient search of questions and answers.** * **Incorporate a feedback system through votes or comments to highlight the quality of the answers.** * **Ensure the scalability and technical feasibility of the project for future improvements.** * **Validate the operation of the platform through tests with end users.** * **Incorporate a section of educational content in short video format to encourage fast and dynamic learning.** |

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

| Description of the Methodology |
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| **Description of the Methodology**  **The project will be developed under an agile methodology, specifically an adaptation of Scrum, since it allows the work to be organized in short iterations, establish priorities, carry out continuous tests and facilitate team collaboration. This methodology is suitable for web development projects, as it makes it possible to respond flexibly to changes and improvements that are identified during the process.**  **The work will be organized in sequential stages, each with defined objectives and deliverables:**   * **Analysis and planning**   + **Review of project requirements.**   + **Definition of main functionalities.**   + **Preparation of an initial backlog with the prioritized tasks.** * **Design**   + **Platform architecture design.**   + **Web interface design (responsive mockups).**   + **Definition of the database and data structure.** * **Development**   + **Implementation of the user registration and authentication system.**   + **Development of categorization and efficient search.**   + **Incorporation of the feedback system (votes and comments).**   + **Optimization of the interface for different devices.** * **Testing and validation**   + **Unit and integration testing.**   + **Validation of operation with a small group of end users.**   + **Bug fixes and usability improvements.** * **Delivery and documentation**   + **Preparation of technical documentation and user manual.**   + **Presentation of the final version of the project.**   **Defining Team Roles and Responsibilities:**   * **Matias Melivilu: Back-End and Security Developer**   + **Implement the user registration and authentication system.**   + **Design and manage the database.**   + **Ensure the scalability and technical feasibility of the project.**   + **Run security and error control tests.** * **Giovanni Oyarzun: Front-End and UX/UI Developer**   + **Design the web interface adaptable to different devices.**   + **Implement user interaction logic with the system.**   + **Develop search and categorization functionalities.**   + **Incorporate the feedback system through votes and comments.** |

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

| **Type of evidence**  **(advance o final)** | **Name of evidence** | **Description** | **Justification** |
| --- | --- | --- | --- |
| **Advance** | **Planning document and backlog** | **It contains the objectives, main functionalities, priorities and roadmap of the project.** | **It allows you to demonstrate that the team organized the project in a clear and measurable way from the beginning.** |
| **Advance** | **UI/UX Prototype** | **Wireframes or mockups of the web interface (Home, questions, answers, profile, search engine).** | **It allows you to validate the usability and design before implementing the complete platform.** |
| **Final** | **Functional MVP Platform** | **ForumU with Q&A, upvote, tags, save, notifications and micro-video section.** | **It demonstrates compliance with the project's core objective and the final user experience.** |

| **7. Work Plan** |
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| In the following table define the planning of your APT Project according to what is required. |

| **APT Project Work Plan** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Competence or units of competences** | **Name of Activities/Tasks** | **Description Activities/Tasks** | **Resources** | **Duration of the activity** | **Responsible** | **Remarks** |
| **Web Application Development** | **UI/UX interface design** | **Create wireframes and mockups of the ForoU platform for desktop and mobile, thinking about usability.** | **Figma, Adobe XD, Paper & Pen** | **1 week** | **Giovanni Oyarzun** | **Possible adjustments based on initial feedback** |
| **Web Application Development** | **Front-end deployment** | **Program the interface according to the designs, including responsiveness and basic navigation.** | **HTML, CSS, JavaScript, React** | **2 weeks** | **Giovanni Oyarzun** | **Cross-browser compatibility issues may occur** |
| **Web Application Development** | **Back-end implementation** | **Create a database, registration/login system, management of questions/answers and notifications.** | **Node.js, Express, MongoDB o MySQL** | **2 weeks** | **Matías Melivilu** | **Possible delay if connection or security errors occur** |
| **Technology Project Management** | **Front-end and back-end integration** | **Connect the interface with the logic and database, ensuring that the main functionalities work.** | **IDE, GitHub, Postman** | **1 week** | **Matías Melivilu and Giovanni Oyarzun** | **Requires constant coordination to avoid code conflicts** |
| **Usability Testing** | **User validation** | **Conduct tests with a group of users to measure usability and collect feedback.** | **User testers, Google Forms, session recording** | **1 week** | **Matías Melivilu and Giovanni Oyarzun** | **It can be difficult to coordinate testing schedules; Consider Remote Testing** |
| **Documentation and presentation** | **White Paper & User Manual** | **Document the architecture, functionalities, user guide and administration manual.** | **Word, Google Docs, screenshots** | **1 week** | **Matías Melivilu and Giovanni Oyarzun** | **Documentation must reflect all implemented features** |
| **Final presentation** | **Demo and presentation** | **Prepare the presentation and demo of ForoU to present results to the teacher.** | **PowerPoint, demo video, PC** | **1 week** | **Matías Melivilu and Giovanni Oyarzun** | **Prepare technical contingencies for the demo** |

| **8. Gantt Chart** |
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| **Look for 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 temporality of the academic period in the development of the three phases contemplated by the Degree Portfolio Subject.** |

| **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** |
| **Requirements Survey** | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Solution Analysis and Design** |  | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Definition of architecture and technologies** |  |  | **x** | **x** |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |
| **Backend Implementation** |  |  |  |  | **x** | **x** | **x** |  |  |  |  |  |  |  |  |  | |  |  |
| **Frontend Development** |  |  |  |  |  |  | **x** | **x** |  |  |  |  |  |  |  |  | |  |  |
| **Implementation of key functionalities** |  |  |  |  |  |  |  | **x** | **x** | **x** | **x** |  |  |  |  |  | |  |  |
| **Refinement, bug fixes, and visual enhancements** |  |  |  |  |  |  |  |  |  |  |  | **x** | **x** |  |  |  | |  |  |
| **Unit and functional tests on core modules** |  |  |  |  |  |  |  |  |  |  |  |  |  | **x** | **x** |  | |  |  |
| **Unit and functional tests on core modules** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | **x** | |  |  |
| **Preparation of final presentation and delivery of the prototype** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | **x** | **x** |