STAGE 4 - PRESENTATION
Executive Report - Final Testing.
Jóvenes a Programar (JaP)

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Executive Summary:

This report summarizes the conclusions and results of the testing conducted for the Client and Pet Management System of the Guau Guau Veterinary Clinic, whose objective is to facilitate the management of clients, their pets, and the administered vaccines. The purpose of the testing team was to verify the system's functionality, usability, and performance, ensuring that it meets the quality criteria and requirements specified by the client.

General Conclusions:

Software Quality:

The analysis of the results shows that the software faces several critical issues, especially in data validation and user authentication, which affect its functionality and security. High-severity errors, such as incorrect registrations and authentication failures, must be urgently addressed to ensure the system's integrity and operability. Although some issues are less prioritized, most require immediate attention. Overall, the software needs significant improvements in validation logic and access management to ensure its long-term quality and stability.

Functionality:

The analysis of the software's functionality reveals that, while it meets basic objectives, there are critical failures that affect its performance and operability. Errors in user authentication and record management, as well as incorrect data input, prevent the proper functioning of some key features of the system. These issues affect both the user experience and the integrity of the data, which could compromise long-term use. The functionality of the software requires urgent review, especially in data validation and access management, to ensure all features operate efficiently and without interruptions.

Security:

The security analysis of the software highlights several critical vulnerabilities that could jeopardize the integrity and protection of data. Issues with authentication and access, particularly incidents related to user management, are a major concern, as they allow potential security breaches in the system. Additionally, failures in data validation could allow incorrect or malicious information to be entered, further compromising security.

Performance:

The software's performance is affected by several critical issues, especially in user authentication and page relationships, which block key functionalities and delay

development. Moreover, there are serious incidents related to data validation in the registration of clients, pets, and vaccines, which compromise the system's integrity. Although some issues have a moderate impact on usability, access and authentication errors require immediate attention to avoid larger failures. Overall, improving validation logic and resolving access blocks are necessary to optimize the system's performance.

Key Findings:

Test Coverage Percentage:

Analyzing the work done by the team, there are 6 main areas (authentication, customer registration, pet registration, vaccination registration, page relationships, and database table relationships) covered by 61 test cases. This means that the tests have covered 100% of the key system functionalities in the mentioned areas.

Number of Errors Fixed:

15 incidents were identified in the first testing phase. In the second phase (re-testing), 3 of those cases were resolved. Upon re-verifying the functionalities, 21 incidents were reported, 12 of which are errors that remain from the initial instance.

Security Evolution:

The security evolution, considering only the critical vulnerabilities between the two stages, and taking into account that 4 critical incidents were reported, with two of them resolved during the testing phase, is estimated at 50%. This indicates that half of the most severe issues have been addressed, but further work is still needed to fully ensure the integrity and security of the system.

Observations and Recommendations:

Throughout the execution of the test cases and the detailed review of the Guau Guau veterinary system, several critical points and areas for improvement have been identified in terms of both functionality and user experience. Below are the main observations and final recommendations to address the issues found and optimize the system.

- **Interdepartmental Collaboration (Continuous Improvement Practices):**

   We consider communication between different departments to be crucial during the process, as increased feedback could have avoided many issues.

- **Documentation:**

   To improve efficiency in future processes, it is recommended to implement constant feedback with the client and thorough verification of the data entered into the system. This will allow for the timely detection of possible errors and ensure the quality of the information recorded. Additionally, it would be ideal to have documented versions and clear communication from the development team regarding the changes made, including what data was considered, to facilitate tracking of changes and optimize validation testing.

- **Usability Testing:**

   To improve the user experience, it is crucial to address the issues observed in data validation, such as the acceptance of incorrect formats or the duplication of records. These failures not only affect the integrity of the information but also make navigation difficult for the user and cause frustration when certain tasks cannot be completed. Furthermore, it is recommended to review and optimize the interaction flow with the system, particularly in the authentication and registration areas, to ensure that the functionalities are intuitive and easy to use, thereby reducing the likelihood of errors by the end user. Implementing usability tests in early iterations will help identify potential points of confusion and improve the interface before the system is fully launched.

Observations:

- **Critical Errors:**

   High-priority incidents were detected, especially those related to user authentication (PT2-203) and client registration with pets (PT2-205). These defects directly impact the basic functionality of the system, preventing it from operating correctly in the quality environment and restricting access to essential functions.

- **Data Validation:**

   Several issues were found related to the validation of mandatory fields, such as the lack of proper validation in the client, pet, and vaccine registration forms. The absence of clear error messages and the ability to proceed without completing important fields could compromise the integrity of the data entered into the system.

- **Usability and Aesthetics:**

Although the system meets its basic functionalities, several elements of the interface were observed to need improvement. This includes the repositioning of buttons and misaligned text boxes, implementing clearer visual cues for mandatory fields, and optimizing the design for mobile devices.

- **User Interaction:**

Inconsistencies were detected in the placement and functionality of certain buttons, such as the "Add Pet" and "Register Vaccine" buttons, which either do not serve their intended purpose or are poorly positioned. This could lead to confusion and errors by users.

- **Accessibility Issues:**

The system lacks proper support for users with disabilities, such as the absence of audio assistance for individuals with low vision and the lack of icons to aid those with reading difficulties.

- **Security:**

Security risks were identified, including the lack of password encryption and the possibility for a customer to register multiple times with the same email address. Additionally, the system does not have adequate measures against Cross-Site Request Forgery (CSRF) attacks.
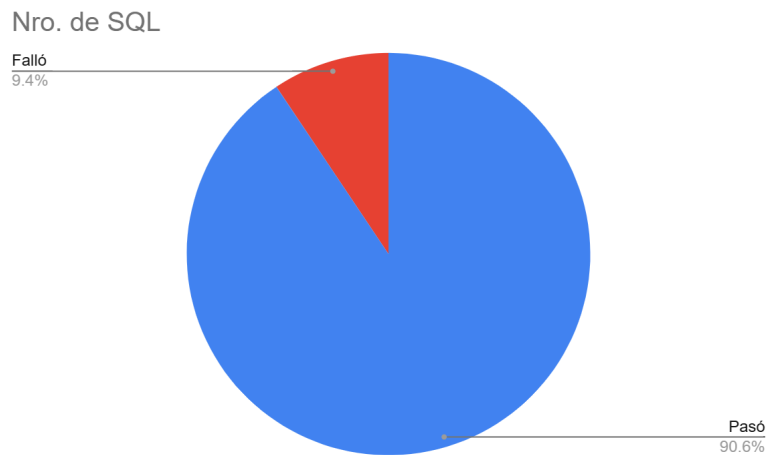
- **Compatibility and Scalability:**

The system needs better adaptation for mobile devices and should ensure optimal performance as the number of users and records grows.
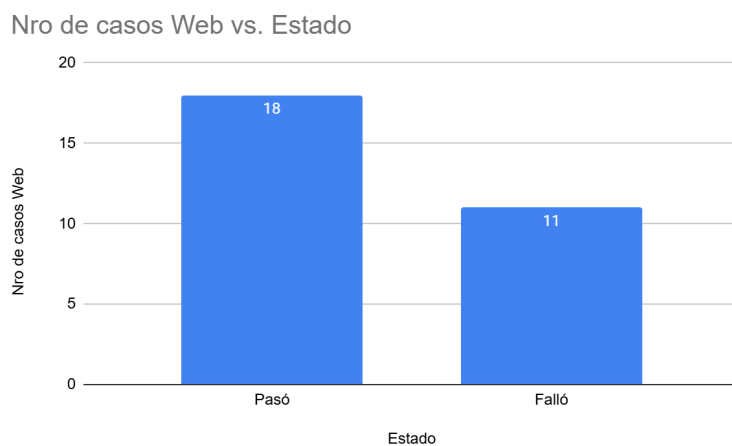
Graph of Cases for Web in the First Stage of Testing:

Nro de casos Web
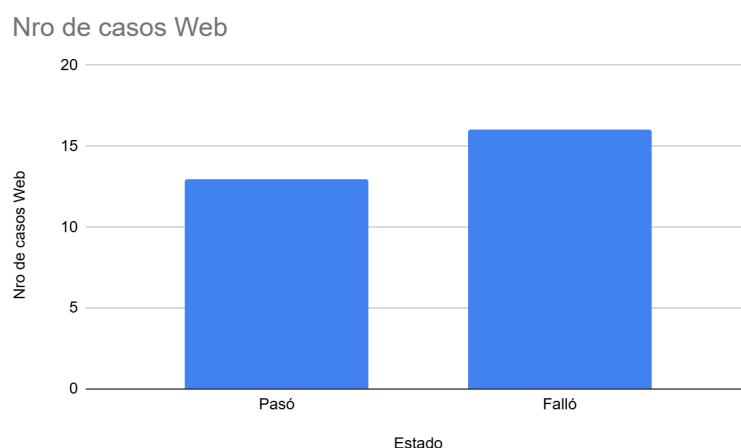
SQL Cases Graph in the First Stage of Testing:

Nro. de SQL

Falló
9.4%

Pasó
90.6%

Web Cases Graph in the Second Stage of Testing:

Nro de casos Web vs. Estado

SQL Cases Graph in the Second Stage of Testing:

Nro. casos de SQL

Falló
31.3%

10

22

Pasó
68.8%
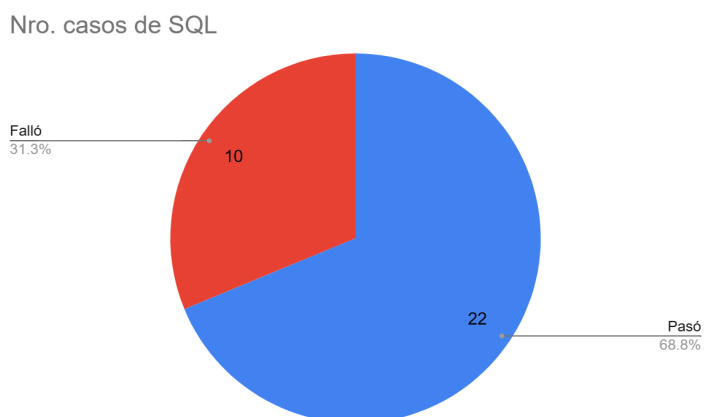
Comparative Graph by Severity:

Gráfico comparativo por Severidad

■ Nro. de casos 1er. Etapa ■ Nro. de casos 2da. Etapa

Severidad
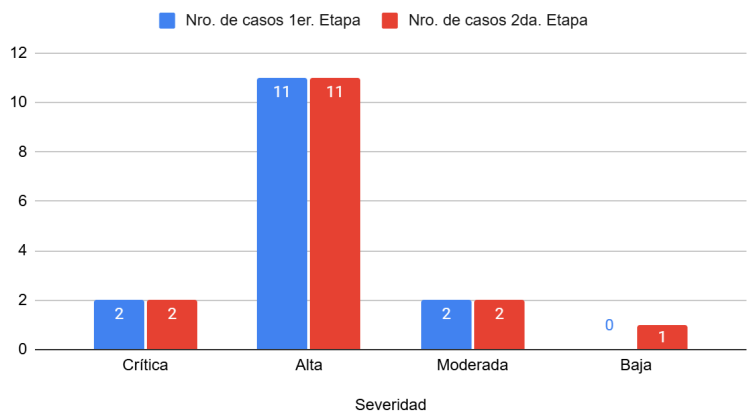
Comparative Graph by Priority:

Gráfico comparativo por Prioridad

■ Nro. de casos 1er. Etapa ■ Nro. de casos 2da. Etapa

Prioridad
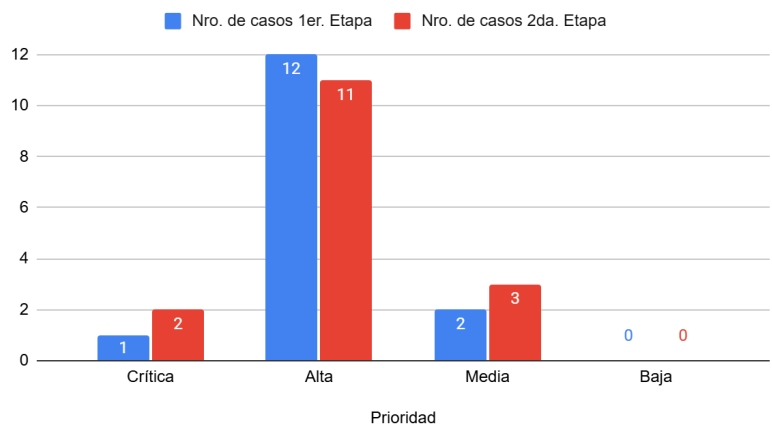
Final Recommendations:

- Correction of Critical Incidents:

It is essential to prioritize the correction of incidents PT2-205 and PT2-203, as they affect critical system functions. The lack of access to client registration and user authentication functions prevents tests from being executed properly, and therefore, implementing the system in production is not feasible until these issues are resolved.

- Improvements in Data Validation:

It is recommended to implement stricter validations for mandatory fields in all forms, with clear and specific error messages to ensure the accuracy of the data entered. Additionally, it is crucial to improve the system to prevent users from proceeding without completing the required information.

- Usability Optimization:

Reposition buttons and forms that are currently misaligned or do not function as expected.
Ensure that mandatory fields are clearly marked with visual indicators and improve the layout of buttons to make the registration process smoother and less confusing.
Include contextual help in the forms to guide users in entering information, thereby improving navigation.

- Improving Accessibility:

Incorporate audio support for users with low vision and add informative icons to assist navigation for individuals who cannot read. Additionally, make it easier to translate the page without relying on external translators.

- Strengthen Security:

Implement password encryption and protection measures against CSRF attacks.
Introduce two-factor authentication (2FA) to enhance login security for both administrators and users.
Ensure the system prevents duplicate client registrations using the same email address.

- Mobile Adaptation and Scalability:

Ensure that the interface is properly adapted to mobile devices and that the system is scalable, allowing it to function efficiently even with an increasing number of users and records.

-   **Continuous Evaluation:**

After implementing the corrections, a new round of testing should be conducted to ensure that the issues have been resolved and that the system functions correctly across all usage environments.

Acknowledgments:

We would like to thank the development team for the project versions provided throughout these eight weeks of work, the mentors for their technical contributions and tools to manage emotions and instances within and outside the team, and each member of the testing team for their expected responses, commitment, and contributions throughout the process.

Final Conclusion:

The eight-week testing project has revealed significant findings in the client, pet, and vaccine registration system. A total of 21 incidents were identified, many of which are related to data validation, with two critical defects standing out: error PT2-205 and incident PT2-203. These defects require immediate attention to ensure that the system functions properly.

While the system meets basic functionality, there is a clear need for aesthetic and usability improvements to optimize the user experience. Despite the progress made, the tests revealed that the identified defects must be addressed before the system is implemented in production.

Implementing corrections and improvements will ensure that the software operates effectively and efficiently, providing a smoother and more satisfying user experience. Reevaluating the cases is essential to ensure that the errors are resolved properly and to minimize any potential impact on the overall system operation.

The testing team concluded that there is still work to be done and incidents to be resolved before the system is ready for production. We remain available and ready to continue working on the project to provide the best service to the client.

Sincerely,

Testing Team: Torres, Yetsy - Tesore, Jennifer - Lara, Dianne - Galarza, Lourdes - Herrero, Florencia.