Jóvenes a Programar

FINAL TESTING

PROJECT

VETERINARIA GUAU GUAU

NOVEMBER 24, 2024

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Executive Summary

This report presents the conclusions and results of the testing process for the 'Veterinaria Guau Guau' project. The main objective of the testing was to evaluate the quality, functionality, security, and performance of the system. Throughout the stages of the project, the testing team worked diligently to identify and resolve issues that could affect the integrity and usability of the system.

At this stage, we focused on improving the user experience and software stability. We performed extensive confirmation and regression tests, documented the results, and communicated our findings to ensure software optimization.

The primary goal was to ensure that these functionalities meet the established requirements and provide an optimal user experience, aiming to deliver a final product that meets the quality standards set by the client.

General Conclusions

Software Quality

The software has exhibited some weaknesses in its quality in regards to reliability and error management. Regression testing has confirmed the absence of newly introduced errors after the latest implementations, however, confirmation testing indicated that previously reported defects and errors were not effectively addressed.

Functionality

Key system functions, including Login, New Client Registration, New Pet Registration, Vaccine Registration behave as expected under normal scenarios. The regression tests carried out confirmed that the new implementations did not introduce problems in the existing areas; however after running confirmation tests, no corrections were observed for the previously reported system failures.

Security

The tests related to the security of the software at different stages of the process show vulnerabilities when confronted with invalid login attempts and re-registration using an e-mail address already registered in the system. It was not possible to verify the encrypted storage of passwords, since the source code was not available to access.

Performance

The performance tests indicated that the system maintains acceptable response items, loading pages in less than 2 seconds on standard connections. This demonstrates that the system is efficient and fast under normal usage conditions.

Compatibility

The system has proven to be compatible with different web browsers, operating indistinctly across all tested browsers. This ensures that users can access the system without issues, regardless of the browser they use.

Maintainability

The code structure and database schema are designed in a modular manner, which facilitates system maintenance and extensibility. This is very important to ensure that the system can be updated and improved efficiently in the future.

Accessibility

The system largely complies with the web accessibility guidelines outlined in Decree 406/022 and the success criteria specified in WCAG 2.1. However, some areas of improvement were identified, such as the need to provide alternative text for images, and enhance the compatibility with screen readers.

Usability

The interface's ease of use for administrators was evaluated, noting that the "tab" key functions correctly in all forms and that the loading time is optimal. However, some usability issues were identified, such as the lack of intuitive navigation between forms and the need to improve clarity in the vaccine registration process and client identification by ID.

Scalability and Availability

Scalability and availability tests were designed but deferred for more detailed evaluation in the future, once the necessary resources are available. These tests are essential to ensure that the system can support an increase in the number of users and registrations without affecting its performance and that it's available 99.9% of the time.

Key Results

Login

Functional Testing: Extensive login tests were conducted, confirming that users can access their accounts without any issues.

Security: The application is vulnerable to multiple login attempts with invalid credentials, as the account doesn't lock after several failed attempts.

Performance: Login response time has remained within acceptable limits.

New Client Registration

Functional Testing:
All functional tests related to the registration of a new client demonstrate good handling of the system under normal conditions. The system allows users to register clients successfully, meeting the established requirements.

Data Validation:
A thorough evaluation of the data entered during registration was carried out. It was found that the system irregularly detects and handles errors, such as invalid email addresses, and allows users to be registered even if the first and last name fields exceed the established limit or there is no internet connection.

Register New Pet

Functional Testing:
Within the functional tests related to the registration of a new pet, mostly unsatisfactory results were obtained.

Data Validation:
An exhaustive validation of invalid data entries during the registration of a new pet was conducted. The system works as expected when confronted with common errors, such as

invalid data format in text fields. However, it allows the registration of a new pet when entering data that exceeds the character limits in certain fields, which poses a risk of inconsistent data. Additionally, it also allows the registration of a new pet without internet connection.

Vaccine Registration

Functional Testing:
Functional tests were carried out for the vaccine registry that demonstrated good behavior of the system in normal scenarios, but evidenced failures in the handling of system errors when completing fields with invalid data.

Data Validation:
Data validation tests were carried out, and it was noted that the system handles correctly by displaying the corresponding messages when leaving empty fields, but there are errors when completing invalid name fields and when registering vaccines without an internet connection.
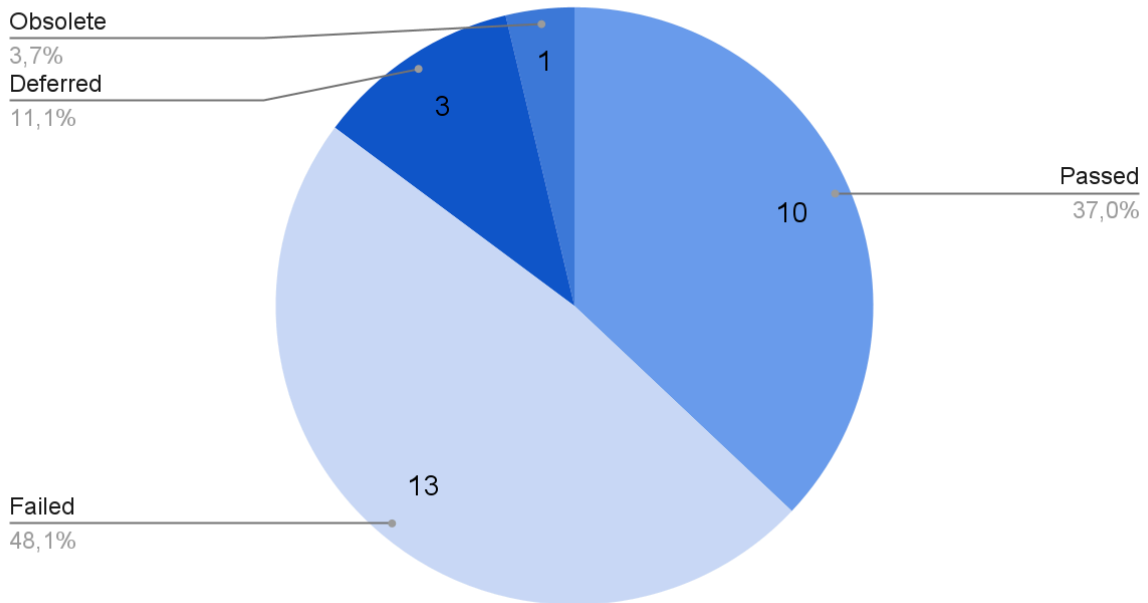
Processing Time:
Response times were recorded during the process of registering a new client, a new pet and vaccine, allowing averages to be calculated and trend graphs to be generated.
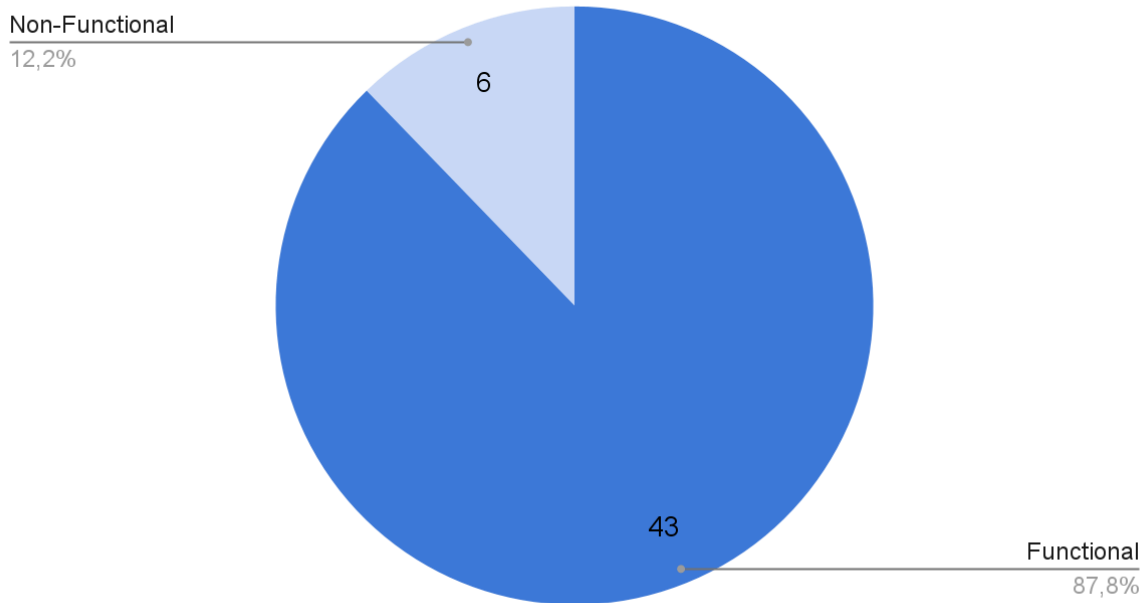

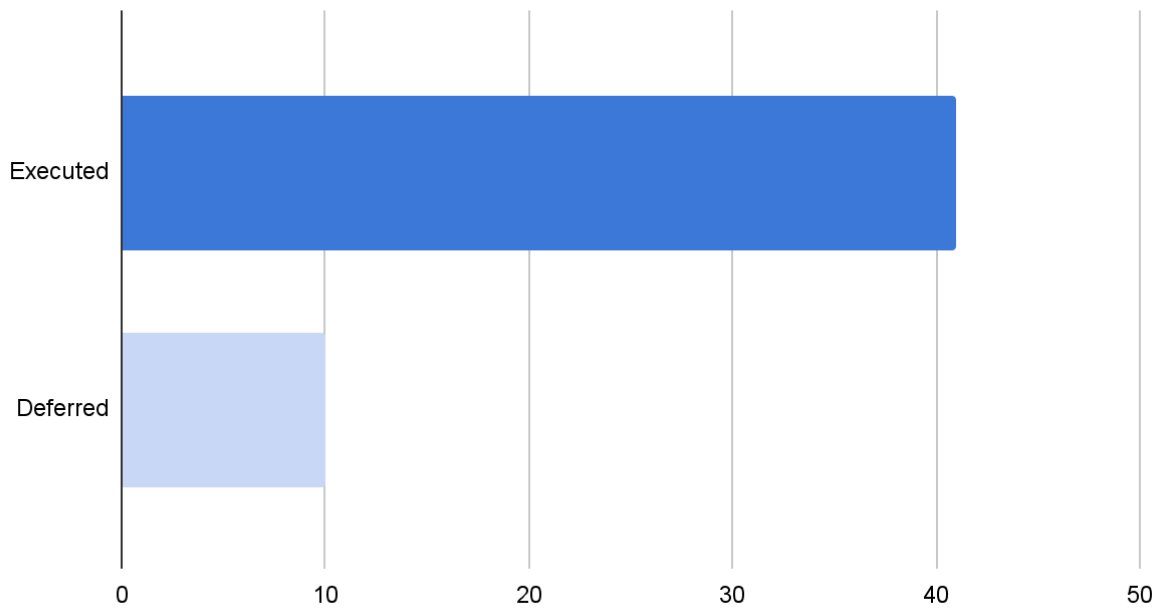Approach to Functional Testing

Executed Cases

Obsolete
3,7%

Deferred
11,1%

1

3

10

Passed
37,0%

13

Failed
48,1%
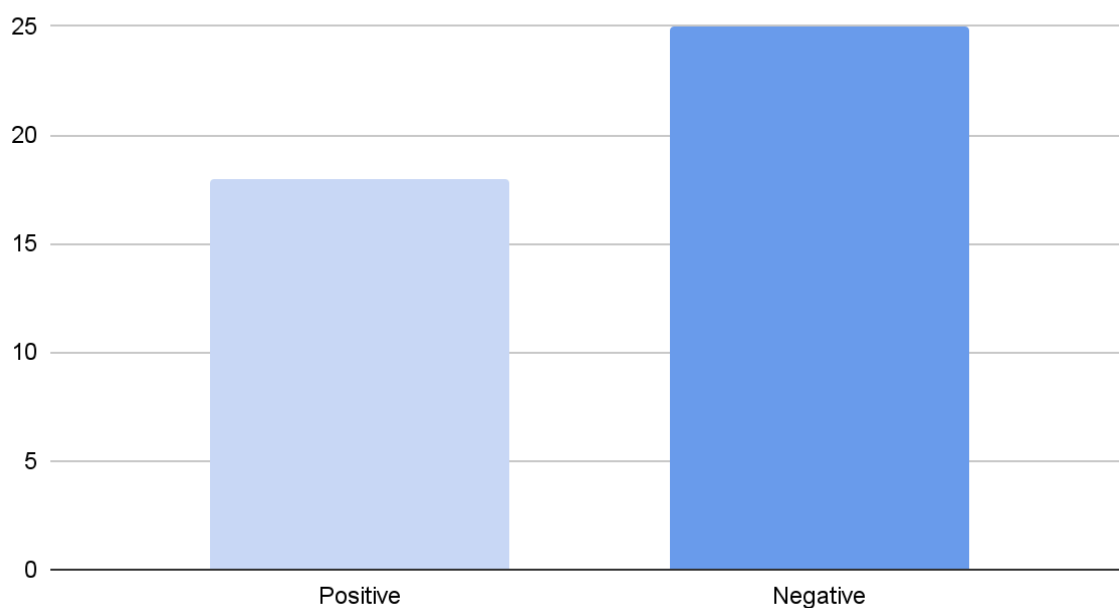
Number of Tests by Requirement Type

Non-Functional
12,2%

6

43

Functional
87,8%

Test Case Execution

Incidents by Severity

Incidents by Priority

Priority	Count
High Priority	3
Medium Priority	9
Low Priority	3

Type of suggestions

Aesthetics
20,0%
3
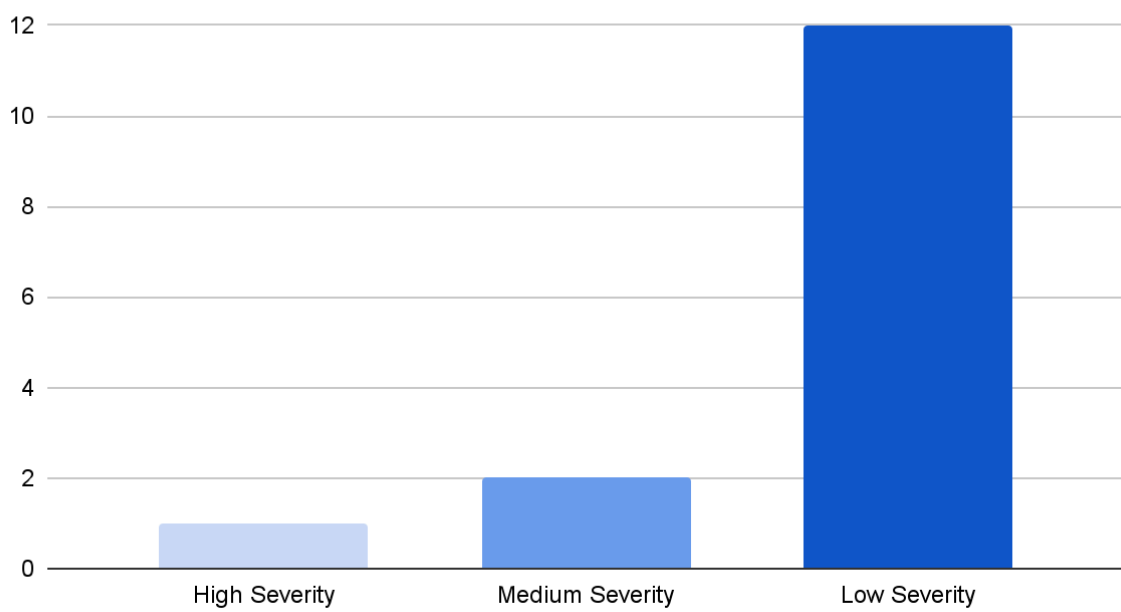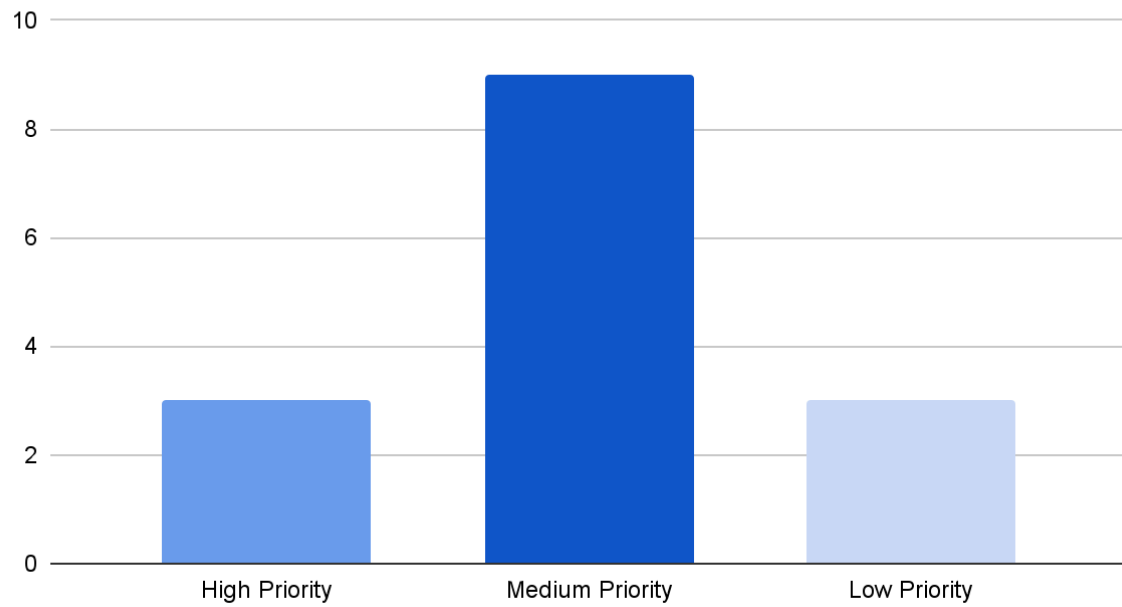
Functional
33,3%
5

Non-functional
46,7%
7
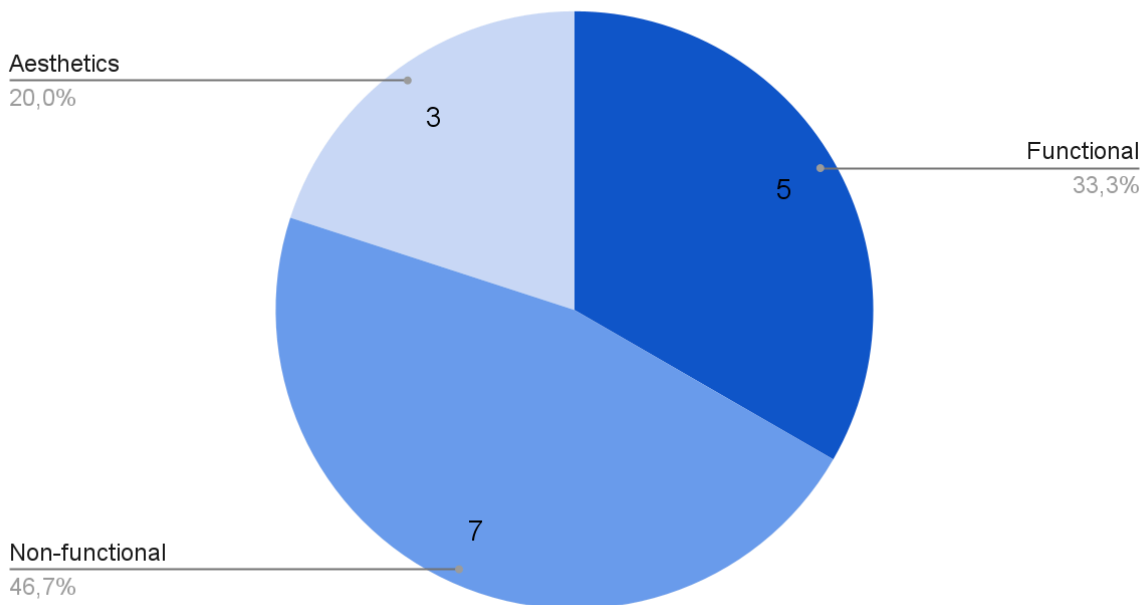
Final observations and recommendations

Recommendations based on testing results:

Functionality

It's recommended to improve the login process and data entry in key forms, as well as to implement additional validations to avoid errors and duplicates in the records. Also, consider preventing successful registration without an available network, as this should not be possible.

Usability

To improve usability, it's recommended to add messages next to each required piece of information that specifies the correct format to avoid errors when submitting the form. Additionally, it's important to include descriptive labels and, if necessary, help messages or tooltips that clearly explain the purpose of checkboxes. The text alignment for the "Register Pet" checkbox within "Register New Client" should be corrected to improve understanding. On the Dashboard, it would be useful to add the option to view client data to easily identify which client corresponds to each ID and associate those clients with their pets. A clear navigation menu should also be included so users can easily access different sections, such as client registration, pet details, and vaccination history.

Accessibility

To improve accessibility, it's recommended to adjust the forms so that screen readers can read both the entered information and the predefined fields. This will enhance the experience for users with visual impairments, ensuring they can interact with the system effectively.

Aesthetics

From an aesthetic perspective, it is suggested to remove the "Register Pet" button and the "Enter Pet" option, as these functionalities should be accessible by default once a new client is registered. It is also recommended to set a length limit for the "Address" field to prevent it from expanding indefinitely, which could alter the logo's positioning and disrupt the website's aesthetics. Finally, it is suggested to change the logo's background color to match the same shade of green as the general page and buttons, to avoid visual noise and maintain a coherent appearance.

Security

For the login process, it's recommended that when entering invalid data the error message shown specifies which field is invalid. This will help users correct the error quickly and enhance the login experience.

Interdepartmental collaboration

Effective communication between the development and testing teams was essential to the success of the project. It's recommended to maintain this collaboration in future projects to ensure rapid identification and resolution of problems.

Documentation

Detailed documentations of test cases and testing processes facilitated the quick identification and resolutions of issues. It's recommended to maintain this collaboration in future projects to ensure quick identification and resolution of issues.

These recommendations are designed to address the issues identified during testing and improve the overall user experience, ensuring the system is more intuitive, accessible and efficient.

Acknowledgments

We would like to express our deepest gratitude to everyone who has been a fundamental part of this project. First and foremost, to the entire testing team, whose hard work and attention to detail were crucial in ensuring the quality and proper management of each stage. Their dedication and commitment have been essential in bringing this project to a high standard.

Additionally, we extend our most sincere thanks to our tutors, Gabriel Pascual and Natalia Nieto, who, from the very beginning of the course, provided us not only with their knowledge and expertise but also with their constant support and guidance. Thanks to them, we were able to access key tools that allowed us to face every challenge with confidence. Their patience and willingness to guide us throughout the learning process were instrumental in helping us overcome obstacles and continuously improve.

With their support, we achieved the goals we set, and this success would not have been possible without their active involvement and commitment to our formation.

Final Conclusion

The Veterinaria Guau Guau project has been successfully completed, and the resulting software has undergone a rigorous testing process. Throughout the different stages, all key functionalities, including Login, New Client Registration, Pet Registration, and Vaccination Registration, as well as the overall system stability, were thoroughly evaluated.

The tests confirmed that the main functionalities meet the established requirements under normal conditions, ensuring a smooth user experience. However, significant vulnerabilities were identified, particularly related to data validation and error handling, which need to be addressed to improve the system's security and robustness.

The regression and confirmation tests conducted in the final phase showed that the implemented fixes didn't introduce new issues and that the system has achieved a significant level of stability and reliability.

In summary, the Veterinary Guau Guau application is capable of being implemented in an operational environment, as long as the final recommendations are applied to reinforce its functionality and security. These improvements will guarantee a high-quality product aligned with the expectations of the client and end users.

We are available for any additional questions or future collaboration.

Annexes

[Individual Report](#) - Karen Santos

[Individual Report](#) - Valeria Hernández

[Individual Report](#) - Anahia Gareta

[Individual Report](#) - Maikelly Forte

[Individual Report](#) - Gimena Velazco

[Individual Report](#) - Daiana Ren